



GULF STATES UTILITIES COMPANY

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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: Reg File
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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

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

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

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

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

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	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

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

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

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

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

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

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. 26
 DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	CPTI 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 SUBNRG	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

SRN 211161-1

REV 1

SHEET NO. 3

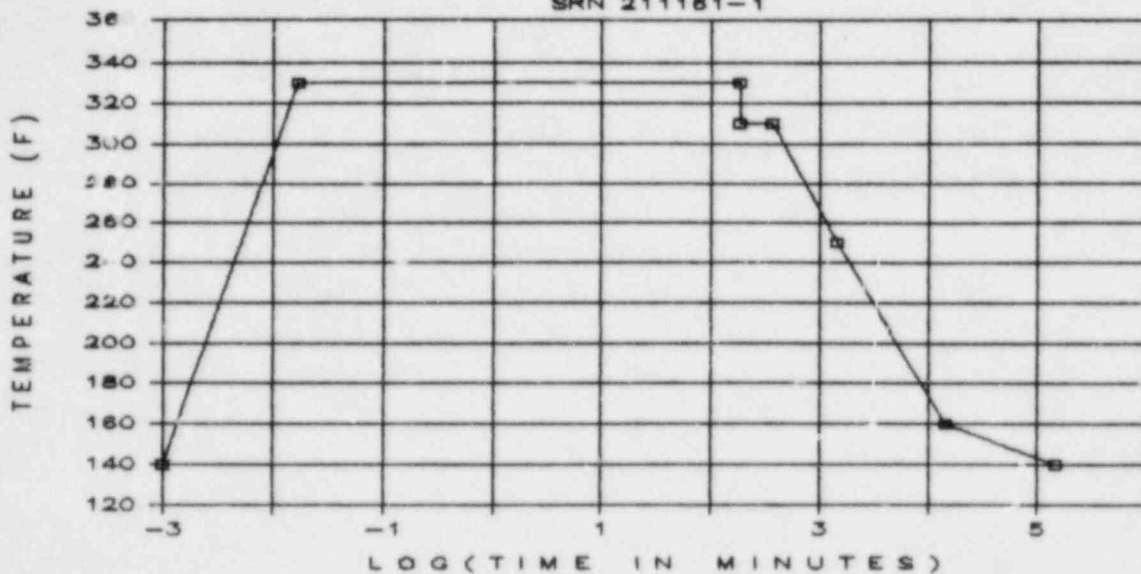
DATE 11/28/84

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.

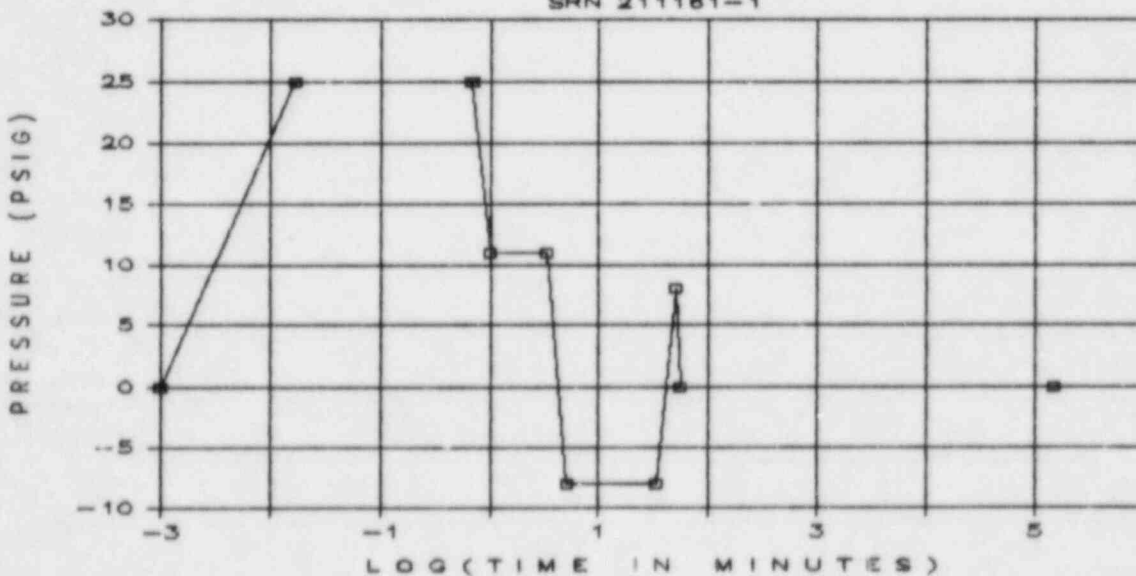
SPECIFIED ACCIDENT PROFILES

SRN 211161-1



SPECIFIED ACCIDENT PROFILES

SRN 211161-1

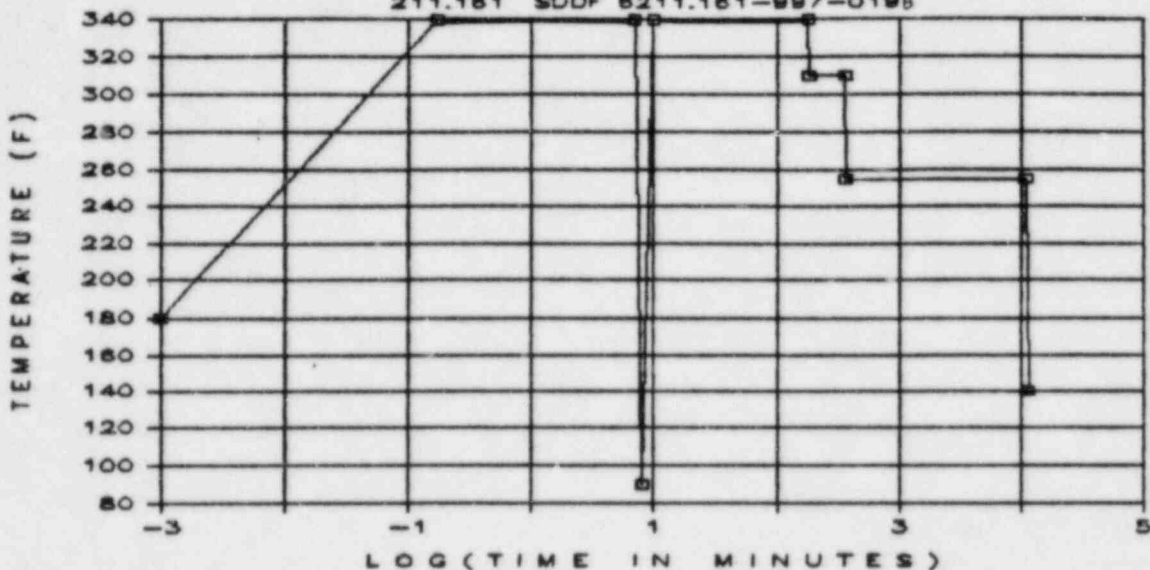


TEMPERATURE								
TIME	0	1sec	3hrs	3hrs	6hrs	1day	10days	100days
LOG(MINUTES)	-3.00	-1.78	2.26	2.26	2.56	3.16	4.16	5.16
TEMP(F)	140	330	330	310	310	250	160	140
TIME(MIN)	0.001	0.0167	180	180	360	1440	14400	144000

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

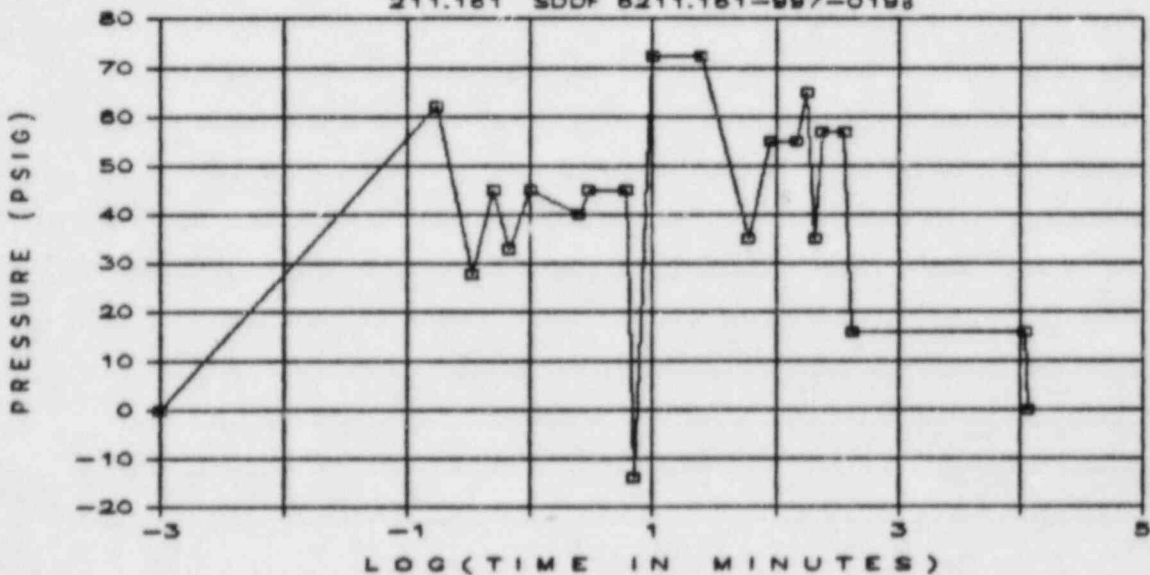
TEST PROFILE

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

HARK 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*RTD2G	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

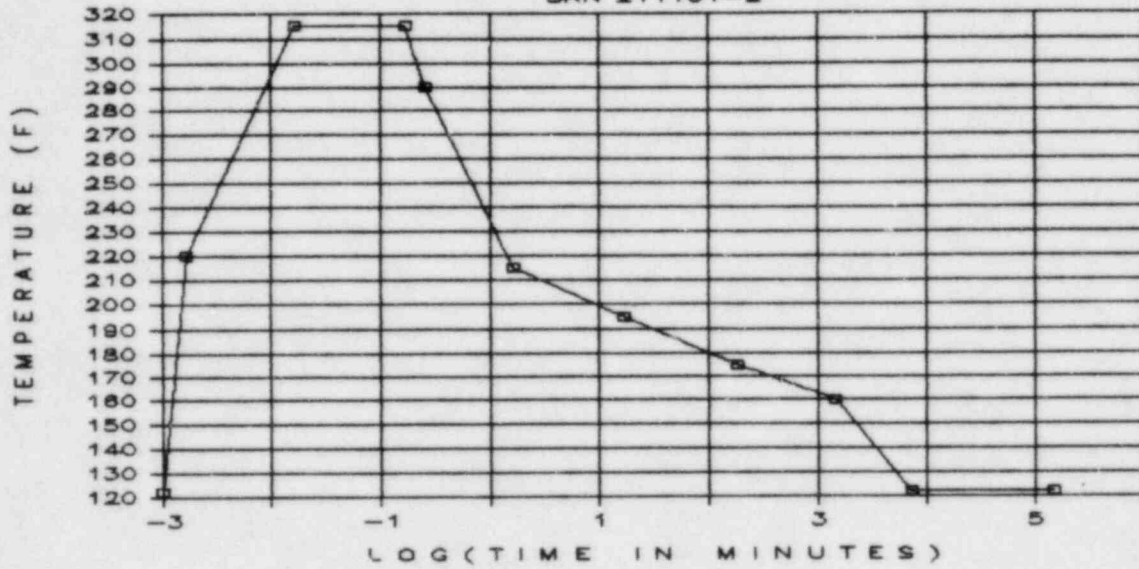
SRN 211161-2
REV 0
SHEET NO. 3
DATE 11/26/84

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.)

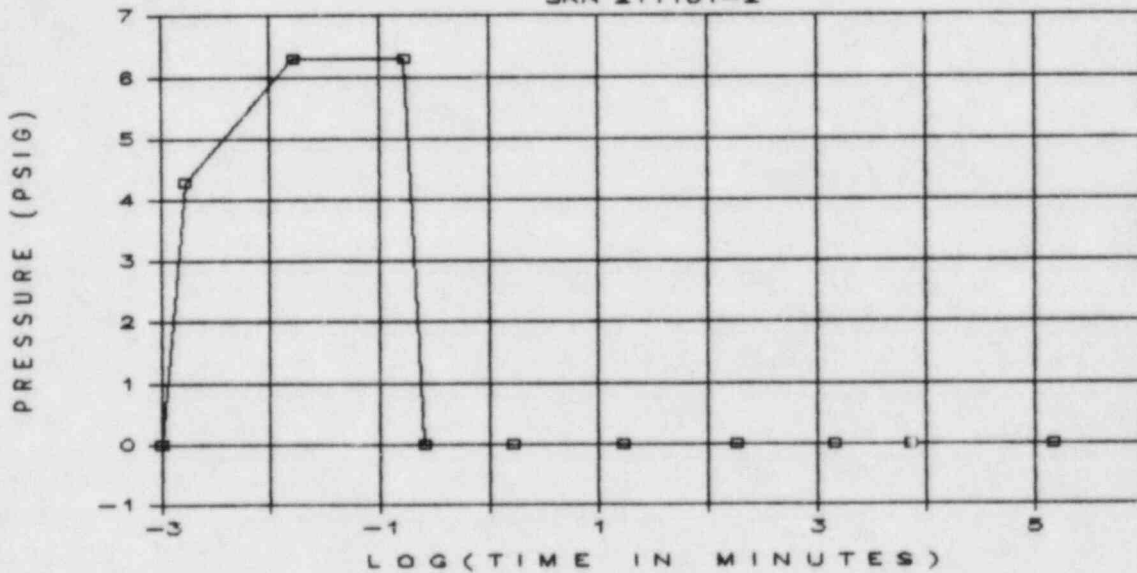
SPECIFIED ACCIDENT PROFILES

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

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

SRN: 215252-1
 REV: 0
 SHEET NO 2
 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

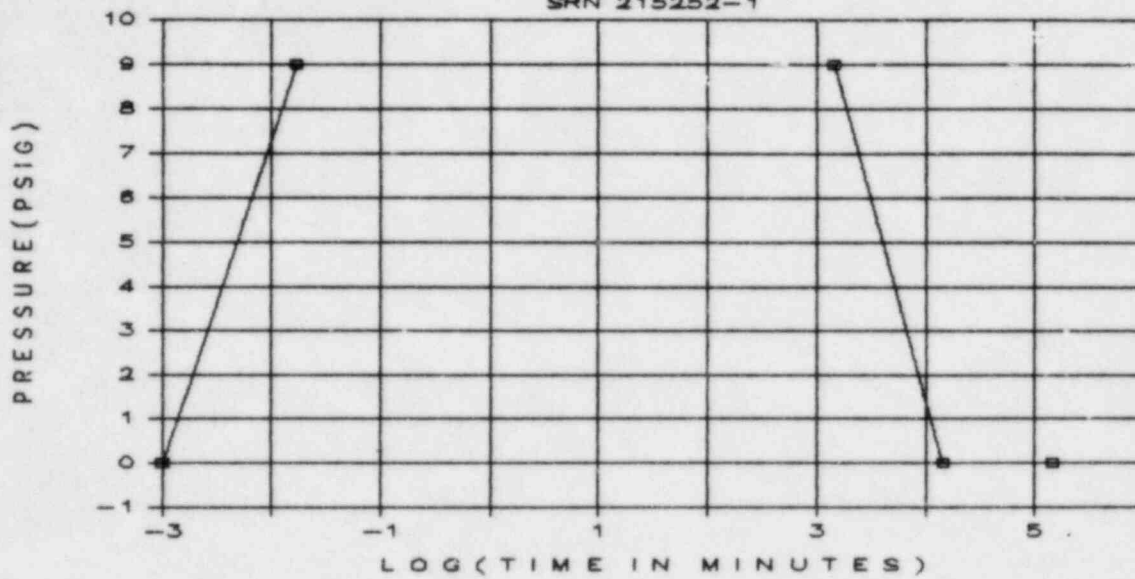
DATE 11/30/84

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.

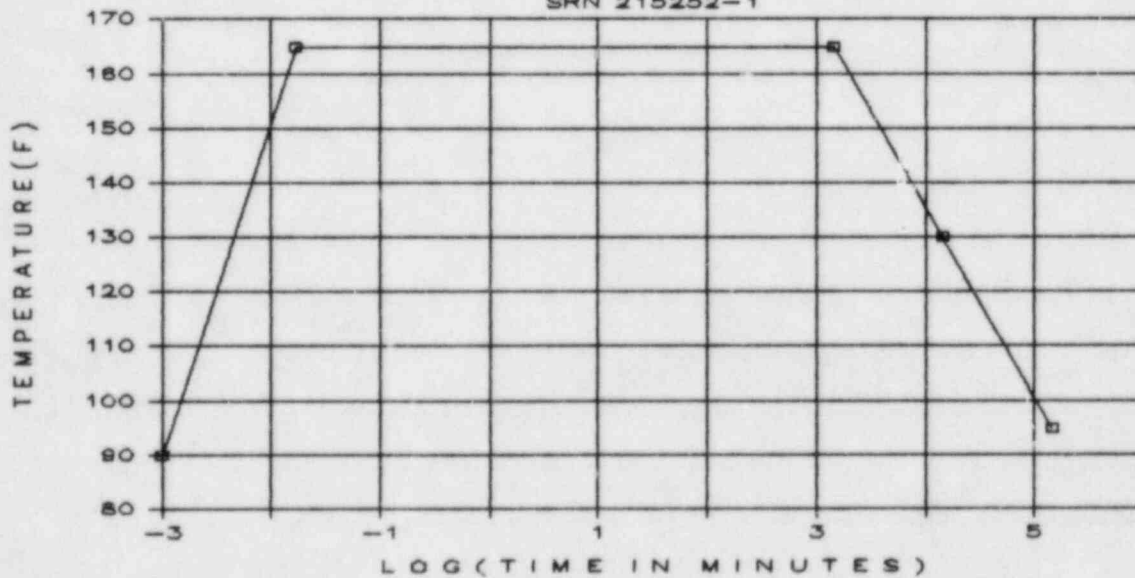
SPECIFIED ACCIDENT PROFILE

SRN 215252-1



SPECIFIED ACCIDENT PROFILE

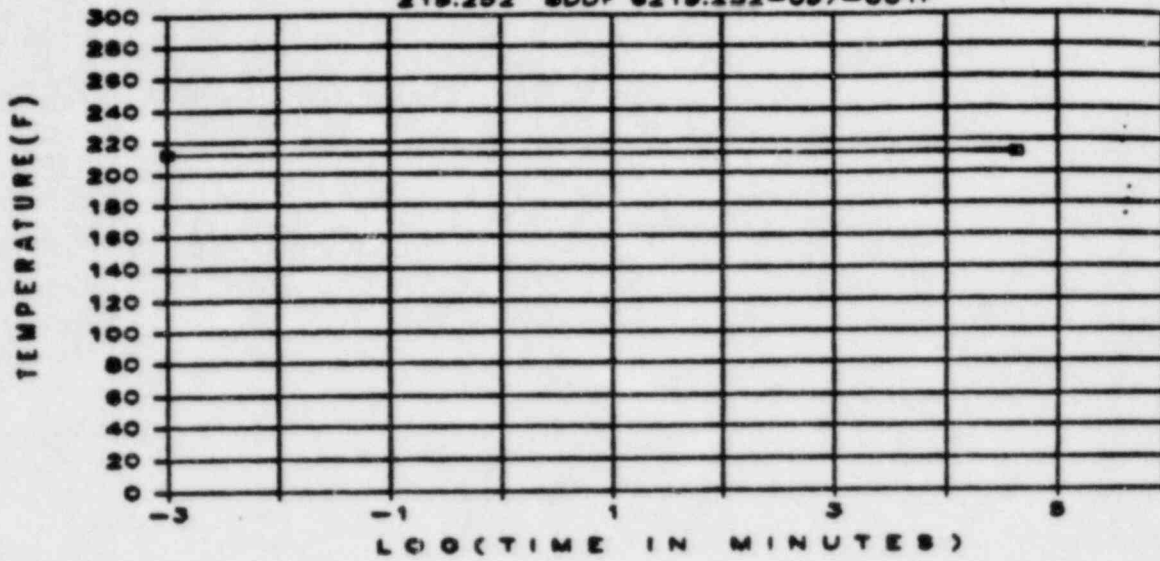
SRN 215252-1



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

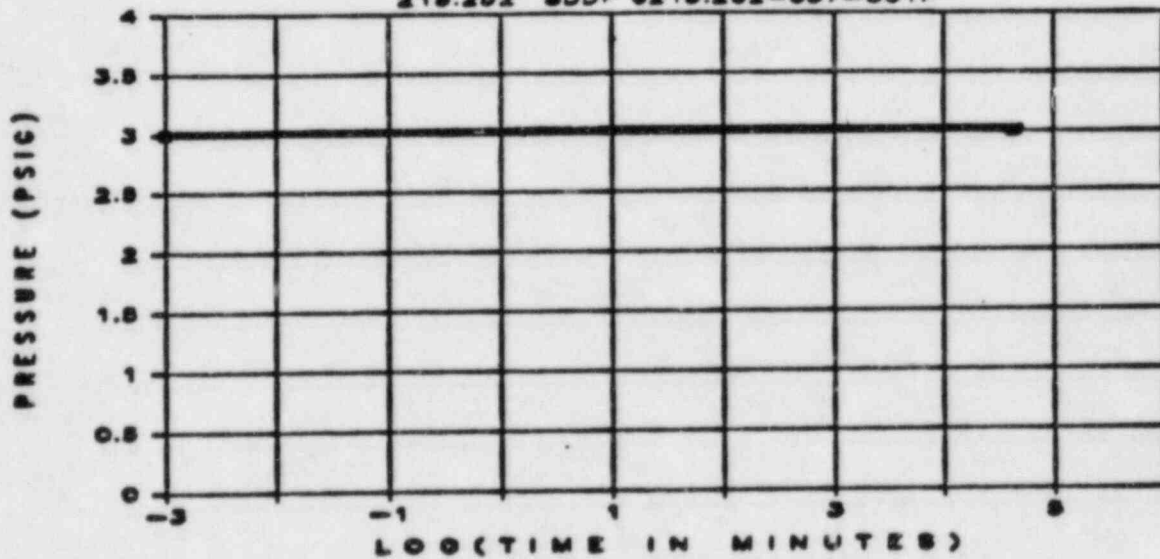
TEST PROFILE

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

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

SRN 215252-2
 REV 8
 SHEET NO. 7
 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	AS-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

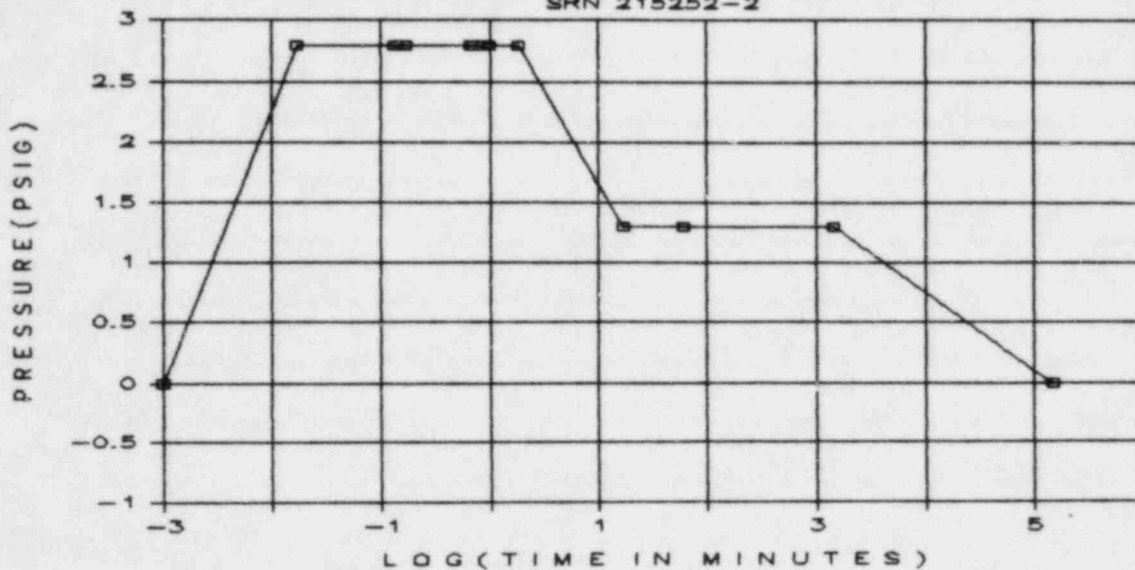
DATE 11/30/84

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.

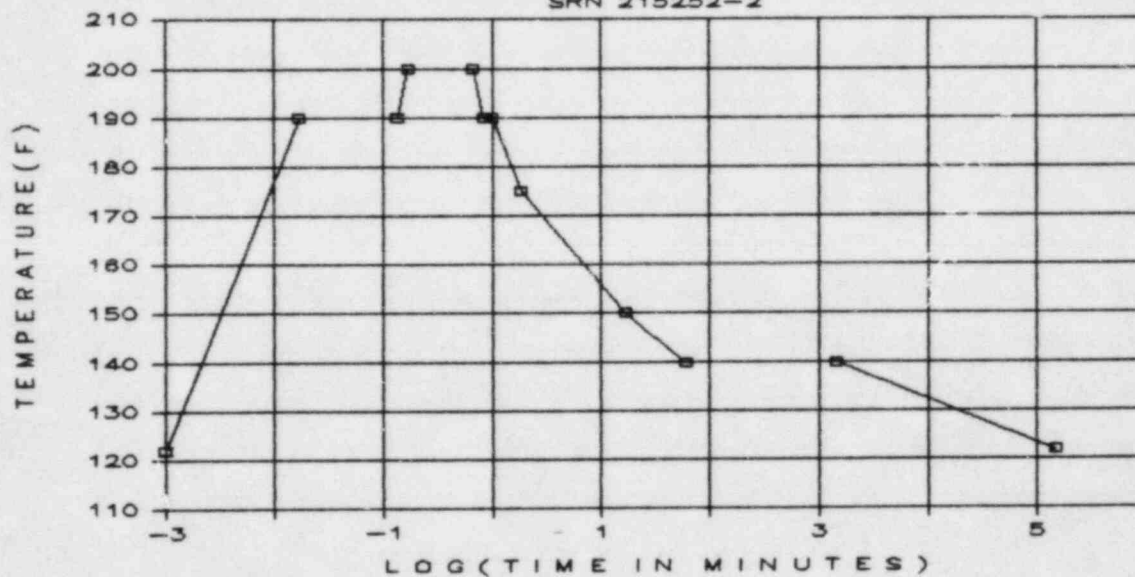
SPECIFIED ACCIDENT PROFILE

SRN 215252-2



SPECIFIED ACCIDENT PROFILE

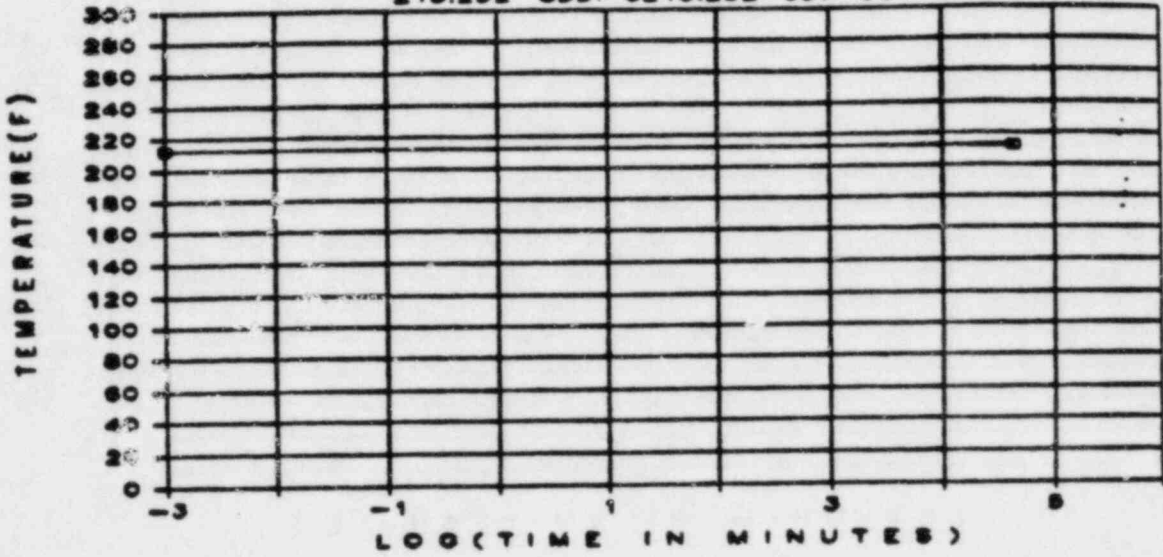
SRN 215252-2



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

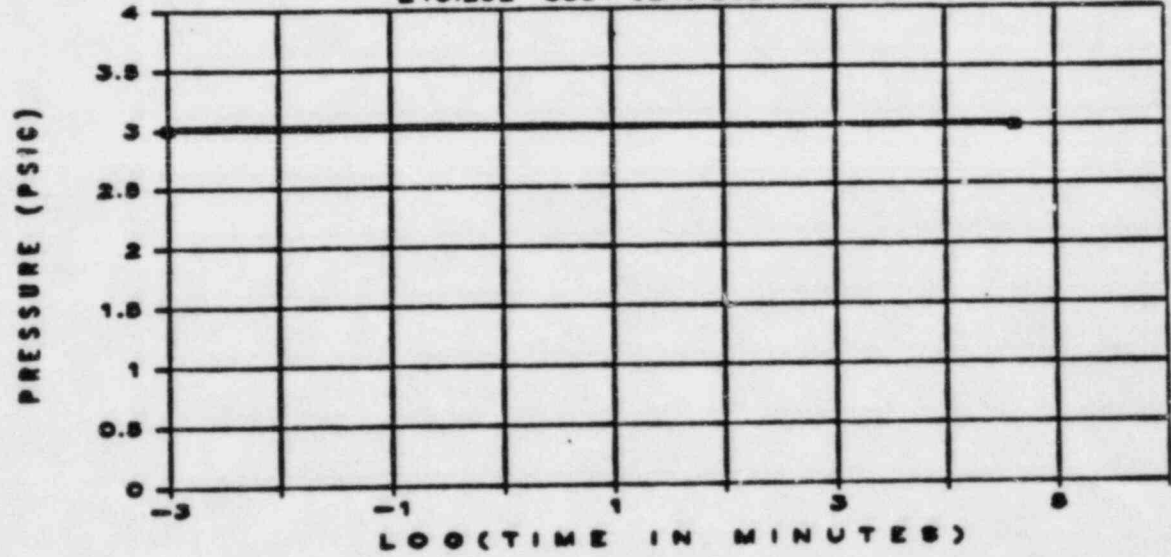
TEST PROFILE

215.252 BDDF 6215.252-057-001F



TEST PROFILE

215.252 BDDF 6215.252-057-001F



TEST PROFILE DATA FOR 215.252 BDDF 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 215400-1
REV 0
DATE 03-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						MARGIN: DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD		
				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	
HYDROGEN MIXING FAN 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	9.0	15.0	1	2	AN+DATA	YES	NOTE-2
	RH (%)							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	
MIX H2 RICH AIR FROM	RADIATION:							NOTE-1
DRYWELL WITH H2 FREE AIR	NORM GAMMA						NA	
IN CONTAINMENT	ACC GAMMA	1.89E7 TID	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	
	SUBMERGENCE	NA	NA	NA	NA	NA	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: 2,5								

- DOCUMENT REFERENCE:
1. SPECIFICATION 215.400, REV.0, ADD.8
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6215.400-071-020D
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 4. CALCULATION NO. 12210-EQS-20
 5. CALCULATION NO. 12210-EQS-26
 6. CALCULATION NO. 12210-EQS-62

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. 7
 DATE 11-30-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRG	QUAL. LIFE	OPTIME OC
SRN 215400-1				
SPEC 215.400				
CPM 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

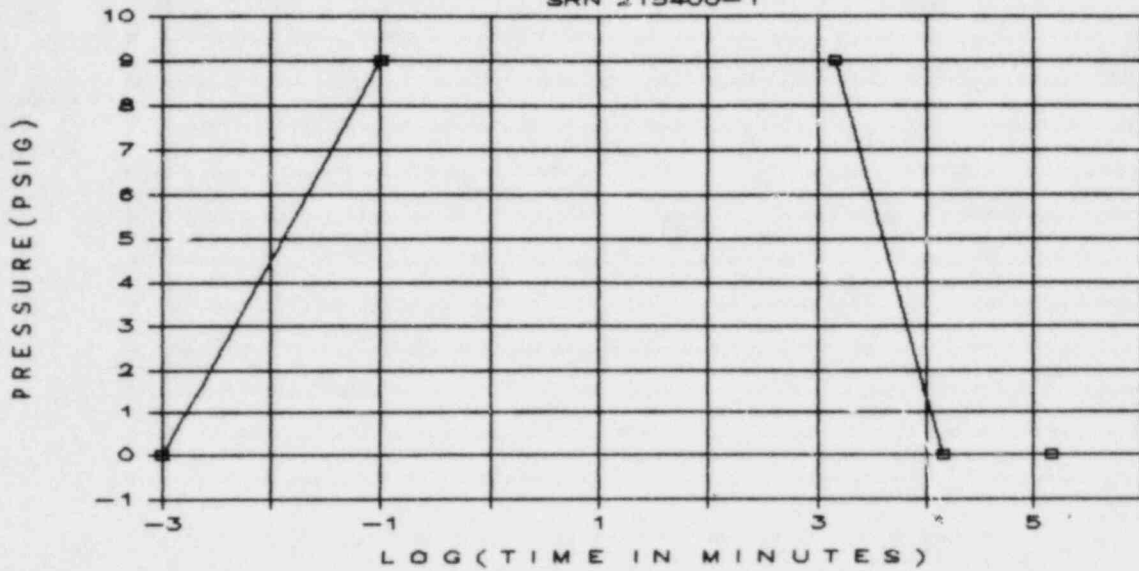
DATE 11/30/84

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.

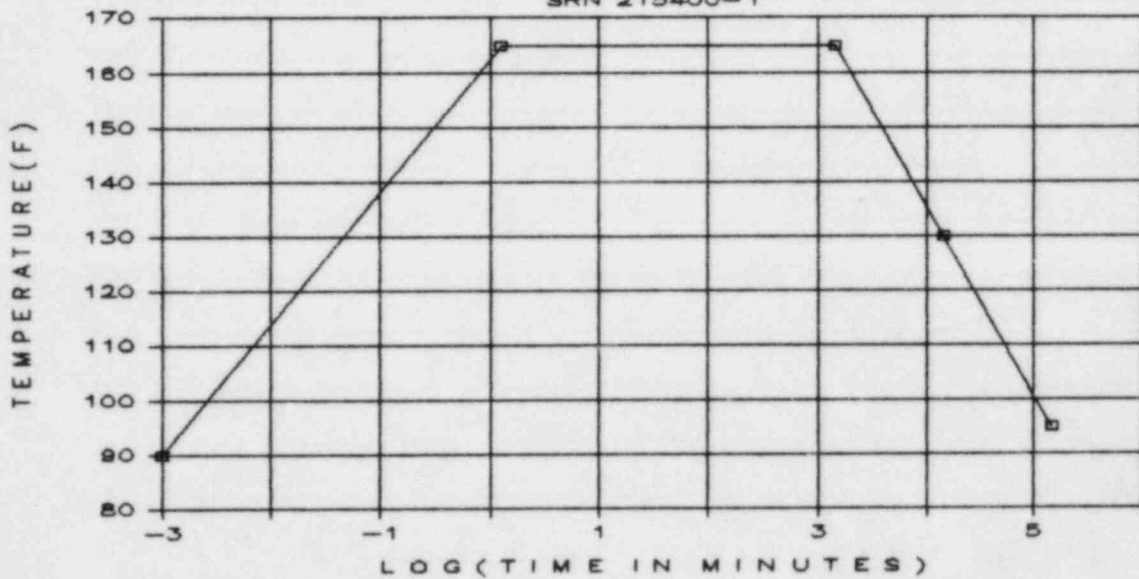
SPECIFIED ACCIDENT PROFILE

SRN 215400-1



SPECIFIED ACCIDENT PROFILE

SRN 215400-1

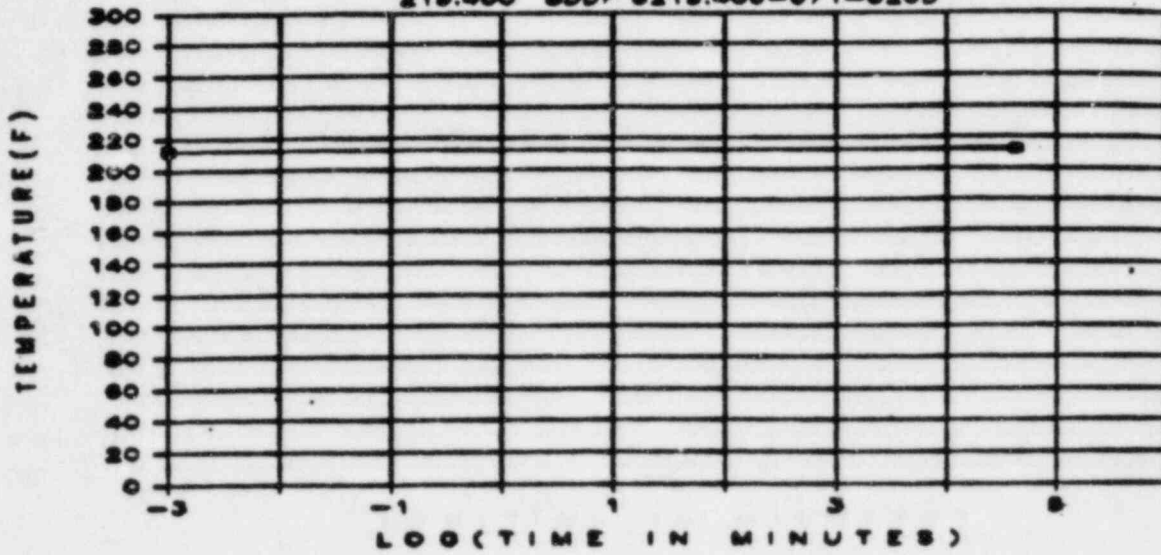


TEMPERATURE -----					
TIME	0sec	6sec	1day	10days	100days
LOG(MINUTES)	-3.00	0.10	3.16	4.16	5.16
TEMP(F)	90	165	165	130	95
TIME(MIN)	0.001	0.1	1440	14400	144000

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

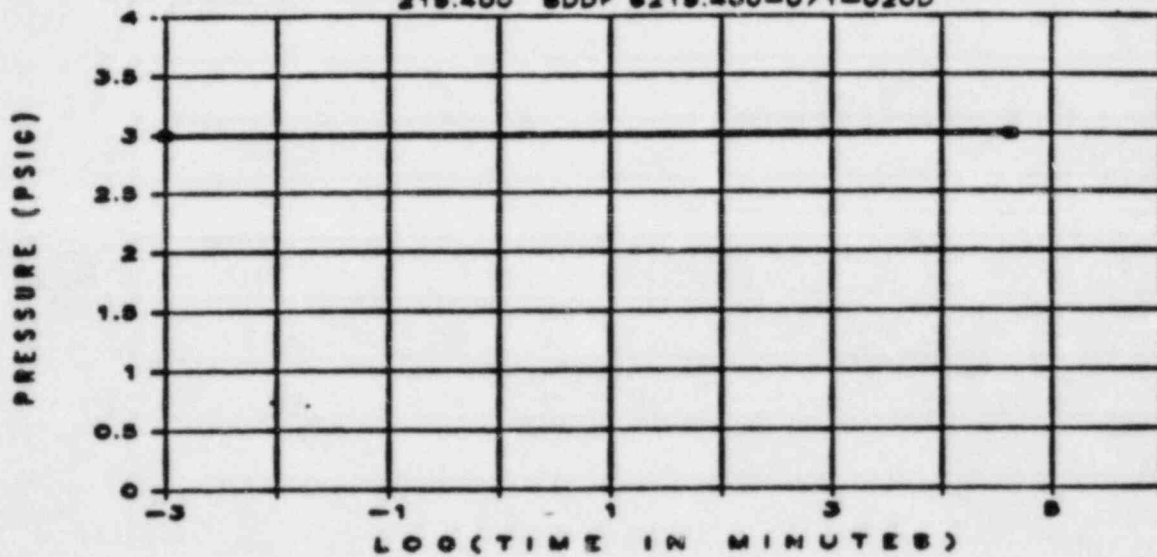
TEST PROFILE

215.400 BDDF 6215.400-071-020D



TEST PROFILE

215.400 BDDF 6215.400-071-020D



TEST PROFILE DATA FOR 215.400 BDDF 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

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

SRN 215400-2
REV 0
SHEET NO. 7
DATE 11-29-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRG	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

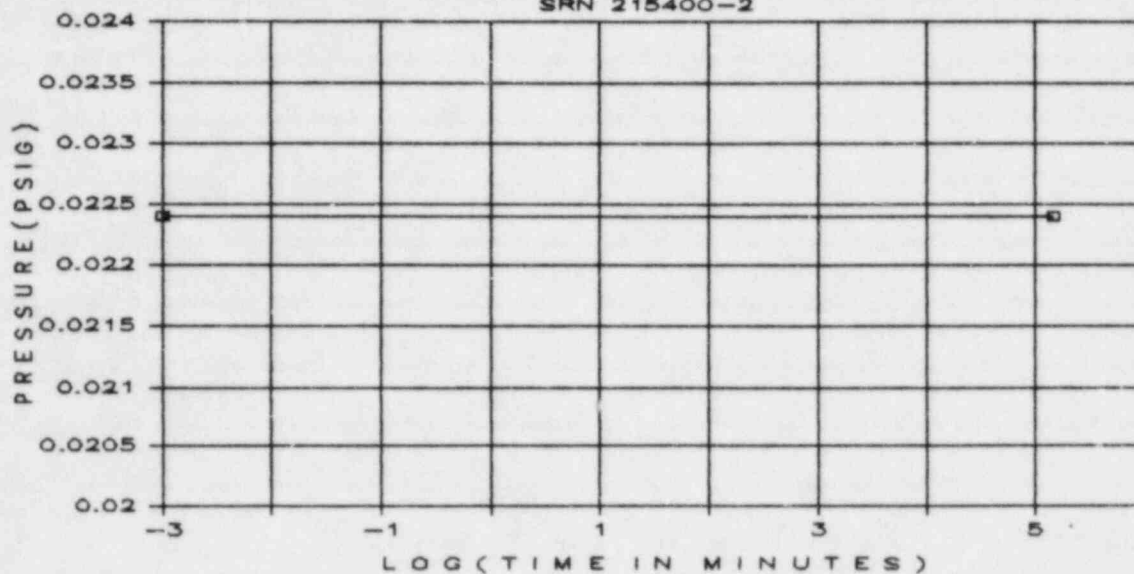
DATE 11/30/84

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

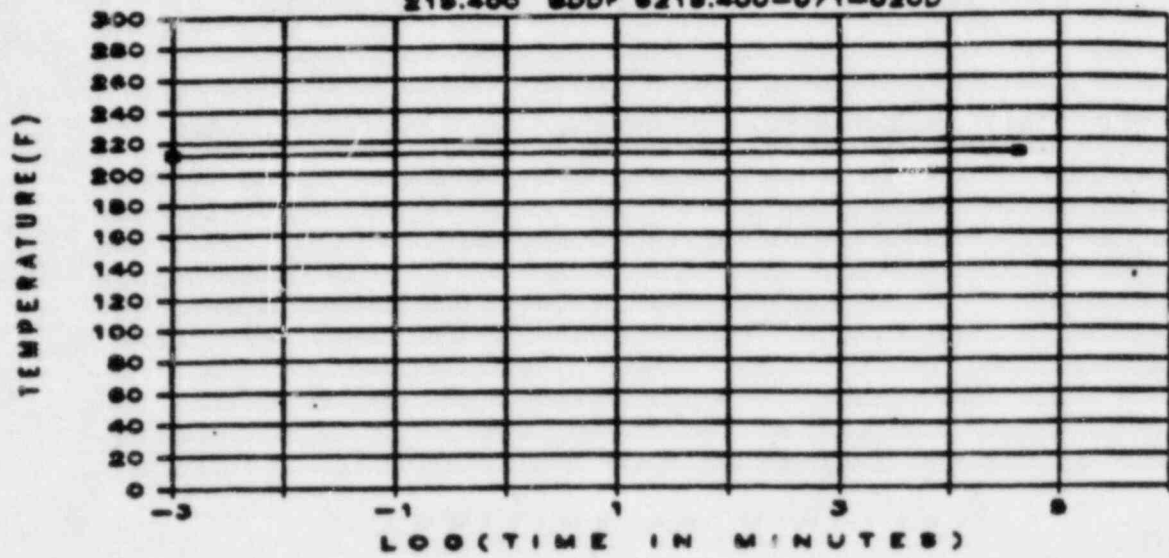
SRN 215400-2



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

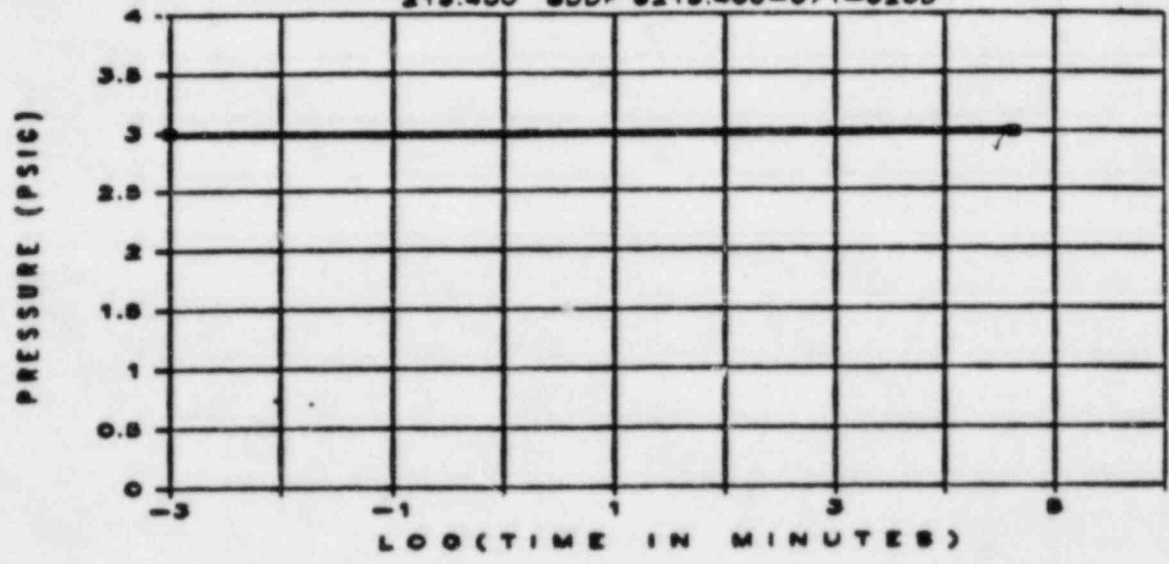
TEST PROFILE

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

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*A001A	EA180	AB-141-5	40 YRS	1000 A
1GTS*A001B	EA180	AB-141-6	40 YRS	1000 A
1GTS*A0021A	EA180	AB-141-5	40 YRS	1000 A
1GTS*A0021B	EA180	AB-141-6	40 YRS	1000 A
1GTS*A0022A	EA180	AB-141-5	40 YRS	1000 A
1GTS*A0022B	EA180	AB-141-6	40 YRS	1000 A
1GTS*A0023A	EA180	AB-141-5	40 YRS	1000 A
1GTS*A0023B	EA180	AB-141-6	40 YRS	1000 A
1GTS*A003A	EA180	AB-141-5	40 YRS	1000 A
1GTS*A003B	EA180	AB-141-6	40 YRS	1000 A
1GTS*A004A	EA180	AB-141-5	40 YRS	1000 A
1GTS*A004B	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

SRN 215480-1				
HVF VENTILATION - FUEL BUILDING				
1HVF*A0D102	EA180	FB-148-G	40YRS	1 HR A
1HVF*A0D104	EA180 REG.G.1.97	FB-148-G	40YRS	1 HR A
1HVF*A0D112	EA180	FB-148-G	40YRS	1 HR A
1HVF*A0D137	EA180 REG.G.1.97	FB-148-G	40YRS	1 HR A
1HVF*A0D20A	EA180	FB-148-1	40YRS	1000 A
1HVF*A0D20B	EA180	FB-148-1	40YRS	1000 A
1HVF*A0D3A	EA180	FB-148-1	40YRS	1000 A
1HVF*A0D3B	EA180	FB-148-1	40YRS	1000 A
1HVF*A0D31A	EA180	FB-148-1	40YRS	1000 A
1HVF*A0D31B	EA180	FB-148-1	40YRS	1000 A
1HVF*A0D33A	EA180	FB-148-1	40YRS	1000 A
1HVF*A0D33B	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 215 480-1
 REV 0
 SHEET NO 20
 DATE 12/3/84

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

SRN 215480-1				
HVR VENTILATION - REACTOR PLANT				
1HVR*AOD22A	EA180	AB-141-3	40 YRS	1000 A
1HVR*AOD22B	EA180	AB-141-3	40 YRS	1000 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	1000 A
1HVR*AOD51B	EA180	AB-141-2	40 YRS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

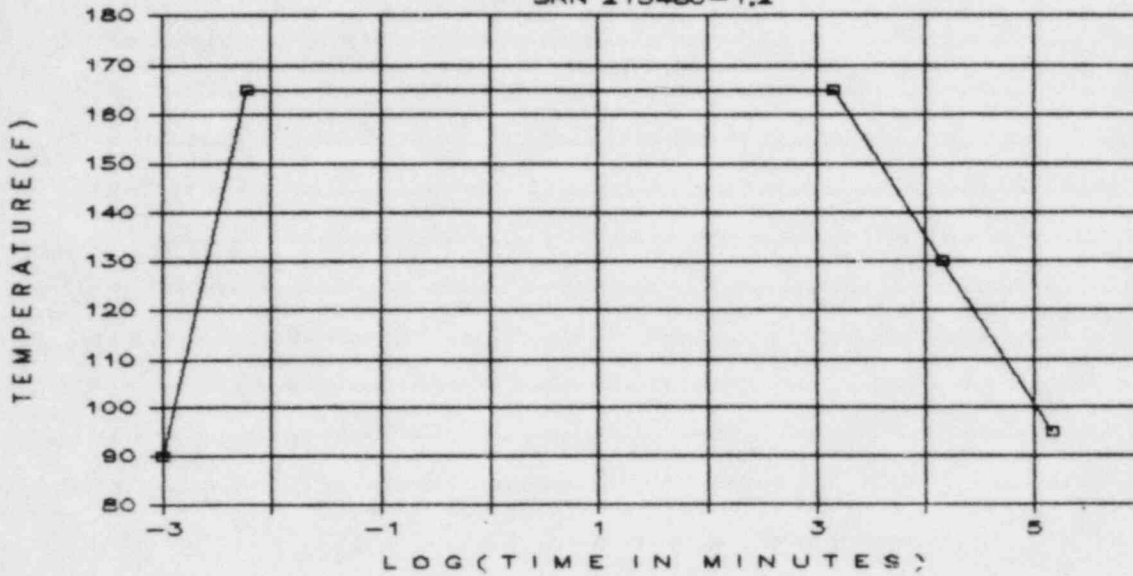
SRN 215480-1
REV 0
SHEET NO. 3
DATE 12/01/84

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.

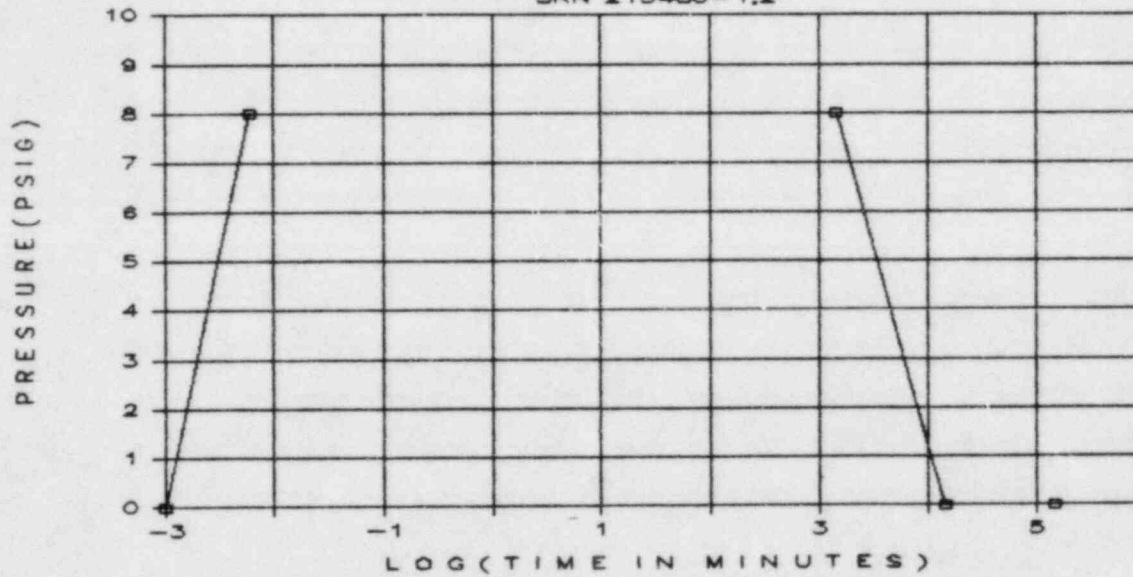
SPECIFIED ACCIDENT PROFILES

SRN 215480-1,2



SPECIFIED ACCIDENT PROFILES

SRN 215480-1,2



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION:215480

T E M P E R A T U R E - - - - -

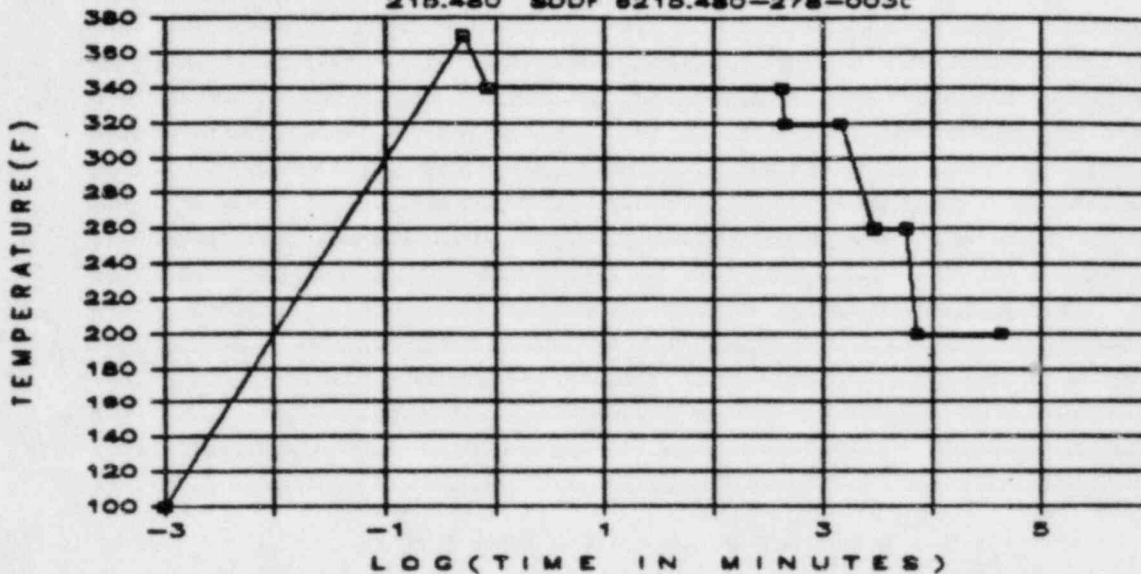
TIME	0	6sec	1day	10days	180days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.16
TEMP(F)	90	165	165	130	95
TIME(MIN)	0.001	0.006	1440	14400	144000

P R E S S U R E - - - - -

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

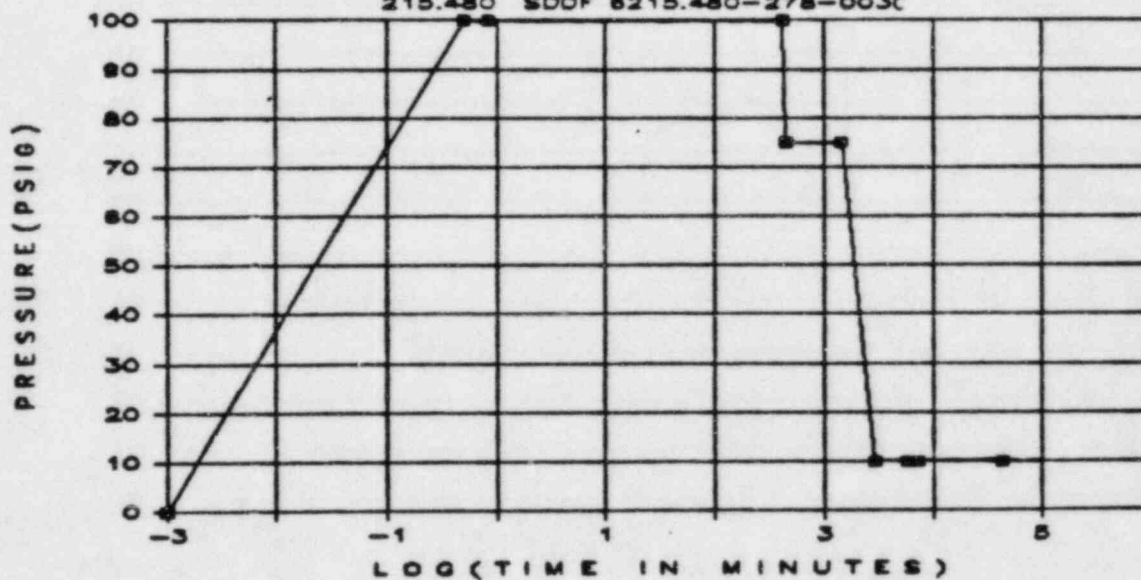
TEST PROFILE

215.480 SDDF 6215.480-278-003C



TEST PROFILE

215.480 SDDF 6215.480-278-003C



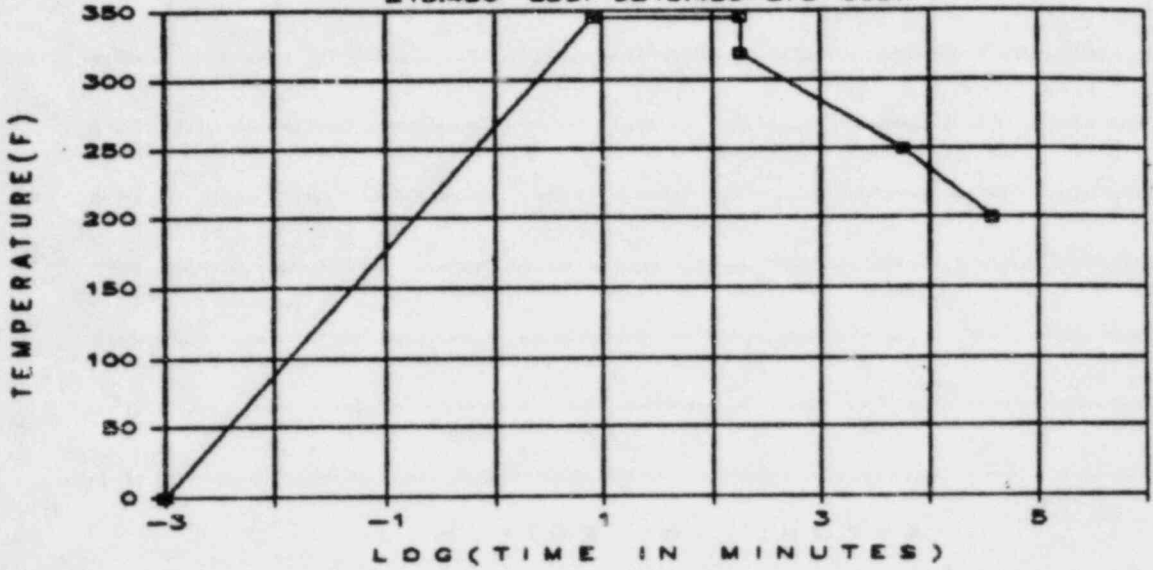
TEST PROFILE DATA FOR 215.480 SDDF 6215.480-278-003C

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

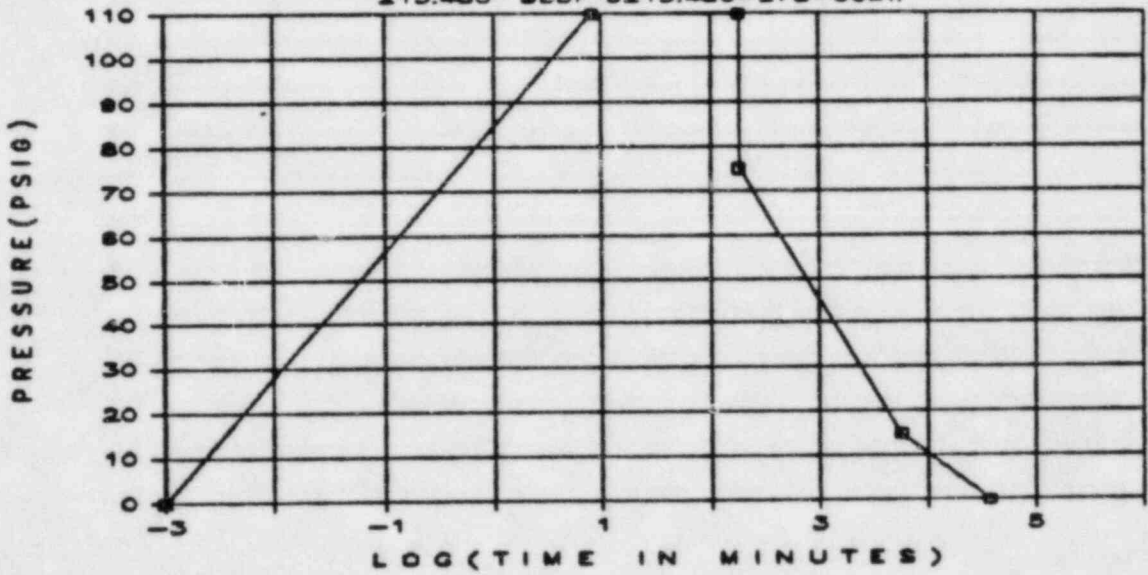
TEST PROFILE

215.480 SDDF 6215.480-278-002H



TEST PROFILE

215.480 SDDF 6215.480-278-002H



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

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	1000 A
1GTS*SOV1B	NP8321A5E	AB-141-6	2.3 YRS	1000 A
1GTS*SOV21A	NP8321A5E	AB-141-5	2.3 YRS	1000 A
1GTS*SOV21B	NP8321A5E	AB-141-6	2.3 YRS	1000 A
1GTS*SOV22A	NP8321A5E	AB-141-5	2.3 YRS	1000 A
1GTS*SOV22B	NP8321A5E	AB-141-6	2.3 YRS	1000 A
1GTS*SOV23A	NP8321A5E	AB-141-5	2.3 YRS	1000 A
1GTS*SOV23B	NP8321A5E	AB-141-6	2.3 YRS	1000 A
1GTS*SOV3A	NP8321A5E	AB-141-5	2.3 YRS	1000 A
1GTS*SOV3B	NP8321A5E	AB-141-6	2.3 YRS	1000 A
1GTS*SOV4A	NP8321A5E	AB-141-5	2.3 YRS	1000 A
1GTS*SOV4B	NP8321A5E	AB-141-6	2.3 YRS	1000 A
HVF VENTILATION - FUEL BUILDING				
1HVF*SOV10Z	NP8321A5E	FB-148-G	6.7 YRS	1 HR A
1HVF*SOV104	NP8321A5E	FB-148-G	6.7 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 2B

DATE 12/3/84

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

REV 0

SHEET NO 2D

DATE 12/3/84

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

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

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

SRN 219711-1
 REV. 0
 DATE 12-3-84
 SHEET NO. 2

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBING	QUAL. LIFE	OPTIME OC
SRN 219711-1				
SPEC 219.711				
JRB SUPERSTRUCTURE - REACTOR BUILDING				
1JRB*DRA1(JBE)	NONE, UNIQUE ELECTRICAL PENETRATION	CT-G	40 YRS	100D A
1JRB*DRA1(JBF)	NONE, UNIQUE ELECTRICAL PENETRATION	AB-170-1	40 YRS	100D A
1JRB*DRA2(JBE)	NONE, UNIQUE ELECTRICAL PENETRATION	CT-G	40 YRS	100D A
1JRB*DRA2(JBF)	NONE, UNIQUE ELECTRICAL PENETRATION	FB-113-G	40 YRS	100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

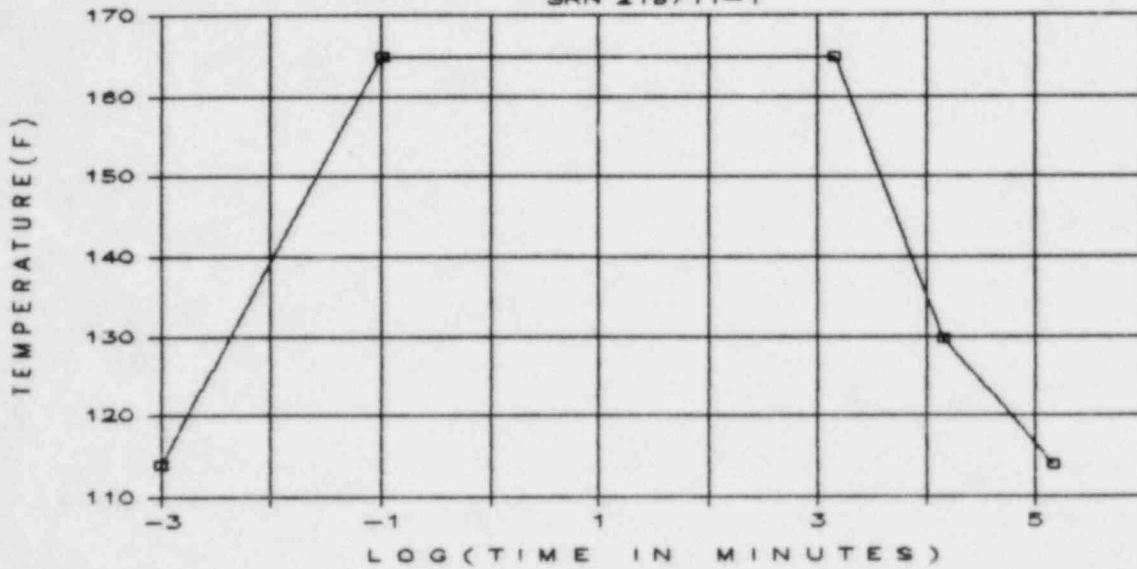
SRN 219711-1
REV 0
SHEET NO. 3
DATE 11/27/84

NOTES

1. For complete environmental conditions, see document referenced.

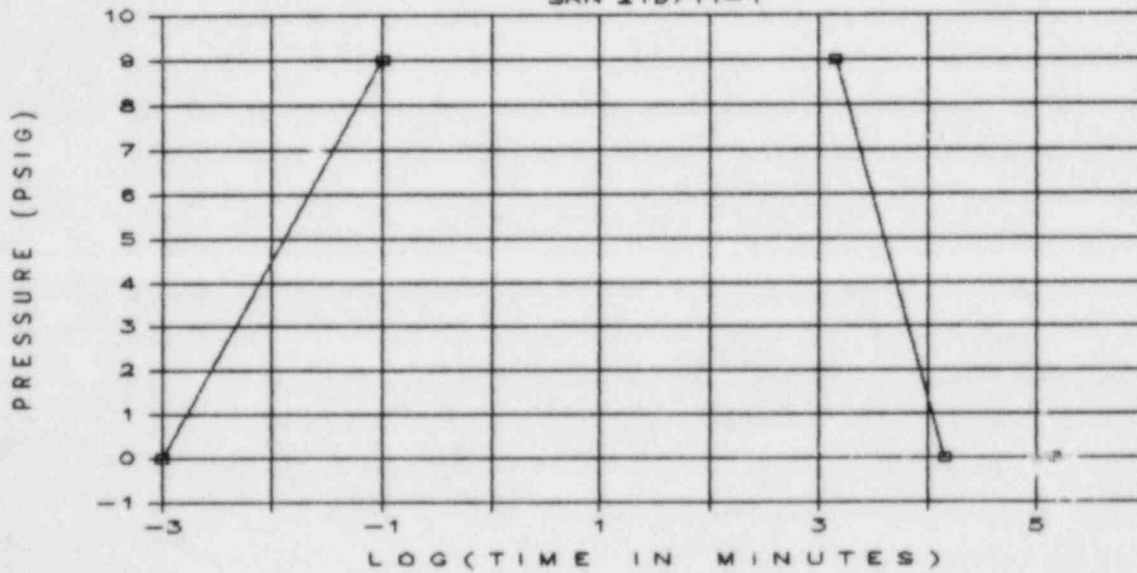
SPECIFIED ACCIDENT PROFILES

SRN 219711-1



SPECIFIED ACCIDENT PROFILES

SRN 219711-1

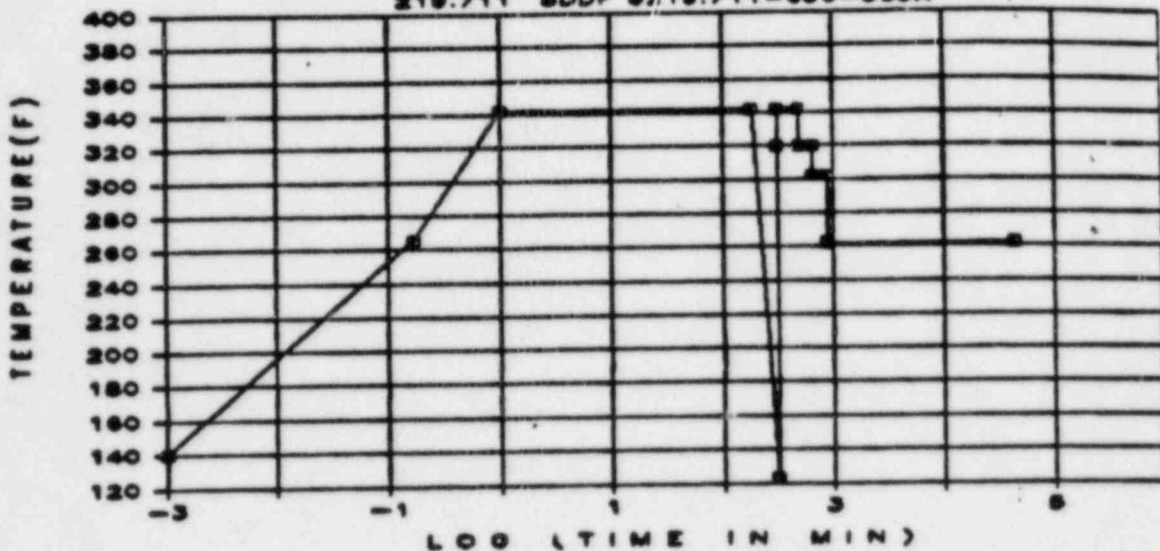


SPECIFIED ACCIDENT CONDITIONS FOR ZONES:219711

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

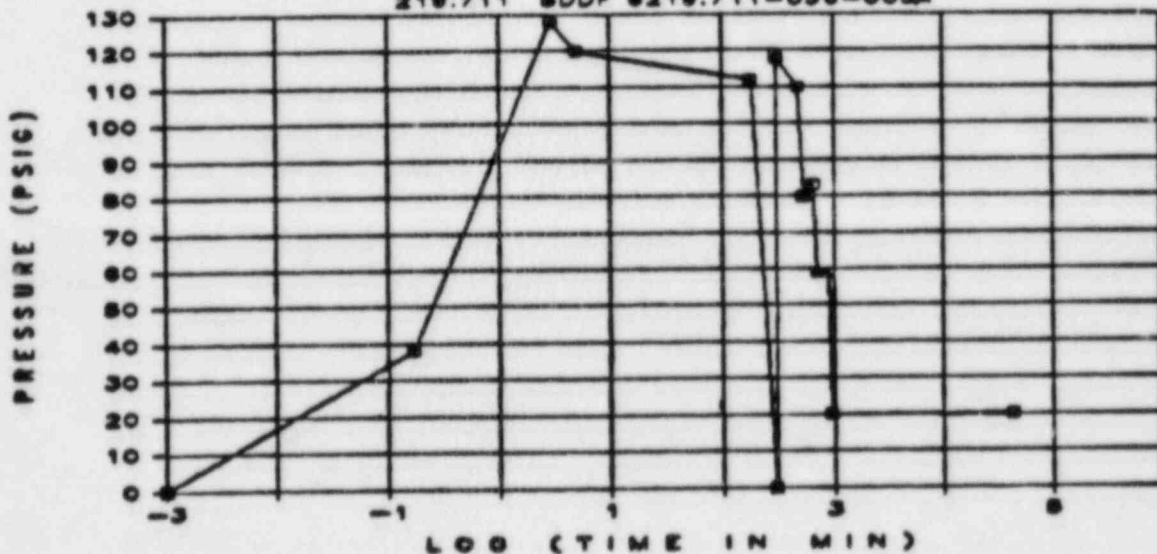
TEST PROFILE

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

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

SRN 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

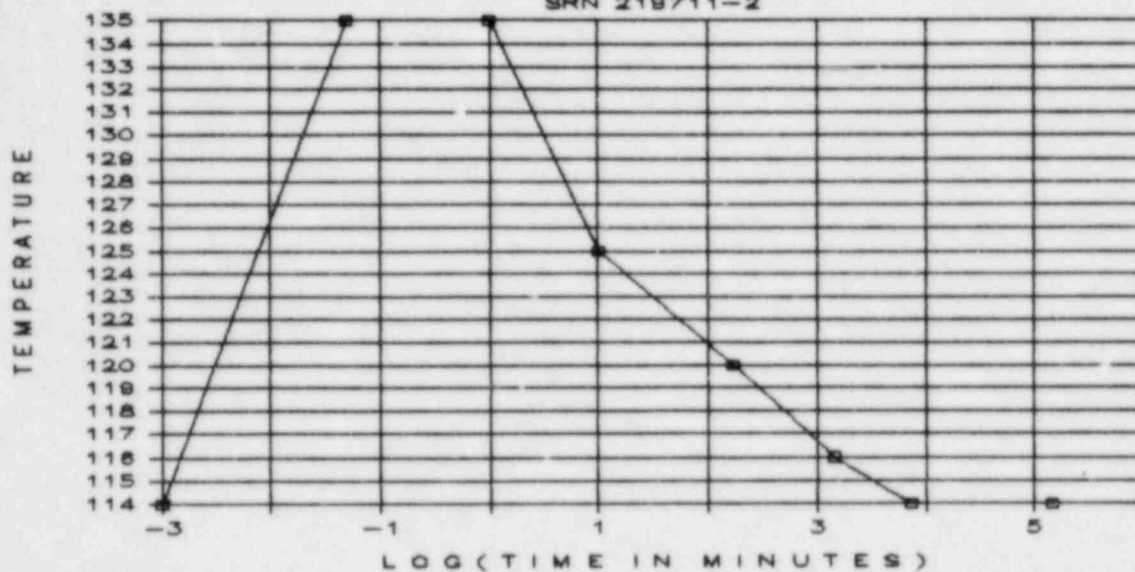
DATE 11/27/84

NOTES

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

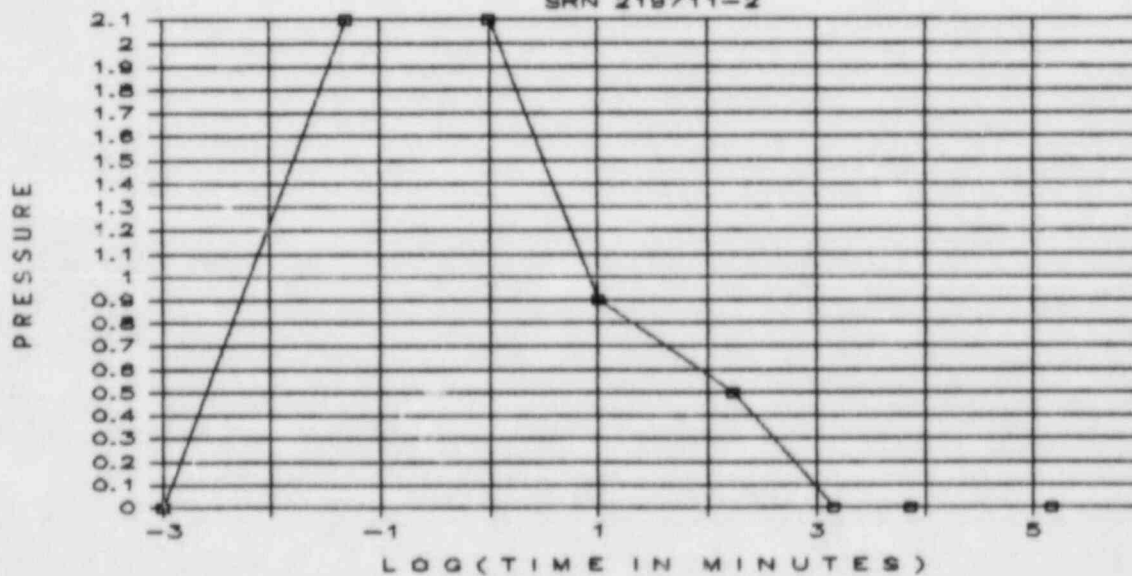
SPECIFIED ACCIDENT CONDITIONS

SRN 219711-2



SPECIFIED ACCIDENT CONDITIONS

SRN 219711-2

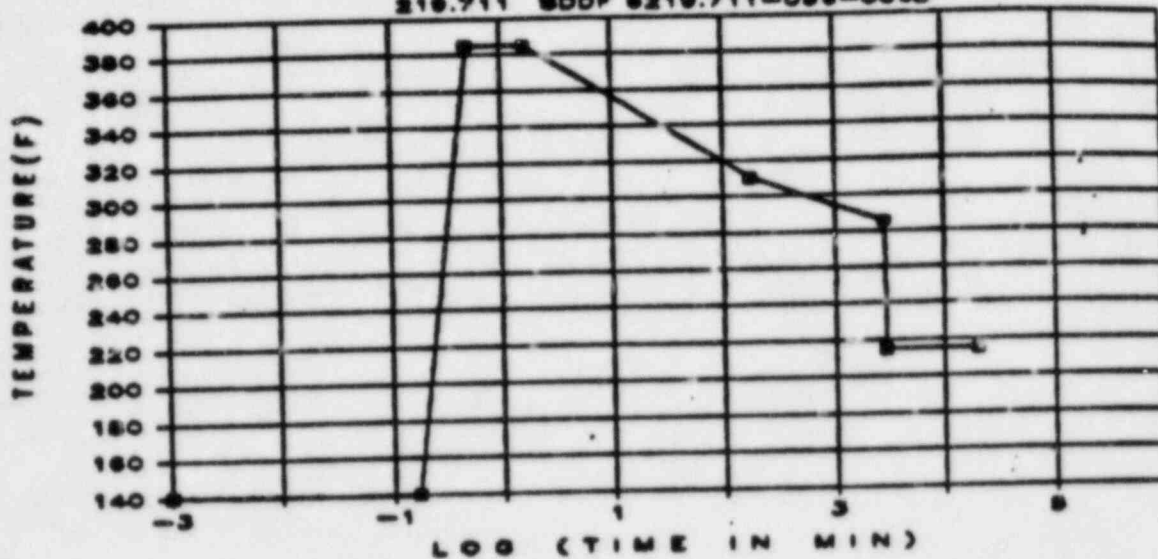


SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 219711

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 (FSIG)	0	2	2	1	1	0	0	0
TIME (MIN)	0.001	0	1	10	168	1440	7200	144000

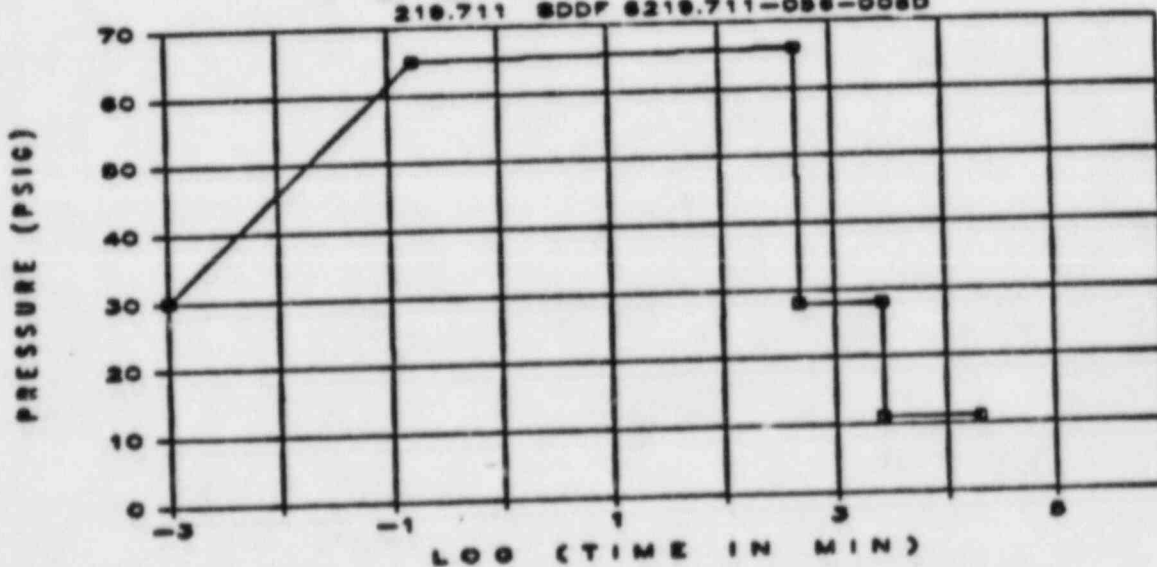
TEST PROFILE

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	65	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	TEMP (F):	30 DAYS		3	2			NOTE-2 NOTE-1
SYSTEM: SEE SHEET 2	NORMAL	114	122	1	2	TEST-SIM	NA	
	ABNORMAL	114	122	1	2	TEST-SIM	NA	
TYPE: (DESCRIPTION)	ACCIDENT	135		1				
COMPRESSOR MOTOR	PRESS (PSIG)							NOTE-2 NOTE-1
	NORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
	ABNORMAL	ATMOS	ATMOS	1	2	TEST-SIM	NA	
MANUFACTURER: RELIANCE	ACCIDENT	2.1		1				NOTE-2 NOTE-1
	RH (%)							
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-SIM	NA	
	ABNORMAL	90	100	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ACCIDENT	100		1				
MAINTAIN LEAKAGE CONTROL	RADIATION:							NOTE-2 NOTE-1
	NORM GAMMA	7E2		1			NA	
	ACC GAMMA	2E6 TID	2E6	1	2	TEST-SIM	YES	
OP. CODE: SEE SHEET 2	NORM BETA						NA	
	ACC BETA		1.6E9		2	TEST-SIM	YES	
	NEUTRON						NA	
	SFRAY	NA	NA	NA	NA	NA	NA	
	SURMERGENCE	NA	NA	NA	NA	NA	NA	
ACCURACY - - -								
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SURMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECT TO								
SURMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
NUREG 0588, CAT 1								
QUALIFICATION IN PROGRESS								
SEE NOTE-2								
MAINT/SURVEILL - - -								
REFERENCE: 2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

- DOCUMENT REFERENCE:
- SPECIFICATION 21-512 REV.1 / E&DR P12.957
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDOF # 6221-512-527-0034
 - FIRST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 345,600, REV.0

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

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

SRN 221512-1

SPEC 221.512

LSV LEAKAGE CONTROL - PENETRATION VALVE

ILSV+C1A

ILSV+C3B

356TS

356TS

AB-141-2

AB-141-3

40YRS

40YRS

100 D
A

100 D
A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

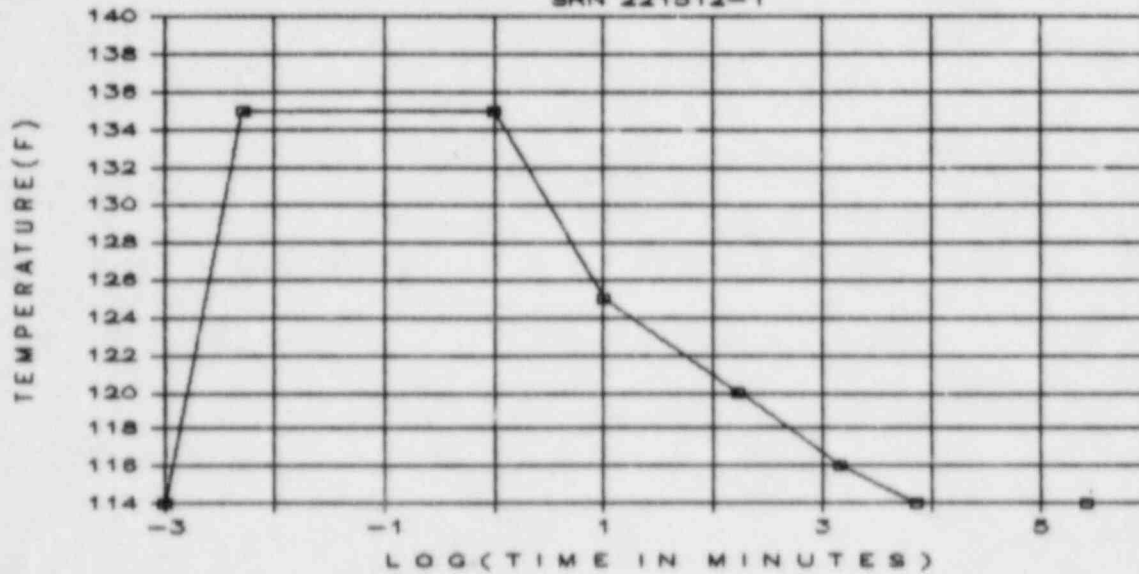
SRN 221512-1
REV _____
SHEET NO. 3
DATE 12/01/84

NOTES

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

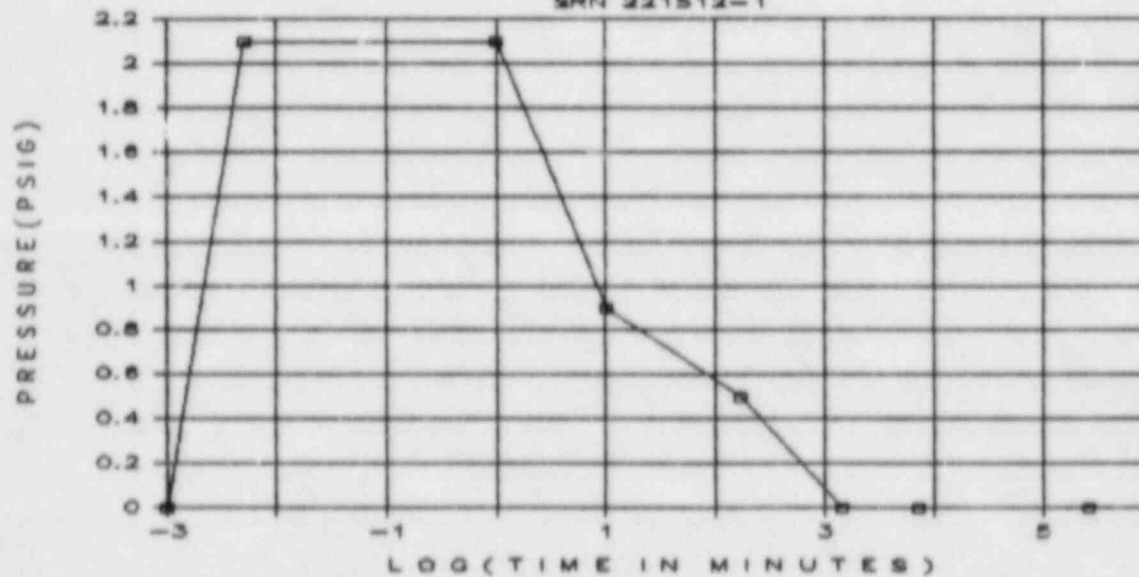
SPECIFIED ACCIDENT PROFILES

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

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 SUBHRG	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

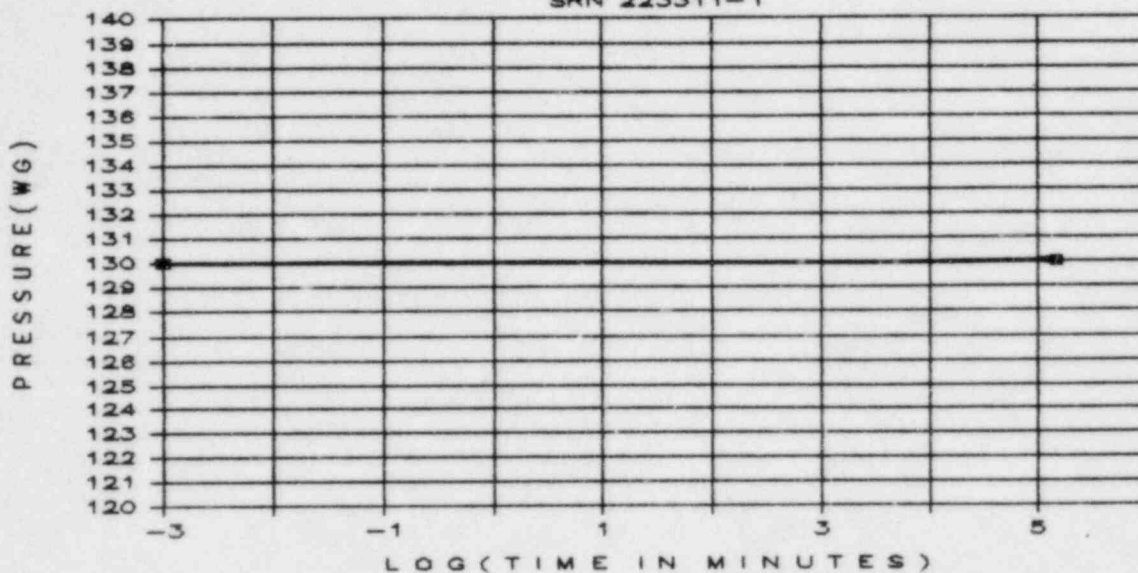
DATE 11/27/84

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.

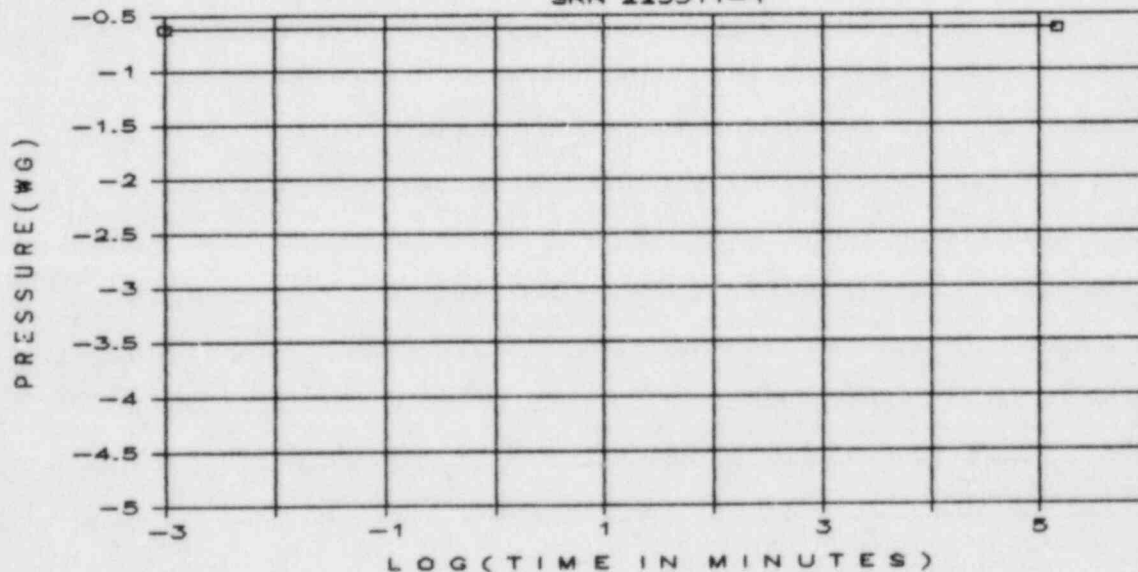
SPECIFIED ACCIDENT PROFILES

SRN 223311-1



SPECIFIED ACCIDENT PROFILES

SRN 223311-1



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 223311

T E M P E R A T U R E -----				
TIME	0 100days			
LOG (MINUTES)	-3.00	5.16		
TEMP (F)	130	130	120	140
TIME (MIN)	0.001	144000		
P R E S S U R E -----				
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

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

SRN 224520-1
REV 0
SHEET NO 2
DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	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

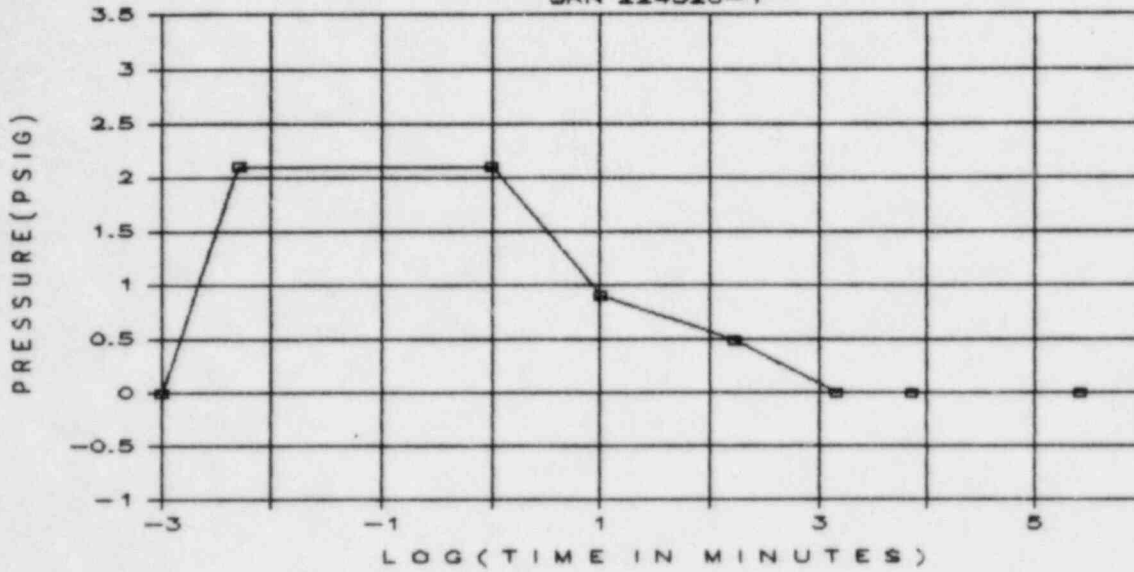
DATE 12/01/84

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.

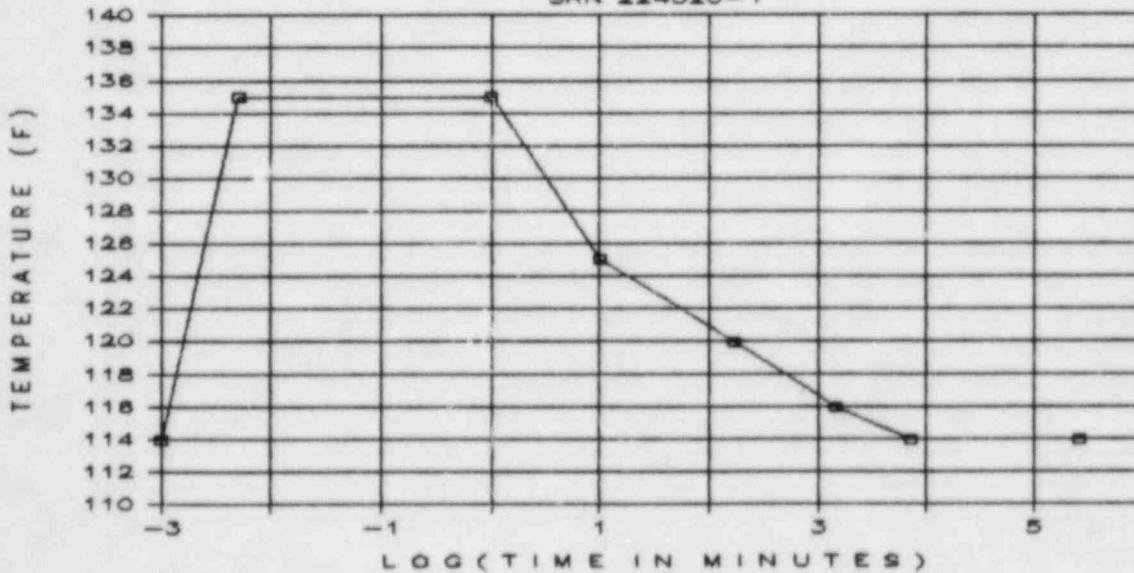
SPECIFIED ACCIDENT PROFILES

SRN 224520-1



SPECIFIED ACCIDENT PROFILES

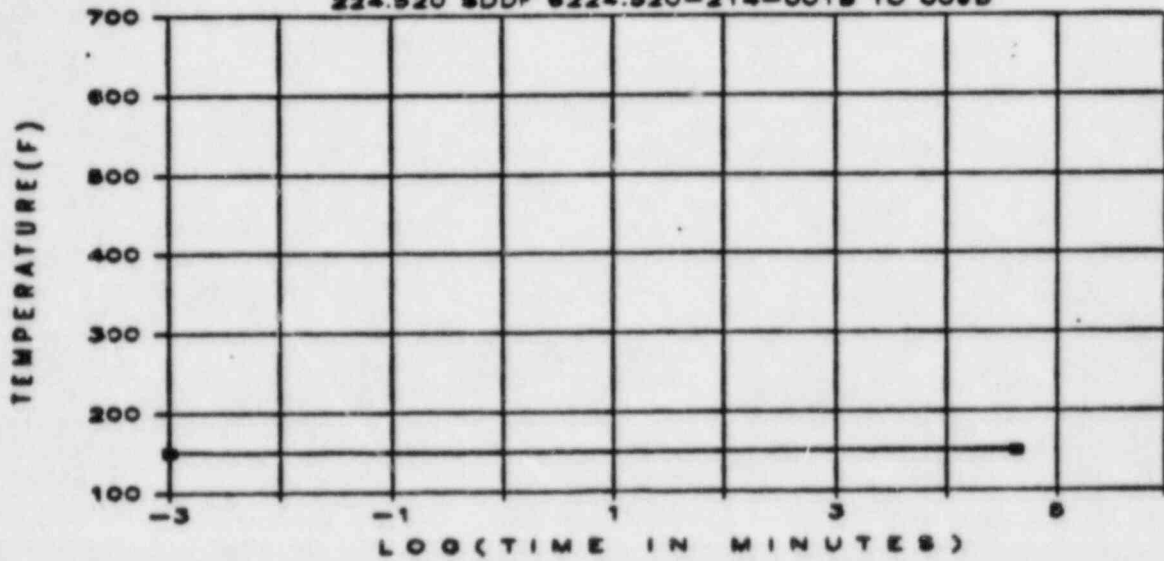
SRN 224520-1



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

224.520 SDDF 6224.520-214-001B TO 009B



TEST PROFILE DATA FOR 224.520 SDDF 6224.520-214-001B TO 009B
LOCATION AB-141-1&2

TIME	0	30days
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				DOCUMENT REFERENCE		DUAL	MARGIN	REMARKS
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO		
LODRIP 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	1.6E8TID	2E8	1	6	TEST-IDENT	YES		
OP. CODE: SEE SHEET 2		NORM BETA								
		ACC BETA								
		NEUTRON								
ACCURACY - -		SPRAY	NA	NA	NA	NA	NA	NA	NA	
SPEC: NA		SUBMERGENCE:	NA	NA	NA	NA	NA	NA	NA	
DEMO: NA										
ZONE NO.: SEE SHEET 2										
SUBMERGENCE:		DOCUMENT REFERENCE:								
SPRAY/FROTH:		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								
EQUIPMENT NOT SUBJECTED TO		3. POST-ACCIDENT OPERABILITY PERIOD: SEE								
SUBMERGENCE OR SPRAY/FROTH		P&OP DOCUMENT NO. 245.600, REV. 0								
CONDITIONS		4. SDDF # 6224.520-214-006B								
		5. SDDF # 6224.520-214-005B								
DOCUMENTATION ACCEPTABILITY:		6. SDDF # 6224.520-214-004B								
ACCEPTABLE TO NUREG 0589,CAT I		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)								
MAINT/SURVEILL - - -										
REFERENCE: NOT REQUIRED										
QUALIFIED LIFE - - -										
(YEARS): SEE SHEET 2										
REFERENCE: 9										

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 224520-2

REV _____

SHEET NO. 3

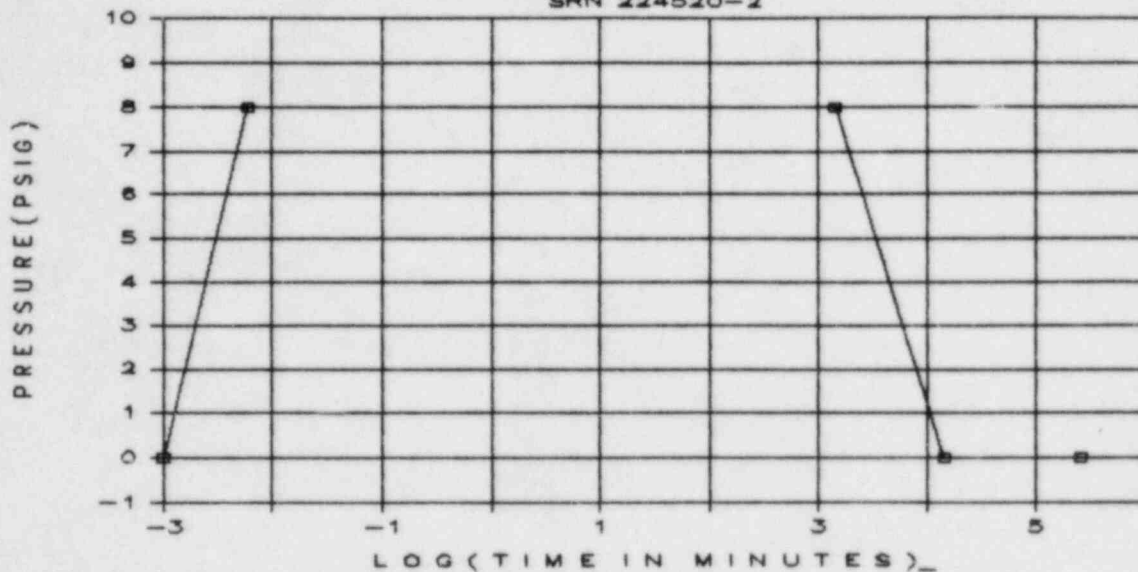
DATE 12/01/84

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.

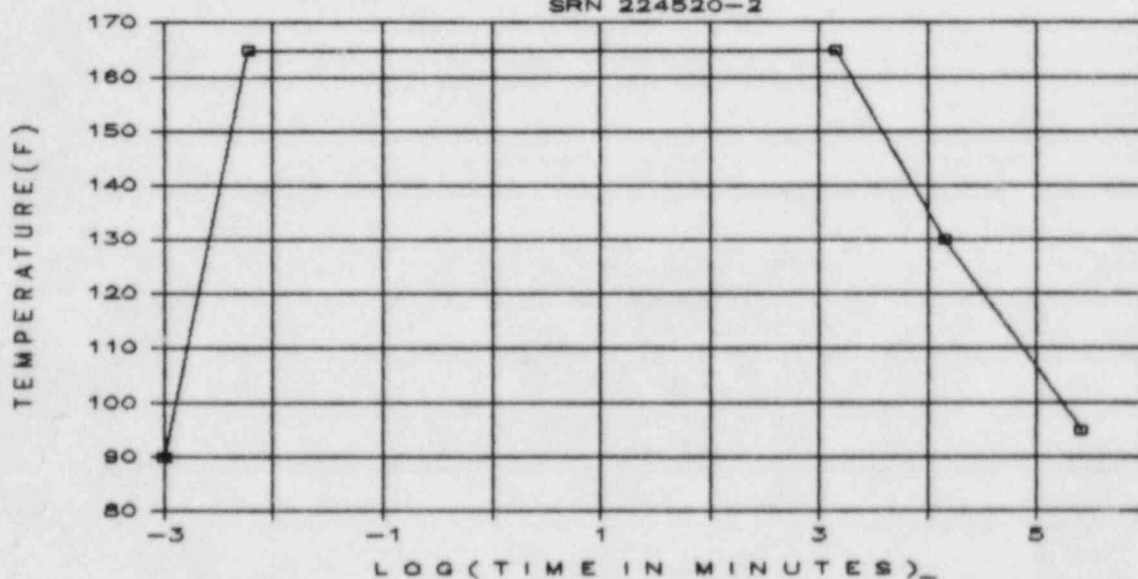
SPECIFIED ACCIDENT PROFILES

SRN 224520-2



SPECIFIED ACCIDENT PROFILES

SRN 224520-2

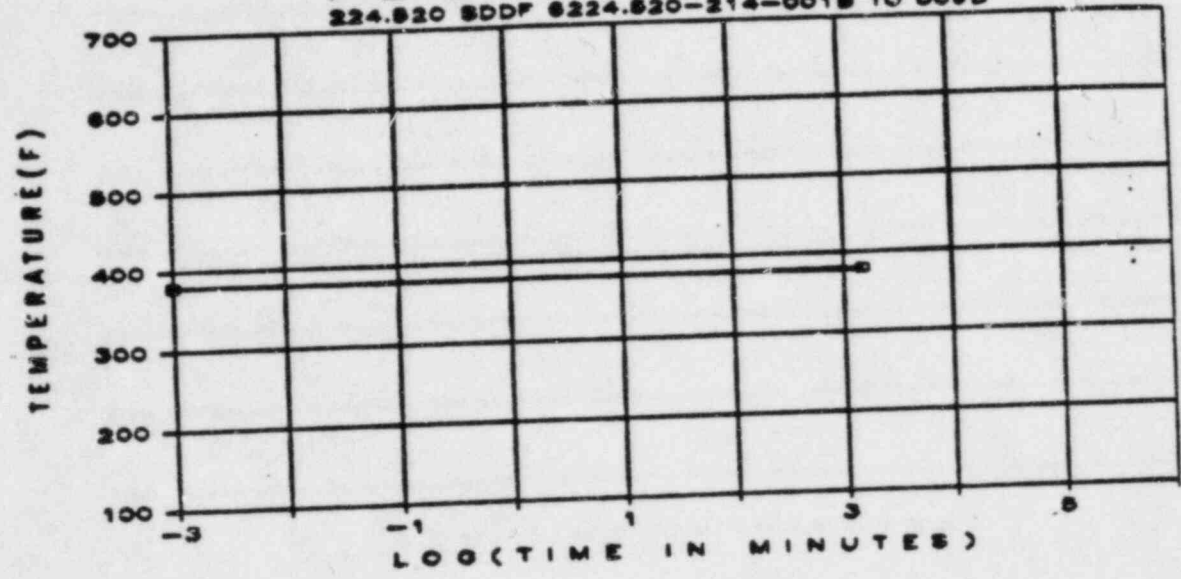


SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 224520

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

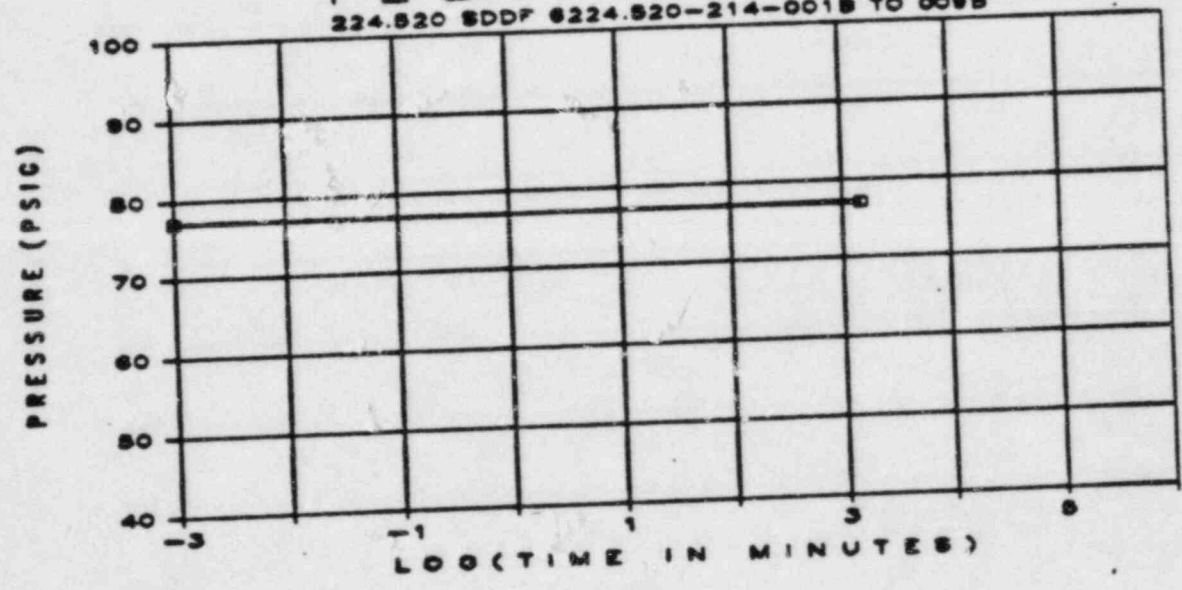
TEST PROFILE

224.520 SDDF 6224.520-214-001B TO 009B



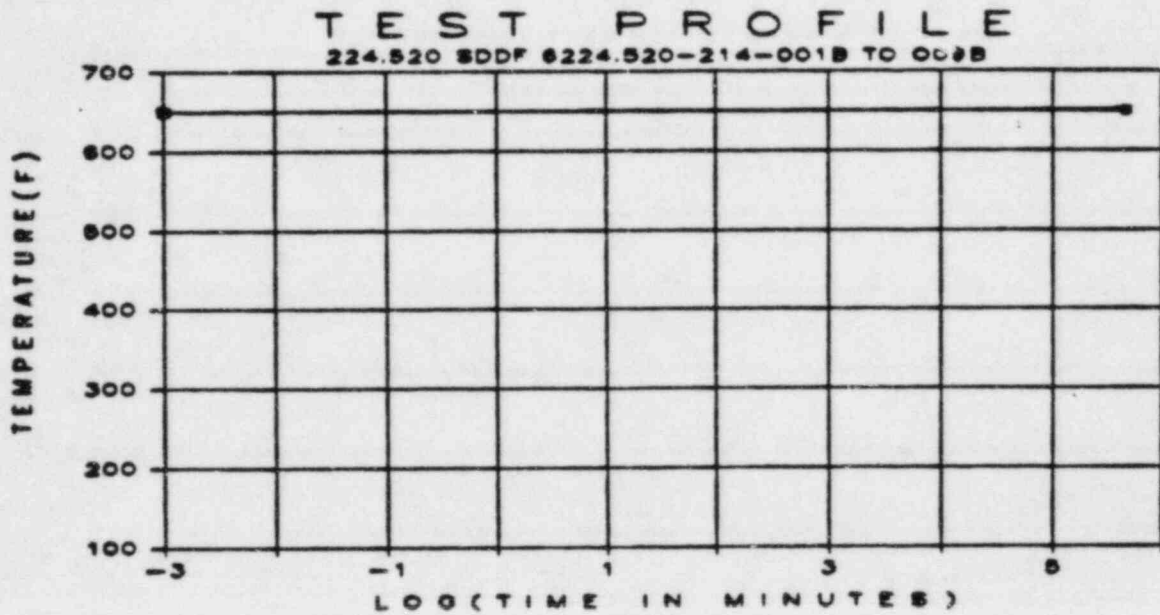
TEST PROFILE

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 #:		
TIME	0	25hr
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						REMARKS
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		DUAL	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2								
SYSTEM: SEE SHEET 2		OP. TIME:	100 DAYS	>100 DAYS	3	2	TEST-IDENT	YES
		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
		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:	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 T1D	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
SPEC: NA		SUBMERGENCE:	NA	NA	NA	NA	NA	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.# B & 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-FR(C)-552

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. ENV. ZONE QUAL. LIFE OPTIME
 REMARKS SUBMRG 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

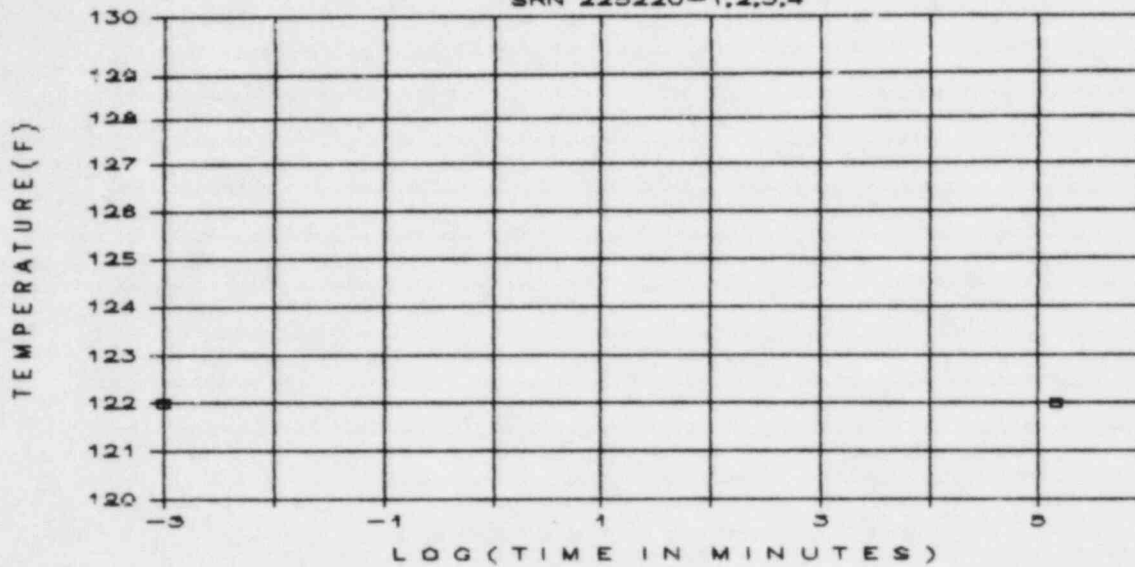
DATE 12/01/84

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.

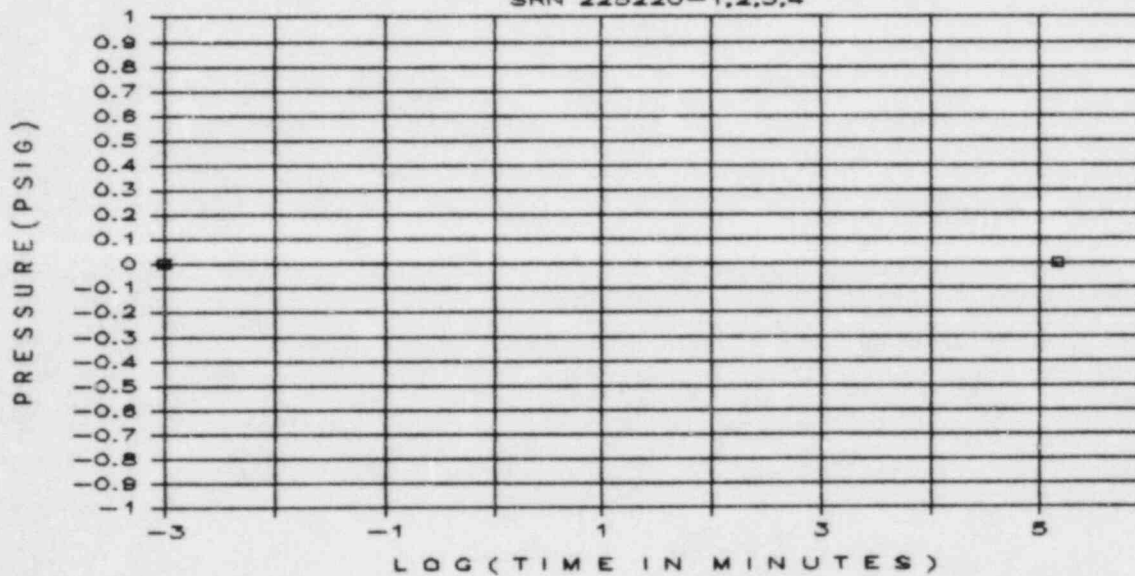
SPECIFIED ACCIDENT PROFILES

SRN 225220-1,2,3,4



SPECIFIED ACCIDENT PROFILES

SRN 225220-1,2,3,4

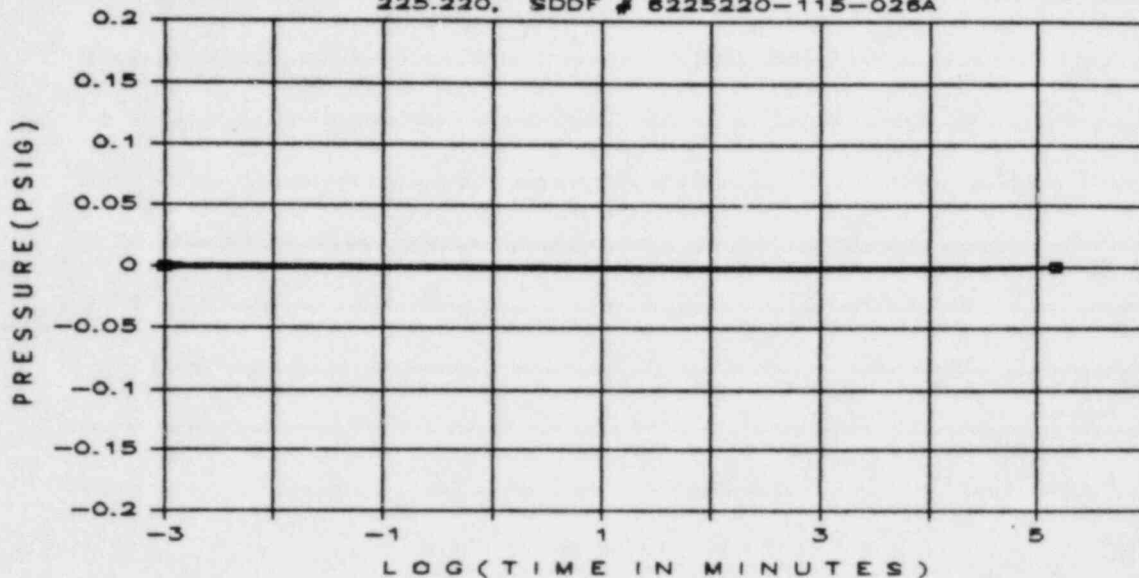


SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 225220

T E M P E R A T U R E - - - - -				
TIME	0	100days		
LOG (MINUTES)	-3.00	5.16		
TEMP (F)	122	122	120	130
TIME (MIN)	0.001	144000		
P R E S S U R E - - - - -				
TIME	0	100days		
LOG (MINUTES)	-3.00	5.16		
PRES (PSIG)	0	0	-1	1
TIME (MIN)	0.001	144000		

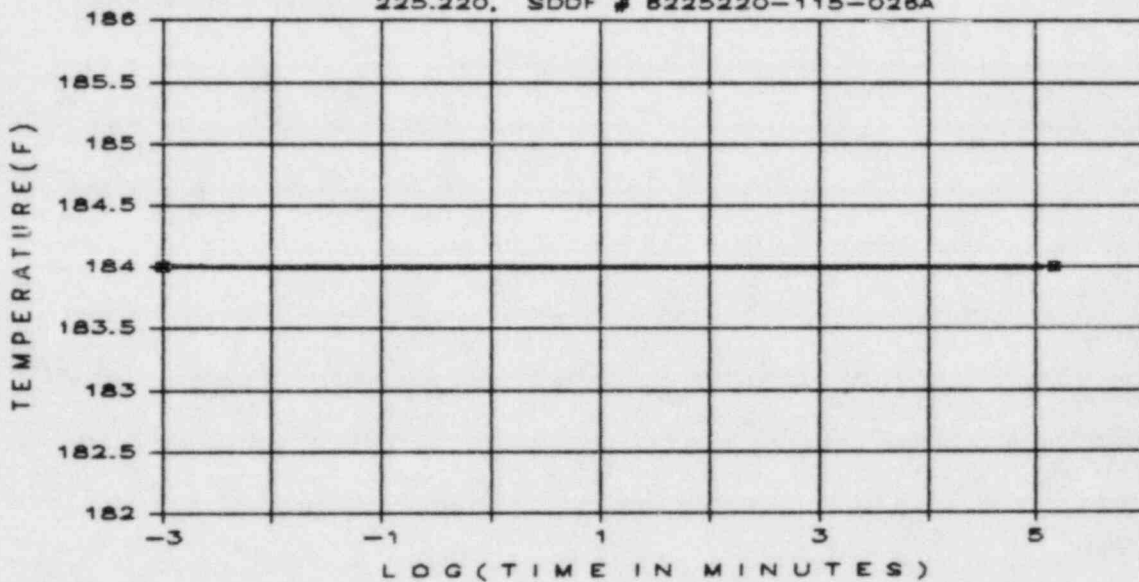
TEST PROFILE

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

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

RBS-ENVIRONMENTAL QUALIFICATION DATA MASTER LIST
 SORTED 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.  ENV. ZONE  QUAL. LIFE  OPTIME
                                      REMARKS           SUPPLY      OC
*****
SRN 225220-3
SPEC 225.220
GTS GAS TREATMENT STANDBY
    
```

MARK NO	MODEL/CATALOG NO.	ENV. ZONE	QUAL. LIFE	OPTIME
1GTS*TS5A	54-301	AB-141-5	40YRS	100D A
1GTS*TS5B	54-301	AB-141-6	40YRS	100D 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.

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.
SUEVIC
REMARKS

ENV. ZONE
QUAL. LIFE
OPTIME
OC

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

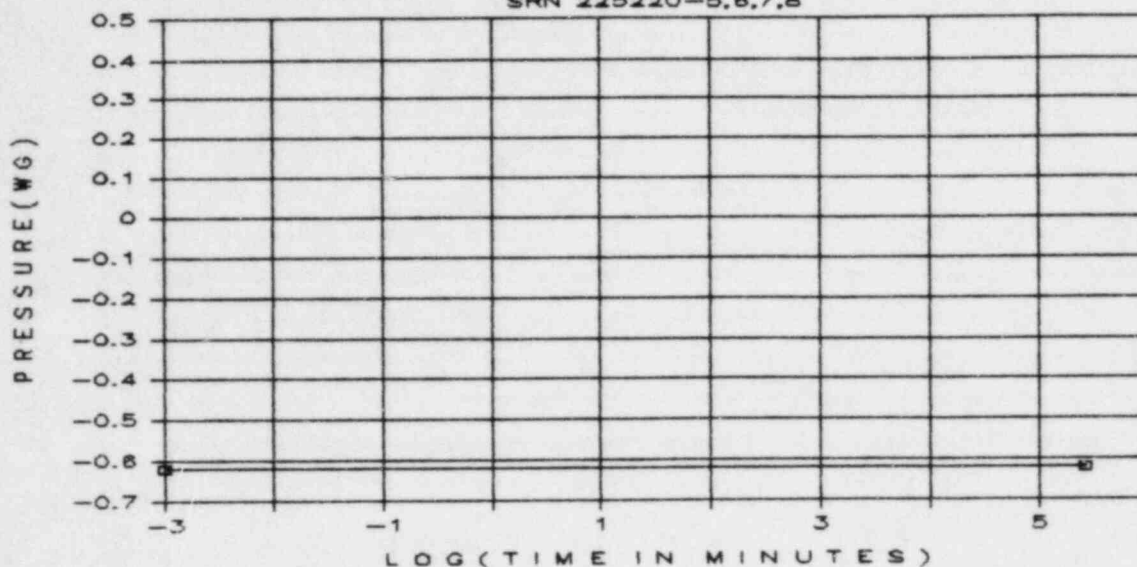
SRN 225220-5
REV 0
SHEET NO. 3
DATE 12/01/84

NOTES

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

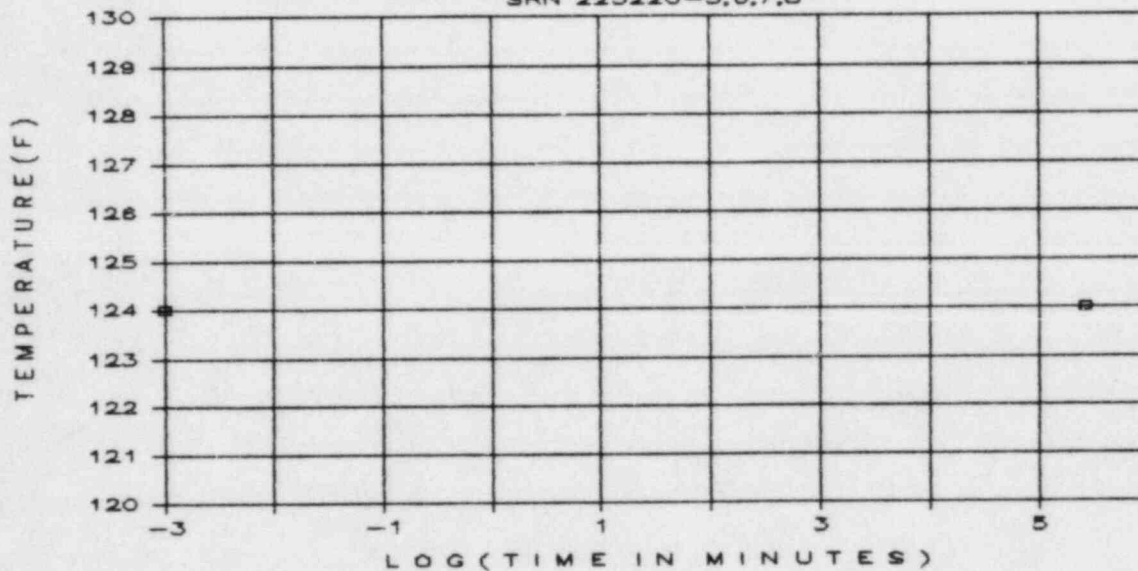
SPECIFIED ACCIDENT PROFILES

SRN 225220-5,6,7,8



SPECIFIED ACCIDENT PROFILES

SRN 225220-5,6,7,8

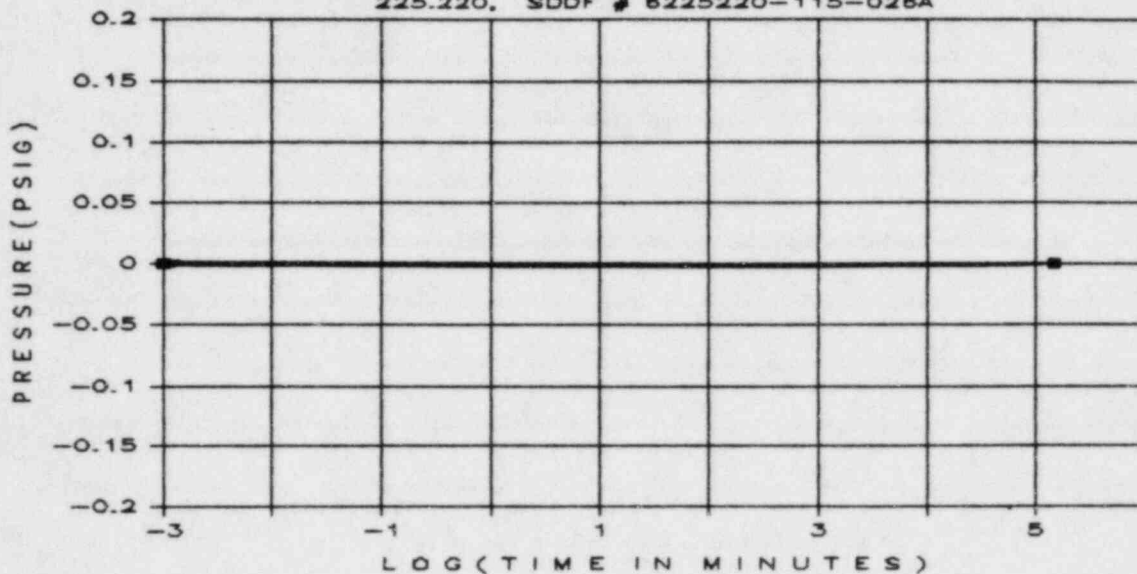


SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 225220

T E M P E R A T U R E -----				
TIME	0	180days		
LOG (MINUTES)	-3.00	5.41		
TEMP(F)	124	124	120	130
TIME(MIN)	0.001	259200		
P R E S S U R E -----				
TIME	0	180days		
LOG(MINUTES)	-3.00	5.41		
PRES(WG)	-0.62	-0.62	0.5	0.1
TIME(MIN)	0.001	259200		

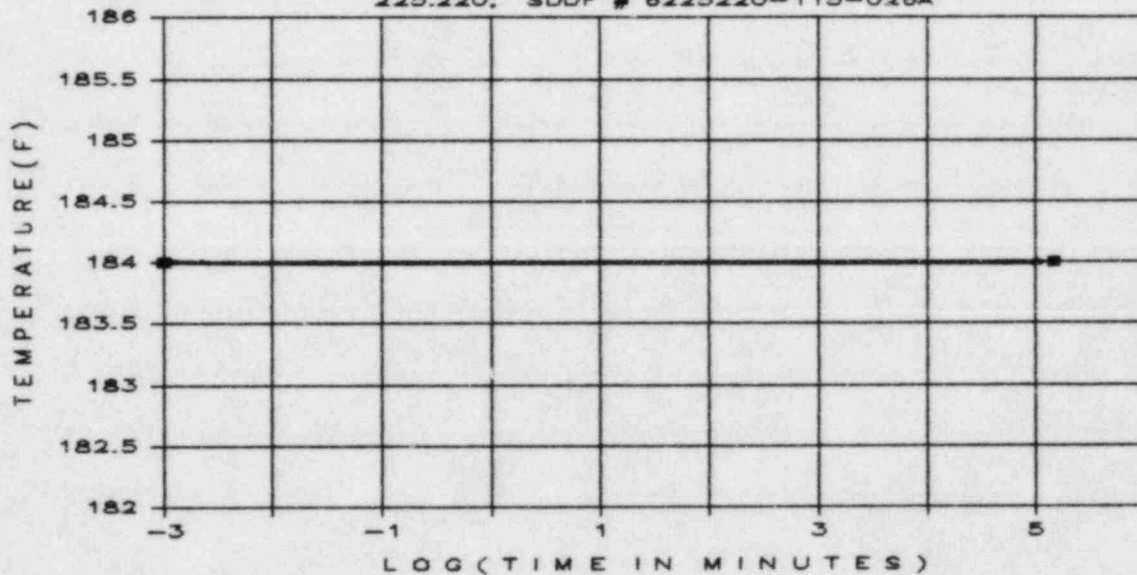
TEST PROFILE

225.220, SDDF # 6225220-115-026A



TEST PROFILE

225.220, SDDF # 6225220-115-026A



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

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

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 225 220-6

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. ENV. ZONE QUAL. LIFE OPTIME
 REMARKS SUBMRG OC

SRN 225220-6

SPEC 225.220

HVF VENTILATION - FUEL BUILDING

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
1HVF*FS19A	RH-15	FB-148-1	10 YRS	1000 A
1HVF*FS19B	RH-15	FB-148-1	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.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

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

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REMARKS
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.:	SEE SHEET 2							
SYSTEM:	SEE SHEET 2							
TYPE: (DESCRIPTION)	TEMPERATURE SWITCH							
MANUFACTURER:	FENWAL							
MODEL:	SEE SHEET 2							
SAFETY FUNCTION:	OVER TEMPERATURE AUTO RESET							
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 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 225 220-7
 REV 0
 SHEET NO 2
 DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	CPTIME CC
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

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	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2								
SYSTEM: SEE SHEET 2		OP.TIME:	100 DAYS	100 days	3	2,4	TEST - SIM	YES -NOTE 3
		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
		RRH (%)						
MODEL: SEE SHEET 2		NORMAL	100	100	1	2,4	TEST - SIM	NA
		ABNORMAL	100	100	1	2,4	AN + DATA	NA
SAFETY FUNCTION: - - -		STEAM		STEAM	1	2,4	TEST - SIM	NA
VALVES MUST OPEN AND/OR CLOSE AS REQUIRED		RADIATION:						
		NORM GAMMA						NA
		ACC GAMMA	1.77E7	2.04E8	1	2	TEST - SIM	YES -NOTE 5
		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						
SEE NOTE 1, PAGE 3		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,						
		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-EGS-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 R

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBENRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228212-1						
E51 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51*HOVF063	SB-1-60	CT-9	2	12 HRS A	RH	RELIANCE
G33 REACTOR WATER CLEAN-UP						
1G33*HOVF001	SB-1-25	DN-1	2	1 HR A	RH	RELIANCE
1G33*HOVF028	SB-00S-10	CT-7	2	1 HR A	RH	RELIANCE
1G33*HOVF031	SHB-0-10	CT-7	2	N/R B	RH	RELIANCE
1G33*HOVF040	SB-0-25	CT-7	2	1 HR A	RH	RELIANCE
1G33*HOVF042	SHB-1-25	CT-7	2	N/R B	RH	RELIANCE
1G33*HOVF044	SHB-0-10	CT-7	2	N/R B	RH	RELIANCE
1G33*HOVF063	SB-0-15	CT-7	2	1 HR A	RH	RELIANCE
1G33*HOVF100	SHB-00-10 NOTES 1,2	DN-1 YES	2	N/R B	RH	RELIANCE
1G33*HOVF101	SHB-00-10 NOTES 1,2	DN-1 YES	2	N/R B	RH	RELIANCE
1G33*HOVF102	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
 KEY 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						
1633*MOV104	SHB-0-10	CT-7	2	N/R B	RH	RELIANCE
1633*MOV106	SHB-00-15 NOTES 1,2	DW-1 YES	2	N/R B	RH	RELIANCE
1633*MOV107	SHB-1-15	CT-7	2	N/R B	RH	RELIANCE
HVN CHILLED WATER - VENTILATION						
1HVN*MOV102	SHB-00-15	CT-G	2	1 HR A	RH	RELIANCE
1HVN*MOV22A	SHB-00-10	CT-G	2	1 HR A	RH	RELIANCE
1HVN*MOV22B	SHB-00-10	CT-G	2	1 HR A	RH	RELIANCE
SNP SERVICE WATER						
1SNP*MOV4A	SHB-0-15	CT-G	2	1000 A	RH	RELIANCE
1SNP*MOV4B	SHB-0-15	CT-G	2	1000 A	RH	RELIANCE
1SNP*MOV5A	SHB-0-15	CT-G	2	1000 A	RH	RELIANCE
1SNP*MOV5B	SHB-0-15	CT-G	2	1000 A	RH	RELIANCE
1SNP*MOV502A	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. REMARKS	ENV. ZONE SUBSRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MAJOR MAKE
SRN 228212-1						
SHP SERVICE WATER						
1SHP#MOV502B	SMB-00-10	CT-G	2	1000 A	RH	RELIANCE
1SHP#MOV503A	SMB-00-10	CT-G	2	1000 A	RH	RELIANCE
1SHP#MOV503B	SMB-00-10	CT-G	2	1000 A	RH	RELIANCE
HCS REACTOR WATER CLEAN-UP						
1HCS#MOV178	SMB-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 27-11-84
 SHEET 2 E

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

SRN 228214-1						
SPEC 228.214						
B21 NUCLEAR BOILER SYSTEM						
1B21*NOVF001	SHB-000-5	DW-1	2	N/R B	RH	RELIANCE
1B21*NOVF002	SHB-000-5	DW-1	2	N/R B	RH	RELIANCE
1B21*NOVF005	SHB-000-2	DW-1	2	N/R B	RH	RELIANCE
E51 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51*NOVF076	SHB-000-2	DW-2	2	12 HRS A	RH	RELIANCE

SRN 228216-1

REV 0

DATE 27 May 84

SHEET 2 F

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

MARK NO	MODEL/CATALOG NO.	SUBING	ENV. ZONE	QUAL. LIFE (YEARS)	CC	CR TIME	MOTOR	MOTOR MAKE
SRN 228216-1								
SPEC 228.216								
C41 STANDBY LIQUID CONTROL SYSTEM								
IC41*NOVF001A	SHB-000-2	CT-4		2	1 HR	A	RH	RELIANCE
IC41*NOVF001B	SHB-000-2	CT-4		2	1 HR	A	RH	RELIANCE
RCS REACTOR COOLANT								
IRCS*NOV58A	SHB-000-2	CT-6		2	1HR	A	RH	RELIANCE
IRCS*NOV58B	SHB-000-2	CT-6		2	1HR	A	RH	RELIANCE
IRCS*NOV59A	SHB-000-2	CT-6		2	1HR	A	RH	RELIANCE
IRCS*NOV59B	SHB-000-2	CT-6		2	1HR	A	RH	RELIANCE
IRCS*NOV61A	SHB-000-2	CT-6		2	1HR	A	RH	RELIANCE
SFC SPENT FUEL POOL COOLING AND CLEAN-UP								
ISFC*NOV120	SHB-0-25	CT-10		2	1 HR	A	RH	RELIANCE
ISFC*NOV139	SHB-00-15	CT-10		2	1 HR	A	RH	RELIANCE
RCS REACTOR COOLANT								
IRCS*NOV60A	SHB-000-2	CT-9		2	1HR	A	RH	RELIANCE
IRCS*NOV60B	SHB-000-2	CT-5A		2	1HR	A	RH	RELIANCE
IRCS*NOV61B	SHB-000-2	CT-5A		2	1HR	A	RH	RELIANCE

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

SRN 228241-5
 REV 0
 DATE 27-NOV-84
 SHEET 2G

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNO	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228241-5						
SPEC 228.241						
CPH CONTAINMENT HYDROGEN MIXING						
ICPH*NOV1A	SMB-000-2	CT-G	2	3 HR A	RH	RELIANCE
ICPH*NOV1B	SMB-000-2	CT-5A	2	3 HR A	RH	RELIANCE
ICPH*NOV2A	SMB-000-2	CT-G	2	3 HR A	RH	RELIANCE
ICPH*NOV2B	SMB-000-2	CT-G	2	3 HR A	RH	RELIANCE
ICPH*NOV3A	SMB-000-2	CT-G	2	3 HR A	RH	RELIANCE
ICPH*NOV3B	SMB-000-2	CT-5A	2	3 HR A	RH	RELIANCE
ICPH*NOV4A	SMB-000-2 NOTE 1	CT-G SPRAY/EPOXY	2	3 HR A	RH	RELIANCE
ICPH*NOV4B	SMB-000-2	CT-G	2	3 HR A	RH	RELIANCE

RBS-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						
ICCP*NOV142	SMB-000-2	CT-G	2	IHR A	RH	RELIANCE
ICCP*NOV143	SMB-000-2	CT-G	2	IHR A	RH	RELIANCE
ICCP*NOV144	SMB-000-2	DW-2	2	IHR 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

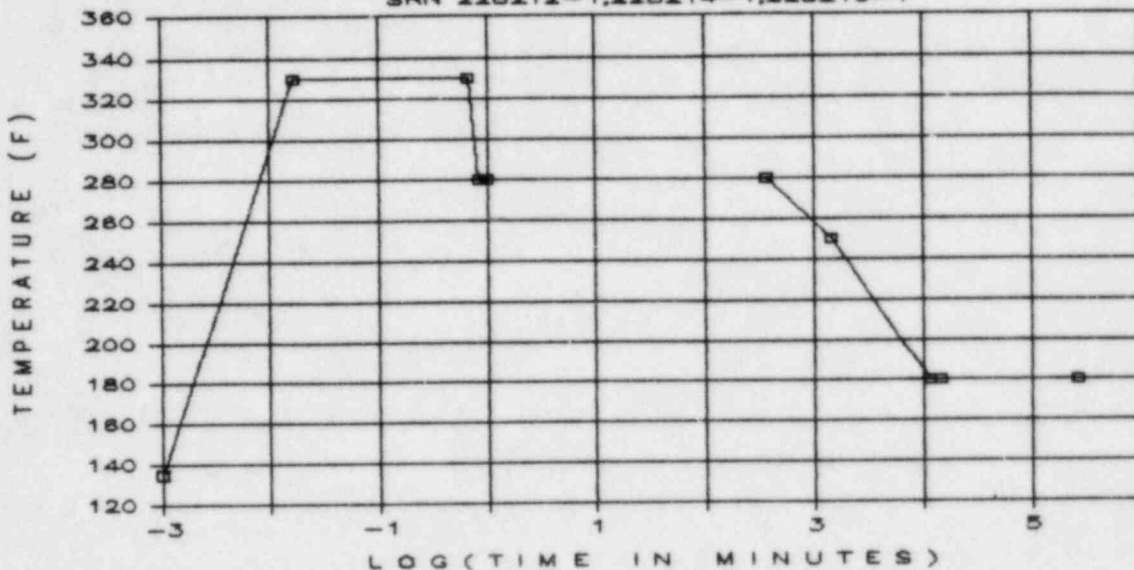
1. Equipment in the drywell below el 105 ft 3 in. is subject to submergence as a result of reverse vent clearing. The five valves subject to this condition are identified on Sheet No. 2, pages 2A, 2B, and 2C.

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.

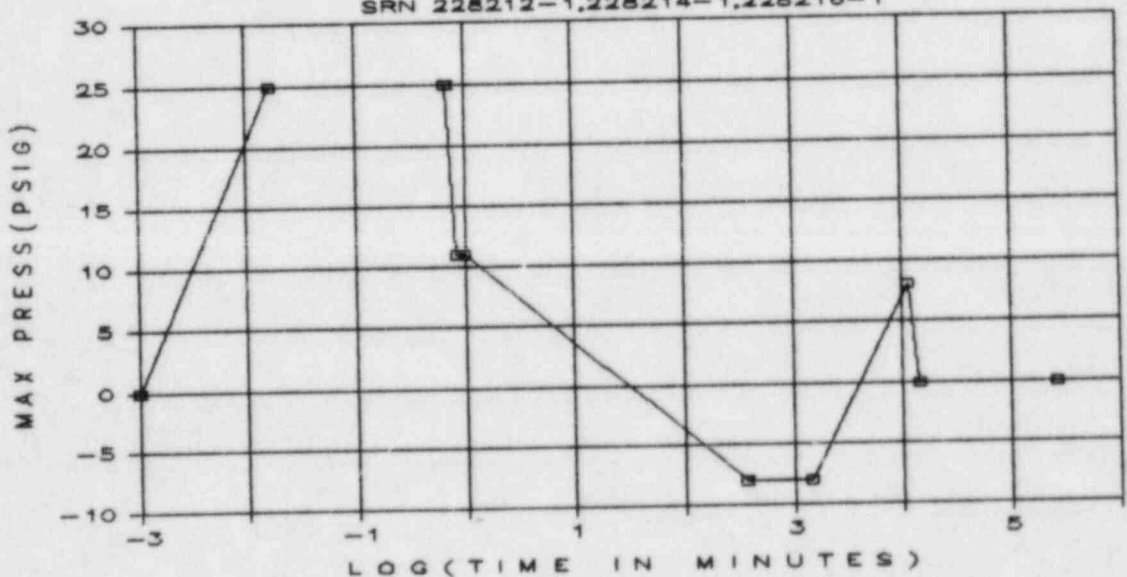
SPECIFIED ACCIDENT PROFILES

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



SPECIFIED ACCIDENT PROFILES

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

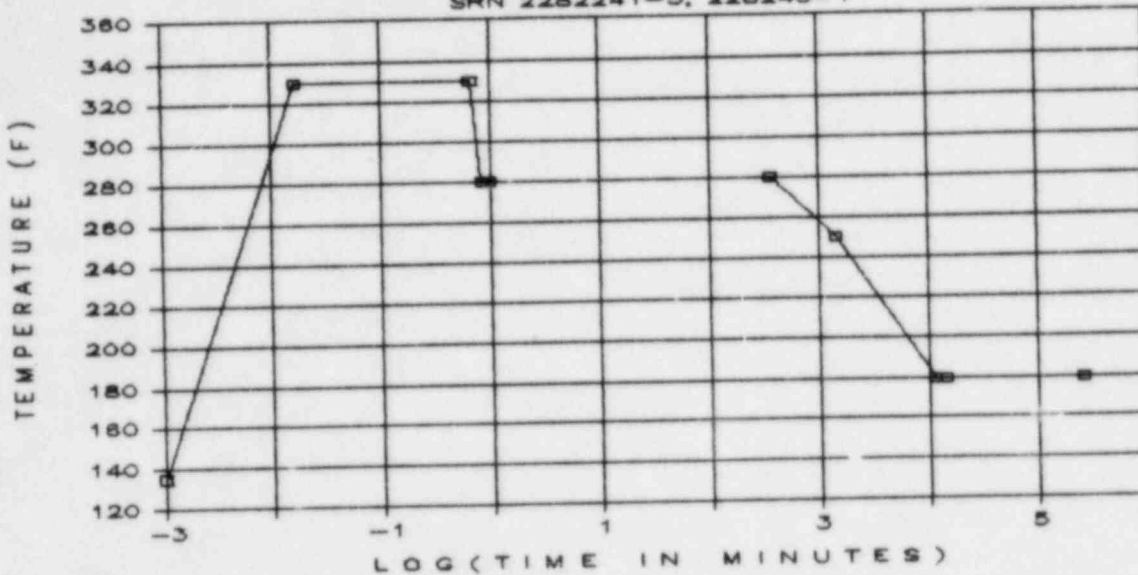


TEMPERATURE										
TIME	0	1sec	40sec	50sec	60sec	6hrs	1day	8days	10days	180days
LOG(MINUTES)	-3.00	-1.78	-0.18	-0.08	0.00	2.56	3.16	4.06	4.16	5.41
TEMP(F)	135	330	330	280	280	280	250	180	180	180
TIME(MIN)	0.001	0.0167	0.667	0.83	1	360	1440	11520	14400	259200

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

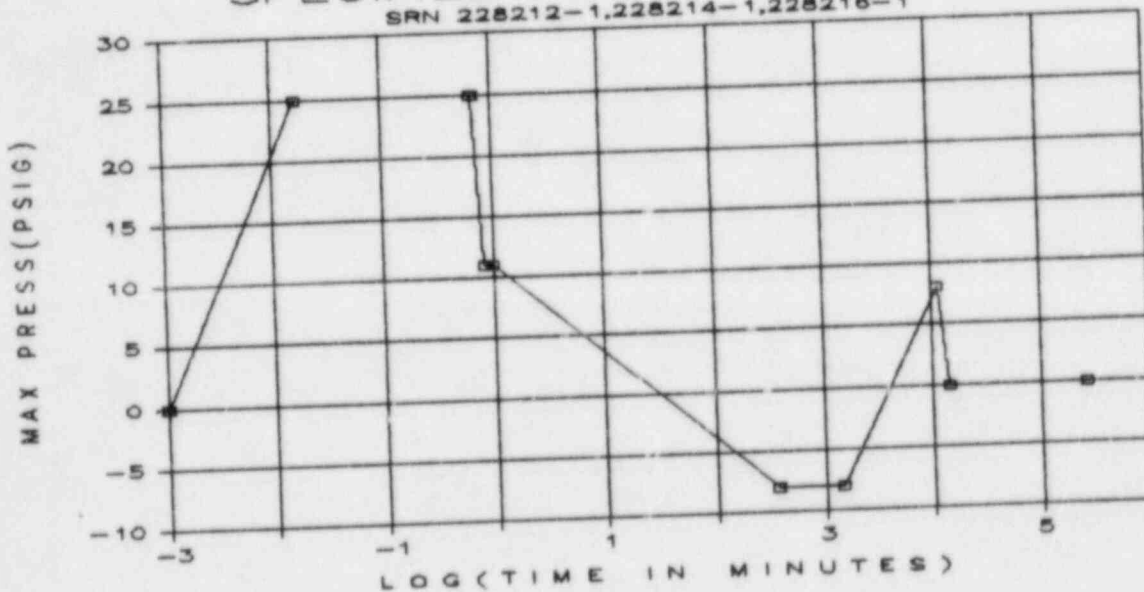
SPECIFIED ACCIDENT PROFILES

SRN 2282241-5, 228243-1



SPECIFIED ACCIDENT PROFILES

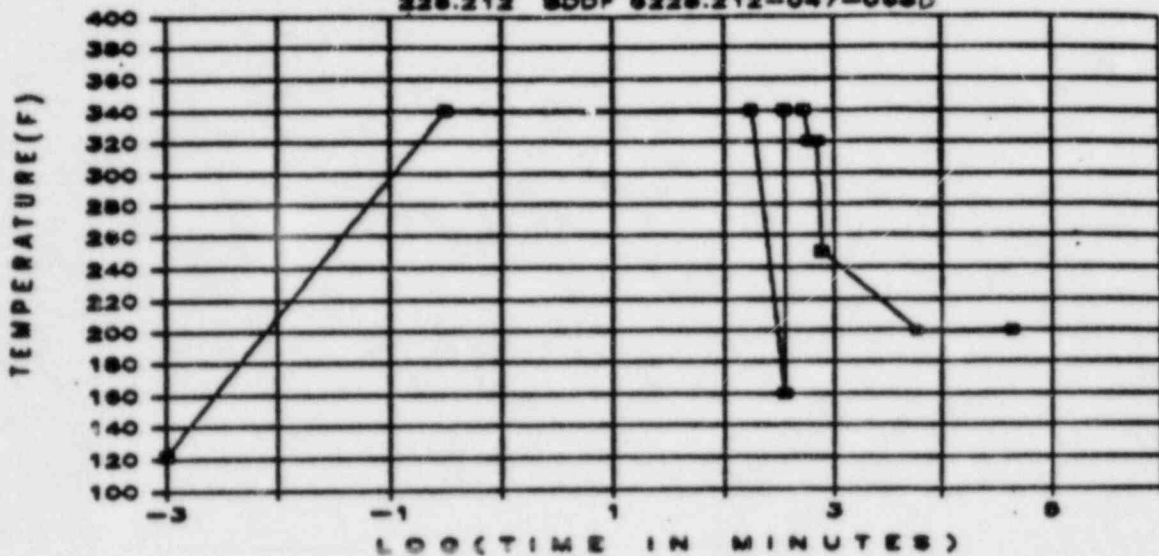
SRN 228212-1, 228214-1, 228216-1



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	340	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	340	600	720	780	5760	43200

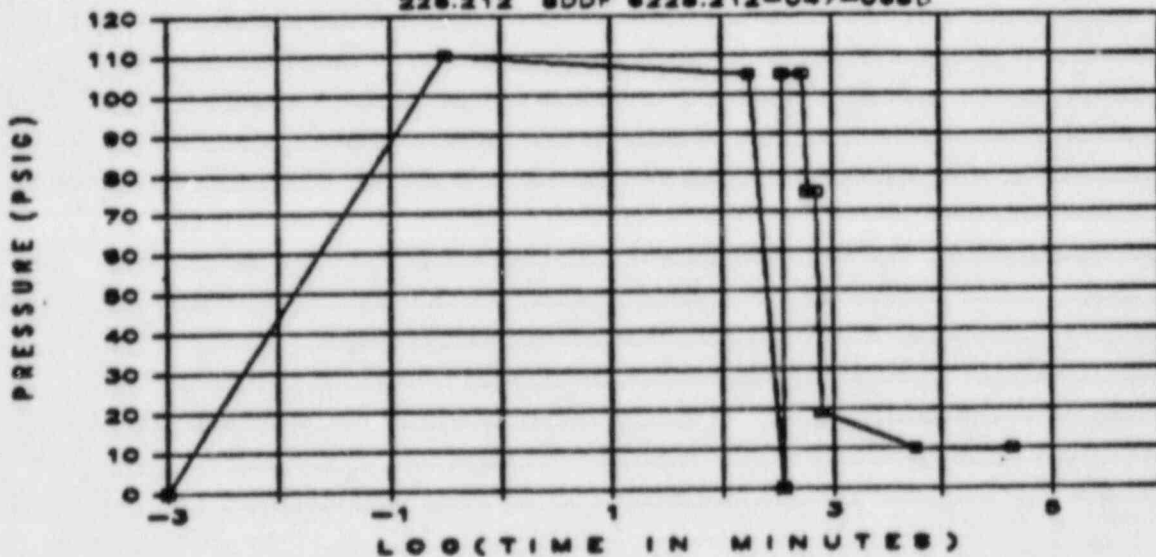
TEST PROFILE

228.212 SDDF 6228.212-047-068D



TEST PROFILE

228.212 SDDF 6228.212-047-068D

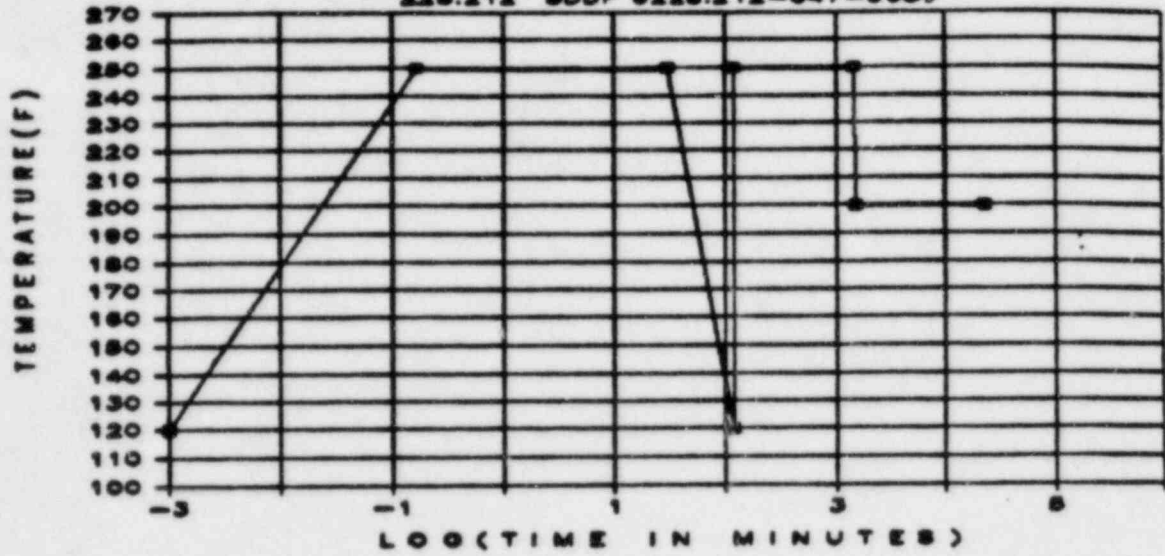


TEST PROFILE DATA FOR 228.212 SDDF 6228.212-047-068D
INSIDE CONTAINMENT

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

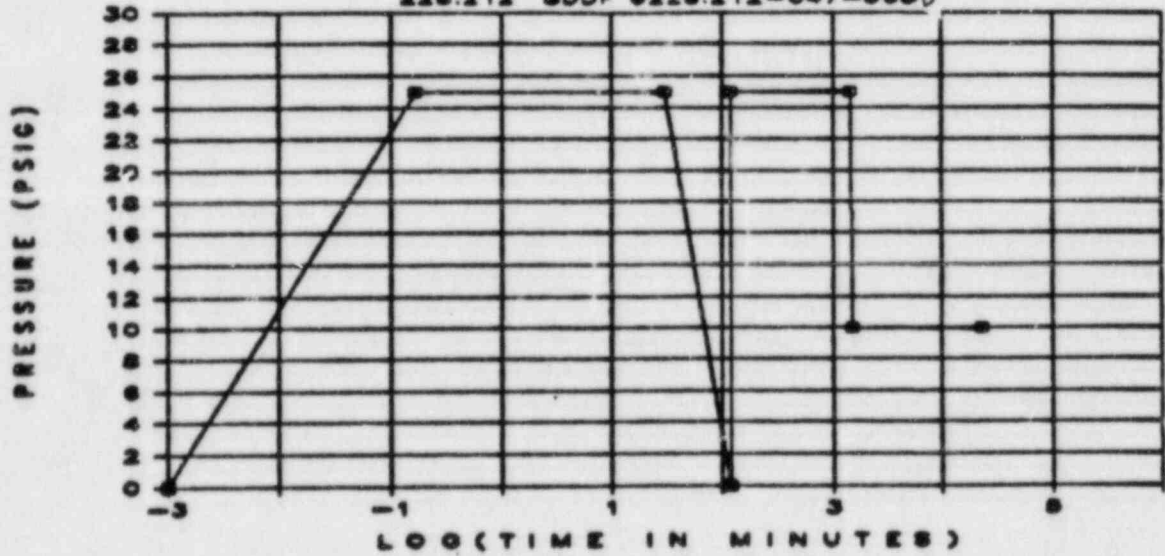
TEST PROFILE

228.212 SDDF 6228.212-047-068D



TEST PROFILE

228.212 SDDF 6228.212-047-068D



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

TIME	0	10sec	30nin	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 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	MOTOE INSUL	MOTOE 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	SMB-4-250	AB-114-7	7	1 HR A	B	ELEC APPARATUS
1B21*HOVF085	SMB-00-10	AB-114-2	7	1 HR A	B	RELIANCE
1B21*HOVF066	SMB-00-10	AB-114-7	7	1 HR A	B	RELIANCE
1B21*HOVF098A	SMB-4-250	AB-114-7	7	1 HR A	B	ELEC. APPARATUS
1B21*HOVF098B	SMB-4-250	AB-114-7	7	1 HR A	B	ELEC. APPARATUS
1B21*HOVF098C	SMB-4-250	AB-114-7	7	1 HR A	B	ELEC. APPARATUS
1B21*HOVF098D	SMB-4-250	AB-114-7	7	1 HR A	B	ELEC APPARATUS
CCP COMPONENT COOLING - PRIMARY CONTAINMENT OR REACTOR						
1CCP*HOV138	SMB-0-25	AB-114-6	7	1HR A	B	RELIANCE
1CCP*HOV159	SMB-0-25	AB-114-6	7	1HR A	B	RELIANCE
B21 NUCLEAR BOILER SYSTEM						
1B21*HOVF065A	SMB-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 SUBNRG	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	AD-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 SUBSRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSOL	MOTOR MAKE

SRN 228212-2						
E12 RESIDUAL HEAT REMOVAL						
1E12*MOV023	SB-005-5	AB-095-4	7	N/R B	B	RELIANCE
1E12*MOV024A	SHB-1-60	AB-095-8	7	1000 A	B	ELEC. APP.
1E12*MOV024B	SHB-1-60	AB-095-7	7	1000 A	B	ELEC. APP.
1E12*MOV026A	SHB-00-10	AB-070-2	7	N/R B	B	RELIANCE
1E12*MOV026B	SHB-00-10	AB-070-5	7	N/R B	B	RELIANCE
1E12*MOV027A	SHB-0-40	AB-114-6	7	1000 A	B	RELIANCE
1E12*MOV027B	SHB-0-40	AB-114-5	7	1000 A	B	RELIANCE
1E12*MOV040	SB-005-15	AB-070-2	7	N/R B	B	RELIANCE
1E12*MOV042C	SB-2-60	AB-114-5	7	1000 A	B	ELEC. APP.
1E12*MOV047A	SHB-1-40	AB-095-2	7	1000 A	B	RELIANCE
1E12*MOV047B	SHB-1-40	AB-095-5	7	1000 A	B	RELIANCE
1E12*MOV048A	SHB-3-40	AB-070-2	7	1000 A	B	ELEC. APP.

SRN: 228212-2
 REV: 0
 DATE: 27-JUN-74
 SHEET: 2 D

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

MARK NO	SRN	RESIDUAL HEAT REMOVAL	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRS	QUAL. LIFE (YEARS)	OPTIME CC	MOTOR INCL	MOTOR MAKE
1E12*HOVF048B	228212-2		SHB-3-40	AB-070-5	7	1000 A	B	ELEC. APP
1E12*HOVF049			SB-005-15	AD-070-2	7	N/R B	B	RELIANCE
1E12*HOVF052A			SHB-2-40	AB-114-8	7	N/R B	B	RELIANCE
1E12*HOVF052B			SHB-2-40	AD-114-8	7	N/R B	B	RELIANCE
1E12*HOVF053A			SHB-3-60	AB-095-2	7	N/R B	B	RELIANCE
1E12*HOVF053B			SHB-3-60	AB-095-5	7	N/R B	B	RELIANCE
1E12*HOVF064A			SB-005-10	AB-070-2	7	1000 A	B	RELIANCE
1E12*HOVF064B			SB-005-10	AD-070-5	7	1000 A	B	RELIANCE
1E12*HOVF064C			SB-005-10	AD-070-4	7	1000 A	B	RELIANCE
1E12*HOVF067A			SB-2-40	AB-114-9	7	N/R B	B	RELIANCE
1E12*HOVF067B			SB-2-40	AD-114-8	7	N/R B	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/E

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBGRG	QUAL. LIFE (YEARS)	OPTIME CC	MOTOR INSUL	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-0-25	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	SS-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*MOV004	SB-1-40	AB-114-2	7	1 HR A	B	RELIANCE
1G33*MOV034	SB-00S-10	AB-114-2	7	1 HR A	B	RELIANCE
1G33*MOV035	SMB-0-7.5	AB-114-7	7	N/R B	B	RELIANCE
1G33*MOV039	SB-0-25	AB-114-2	7	1 HR A	B	RELIANCE
1G33*MOV046	SMB-0-7.5	AB-114-7	7	N/R B	B	RELIANCE
1G33*MOV054	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
 REV 0
 DATE 27-11-74
 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	E	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	E	RELIANCE
1SAS#HOV103	SHB-000-5	AB-114-6	7	1HR A	E	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	E	RELIANCE
1SNP#HOV507A	SHB-0-15	AB-114-6	7	1000 A	E	RELIANCE
1SNP#HOV507B	SHB-0-15	AB-141-3	7	1000 A	E	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 SUBNRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INCL	MOTOR MAKE
SRN 228212-2						
SWP 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

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

SRN	MODEL/CATALOG NO.	ENV. ZONE	QUAL. LIFE (YEARS)	OPTIME	MOTOR	INSUL	MAKE
SRN 228214-2							
SPEC 228.214							
B21 NUCLEAR BOILER SYSTEM							
1B21*HOVF027A	SHC-04-2	AB-114-2	7	1 HR A	B		PARAMOUNT
1B21*HOVF027B	SHC-04-2	AB-114-2	7	1 HR A	B		PARAMOUNT
1B21*HOVF027C	SHC-04-2	AB-114-2	7	1 HR A	B		PARAMOUNT
1B21*HOVF027D	SHC-04-2	AB-114-2	7	1 HR A	B		PARAMOUNT
1B21*HOVF067A	SB-00-5	AB-114-2	7	1 HR A	B		RELIANCE
1B21*HOVF067B	SB-00-5	AB-114-2	7	1 HR A	B		RELIANCE
1B21*HOVF067C	SB-00-5	AS-114-2	7	1 HR A	B		RELIANCE
1B21*HOVF067D	SB-00-5	AB-114-2	7	1 HR A	B		RELIANCE
E12 RESIDUAL HEAT REMOVAL							
1E12*HOVF073A	SHB-000-2	AB-095-B	7	N/R B	B		RELIANCE
1E12*HOVF073B	SHB-000-2	AB-095-7	7	N/R B	B		RELIANCE
1E12*HOVF074A	SHD-000-2	AD-095-2	7	N/R B	B		RELIANCE

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

SRN 228214-2
 REV 0
 DATE 27-NOV-74
 SHEET 2 J

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

SRN 226214-2						
E12 RESIDUAL HEAT REMOVAL						
1E12*HOVF074B	SHB-000-2	AB-095-5	7	N/R B	B	RELIANCE
E33 MAIN STEAM ISOLATION VALVE SEALS						
1E33*HOVF005	SHB-000-5	AB-114-6	7	100D A	B	RELIANCE
1E33*HOVF006	SHB-000-2	AB-114-6	7	100D A	B	RELIANCE
1E33*HOVF025	SHB-000-5	AB-114-3	7	100D A	B	RELIANCE
1E33*HOVF026	SHB-000-2	AB-114-3	7	100D A	B	RELIANCE
1E33*HOVF027	SHB-000-5	AB-114-7	7	100D A	B	RELIANCE
1E33*HOVF028	SHB-000-5	AB-114-7	7	100D A	B	RELIANCE
E51 REACTOR CORE ISOLATION COOLING SYSTEM						
1E51*HOVF077	SHB-000-2	AB-095-7	7	1 HR A	B	RELIANCE
LSV LEAKAGE CONTROL - PENETRATION VALVE						
1LSV*HOV11A	SHC-04-2	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*HOV11B	SHC-04-2	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*HOV13A	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-NOV-84
 SHEET 2K

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE (YEARS)	OPTIME DC	MOTOL INSUL	MOTOL MAKE
SRN 228214-2						
LSV LEAKAGE CONTROL - PENETRATION VALVE						
1LSV*MOV13B	SNC-04-2	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*MOV15A	SNC-04-3	AB-095-10	7	30 D A	B	PARAMOUNT
1LSV*MOV15B	SNC-04-3	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*MOV16A	SNC-04-3	AB-095-10	7	30 D A	B	PARAMOUNT
1LSV*MOV16B	SNC-04-3	AB-141-2	7	30 D A	B	PARAMOUNT
1LSV*MOV19A	SMB-000-2	AB-141-2	7	30 D A	B	RELIANCE
1LSV*MOV19B	SMB-000-2	AB-141-3	7	30 D A	B	RELIANCE

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

SRN 228216-2
 REV 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	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBGRG	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*HOVF068A	SMB-00-10	PT-3	7	1000 A	B	RELIANCE
1E12*HOVF068B	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 SUBSRG	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE

SRN 228243-2						
SHP SERVICE WATER						
1SHP*NOV174	SMB-000-2	PT-3	7	100D A	B	RELIANCE
1SHP*NOV501A	SMB-00-10	PT-2	7	100D A	B	RELIANCE
1SHP*NOV501B	SMB-00-10	PT-2	7	100D A	B	RELIANCE
1SHP*NOV511A	SMB-00-10	PT-2	7	100D A	B	RELIANCE
1SHP*NOV511B	SMB-00-10	PT-2	7	100D A	B	RELIANCE
1SHP*NOV57A	SMB-00-25	PT-3	7	1HR A	B	RELIANCE
1SHP*NOV57B	SMB-00-25	PT-3	7	1HR A	B	RELIANCE
1SHP*NOV96A	SMB-00-25	PT-3	7	1HR A	B	RELIANCE
1SHP*NOV96B	SMB-00-25	PT-3	7	1HR A	B	RELIANCE

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

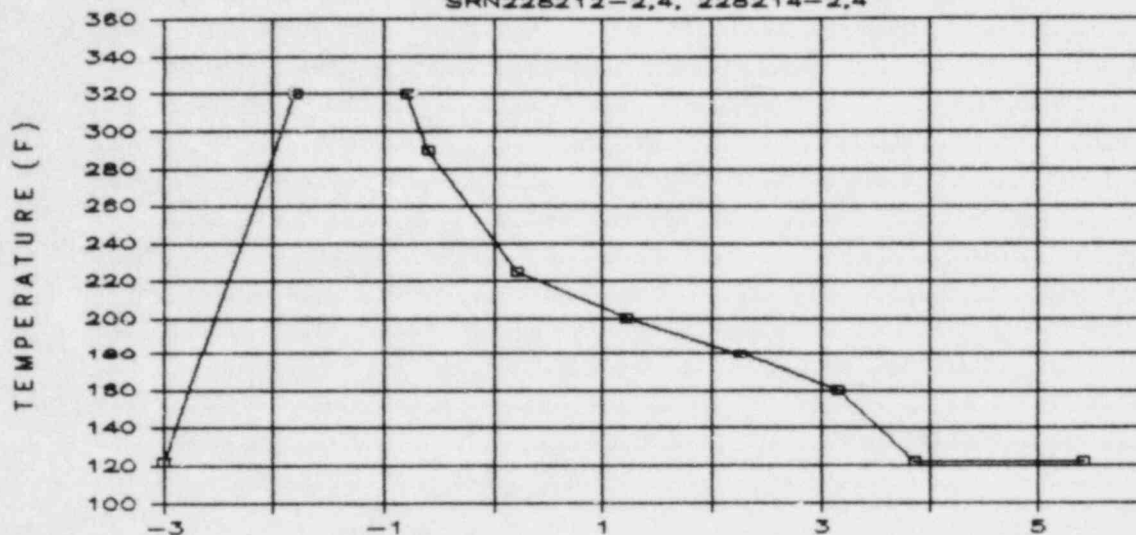
228212-2
228214-2
228216-2
SRN 228243-2
REV 0
SHEET NO. 3
DATE 11/27/84

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.

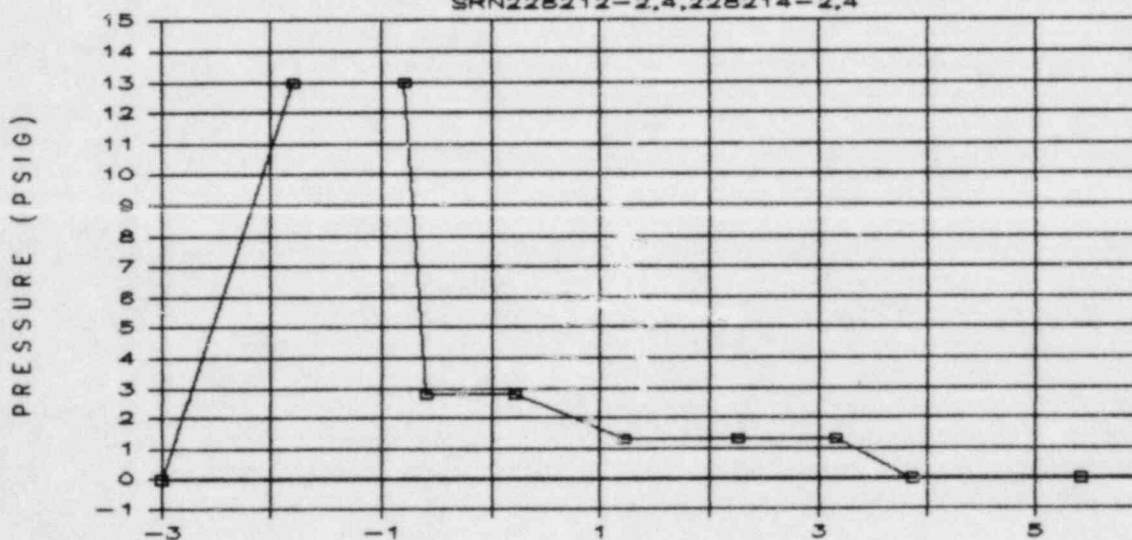
SPECIFIED ACCIDENT PROFILES

SRN228212-2,4, 228214-2,4



SPECIFIED ACCIDENT PROFILES

SRN228212-2,4,228214-2,4

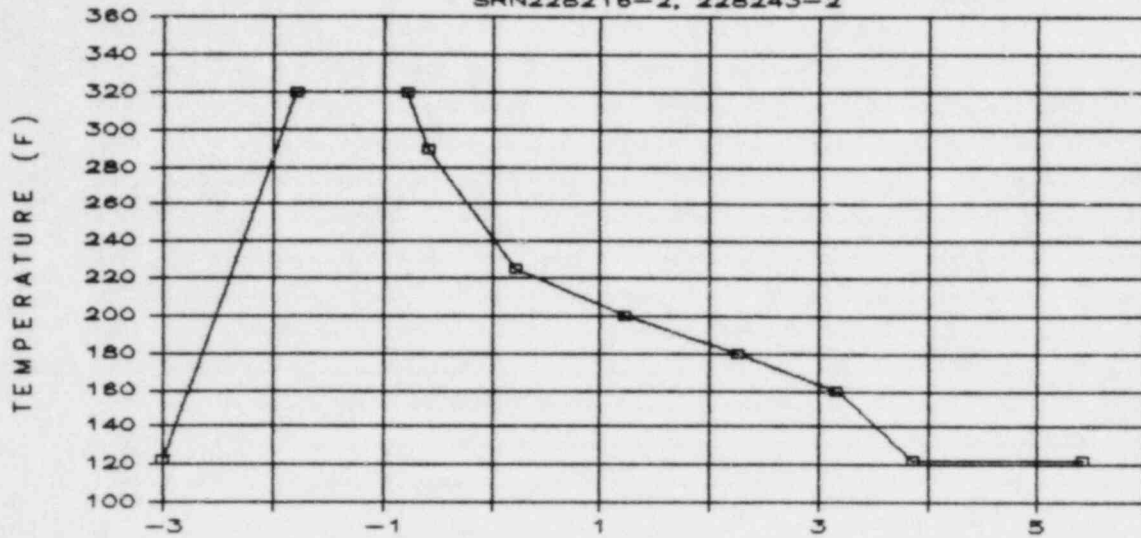


TEMPERATURE										
TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	180days
LOG (MINUTES)	-3.00	-1.80	-0.80	-0.60	0.22	1.22	2.26	3.16	3.86	5.41
TEMP (F)	122	320	320	290	225	200	180	160	122	122
TIME (MIN)	0.001	0.016	0.16	0.25	1.65	16.7	180	1440	7200	259200

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

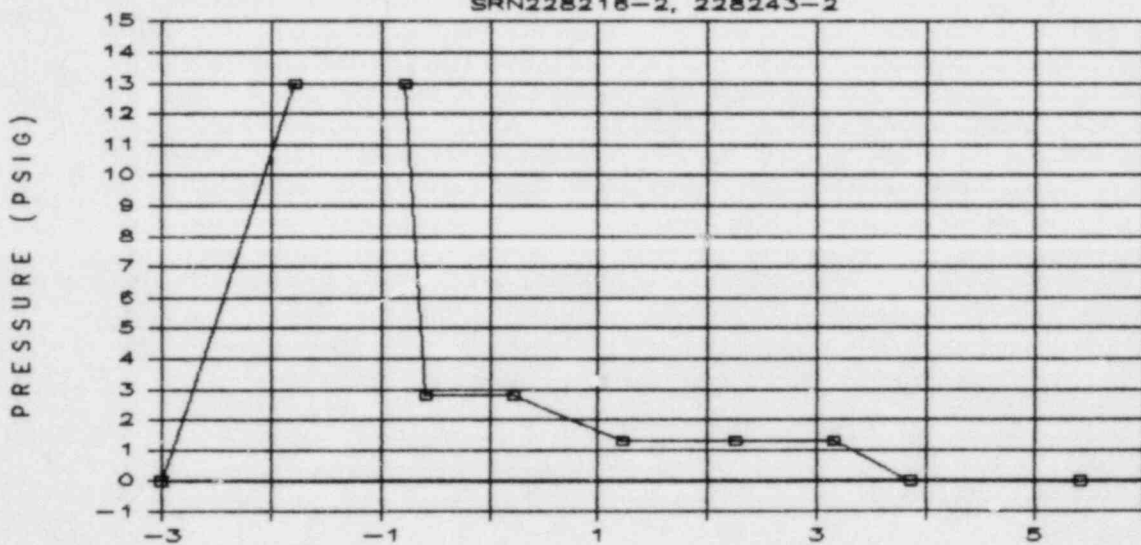
SPECIFIED ACCIDENT PROFILES

SRN228216-2, 228243-2



SPECIFIED ACCIDENT PROFILES

SRN228216-2, 228243-2



TEMPERATURE

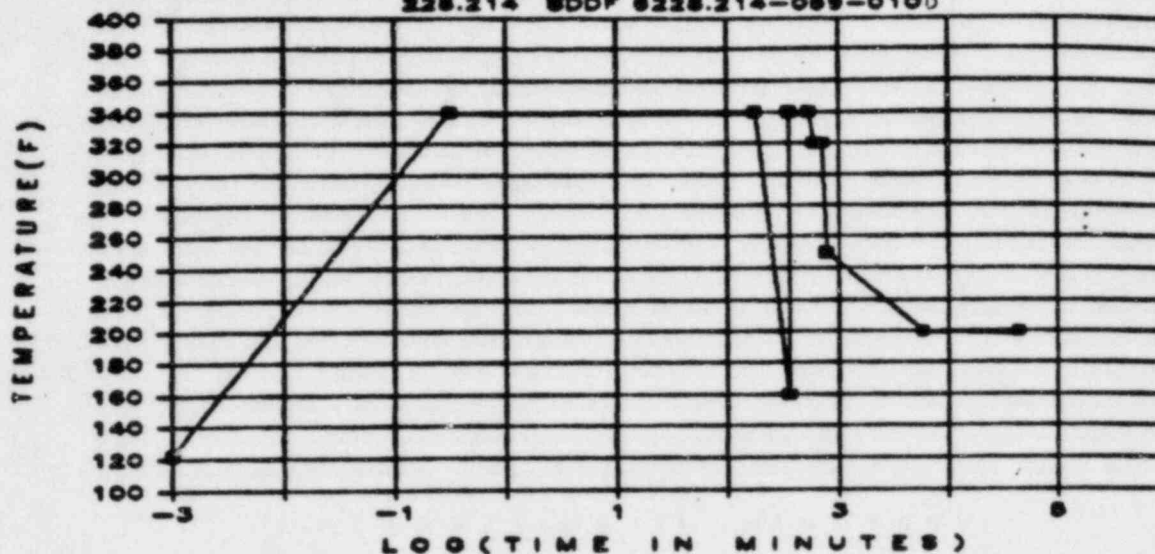
TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	5days	180days
LOG (MINUTES)	-3.00	-1.80	-0.80	-0.60	0.22	1.22	2.26	3.16	3.86	5.41
TEMP (F)	122	320	320	290	225	200	180	160	122	122
TIME (MIN)	0.001	0.016	0.16	0.25	1.65	16.7	180	1440	7200	259200

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

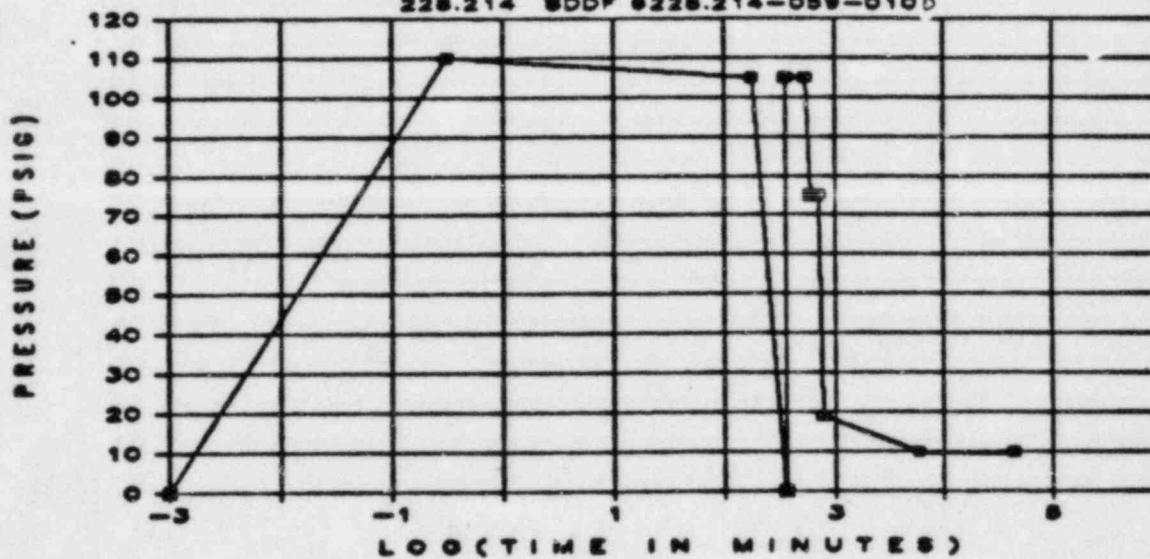
TEST PROFILE

228.214 SDDF 6228.214-059-010D



TEST PROFILE

228.214 SDDF 6228.214-059-010D

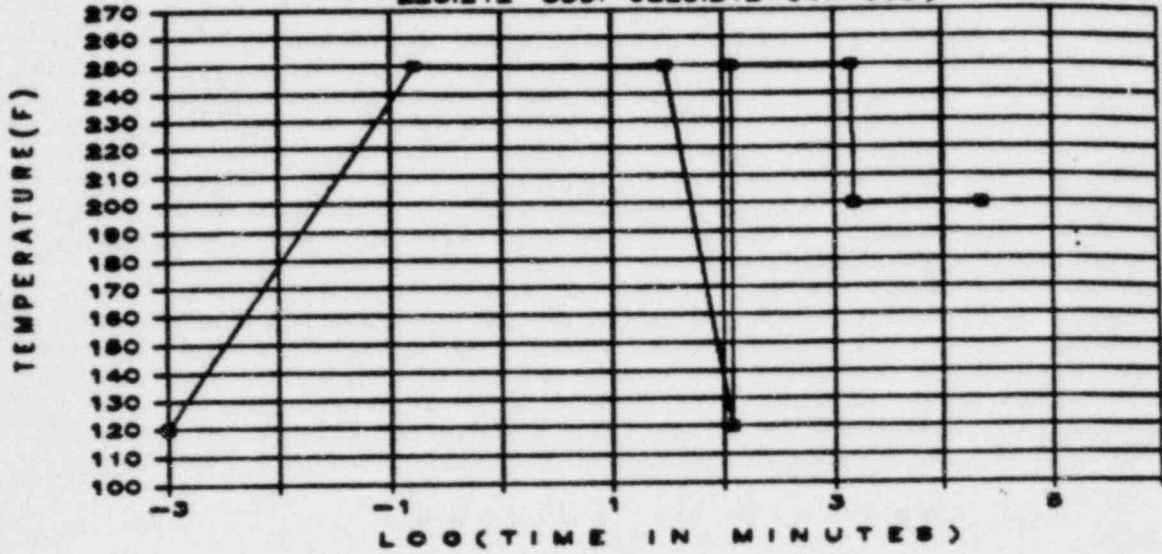


TEST PROFILE DATA FOR 228.214 SDDF 6228.214-059-010D
INSIDE CONTAINMENT

TIME	0	19sec	3hr	6hr	6hr 23sec	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

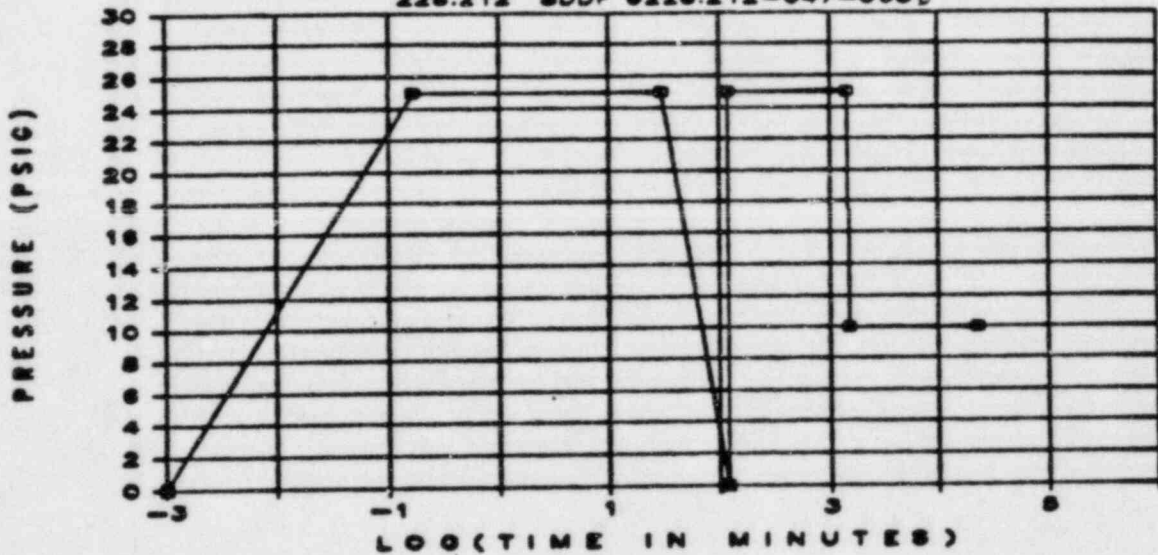
TEST PROFILE

228.212 SDDF 6228.212-047-068D



TEST PROFILE

228.212 SDDF 6228.212-047-068D



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				QUAL	MARGIN	REMARKS	
		PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		METHOD	DEMO	
		VALUE	VALUE	SPECIFIED	QUALIFIED				
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		RADIATION:							
AS REQUIRED		NORM GAMMA						NA	
		ACC GAMMA	1.21E7	2E7	1	2,4	AN + DATA	YES	NOTE 3
OP. CODE: SEE SHEET 2		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:									
SPRAY/FROTH:									
EQUIPMENT NOT SUBJECT 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: 4									

- DOCUMENT REFERENCE:
1. SPECIFICATION 228.212 & 228.214
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6228.212-047-068D & 6228.214-059-010D
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 4. CALCULATION NO. 12210-EQS-19

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 SUBDRG	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 220214-3
 REV 0
 DATE 27-NOV-94
 SHEET 2B

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

SRN 220214-3

SPEC 228.214

E51 REACTOR CORE ISOLATION COOLING SYSTEM

1E51*NOVF019

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

1E51*NOVF046

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

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

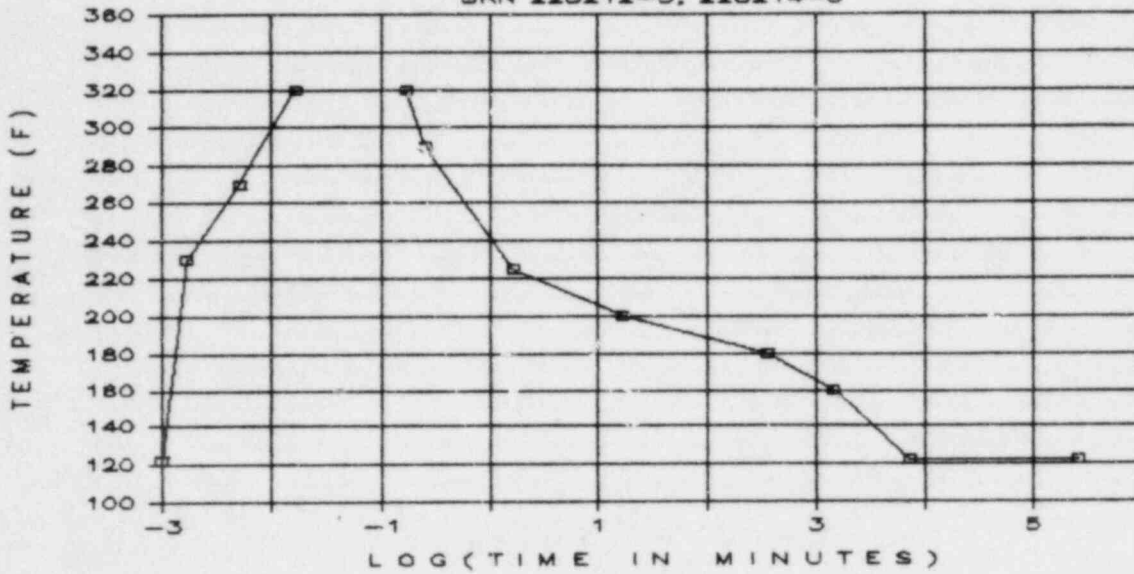
228212-3
SRN 228214-3
REV 0
SHEET NO. 3
DATE 11/27/84

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.

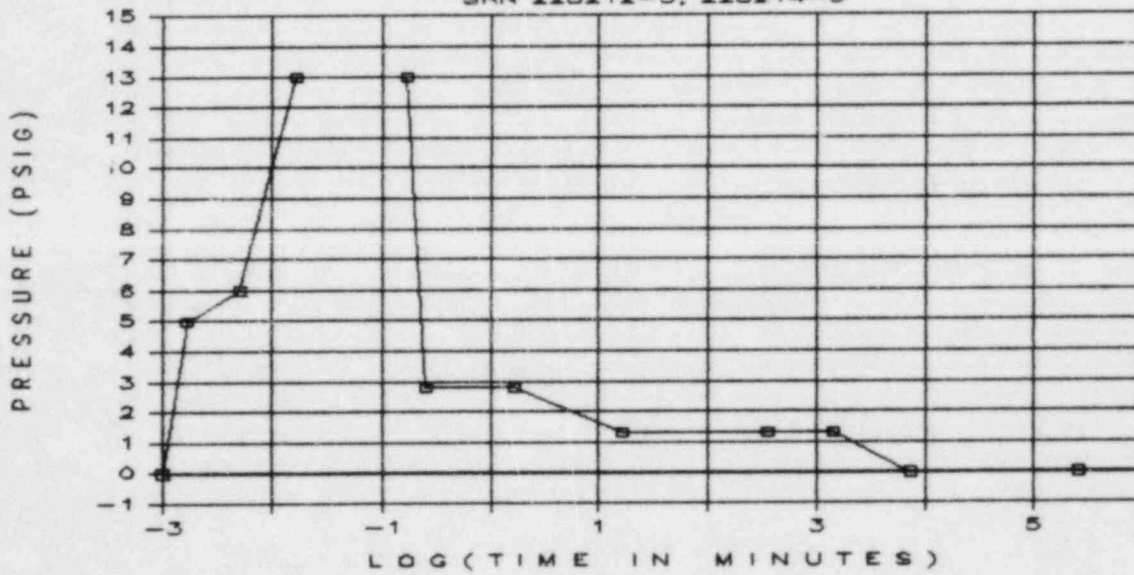
SPECIFIED ACCIDENT PROFILES

SRN 228212-3, 228214-3



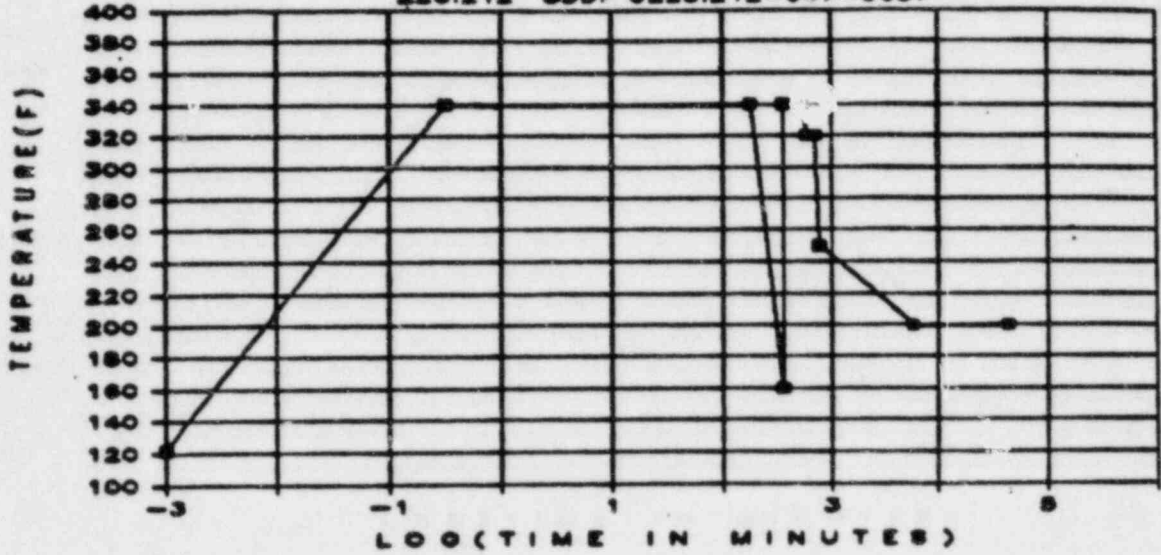
SPECIFIED ACCIDENT PROFILES

SRN 228212-3, 228214-3



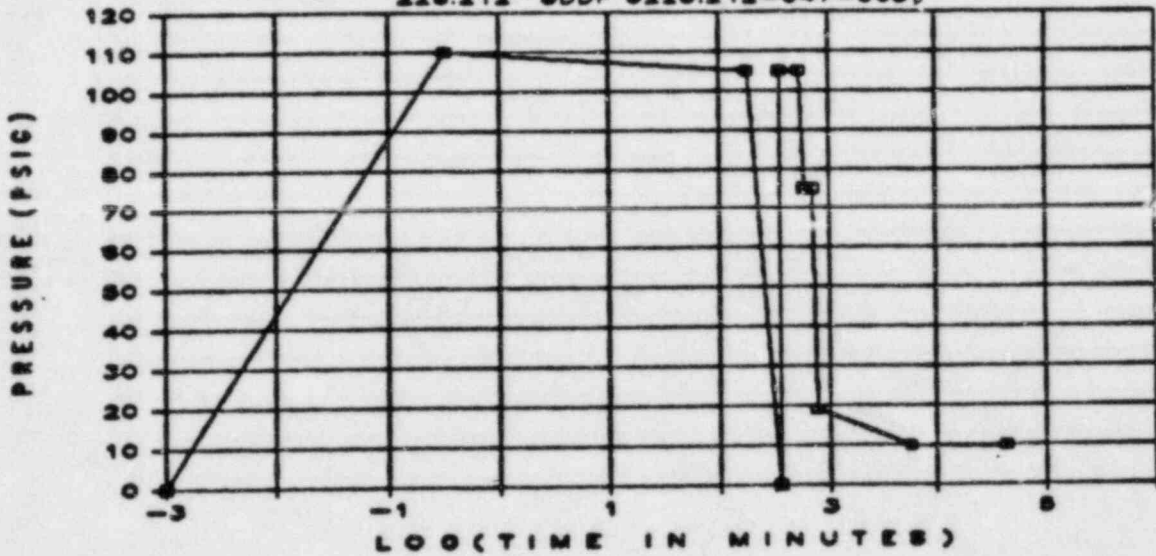
TEST PROFILE

228.212 SDDF 6228.212-047-068D



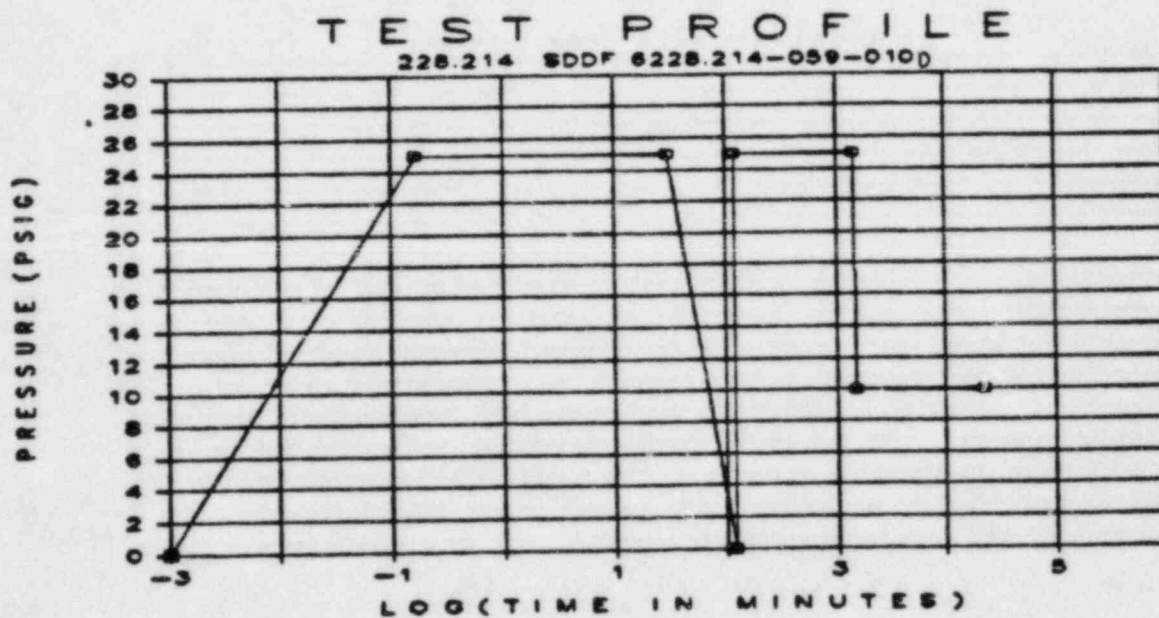
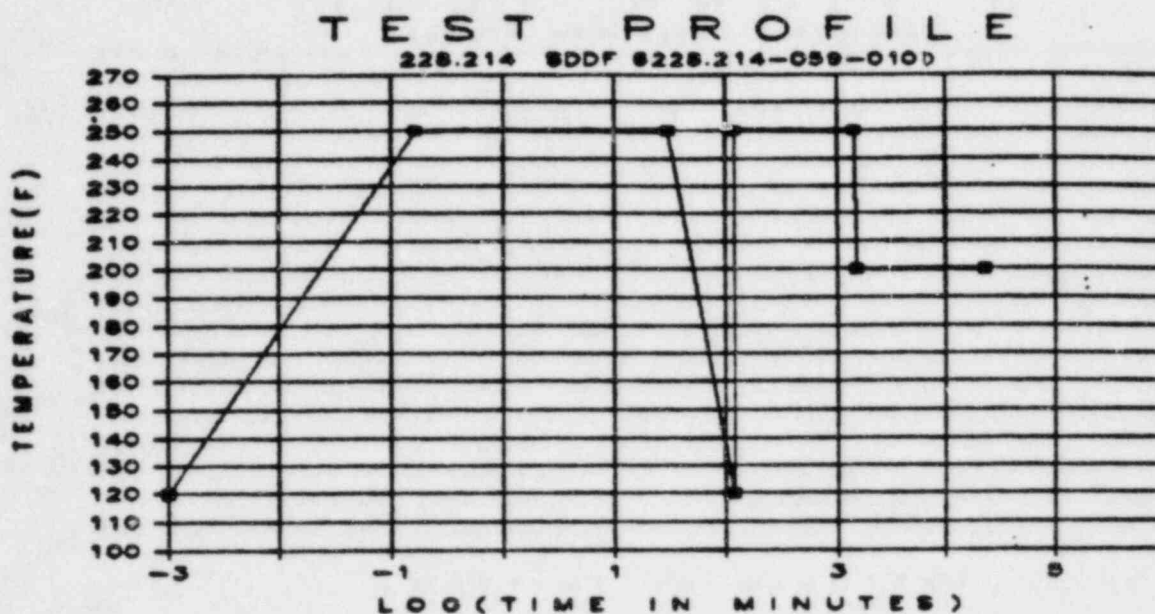
TEST PROFILE

228.212 SDDF 6228.212-047-068D



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

TIME	0	19sec	3hr	6hr	6hr 23sec	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 6228.214-059-010D
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						MARGIN: DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD		
				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	RADIATION:							
AS REQUIRED	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								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/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-E05-18							
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
 ESI O
 DATE 27-1181-24
 SHEET 2 A

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBSYS	QUAL. LIFE (YEARS)	OPTIME OC	MOTOR INSUL	MOTOR MAKE
SRN 228212-4						
SPEC 228.212						
CNS CONDENSATE - MAKE-UP AND DRAHOFF						
1CNS*HOV125	SHB-00-10	AB-114-6	20	1HR A	RH	RELIANCE
E51 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 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
					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	140	194	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION) LIMIT SWITCH		ACCIDENT	330	370	1	2	TEST-IDENT	YES	
		PRESS (PSIG):							NOTE-1
		NORMAL	0.50	ATMOS	1	2	TEST-IDENT	NA	
		ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: NAMCO		ACCIDENT	-8 TO 25	100	1	2	AN+DATA	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: - - - NOT REQUIRED		ACCIDENT	100	100	1	2	TEST-IDENT	NA	
		RADIATION:							NOTE-1
		NORM GAMMA:						NA	
OP. CODE: SEE SHEET 2		ACC GAMMA	9.56E7 TID	2.04E8	5	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 228.218 REV.0, ADD.11							
		2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6228.218-062-006B							
EQUIPMENT NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH		3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
		4. CALCULATION NO.12210-EQS-28							
		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. 7
DATE 11-30-84

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

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	DN-4	40 YEARS	N/R B

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228218-1

REV 0

SHEET NO. 3

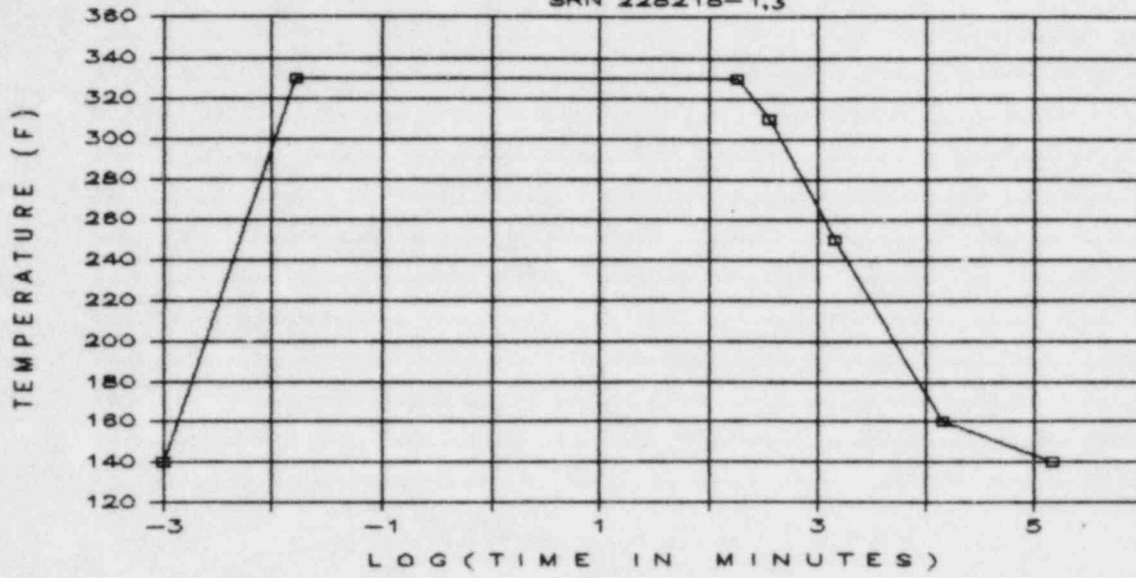
DATE 11/30/84

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.

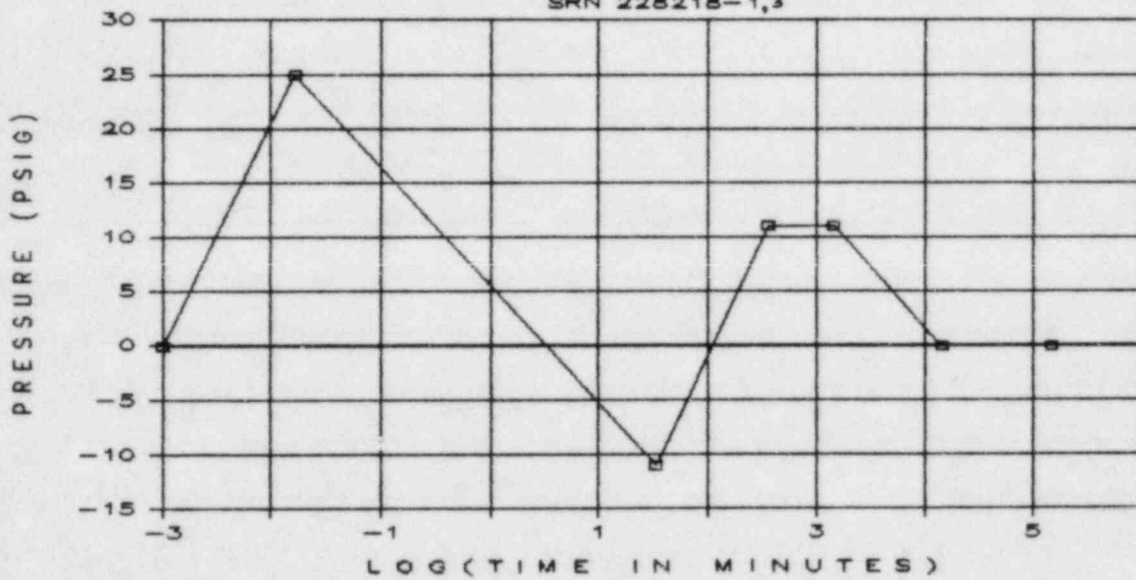
SPECIFIED ACCIDENT PROFILES

SRN 228218-1,3



SPECIFIED ACCIDENT PROFILES

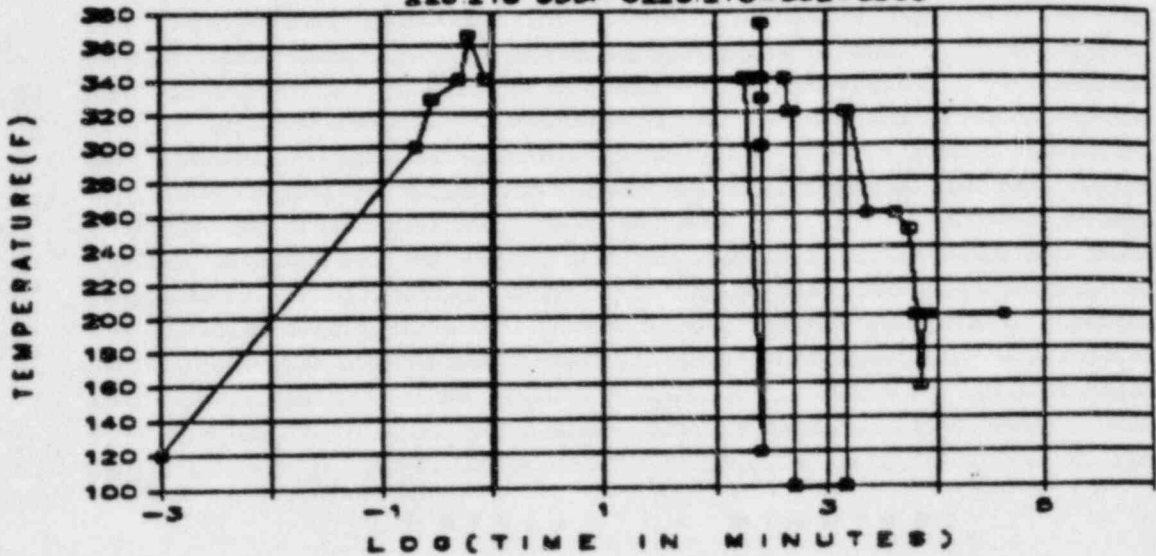
SRN 228218-1,3



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

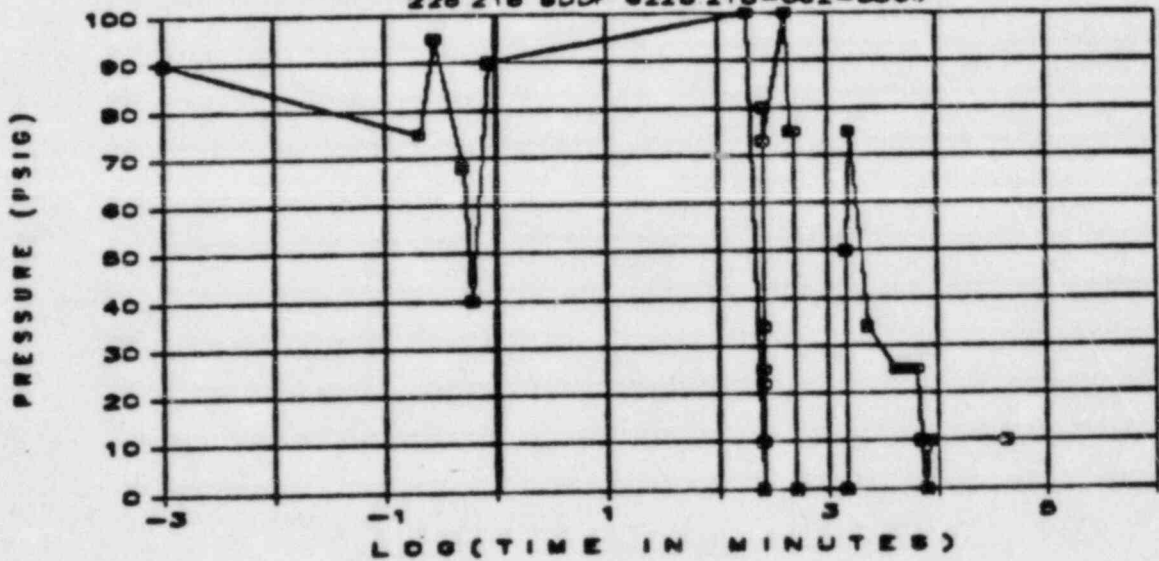
TEST PROFILE

228.218 SDDF 6228.218-062-006B



TEST PROFILE

228.218 SDDF 6228.218-062-006B

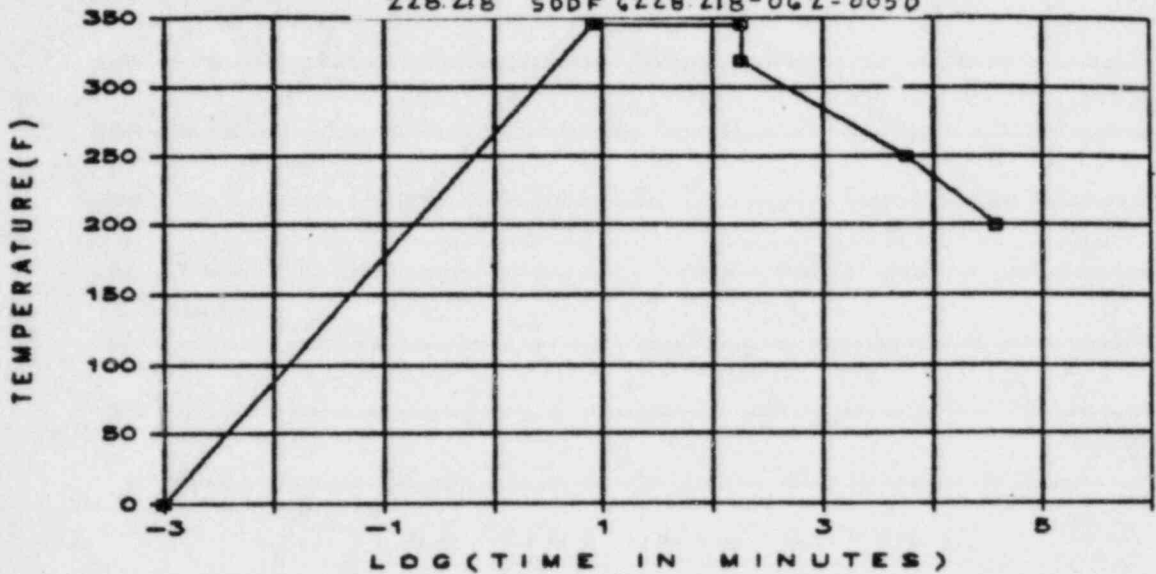


TEST PROFILE DATA FOR 228.218 SDDF 6228.218-062-006A & 6228.218-062-006B
MANUFACTURER - NAMCO

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	170	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	3days	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				

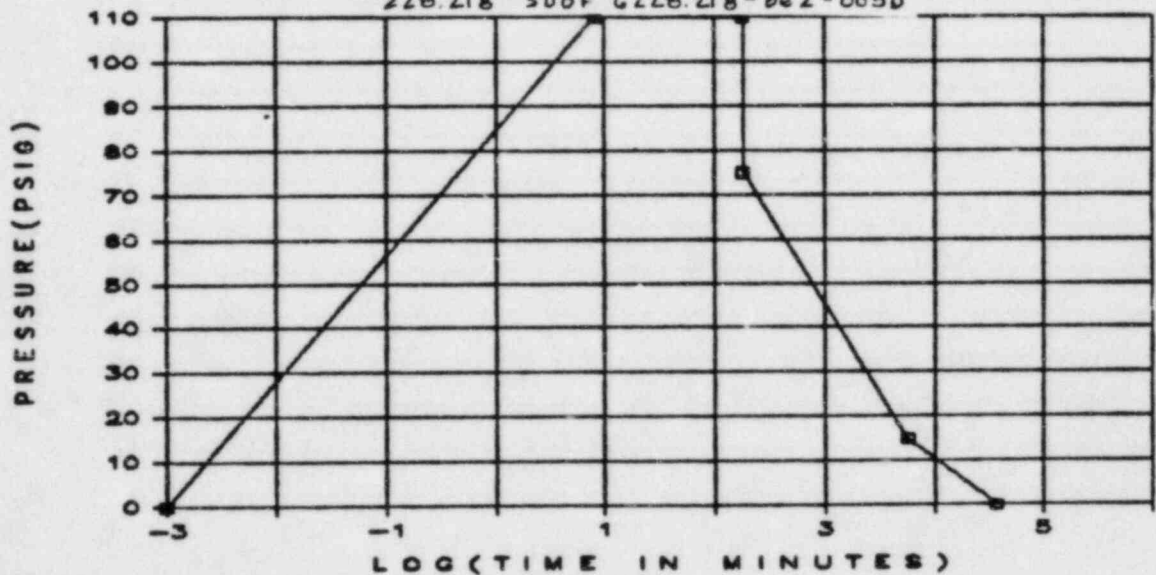
TEST PROFILE

228.218 SDDF 6228.218-062-0050



TEST PROFILE

228.218 SDDF 6228.218-062-0050



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

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

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

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						MARGIN: DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD		
EQUIP NO.: SEE SHEET 2				SPECIFIED	QUALIFIED			
SYSTEM: SEE SHEET 2	OP.TIME:	N/R	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
	TEMP (F):							NOTE-1
	NORMAL	122	194	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION) LIMIT SWITCH	ACCIDENT	320	370	1	2	TEST-IDENT	YES	
	PRESS (PSIG)							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
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: --- NOT REQUIRED	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
	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 -- SPEC: NA DEMO: NA	SUBMERGENCE	NA	NA	NA	NA	NA	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 (SEE NOTE-2)								

- DOCUMENT REFERENCE:
1. SPECIFICATION 228.218 REV.0, ADD.11
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6228.218-062-006B
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAQP DOCUMENT NO. 245.600, REV.0
 4. CALCULATION NO.12210-EDS-28

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. 7
 DATE 11-30-84

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

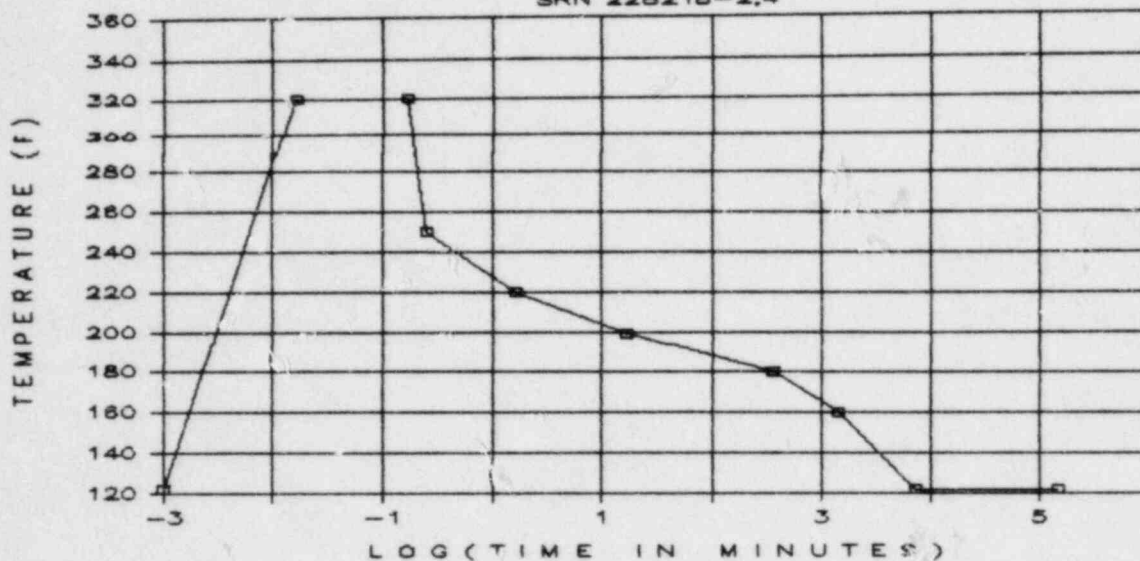
DATE 11/30/84

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.

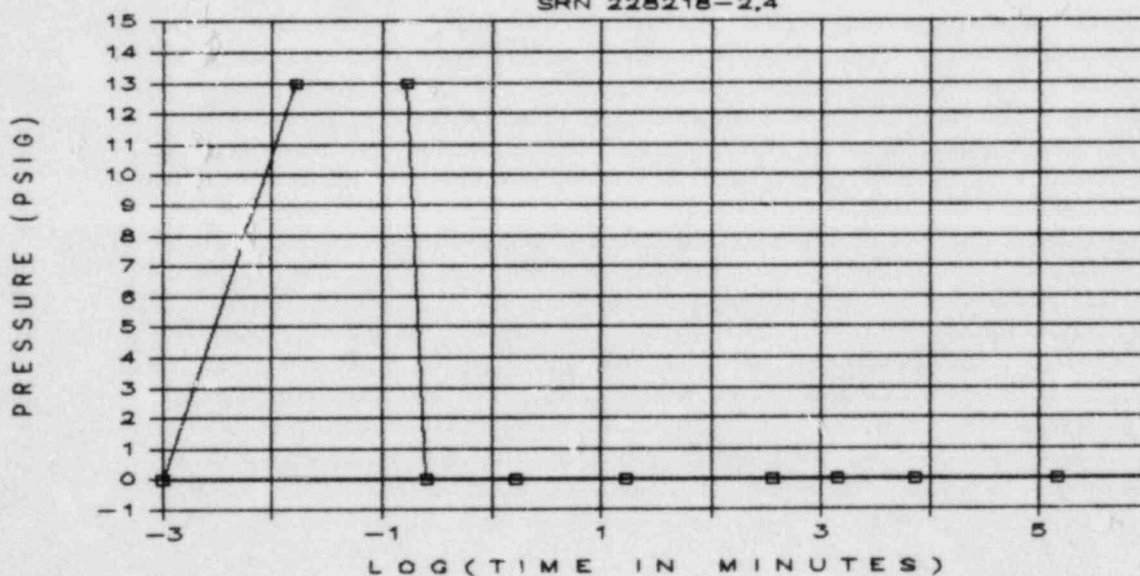
SPECIFIED ACCIDENT PROFILES

SRN 228218-2,4



SPECIFIED ACCIDENT PROFILES

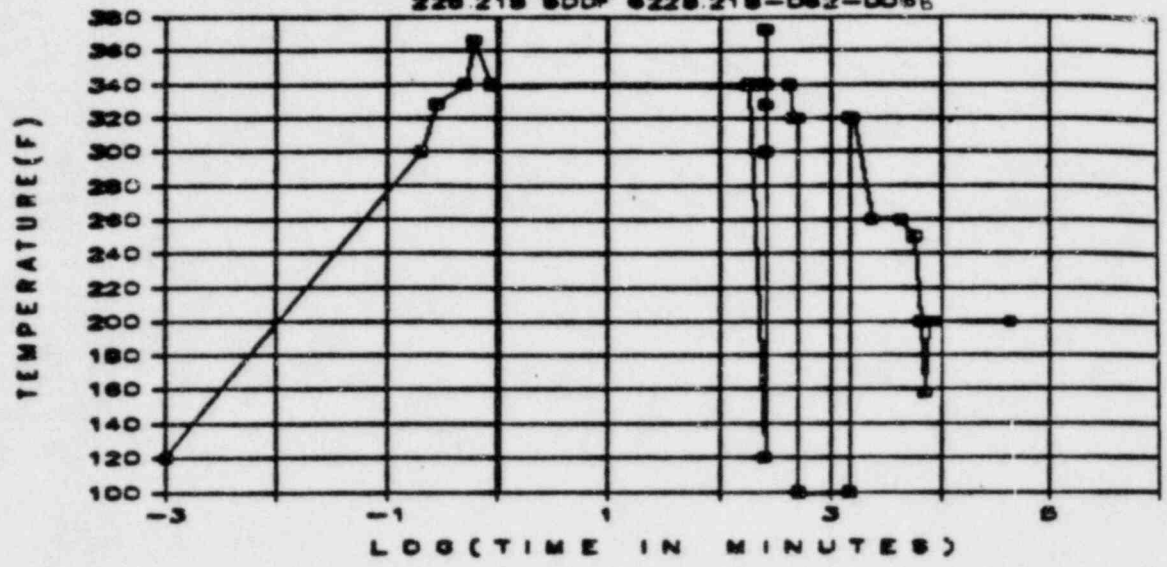
SRN 228218-2,4



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

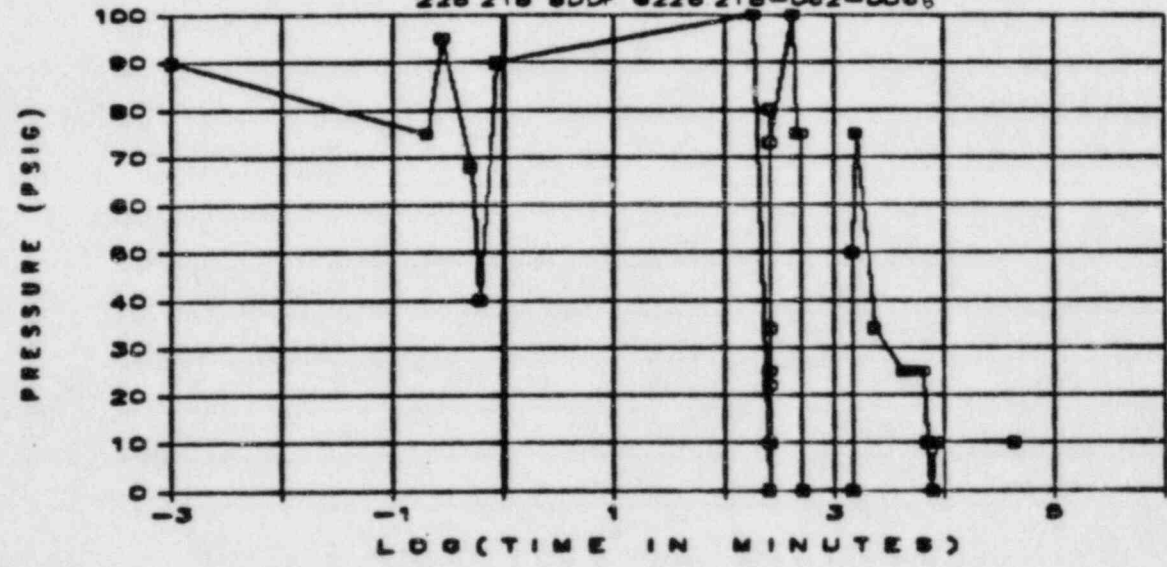
TEST PROFILE

228 218 SDDF 6228.218-062-006B



TEST PROFILE

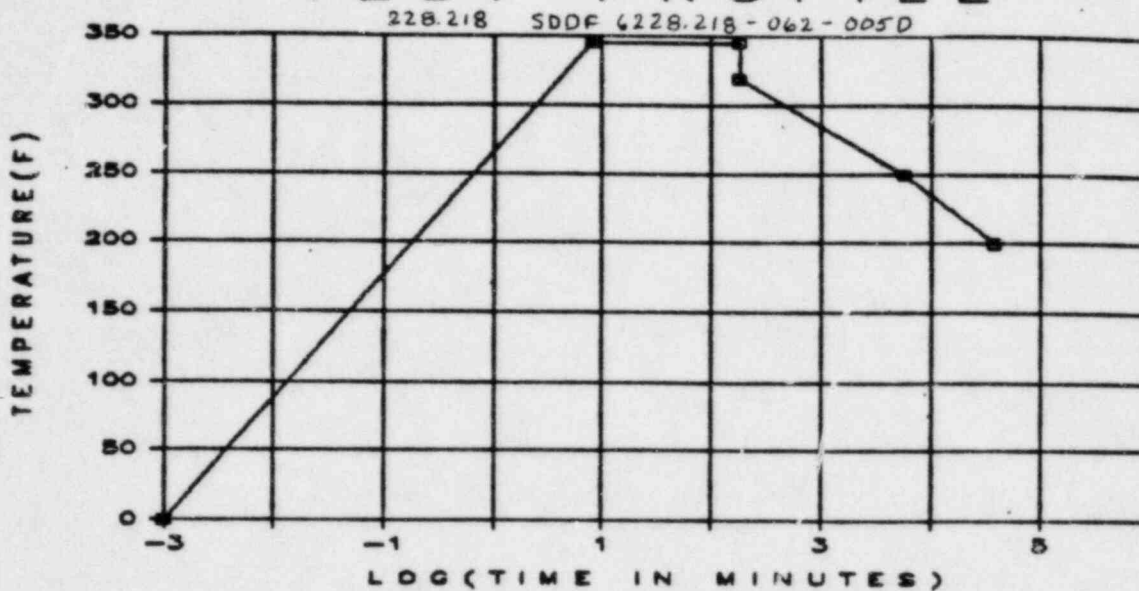
228 218 SDDF 6228.218-062-006B



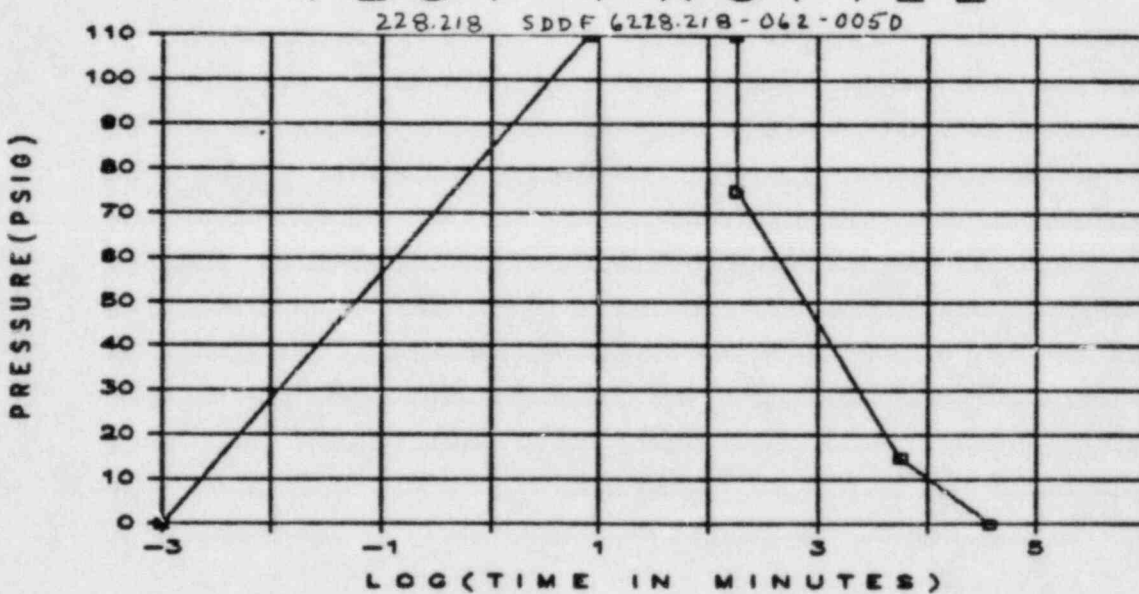
TEST PROFILE DATA FOR 228.218 SDDF 6228.218-062-006A & 6228.218-062-006B
 MANUFACTURER - MARCO

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
C O N T ' B											
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
C O N T ' B											
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



TEST PROFILE



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						DUAL MARGIN DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		DUAL METHOD		
				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	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 VALVE	PRESS (PSIG)							NOTE-1
	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
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	
NOTE REQUIRED	RADIATION:							NOTE-1
	NORM GAMMA		5E7		2	TEST-IDENT	NA	
	ACC GAMMA	1.28EB TID	1.5EB	4	2	TEST-IDENT	YES	NOTE-4
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:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
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)								

- DOCUMENT REFERENCE:
1. SPECIFICATION 228.218 REV.0, ADD.11
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6228.218-062-005D
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 4. CALCULATION NO. 12210-EOS-42
 5. ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS, FORM NO. V-596B

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. 2
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 1E22*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 22B218-4
REV 1
DATE 10-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REMARKS
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.:	SEE SHEET 2							
SYSTEM:	SEE SHEET 2							
TYPE: (DESCRIPTION)	SOLENOID VALVE							
MANUFACTURER:	ASCO							
MODEL:	SEE SHEET 2							
SAFETY FUNCTION:	NOT REQUIRED							
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: 4,5							
QUALIFIED LIFE								
	(YEARS): SEE SHEET 2							
	REFERENCE: 2,4 (SEE NOTE-2)							

PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	QUAL METHOD	MARGIN DEMO	REMARKS
OP. TIME:	N/R	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
TEMP (F):							NOTE-1
NORMAL	122	140	1	2,4	TEST-IDENT	NA	
ABNORMAL	NA	NA	NA	NA	NA	NA	
ACCIDENT	320	346	1	2	TEST-IDENT	YES	
PRESS (PSIG)							NOTE-1
NORMAL	ATMOS	ATMOS	1	2	TEST-IDENT	NA	
ABNORMAL	NA	NA	NA	NA	NA	NA	
ACCIDENT	13	110	1	2	TEST-IDENT	YES	
RH (%)							NOTE-1
NORMAL	50	100	1	2	TEST-IDENT	NA	
ABNORMAL	NA	NA	NA	NA	NA	NA	
ACCIDENT	100	100	1	2	TEST-IDENT	NA	
RADIATION:							NOTE-1
NORM GAMMA	3.2E7	5E7	1		TEST-IDENT	NA	
ACC GAMMA	4E6	1.5E8	1	2	TEST-IDENT	YES	
NORM BETA	0		1			NA	
ACC BETA	500		1			NA	
NEUTRON	0		1			NA	
SPRAY	NA	NA	NA	NA	NA	NA	
SUBMERGENCE	NA	NA	NA	NA	NA	NA	

- DOCUMENT REFERENCE:
- SPECIFICATION 228.218 REV.0, ADD.11
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6228.218-062-006B
 - POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 - CALCULATION NO.12210-E05-42
 - ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS, FORM NO. V-5968

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 SUBGRG	QUAL. LIFE	OPTIME CC
SRN 228218-4				
SPEC 228.218				
ICS REACTOR CORE ISOLATION COOLING				
1ICS*SOV102	WITH 1E51*AOVF066 N/R FOR SAFETY FUNCTION	AB-114-2		N/R D
ISC	*			
1ISC*SOVX38A	WITH 1E01*AOVF030A N/R FOR SAFETY FUNCTION	AB-114-2		N/R C
1ISC*SOVX38B	WITH 1E01*AOVF030B N/R FOR SAFETY FUNCTION	AB-114-2		N/R
1ISC*SOVY38A	WITH 1E01*AOVF030A N/R FOR SAFETY FUNCTION	AB-114-2		N/R
1ISC*SOVY38B	WITH 1E01*AOVF030B 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.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 228241-1

REV 0

SHEET NO. 3

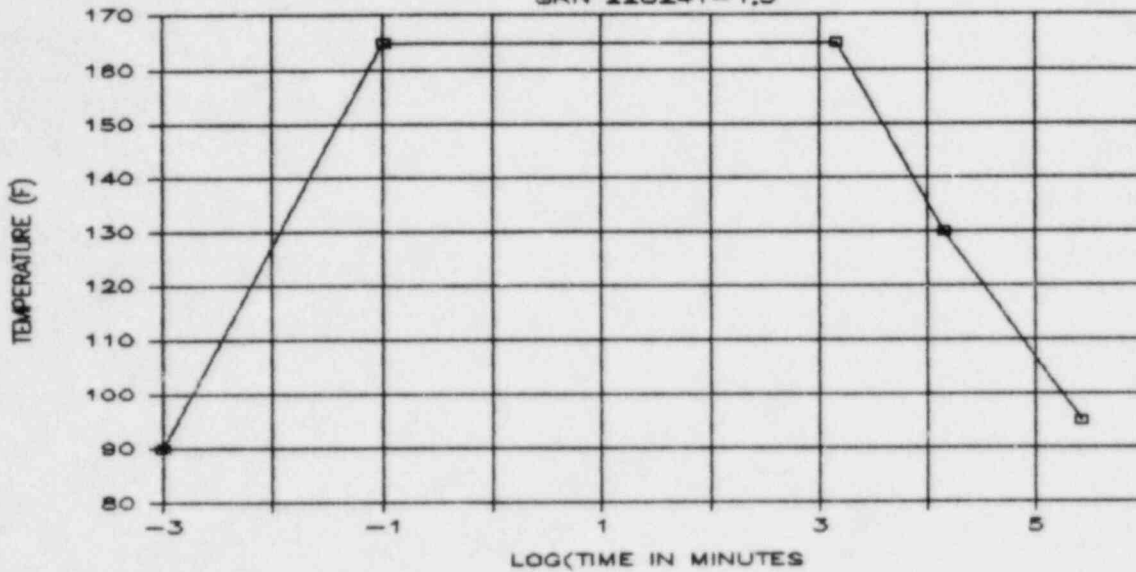
DATE 11/30/84

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.

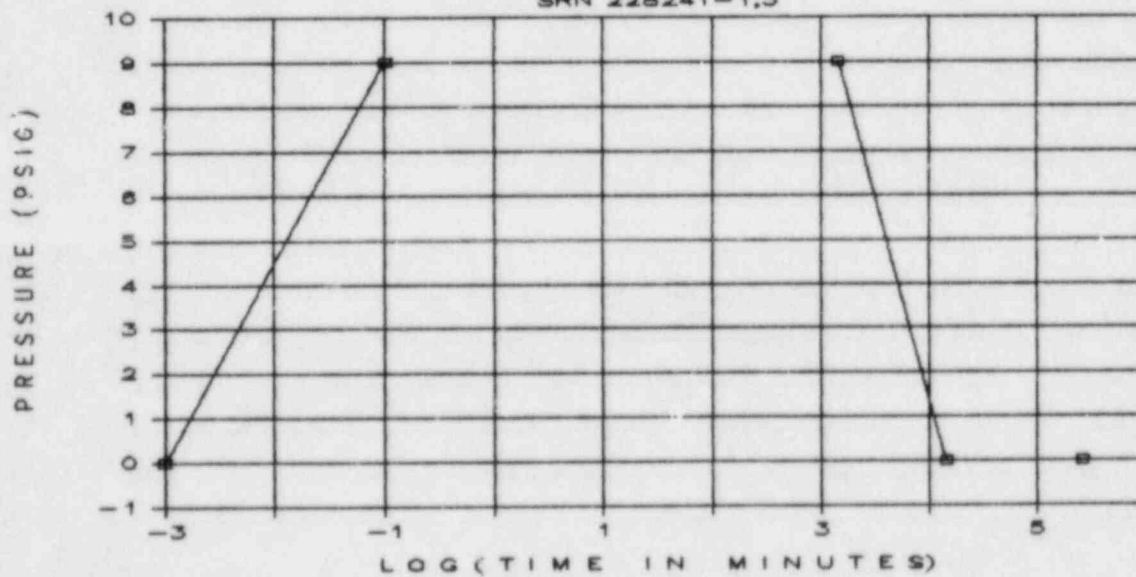
SPECIFIED ACCIDENT PROFILES

SRN 228241-1,3



SPECIFIED ACCIDENT PROFILES

SRN 228241-1,3



TEMPERATURE -----

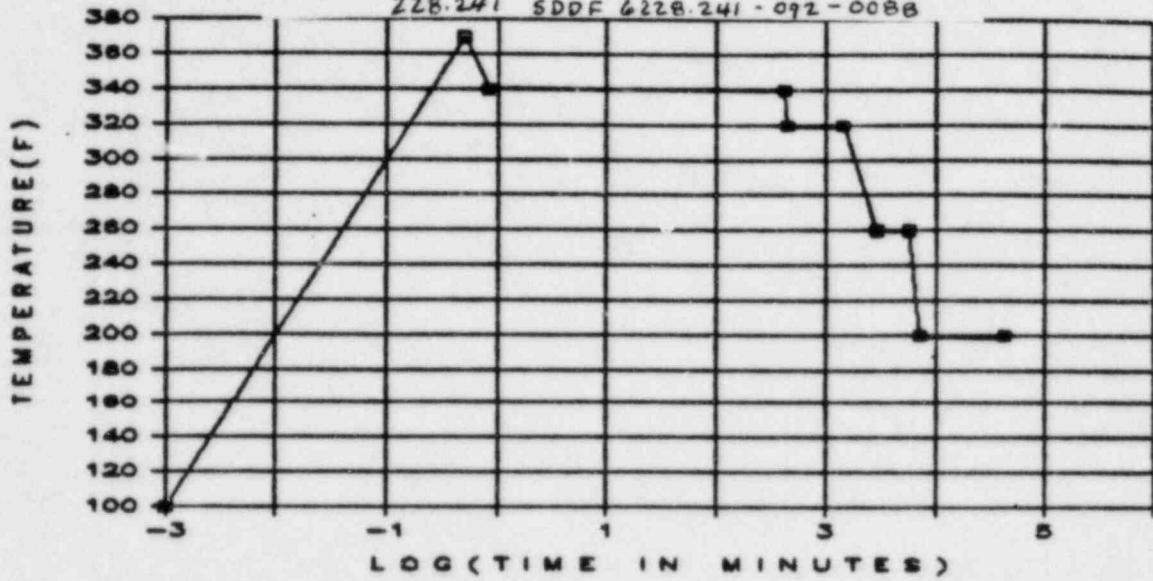
TIME	0	6sec	1day	10days	180days
LOG (MINUTES)	-3.00	-1.00	3.16	4.16	5.41
TEMP(F)	90	165	165	130	95
TIME(MIN)	0.001	0.099	1440	14400	259200

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

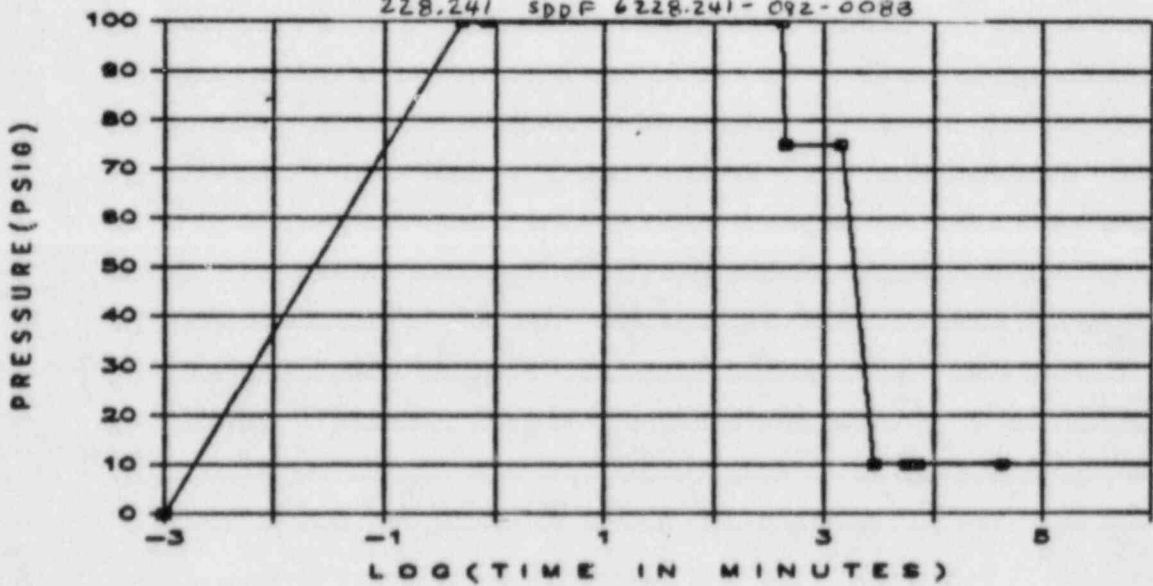
TEST PROFILE

228.241 SDDF 6228.241-092-0088



TEST PROFILE

228.241 SDDF 6228.241-092-0088

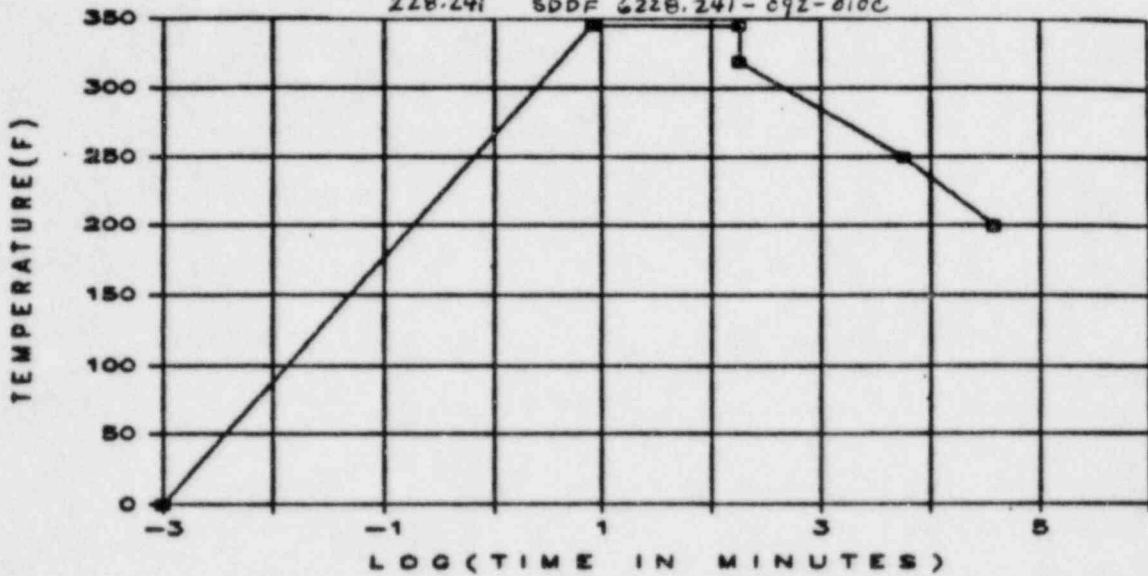


TEST PROFILE DATA FOR 228.241 SDDF 6228.241-092-0088
LIMIT SWITCHES

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

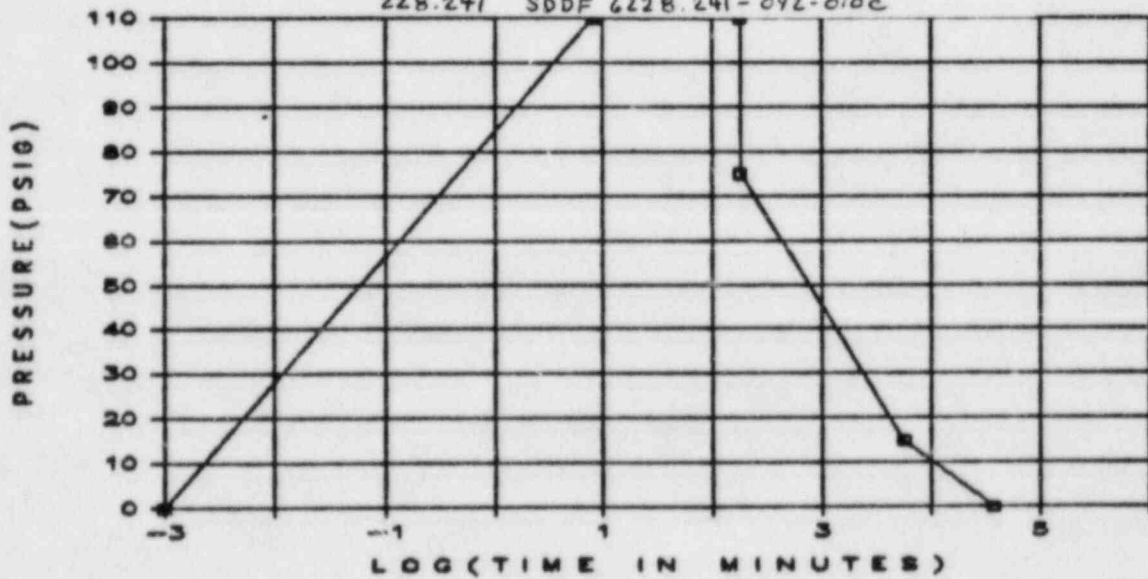
TEST PROFILE

228.241 SDDF 6228.241-092-010C



TEST PROFILE

228.241 SDDF 6228.241-092-010C



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

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

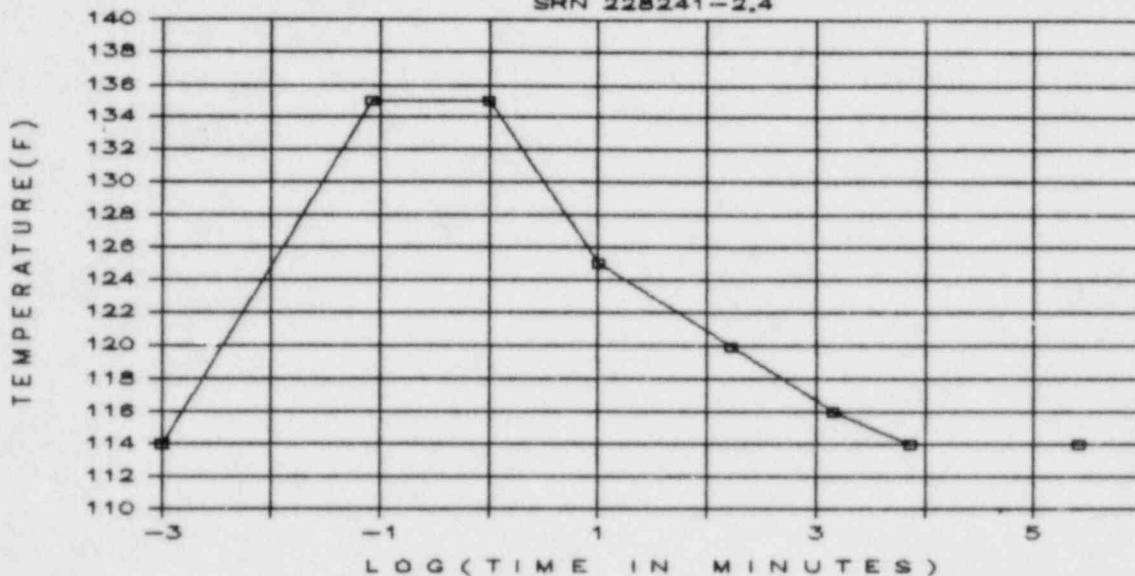
SRN 228241-2
REV 0
SHEET NO. 3
DATE 11/30/84

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.

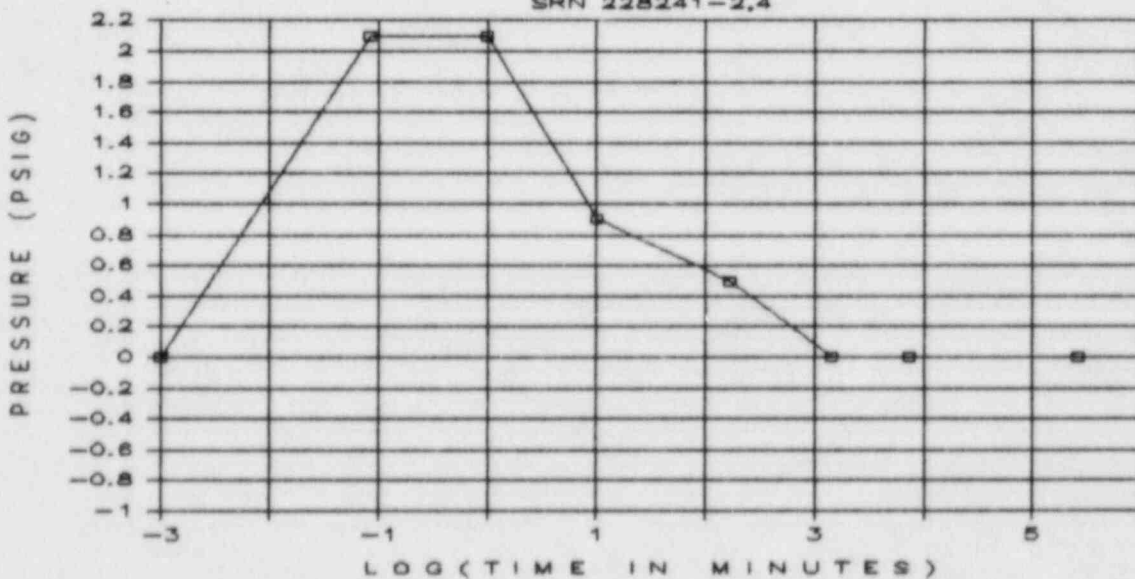
SPECIFIED ACCIDENT PROFILE

SRN 228241-2,4



SPECIFIED ACCIDENT PROFILE

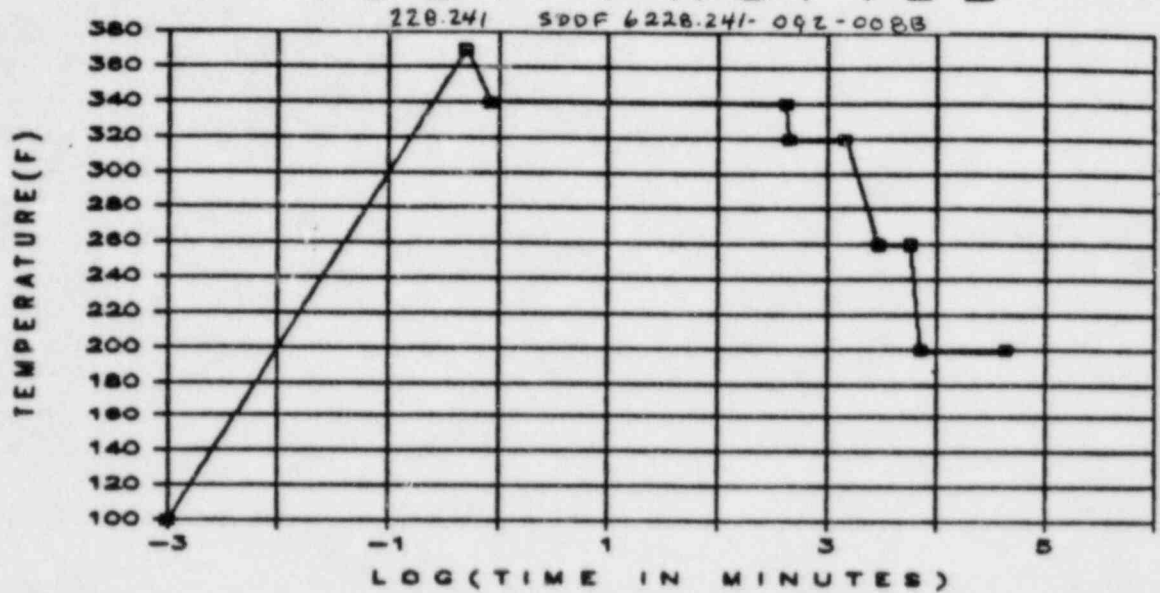
SRN 228241-2,4



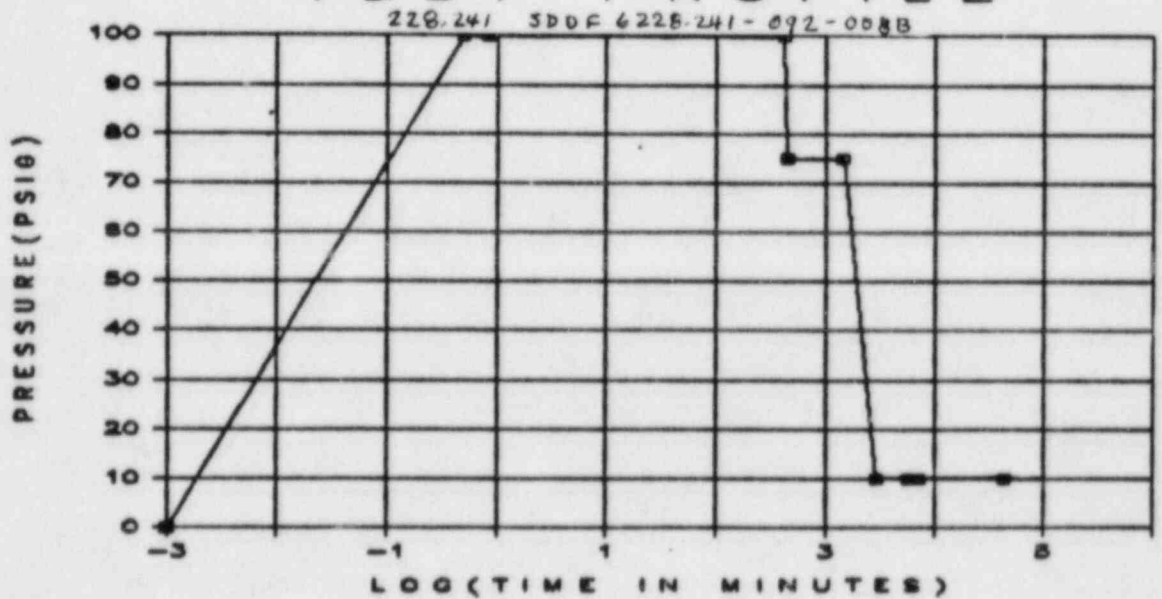
SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 228241

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

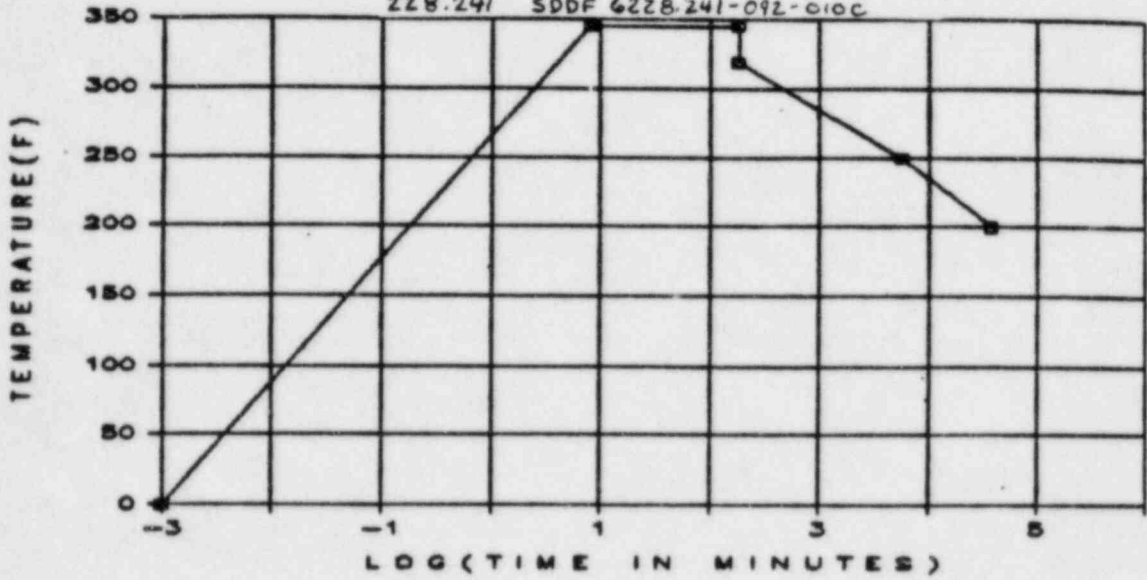


TEST PROFILE DATA FOR 228.241 SDDF 6228.241-092-008B
LIMIT SWITCHES

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

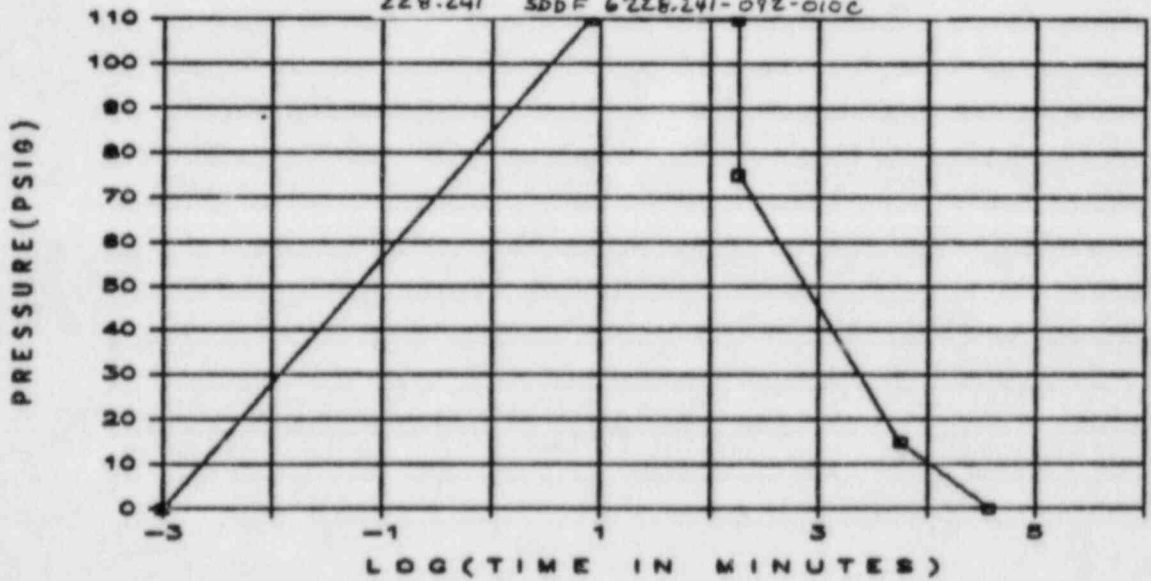
TEST PROFILE

228.241 SDDF 6228.241-092-010C



TEST PROFILE

228.241 SDDF 6228.241-092-010C



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

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

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 338741-4
 REV 0
 SHEET NO. 2
 DATE 11-30-89

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDMRG	QUAL. LIFE	OPTIME GC
SRN 228241-4				
SPEC 228.241				
HVR VENTILATION - REACTOR PLANT				
IHVR*SOV165	HV-206-832-6F	AB-141-4	7.5 YEARS	1 HR A
IHVR*SOV166	HV-206-832-6F	AB-141-3	7.5 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						MARGIN: DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL 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	266	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
TYPE: (DESCRIPTION) PUMP MOTOR	ACCIDENT	280	356	1	2,4	TEST-IDENT	YES	NOTE-2 NOTE-1
	PRESS (PSIG):							
	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 NOTE-1
	RH (%):							
	NORMAL	90	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAFETY FUNCTION: - - - TO FILL SYSTEM PUMPS & DISCHARGE PIPING TO AVOID WATER HAMMER EFFECTS	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
OP. CODE: SEE SHEET 2	RADIATION:							NOTE-1
	NORM GAMMA	6E3						
	ACC GAMMA	1E7 T1D	2EB	1	2	TEST-SIM	YES	NOTE-4
	NORM BETA							
	ACC BETA							
	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - - SPEC: NA DEMO: 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								
QUALIFIED LIFE - - - (YEARS): SEE SHEET 2 REFERENCE: 2								

- DOCUMENT REFERENCE:
- SPECIFICATION 237.160 ADD.6 / E&DCR P12,967
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6237.160-108-001F
 - POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 - 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
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	FRAHE 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

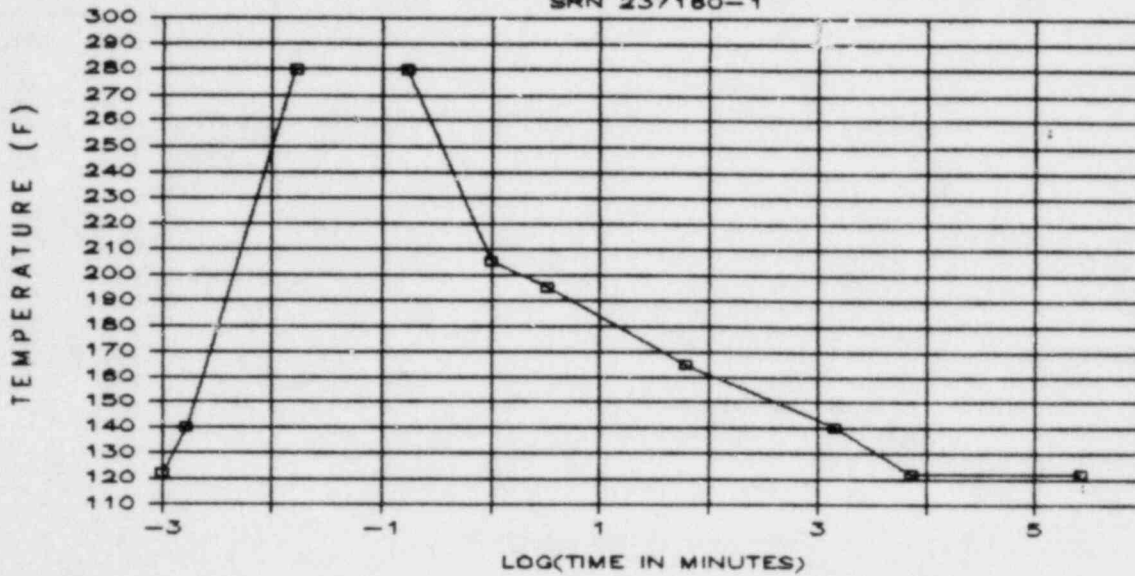
NOTES

-
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.

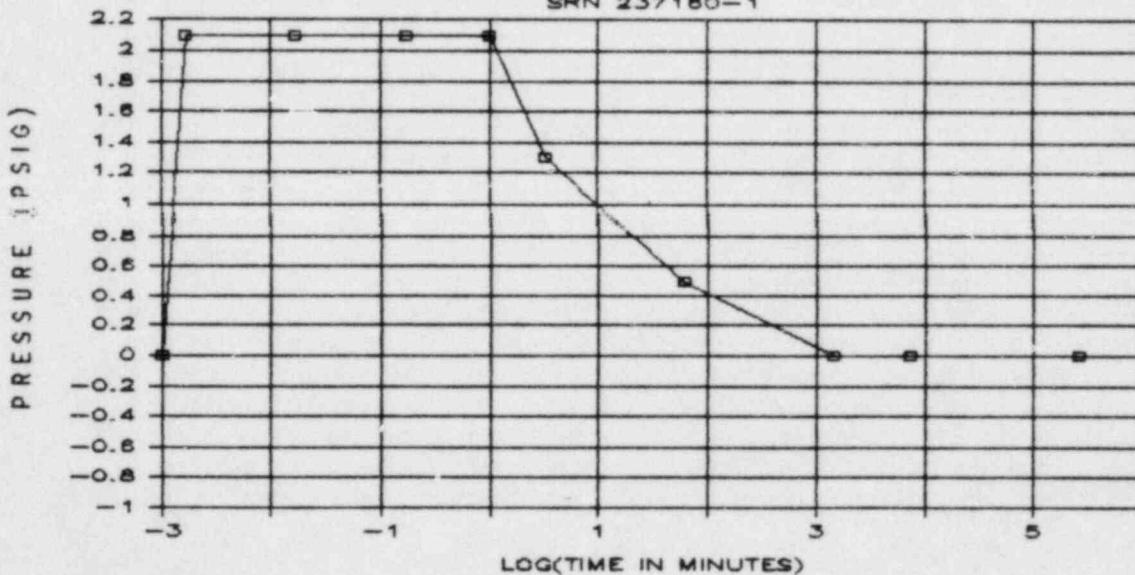
SPECIFIED ACCIDENT PROFILES

SRN 237160-1



SPECIFIED ACCIDENT PROFILES

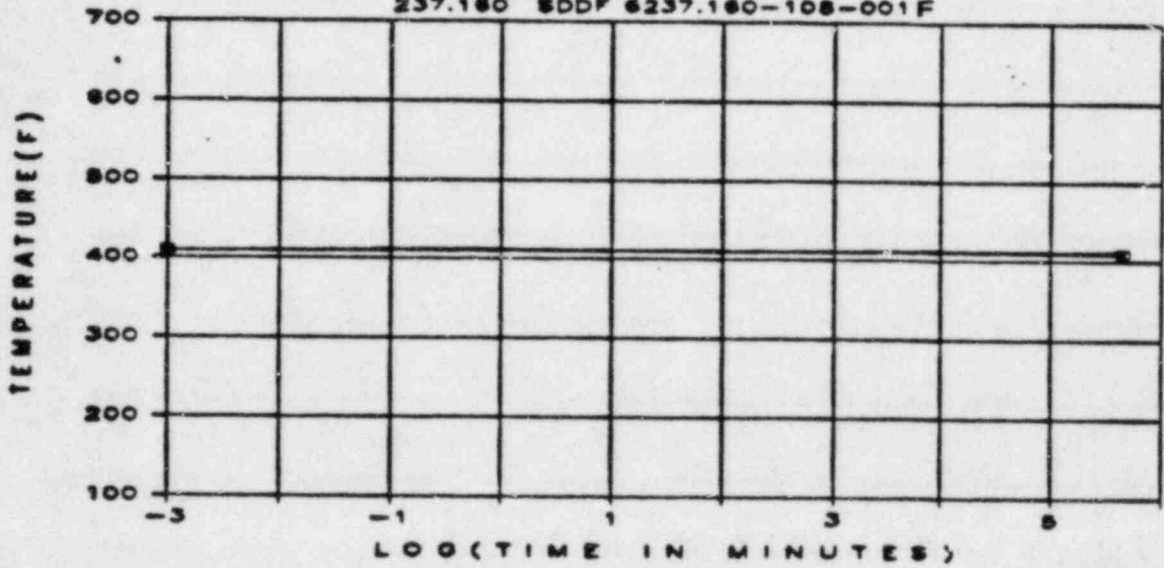
SRN 237160-1



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

237.160 SDDF 6237.160-108-001F



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
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	7437-10002 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LVC06	7437-10002 HLBI FOR INBOARD END, REMAINDER TRNS	CT-5A	40 YRS	100D A
1RCP*LVC10A	7437-10002 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LVC11A	7437-10002 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LVC13A	7437-10002 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LVC18	7437-10002 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LVC18A	7437-10005 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LVC19A	7437-10002 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LVC20A	7437-10002 HLBI FOR INBOARD END, REMAINDER TRNS	CT-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 241211-1
 REV 0
 DATE 12-3-84
 SHEET NO. 2B

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	7437-1000L 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	7437-1000Y 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. 2C

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

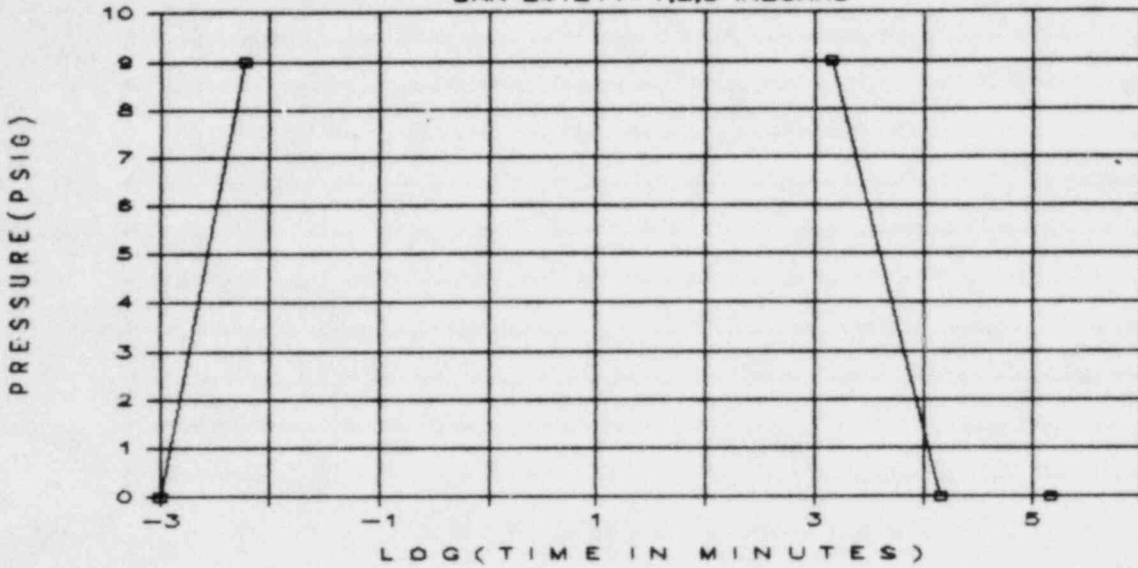
DATE 11/27/84

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.

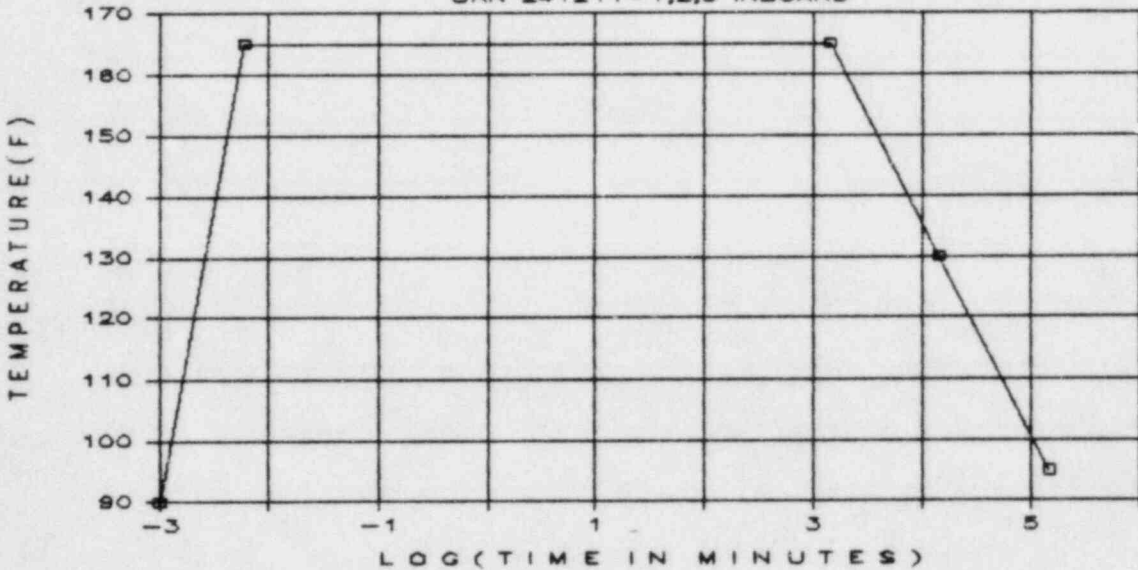
SPECIFIED ACCIDENT PROFILES

SRN 241211-1,2,3 INBOARD



SPECIFIED ACCIDENT PROFILES

SRN 241211-1,2,3 INBOARD

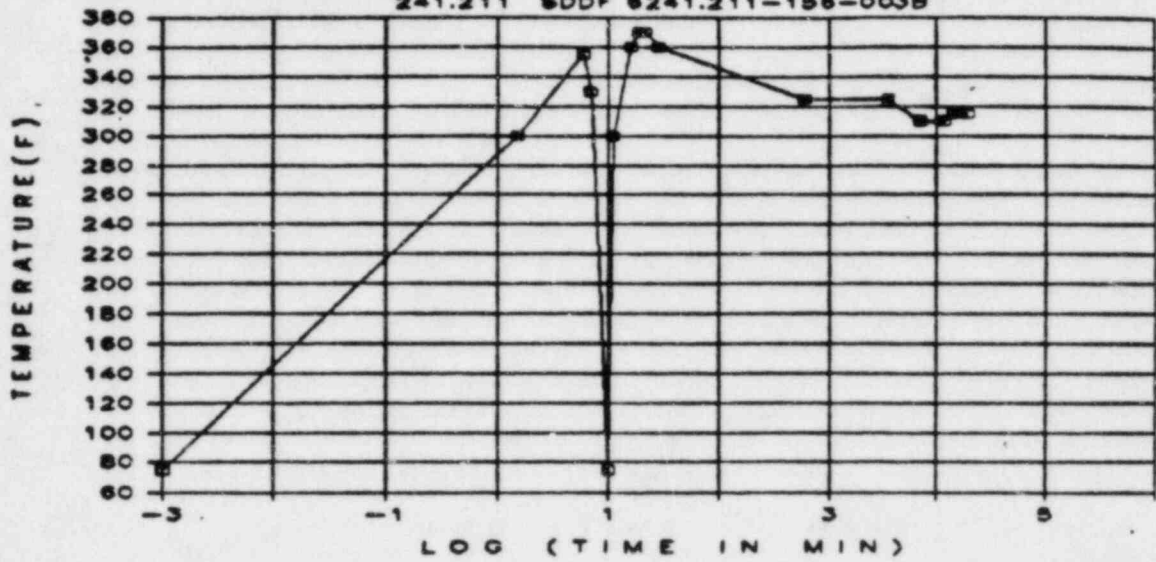


SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 241211
INBOARD END

T E M P E R A T U R E - - - - -					
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
P R E S S U R E - - - - -					
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

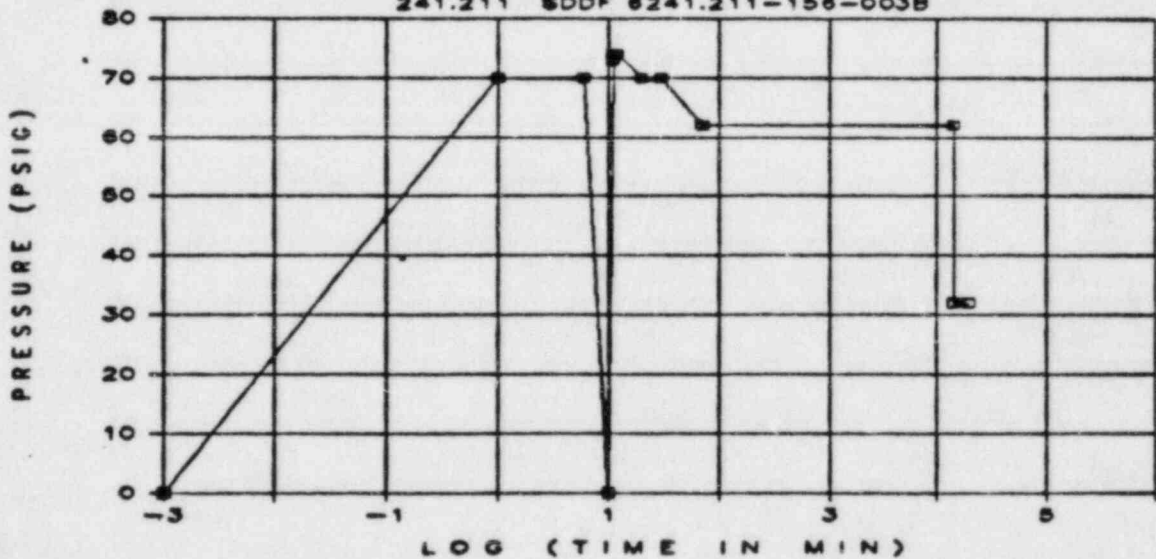
TEST PROFILE

241.211 SDDF 6241.211-156-003B



TEST PROFILE

241.211 SDDF 6241.211-156-003B



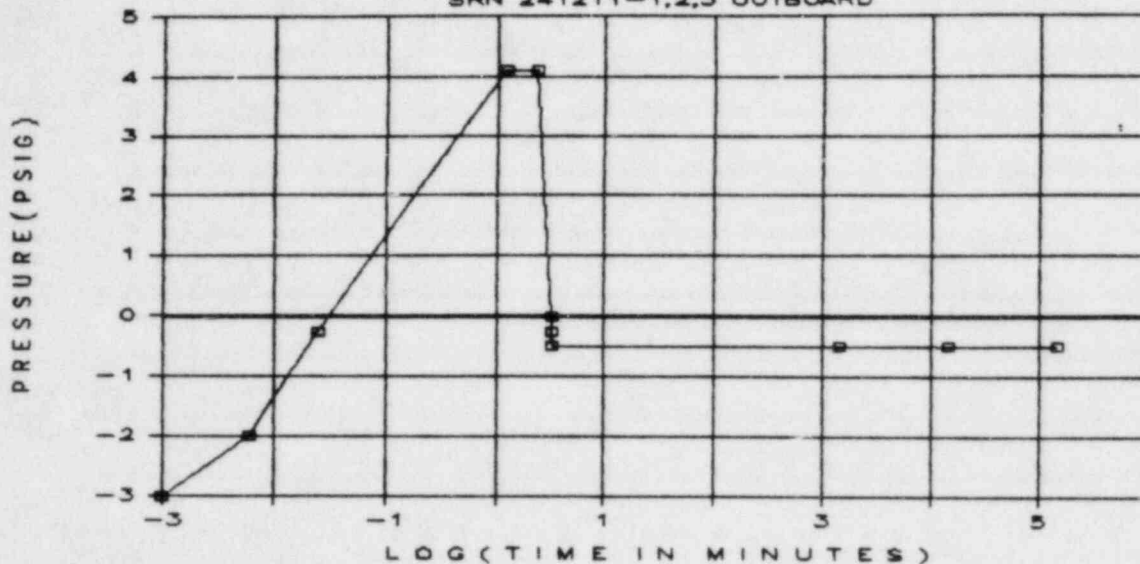
TEST PROFILE DATA FOR 241.211 - SDDF 6-241.211-156-003B

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	335	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

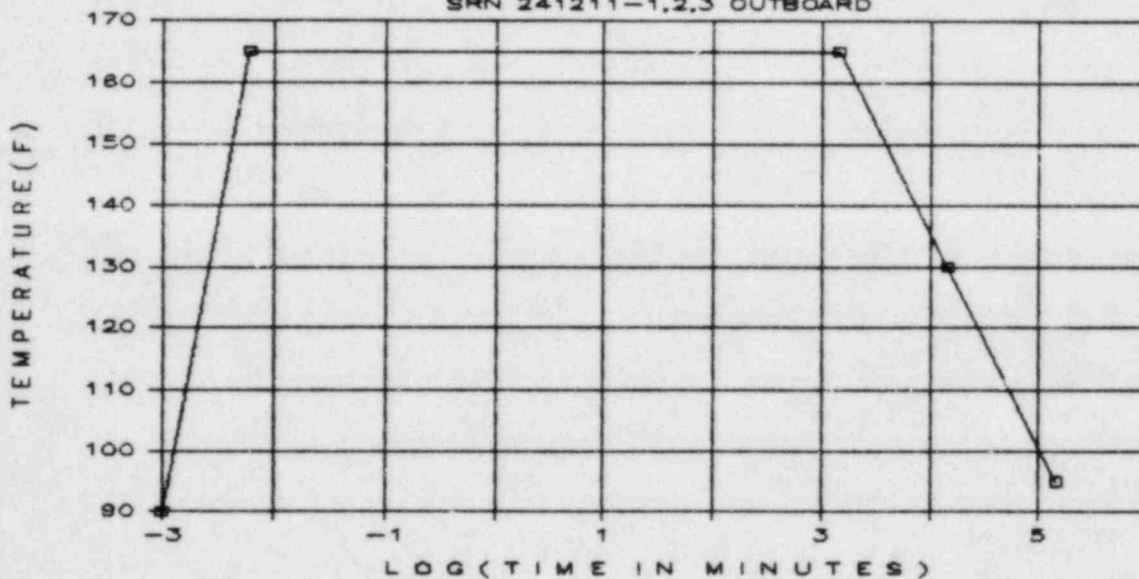
SPECIFIED ACCIDENT PROFILES

SRN 241211-1,2,3 OUTBOARD



SPECIFIED ACCIDENT PROFILES

SRN 241211-1,2,3 OUTBOARD



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION:241211

OUTBOARD END

TEMPERATURE -----

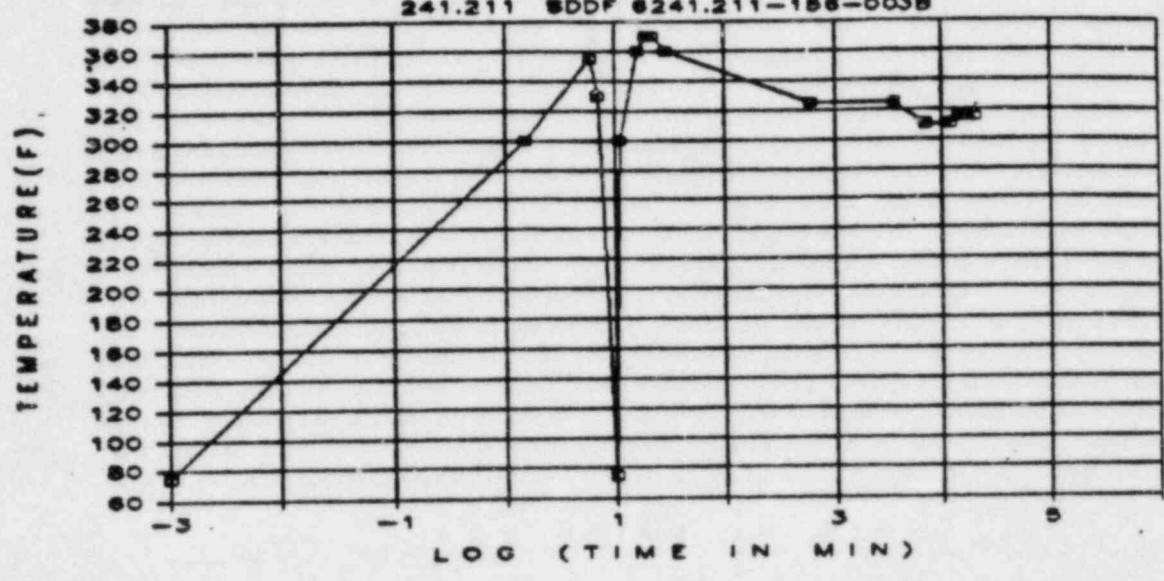
TIME	0	6sec	1day	10days	100days
LOG (MINUTES)	-3.00	-2.22	3.16	4.16	5.16
TEMP (F)	90	165	165	130	95
TIME (MIN)	0.001	0.006	1440	14400	144000

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

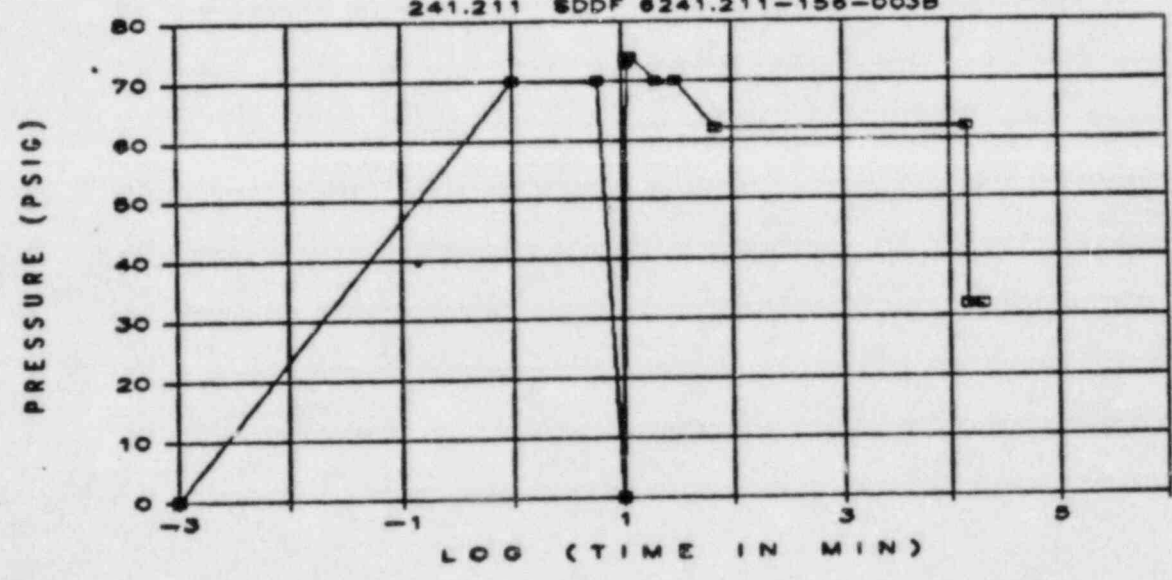
TEST PROFILE

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	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

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

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

SRN 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	100D A
1RCP*LV106A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-5A	40 YRS	100D A
1RCP*LV111	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LV112	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LV112A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LV114	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LV114A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LV115	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP*LV115A	7437-10003 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D 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 SUBHRG	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.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

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

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION							REMARKS
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
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	
TYPE: (DESCRIPTION)	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
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	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 - -	SURMERGENCE	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: NOT REQUIRED								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

- DOCUMENT REFERENCE:
- SPECIFICATION 241.211, REV.1, ADD.2 / E&DCR P21,756A
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6241.211-156-017B & 003C
 - 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

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
SRN 241211-3				
SPEC 241.211				
RCP ELECTRICAL PENETRATIONS				
1RCP#NVP01	7437-10000 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D A
1RCP#NVP02	7437-10000 HLBI FOR INBOARD END, REMAINDER TRNS	CT-G	40 YRS	100D 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.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

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

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS		QUALIFICATION		DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED				
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) 5 KV POWER CABLES	ACCIDENT	320	346	1,4	2		TEST-SIM	YES	
	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: - - - PROVIDE POWER TO CLASS 1E EQUIPMENT	ACCIDENT	ALL STEAM	STM+SPRAY	1,4	2		TEST-SIM	NA	
	RADIATION								NOTE 1
	NORM GAMMA	8.3E7		1,4				NA	
	ACC GAMMA	4.447	2.0E8	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	
	SPRAY	NA	NA	NA	NA		NA	NA	
ACCURACY - - SPEC: NA DEMO: NA	SUBMERGENCE	NA	NA	NA	NA		NA	NA	
ZONE NO.: SEE SHEET 2									
SUBMERGENCE: SPRAY/FROTH: CABLES NOT SUBJECTED TO SUBMERGENCE OR SPRAY/FROTH									
DOCUMENTATION ACCEPTABILITY: ACCEPTABLE TO NUREG 0588,CAT I									
MAINT/SURVEILL - - - REFERENCE: NOTE 6									
QUALIFIED LIFE - - - (YEARS): SEE SHEET 2 REFERENCE: 2									

- DOCUMENT REFERENCE:
- SPECIFICATION 241.232/F&DCR NO. P-22.129
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6241.232-122-001B,002B,002C,005A
 - POST-ACCIDENT OPERABILITY PERIOD: SEE PADP DOCUMENT NO. 245.600, REV.0
 - SWEC CALC. NO. 12210-EOS-34 (ENVIR. ENVELOPE)

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				
1NGR12	NONE	VARIOUS NOTE 7	7.8 YR	100D A
1NGR15	NONE	VARIOUS NOTE 7	7.8 YR	100D A
1NGR16	NONE	VARIOUS NOTE 7	7.8 YR	100D A
1NGR30	NONE	VARIOUS NOTE 7	7.8 YR	100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241232-1

REV 0

SHEET NO. 3

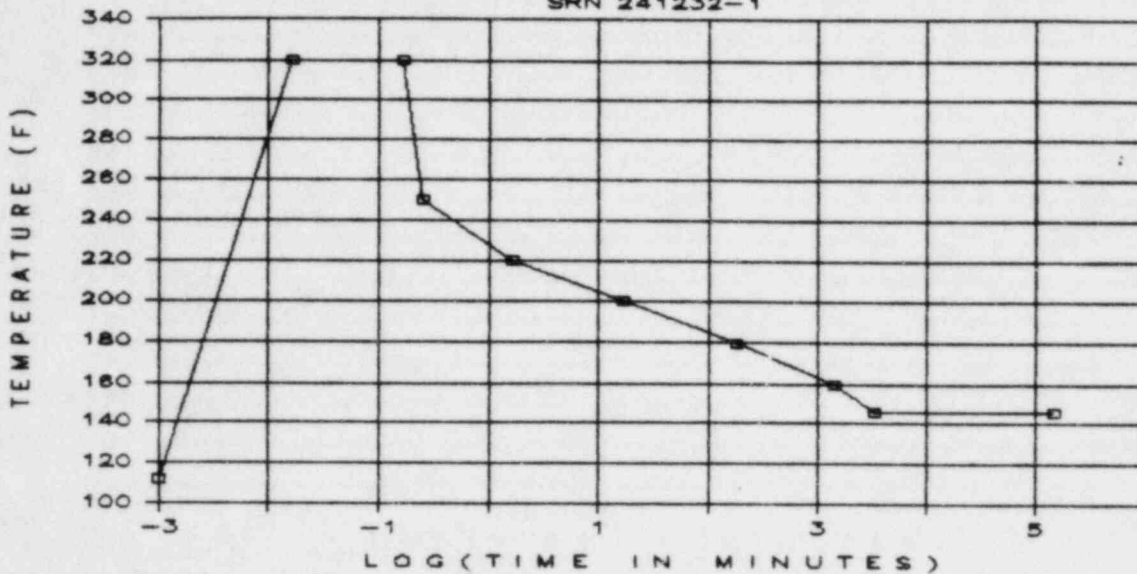
DATE 11/27/84

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.

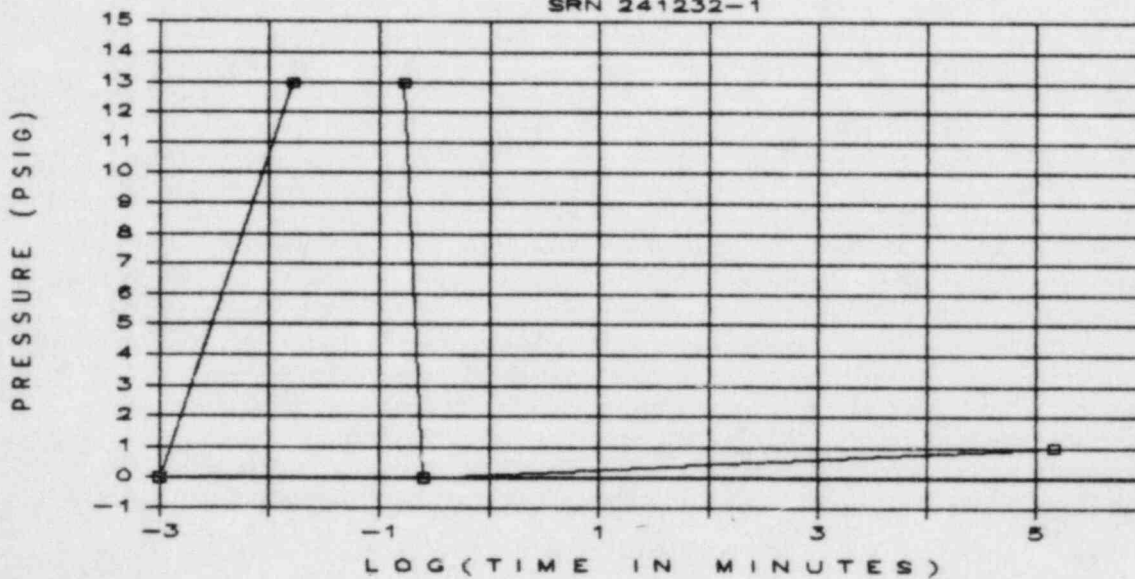
SPECIFIED ACCIDENT PROFILES

SRN 241232-1



SPECIFIED ACCIDENT PROFILES

SRN 241232-1

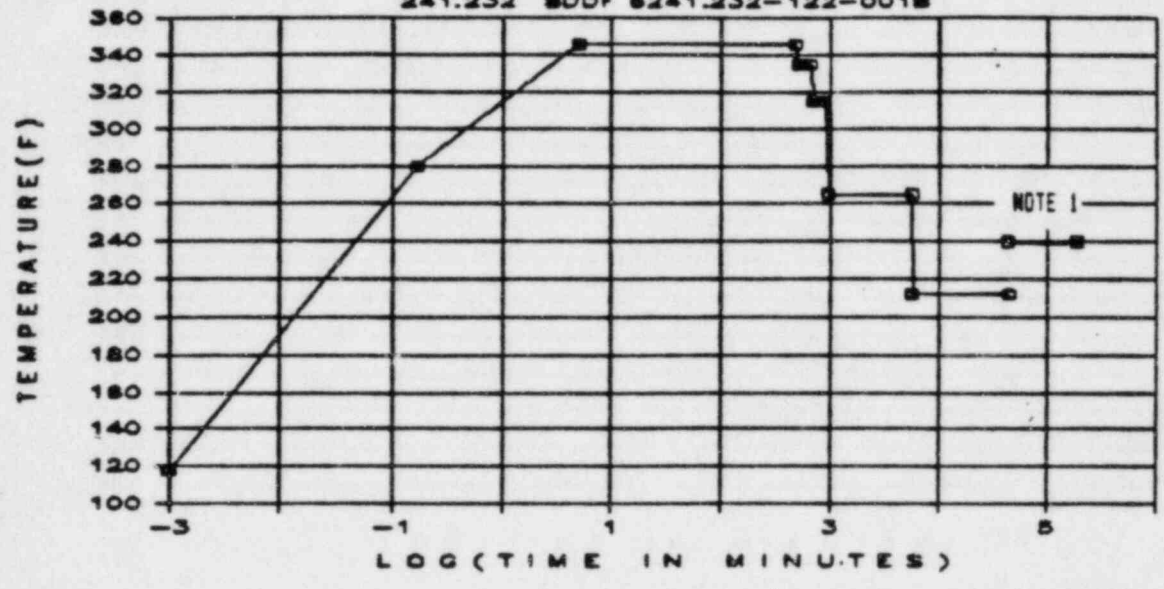


TEMPERATURE										
TIME	0	1sec	10sec	15sec	100sec	1000sec	3hrs	1day	2.3days	100days
LOG (MINUTES)	-3.00	-1.78	-0.78	-0.60	0.22	1.22	2.26	3.16	3.52	5.16
TEMP (F)	112	320	320	250	220	200	180	160	145	145
TIME (MIN)	0.001	0.0167	0.167	0.25	1.65	16.7	180	1440	3312	144000

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
TIME (MIN)	0.001	0.0167	0.167	0.25	144000

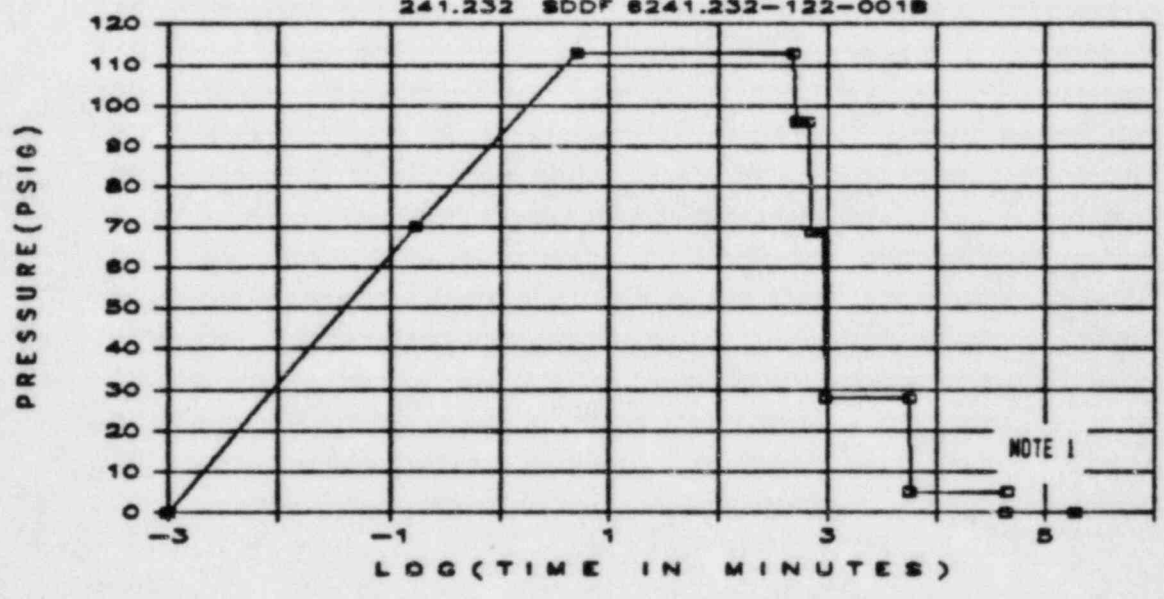
TEST PROFILE

241.232 SDDF 6241.232-122-001B



TEST PROFILE

241.232 SDDF 6241.232-122-001B



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	1000 A
1NGP50	NONE	VARIOUS	11 YEARS	1000 A
1NGP51	NONE	VARIOUS	11 YEARS	1000 A
1NGP52	NONE	VARIOUS	11 YEARS	1000 A
1NGP53	NONE	VARIOUS	11 YEARS	1000 A
1NGP54	NONE	VARIOUS	11 YEARS	1000 A
1NGP55	NONE	VARIOUS	11 YEARS	1000 A
1NGP56	NONE	VARIOUS	11 YEARS	1000 A
1NGP57	NONE	VARIOUS	11 YEARS	1000 A
1NGP58	NONE	VARIOUS	11 YEARS	1000 A
1NGP59	NONE	VARIOUS	11 YEARS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241234-1

REV 1

SHEET NO. 3

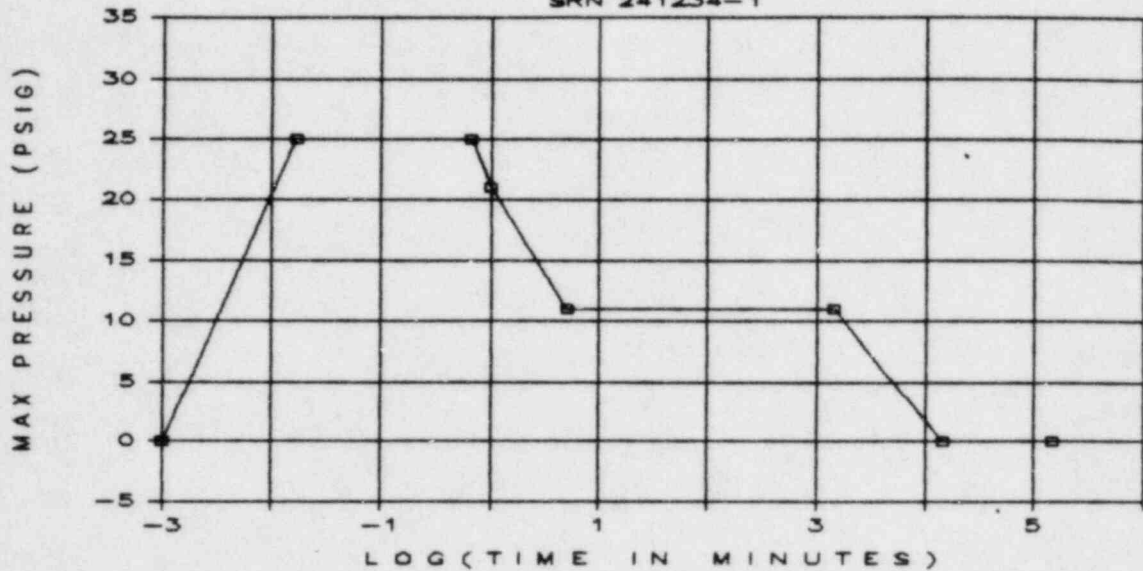
DATE 11/27/84

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.

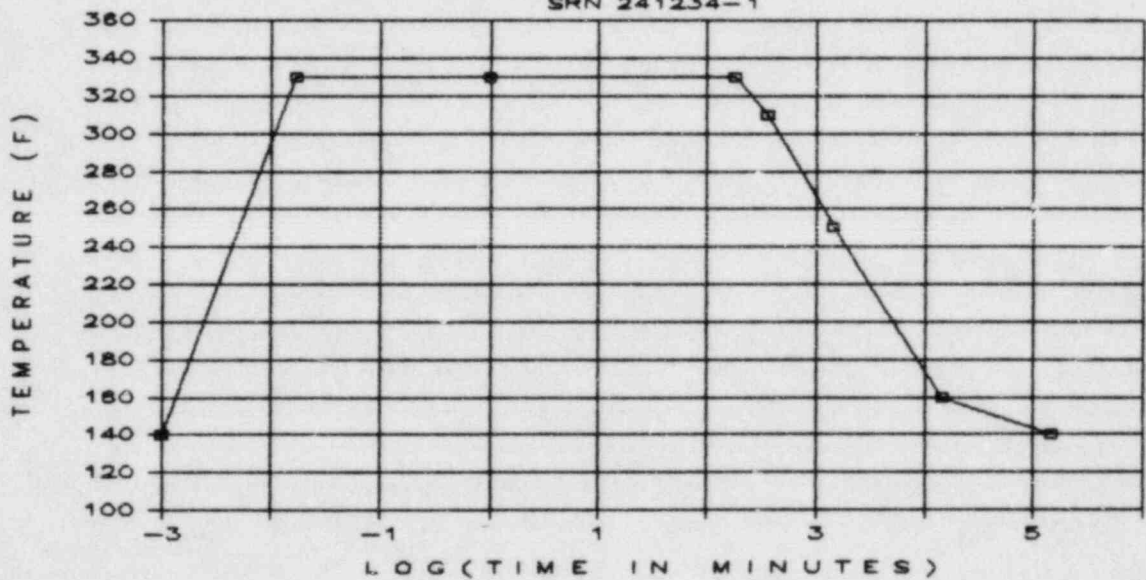
SPECIFIED ACCIDENT PROFILES

SRN 241234-1



SPECIFIED ACCIDENT PROFILES

SRN 241234-1

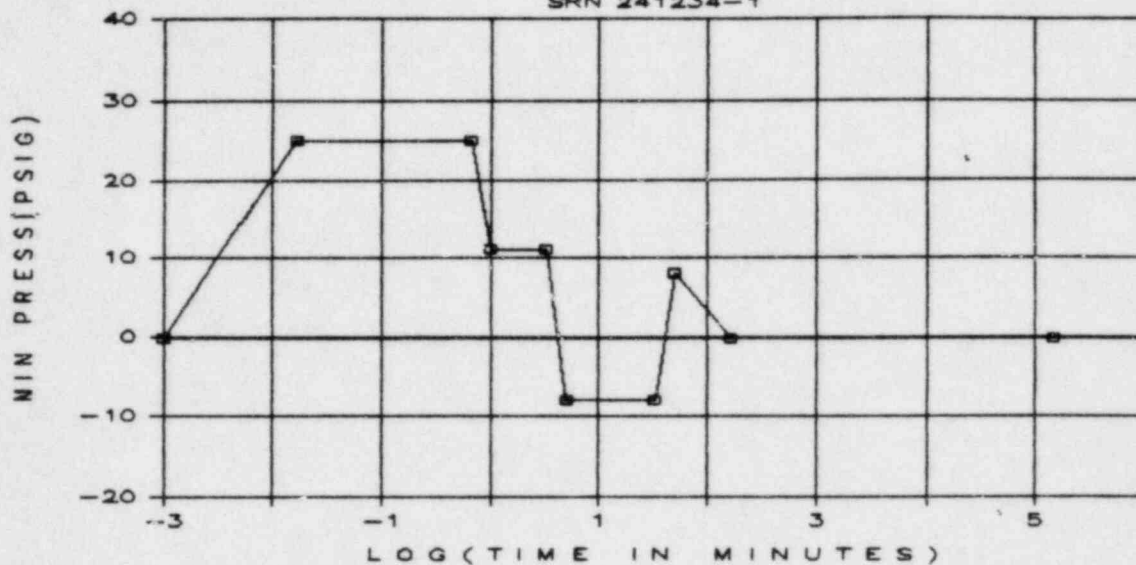


TEMPERATURE								
TIME	0	1sec	60secs	3hrs	6hrs	1day	10days	100days
LOG (MINUTES)	-3.00	-1.78	0.00	2.26	2.56	3.16	4.16	5.16
TEMP(F)	140	330	330	330	310	250	160	140
TIME(MIN)	0.001	0.0167	1	180	360	1440	14400	144000

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

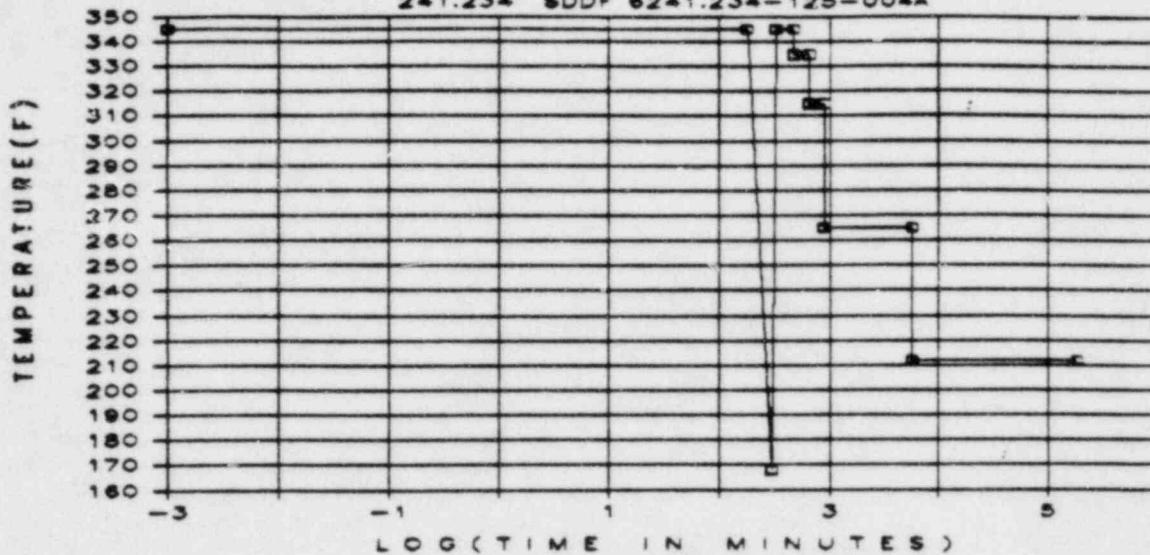
SRN 241234-1



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

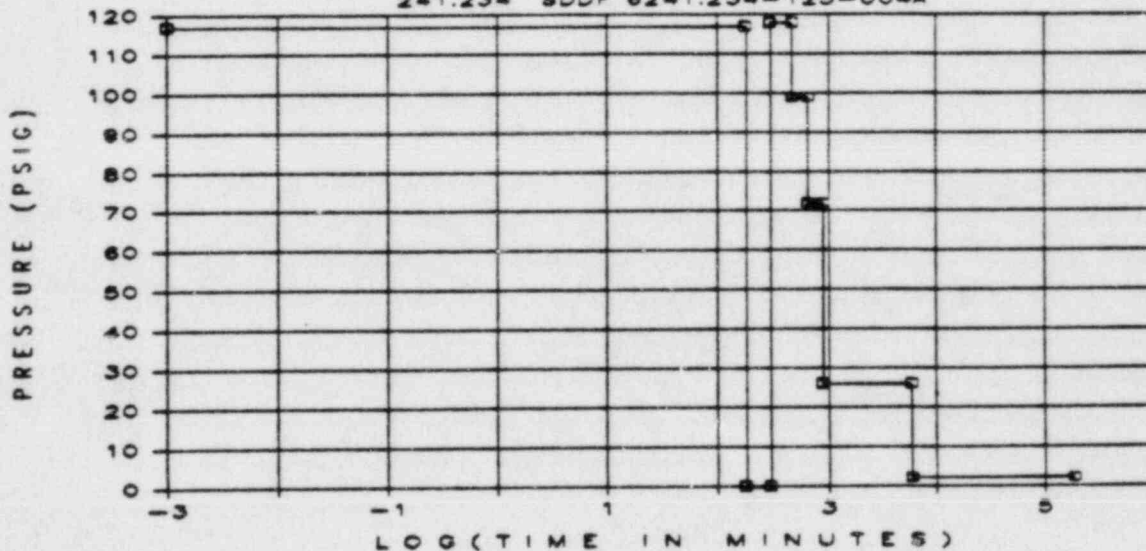
TEST PROFILE

241.234 SDDF 6241.234-125-004A



TEST PROFILE

241.234 SDDF 6241.234-125-004A



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	
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	100 DAYS	130 DAYS	3	2	TEST-SIM	YES	
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
TYPE: (DESCRIPTION) 600 CABLE CONTROL CABLE	NORMAL	140	RATED 194	1,5	2	TEST-SIM	NA	
	ABNORMAL	140	RATED 266	1,5	2	AN+DATA	NA	
MANUFACTURER: OKONITE	ACCIDENT	330	341	1,5	2	TEST-SIM	YES	
	PRESS (PSIG)							NOTE-1
MODEL: SEE SHEET 2	NORMAL	.5	ATMOS	1,5	2	TEST-SIM	NA	NOTE-2
	ABNORMAL	2.3	112	1,5	2	AN+DATA	NA	NOTE-2
SAFETY FUNCTION: - - - TO CONTROL CLASS 1E EQUIPMENT	ACCIDENT	25 TO -8	112 TO -11	1,5	2	AN+DATA	YES	
	RR (%)							NOTE-1
OP. CODE: 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
ACCURACY - - SPEC: NA DEMO: NA	ACCIDENT	100	100	1,5	2	TEST-SIM	NA	
	RADIATION:							NOTE-1
ZONE NO.: SEE SHEET 2	NORM GAMMA							
	ACC GAMMA	1.22EB TID	2EB	1,4	2	TEST-SIM	YES	NOTE-4
SUBMERGENCE OR SPRAY/FROTH	NORM BETA							
	ACC BETA							
DOCUMENTATION ACCEPTABILITY: ACCEPTABLE TO NUREG 0588, CAT I	NEUTRON							
	SPRAY	NA	NA	NA	NA	NA	NA	
MAINT/SURVEILL - - - REFERENCE: NOTE-4	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
	DOCUMENT REFERENCE:							
QUALIFIED LIFE - - - (YEARS): SEE SHEET 2 REFERENCE: 2,4	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

SRN 241240-1
REV 0
SHEET 2A
DATE 27 NOV 5-

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
SRN 241240-1				
SPEC 241.240				
NGP CAELE				
INGP01	NONE	VARIOUS	11 YEARS	1000 A
INGP02	NONE	VARIOUS	11 YEARS	1000 A
INGP03	NONE	VARIOUS	11 YEARS	1000 A
INGP04	NONE	VARIOUS	11 YEARS	1000 A
INGP06	NONE	VARIOUS	11 YEARS	1000 A
INGP11	NONE	VARIOUS	11 YEARS	1000 A
INGP12	NONE	VARIOUS	11 YEARS	1000 A
INGP13	NONE	VARIOUS	11 YEARS	1000 A
INGP14	NONE	VARIOUS	11 YEARS	1000 A
INGP15	NONE	VARIOUS	11 YEARS	1000 A
INGP16	NONE	VARIOUS	11 YEARS	1000 A
INGP22	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. REMARKS	ENV. ZONE SUBNRG	QUAL. LIFE	OPTIME OC
SRN 241240-1				
SPEC 241.240				
NGP CABLE				
INGP24	NONE	VARIOUS	11 YEARS	1000 A
INGP26	NONE	VARIOUS	11 YEARS	1000 A
INGP27	NONE	VARIOUS	11 YEARS	1000 A
INGP28	NONE	VARIOUS	11 YEARS	1000 A
INGP30	NONE	VARIOUS	11 YEARS	1000 A
INGP32	NONE	VARIOUS	11 YEARS	1000 A
INGP33	NONE	VARIOUS	11 YEARS	1000 A
INGP36	NONE	VARIOUS	11 YEARS	1000 A
INGP37	NONE	VARIOUS	11 YEARS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

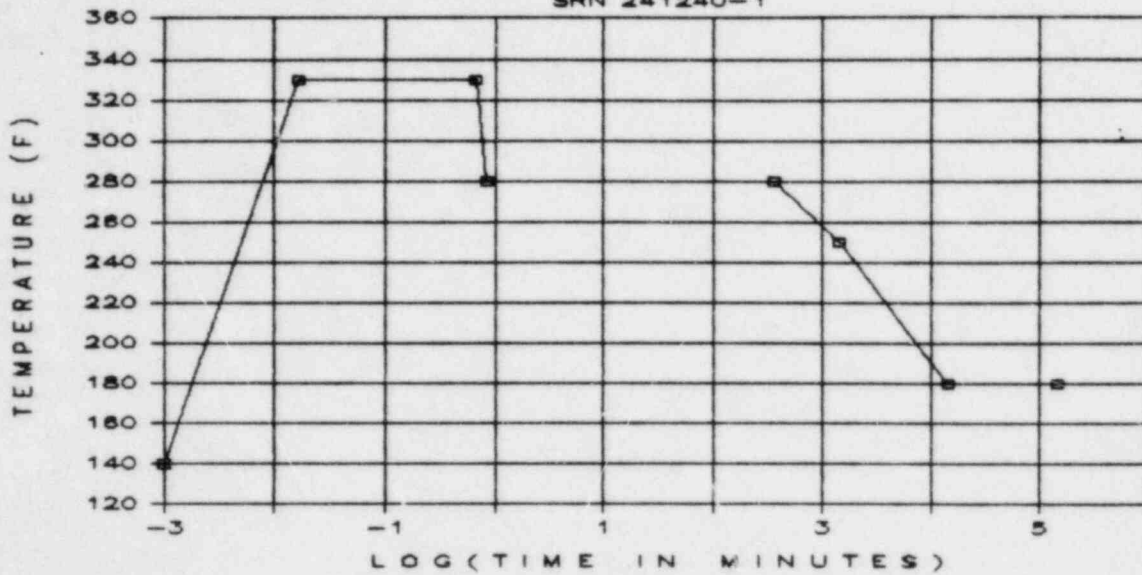
SRN 241240-1
REV 1
SHEET NO. 3
DATE 11/27/84

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.

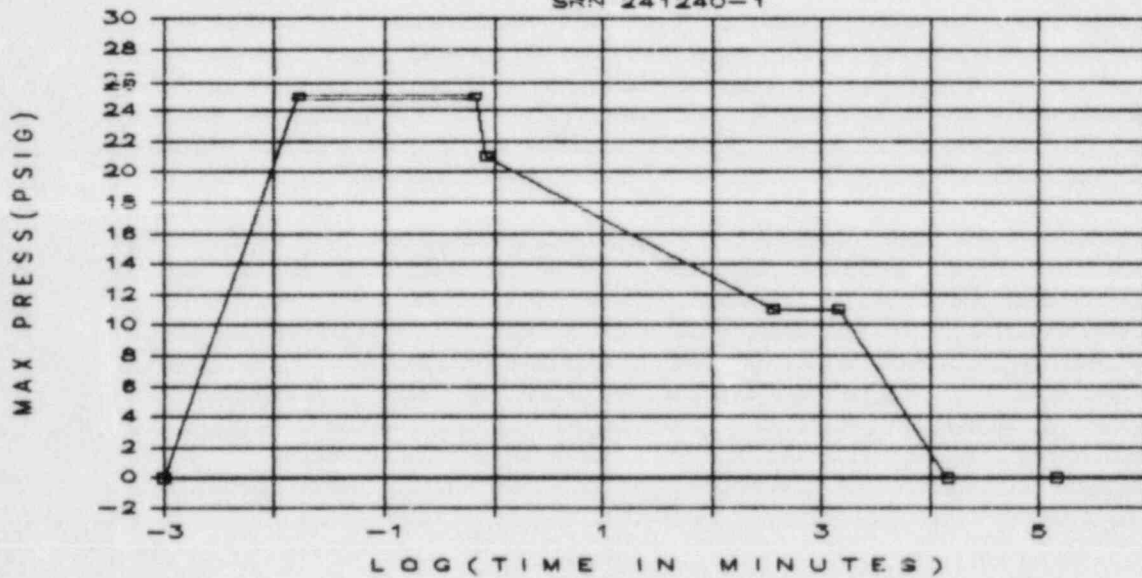
SPECIFIED ACCIDENT PROFILES

SRN 241240-1



SPECIFIED ACCIDENT PROFILES

SRN 241240-1

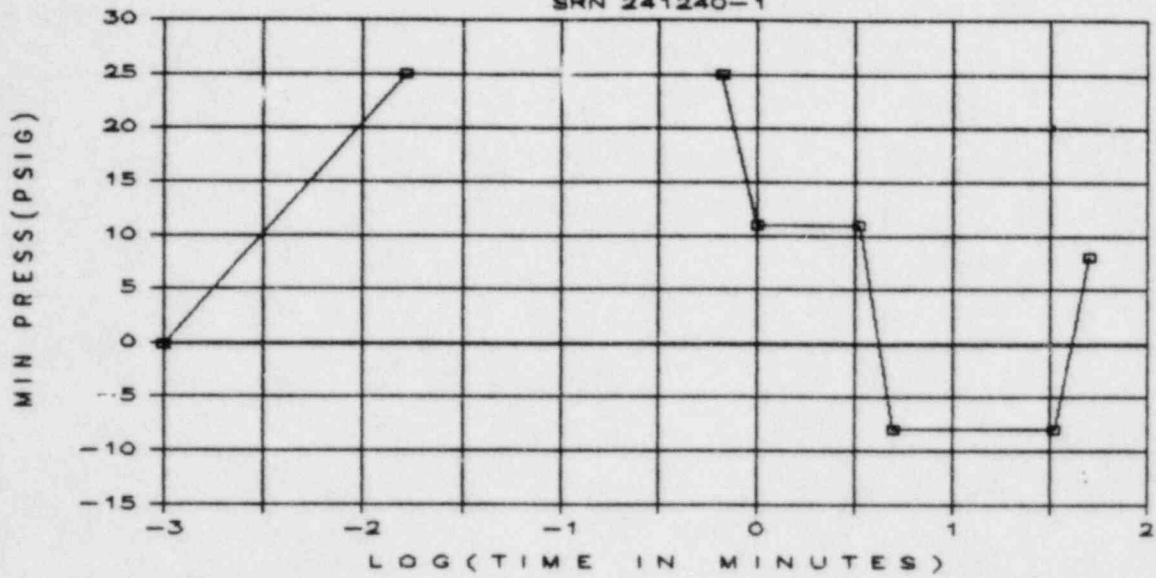


TEMPERATURE								
TIME	0	1sec	60sec	3hrs	6hrs	1day	10days	100days
LOG (MINUTES)	-3.00	-1.78	-0.18	-0.08	2.56	3.16	4.16	5.16
TEMP (F)	140	330	330	330	310	250	160	140
TIME (MIN)	0.001	0.0167	0.66	0.83	360	1440	14400	144000

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

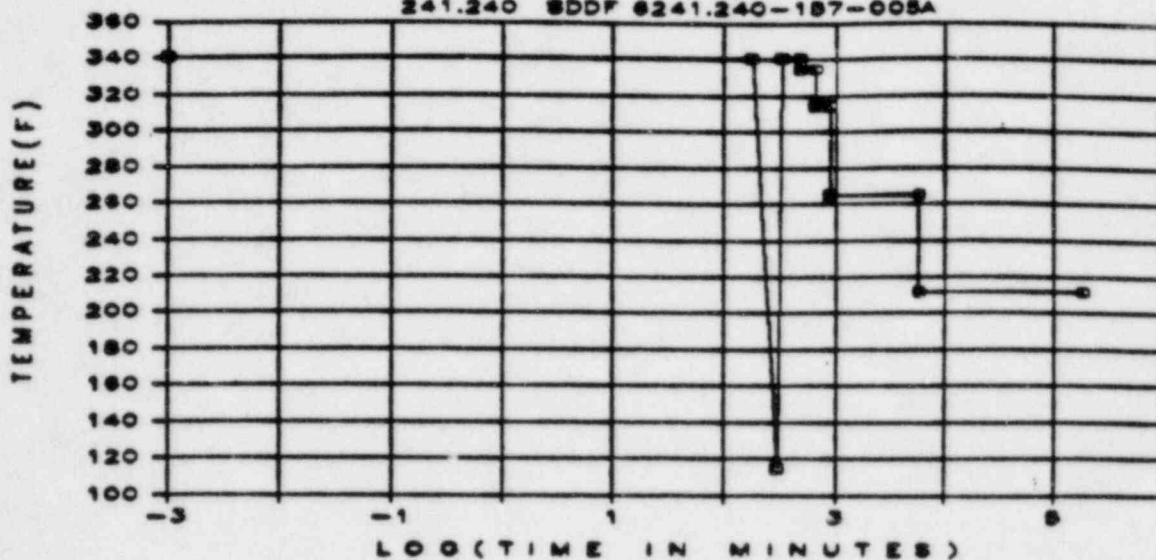


P R E S S U R E -----

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

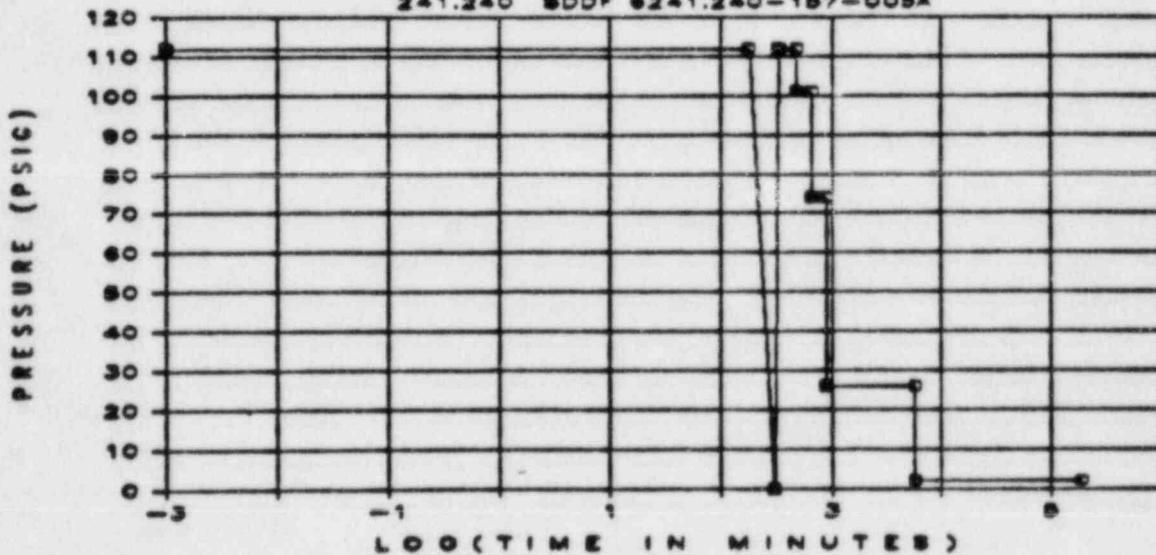
TEST PROFILE

241.240 SDDF 6241.240-157-005A



TEST PROFILE

241.240 SDDF 6241.240-157-005A



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	115	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

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

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

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						REMARKS	
	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN		
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO		
EQUIP NO.: SEE SHEET 2									
SYSTEM: SEE SHEET 2		OP.TIME:	100 DAYS	>100 DAYS	3	2	TEST-SIM	YES	NOTE 4
		TEMP (F):							NOTE 1
		NORMAL	122	140	1,6	2	TEST-SIM	NA	
		ABNORMAL	145		1,6			NA	
TYPE: (DESCRIPTION)		ACCIDENT	260		1,6				
300 VOLT INSTRUMENT CABLE		PRESS (PSIG)							NOTE 1
FIREWALL III, NEOPRENE JACKET		NORMAL	ATMOS	ATMOS	1,6	2	TEST-SIM	NA	
OVER FIREWALL III XLPE		ABNORMAL	-0.25" W.G.	ATMOS	1,6	2	TEST-SIM	NA	
MANUFACTURER: ROCKBESTOS		ACCIDENT	2.8		1,6				NOTE 2
		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				
		SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - -		SUBMERGENCE:	NA	NA	NA	NA	NA	NA	NA
SPEC: NA									
DEMO: NA									
ZONE NO.: SEE NOTE 5									
SUBMERGENCE:									
SPRAY/FROTH:									
EQUIPMENT NOT SUBJECTED TO									
SUBMERGENCE OR SPRAY/FROTH									
DOCUMENTATION ACCEPTABILITY:									
NUREG 0588, CAT I									
QUALIFICATION IN PROGRESS,									
(NOTE 2)									
MAINT/SURVEILL: NOT REQUIRED									
REFERENCE:									
QUALIFIED LIFE - - -									
(YEARS):									
REFERENCE:									

- DOCUMENT REFERENCE:
- SPECIFICATION 241.242, REV. 0, ADDEN. 7/E&DCR NO. P-22.191A
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF# 6421.242-158-001D
 - POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV. 0
 - SWEC CALC. NO. 12210-EQS-31 (RAD. DOSES)
 - VENDOR SUPPLEMENTAL REPORT SDDF# 6421.242-158-001E
 - SWEC CALC. NO. 12210-EQS-51 (ENVIR. ENVELOPE)

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				
INGP61	NONE	VARIOUS		100D A
INGP62	NONE	VARIOUS		100D A
INGP70	NONE	VARIOUS		100D A
INGP71	NONE	VARIOUS		100D A
INGP72	NONE	VARIOUS		100D A
INGP73	NONE	VARIOUS		100D A
INGP75	NONE	VARIOUS		100D A
INGP76	NONE	VARIOUS		100D A
INGP77	NONE	VARIOUS		100D A
INGP78	NONE	VARIOUS		100D A
INGP80	NONE	VARIOUS		100D A
INGP81	NONE	VARIOUS		100D A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241242-1
 REV 0
 SHEET NO. 2B
 DATE 11/29/84

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME OC
SRN 241242-1				
SPEC 241.242				
NGP CABLE				
INGP82	NONE	VARIOUS		1000 A
INGP84	NONE	VARIOUS		1000 A
INGP85	NONE	VARIOUS		1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241242-1

REV 1

SHEET NO. 3

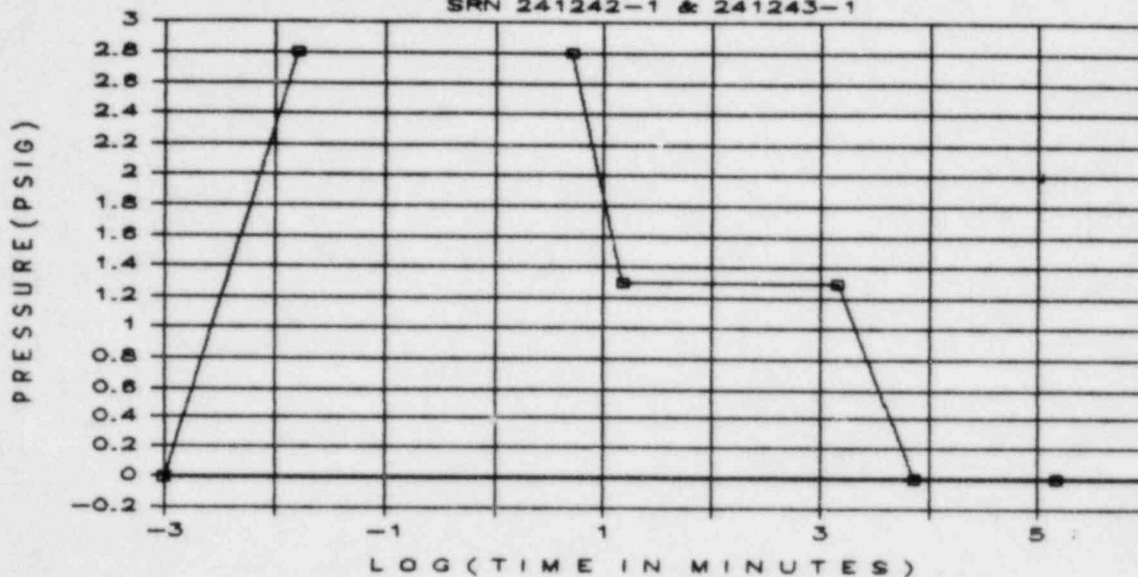
DATE 11/27/84

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.

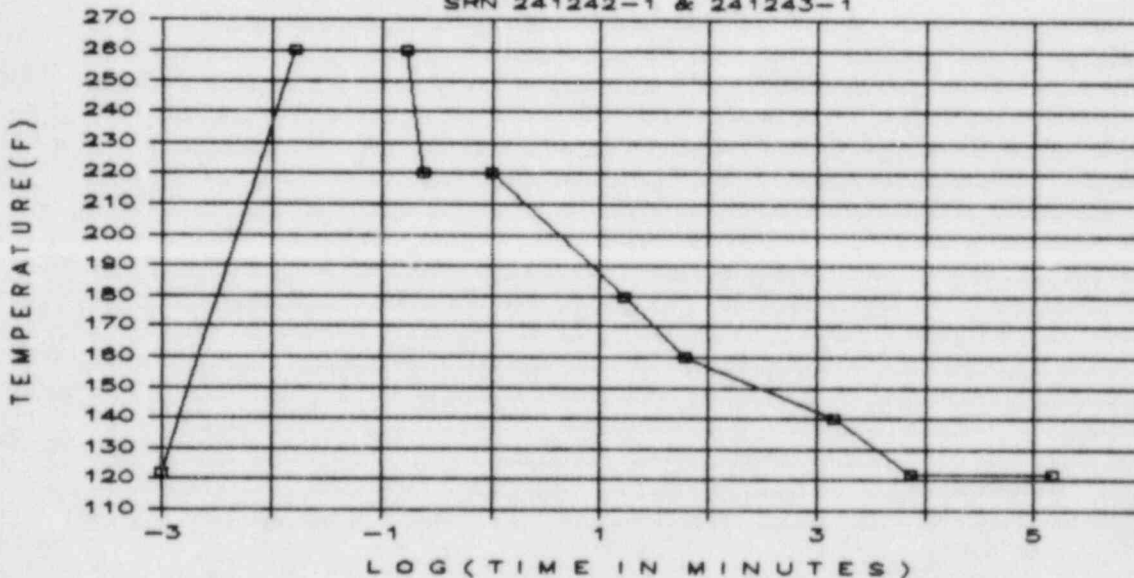
SPECIFIED ACCIDENT PROFILE

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
TIME (MIN)	0.001	0.016	5	15	1440	7200	144000

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

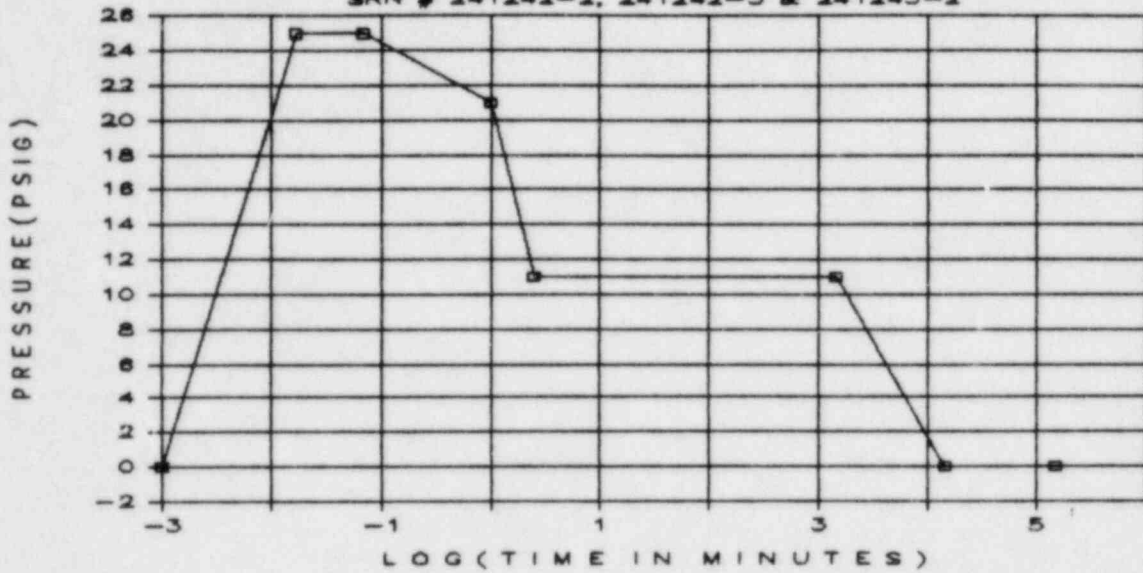
DATE 11/27/84

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.

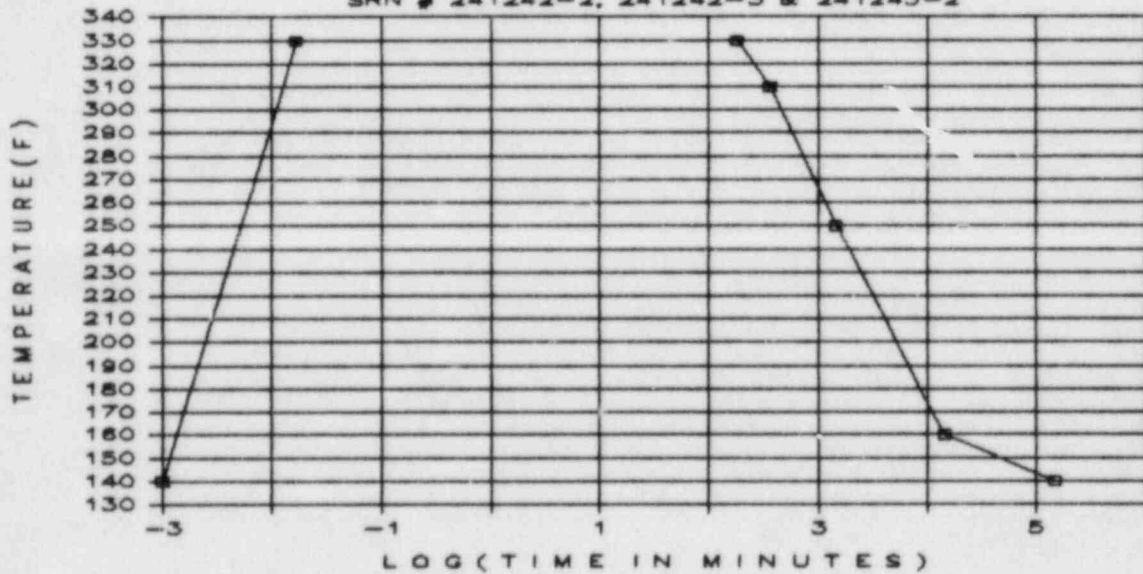
SPECIFIED ACCIDENT PROFILE

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



SPECIFIED ACCIDENT PROFILE

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

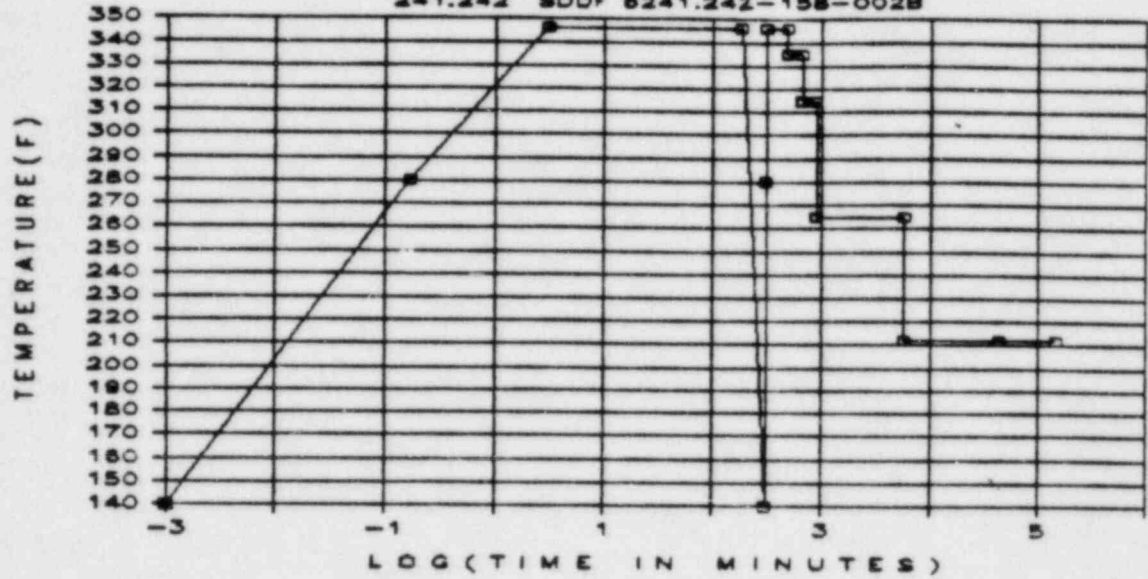


TEMPERATURE							
TIME	0	1sec	3hrs	6hrs	1day	10days	100days
LOG (MINUTES)	-3.00	-1.77	2.26	2.56	3.16	4.16	5.16
TEMP (F)	140	330	330	310	250	160	140
TIME (MIN)	0.001	0.017	180	360	1440	14400	144000

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

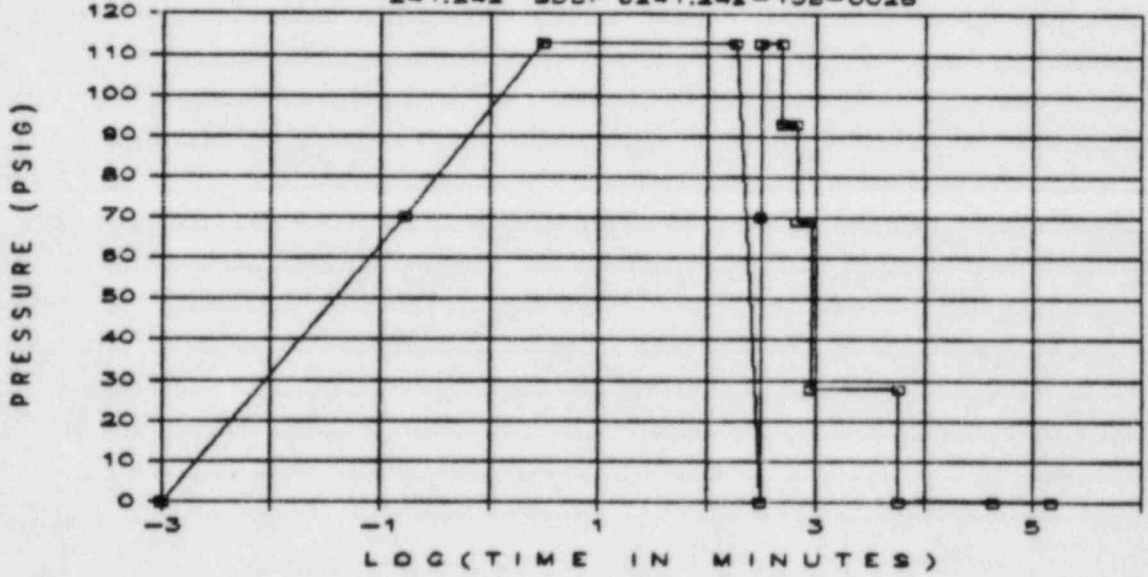
TEST PROFILE

241.242 SDDF 6241.242-158-002B



TEST PROFILE

241.242 SDDF 6241.242-158-002B



TEST PROFILE DATA FOR 241.242 SDDF 6241.242-158-002B

TIME	0	10sec	3min	3hr	5hr	5hr10sec	5hr3min	8hr	8hr
LOG(MINUTES)	-3.00	-0.78	0.48	2.26	2.48	2.48	2.48	2.68	2.68
TEMP(F)	140	280	346	346	140	280	346	346	335
PRES(PSIG)	0	70	113	113	0	70	113	113	93
C O N T ' 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(PSIG)	93	69	69	28	28	0	0	0	0

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

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

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						MARGIN DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD		
				SPECIFIED	QUALIFIED			
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				
TYPE: (DESCRIPTION)	ACCIDENT	330		1,5				
300 VOLT INSTRUMENT CABLE,	PRESS (PSIG):						NOTE 1	
KC-846 NEOPRENE JACKET OVER	NORMAL	0.5		1,5				
KXL-760 XLPE INSULATION	ABNORMAL	2.3		1,5				
MANUFACTURER: ROCKBESTOS	ACCIDENT	25		1,5				
	RH (%):						NOTE 1	
MODEL: XLPE/NEOPRENE	NORMAL	90		1,5				
	ABNORMAL	100		1,5				
SAFETY FUNCTION:	ACCIDENT	STEAM		1,5				
TRANSMISSION OF SIGNALS	RADIATION:							
ASSOCIATED WITH SAFETY SYSTEMS	NORM GAMMA:							
	ACC GAMMA	1.7E7		1,4			NOTE 3	
OP. CODE: SEE SHEET 2	NORM BETA							
	ACC BETA							
	NEUTRON				2			
ACCURACY - -	SPRAY	NA	NA	NA	NA	NA	NA	
	SUBMERGENCE:	NA	NA	NA	NA	NA	NA	
ZONE NO.: SEE SHEET 2								
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 # NOT YET SUBMITTED							
	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV. 0							
	4. SWEC CALC. NO. 12210-EQS-31 (RAD. DOSES)							
	5. SWEC CALC. NO. 12210-EQS-51 (ENVIR. ENVELOPE)							
DOCUMENTATION ACCEPTABILITY:								
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 241242-3
 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				
INGP67	NONE	VARIOUS		100D A
INGP68	NONE	VARIOUS		100D A
NGS CABLE				
INGSS7	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.

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

MARK 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
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 241243-2
REV 1
DATE 10-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		3	2			
SYSTEM: SEE SHEET 2	TEMP (F):						NOTE-1	
	NORMAL:	140	140	6	2	TEST-SIM	NA	
	ABNORMAL:	140		6			NA	
TYPE: (DESCRIPTION)	ACCIDENT:	330		6				
THRMOUCOUPLE EXTENSION WIRE	PRESS (PSIG):						NOTE-1	
KC-486 NEOPRENE JACKET OVER	NORMAL:	0.5	ATMOS	6	2	TEST-SIM	NA	
KYL 760 XLPE INSULATION	ABNORMAL:	2.3		6			NA	
MANUFACTURER: ROCKBESTOS	ACCIDENT:	25		6				
	RH (%):						NOTE-1	
MODEL: SEE SHEET 2	NORMAL:	100	100	6	2	TEST-SIM	NA	
	ABNORMAL:	100		6			NOTE-5	
SAFETY FUNCTION: - - -	ACCIDENT:	STEAM		6			NA	
TRANSMISSION OF SIGNAL	RADIATION:						NOTE-1	
ASSOCIATED WITH SAFTEY SYSTEMS:	NORM GAMMA:						NA	
OP. CODE: SEE SHEET 2	ACC GAMMA:	1.7E7 TID	2E8	5	2	TEST-SIM	YES	
	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 NOTE-4								
SUBMERGENCE:	DOCUMENT REFERENCE:							
SPRAY/FROTH:	1. SPECIFICATION 241.243 REV.1, ADD.4 / E&DCR P22,194A							
EQUIPMENT NOT SUBJECTED TO	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
SUBMERGENCE OR SPRAY/FROTH	SDDF # 6241.243-162-002A							
	3. POST-ACCIDENT OPERABILITY PERIOD: SEE							
	PAOP DOCUMENT NO. 245.600, REV.0							
	4. USNCR 1E INFORMATION NOTICE 84-44							
DOCUMENTATION ACCEPTABILITY:	5. CALCULATION NO. 12210-E05-32 (RADIATION)							
NUREG 0588,CAT I	6. CALCULATION NO. 12210-E05-56 (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 WASTE 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.

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 2.6.8.2004

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	100D A
NGS CABLE				
INGS11	NONE	VARIOUS	40 YR	100D A
INGS12	NONE	VARIOUS	40 YR	100D A
INGS13	NONE	VARIOUS	40 YR	100D A
INGS14	NONE NOTE 5	VARIOUS	40 YR	100D A
INGS15	NONE	VARIOUS	40 YR	100D A
INGS17	NONE	VARIOUS	40 YR	100D A
INGS18	NONE	VARIOUS	40 YR	100D A
INGS20	NONE	VARIOUS	40 YR	100D A
INGS21	NONE	VARIOUS	40 YR	100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 241246-1

REV 0

SHEET NO. 3

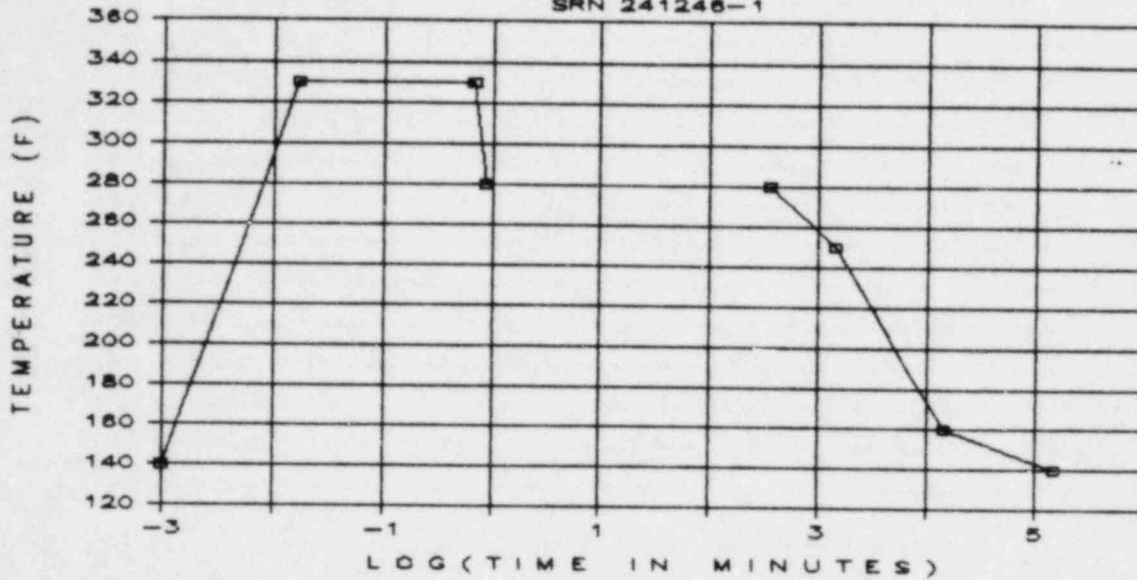
DATE 11/27/84

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.

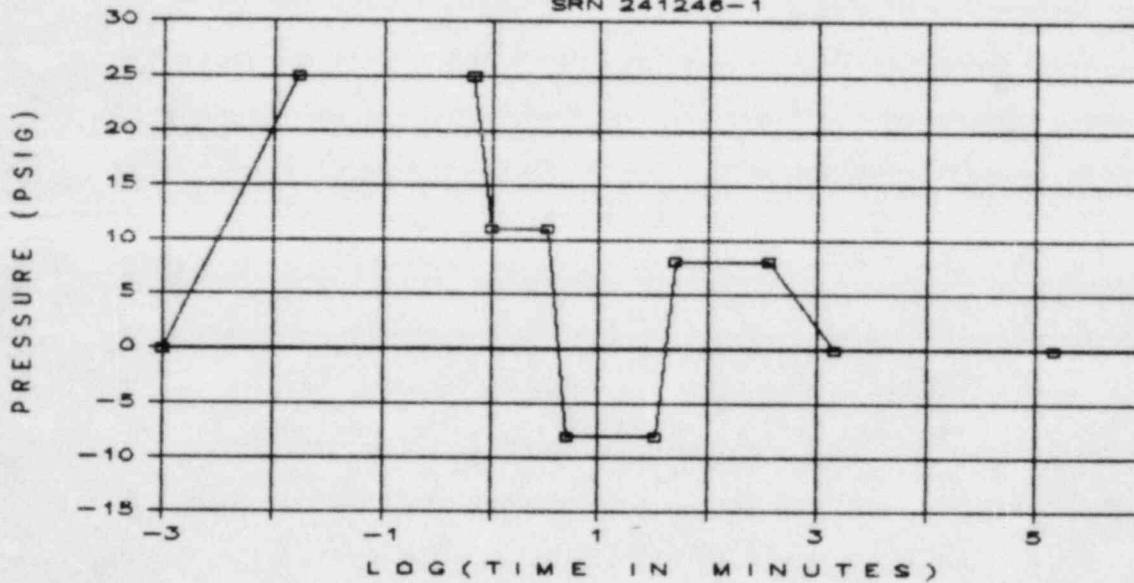
SPECIFIED ACCIDENT PROFILES

SRN 241246-1



SPECIFIED ACCIDENT PROFILES

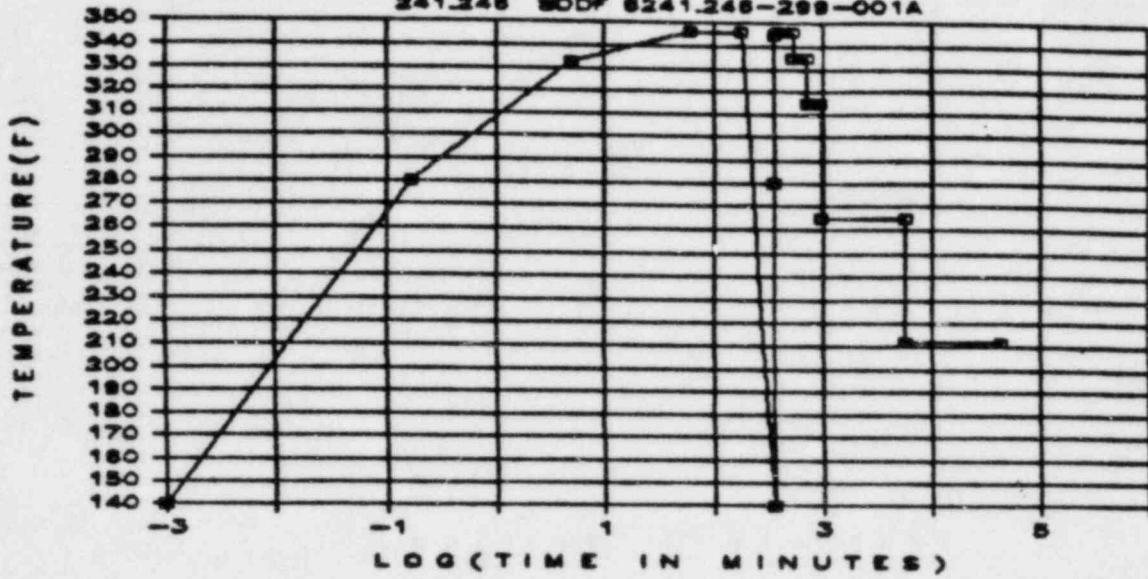
SRN 241246-1



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	120	340	350
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

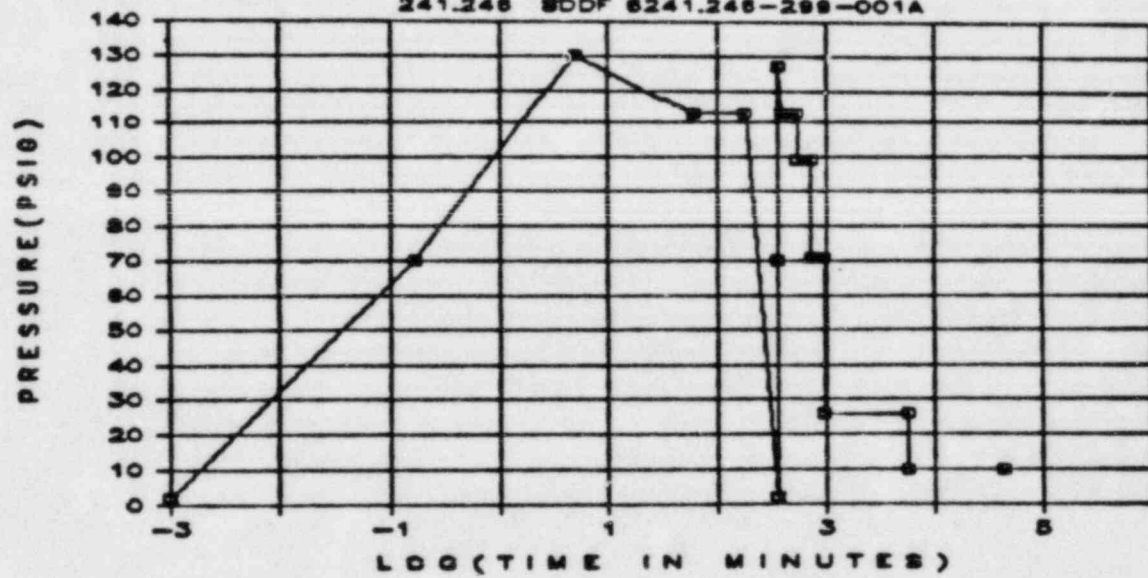
TEST PROFILE

241.246 SDDF 6241.246-299-001A



TEST PROFILE

241.246 SDDF 6241.246-299-001A



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

C O N T ' 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

SRN: 242132-1

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

REV. 0

SHEET: 2A

DATE: 27 NOV - 84

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

SRN 242132-1

SPEC 242.132

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

1SCV*XD2L1

SN-4475-13 AB-141-1 40 YRS 1000
 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242132-1

REV 0

SHEET NO. 3

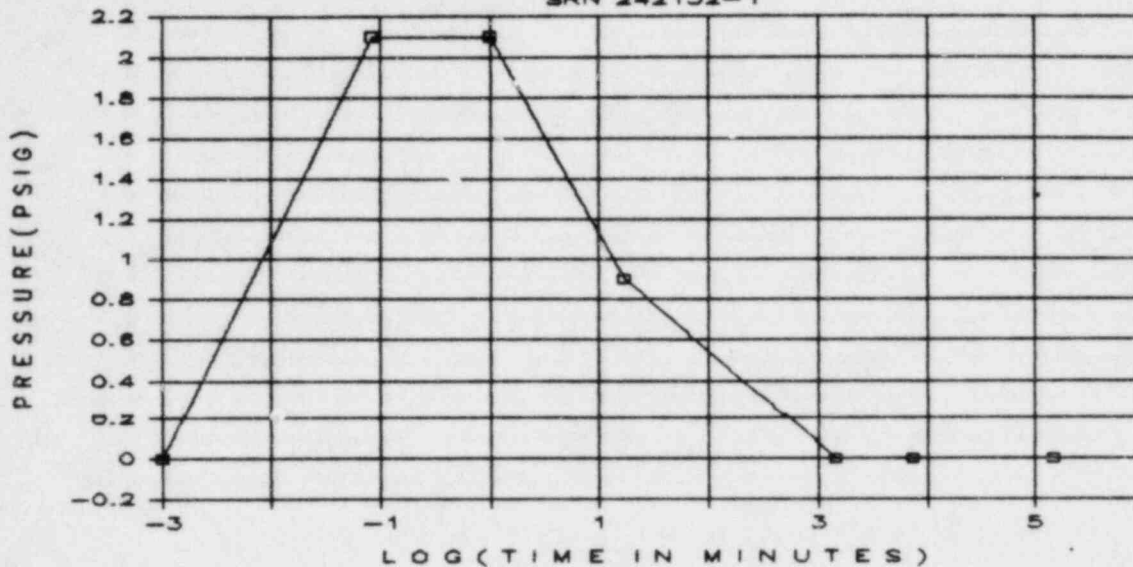
DATE 11/27/84

NOTES

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

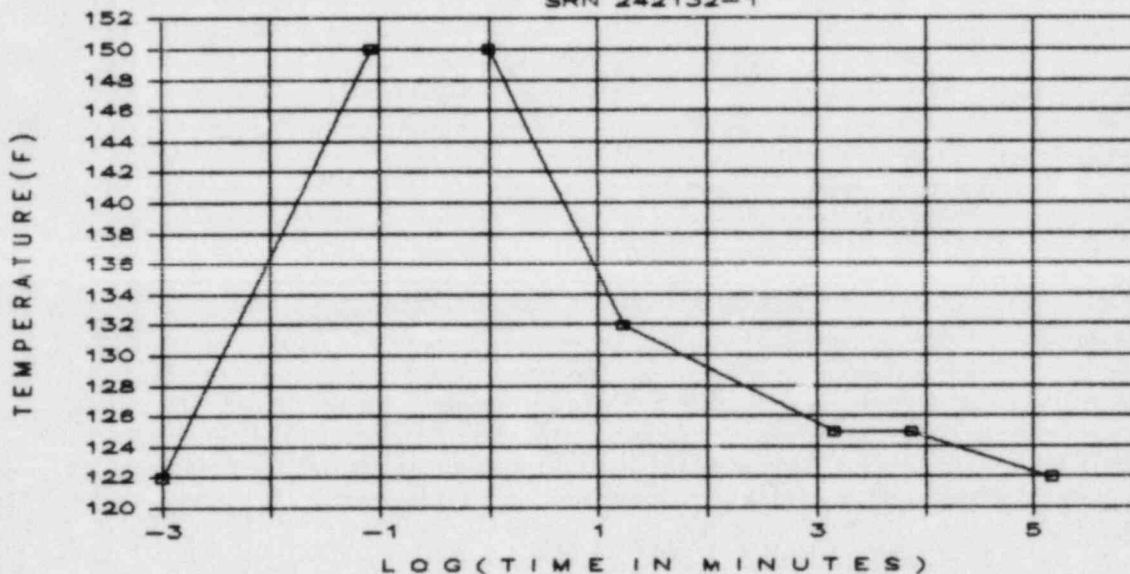
SPECIFIED ACCIDENT PROFILE

SRN 242132-1

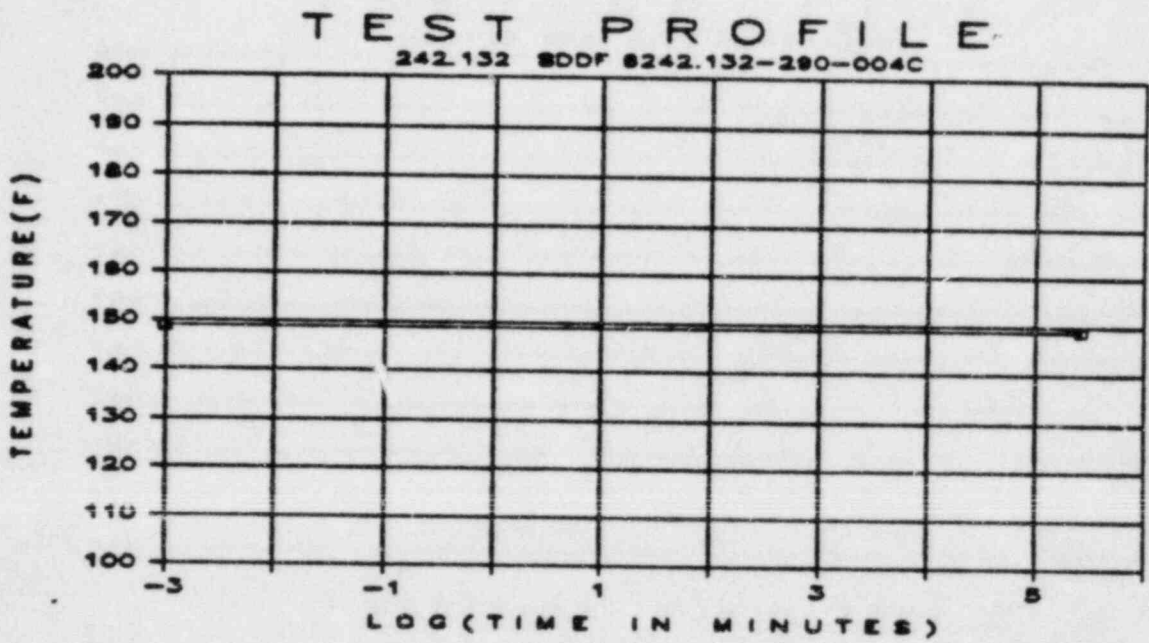


SPECIFIED ACCIDENT PROFILE

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

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 SUBGRG	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 0
 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 SW				
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

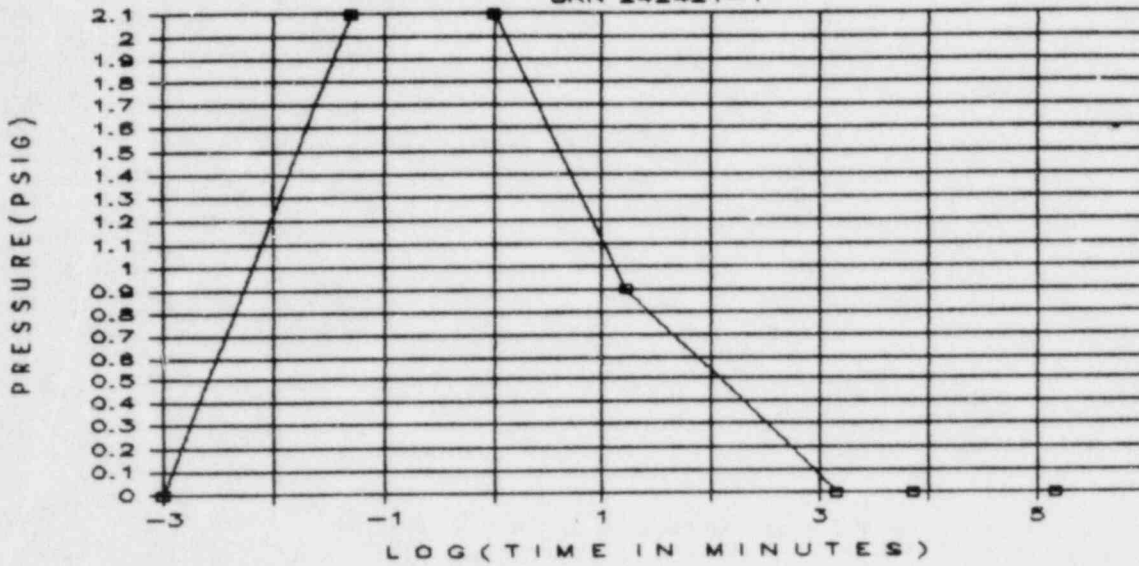
DATE 11/28/84

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.

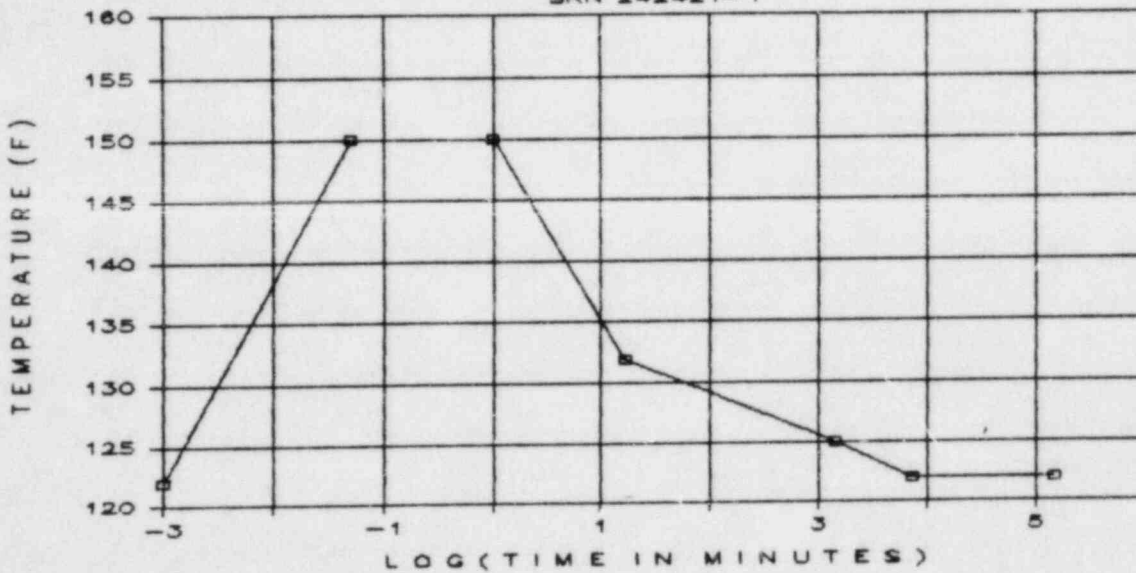
SPECIFIED ACCIDENT PROFILES

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(MINUT	-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
 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/P 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.

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	CPTIME 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	AD-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. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUBNRG OC

SRN 242491-1
SPEC 242.491
RCP ELECTRICAL PENETRATIONS
1RCP*TCF04

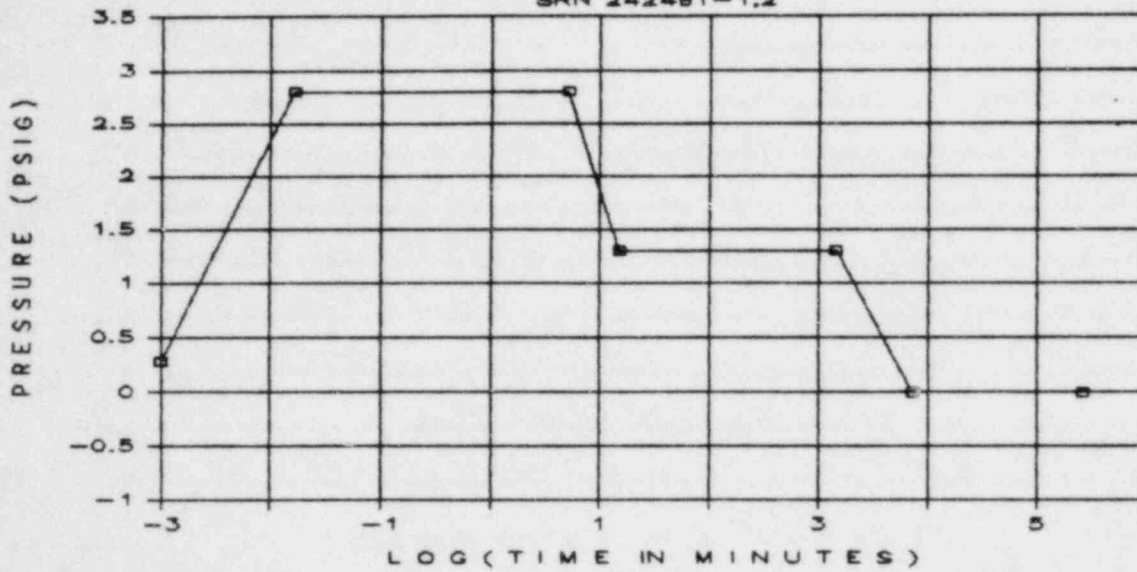
EB-25

FB-113-G

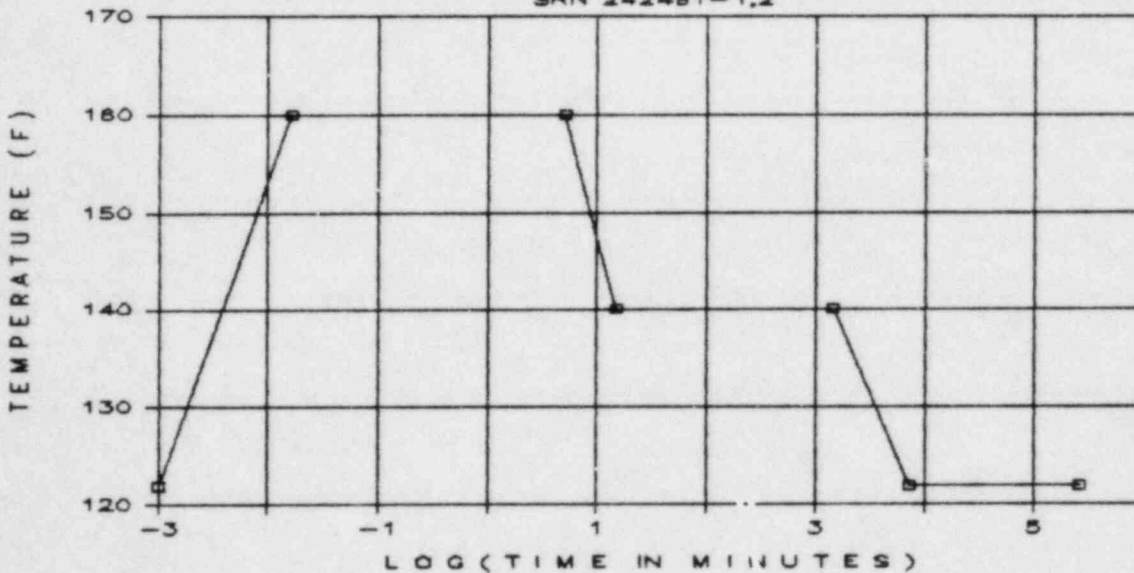
40 YRS

100D
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.

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSHRG	QUAL. LIFE	OPTIME OC
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
1RCP*TCA13	SPLICE	AB-141-4	40 YRS	A 100D
1RCP*TCA14	SPLICE	AB-141-3	40 YRS	A 100D
1RCP*TCA16	SPLICE	AB-141-3	40 YRS	A 100D
1RCP*TCF02	SPLICE	FB-113-6	40 YRS	A 100D

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

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 SUBHRG	QUAL. LIFE	OPTIME OC
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

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 2B
DATE 12/3/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE	OPTIME OC
SRN 242491-3				
SPEC 242.491				
RCP ELECTRICAL PENETRATIONS				
1RCP*TCR09A	SPLICE	CT-G	40 YRS	100D A
1RCP*TCR10A	SPLICE	CT-G	40 YRS	100D A
1RCP*TCR11A	SPLICE	CT-7A	40 YRS	100D A
1RCP*TCR12A	SPLICE	CT-7A	40 YRS	100D A
1RCP*TCR13A	SPLICE	CT-7A	40 YRS	100D A
1RCP*TCR14A	SPLICE	CT-5A	40 YRS	100D A
1RCP*TCR15A	SPLICE	CT-5A	40 YRS	100D A
1RCP*TCR16A		CT-5A	40 YRS	100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242491-3

REV 0

SHEET NO. 3

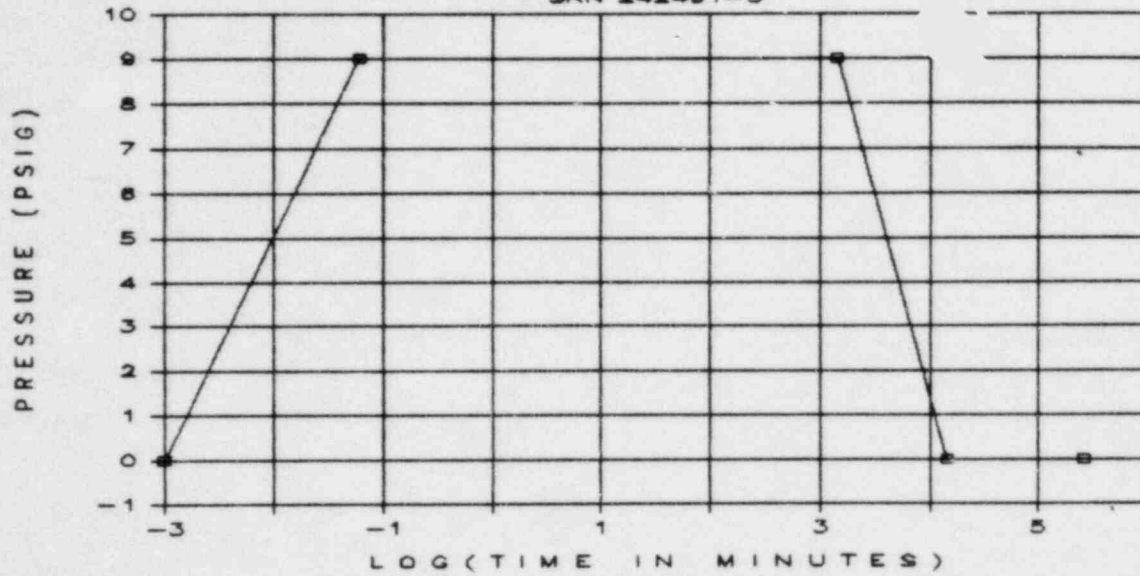
DATE 11/30/84

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.

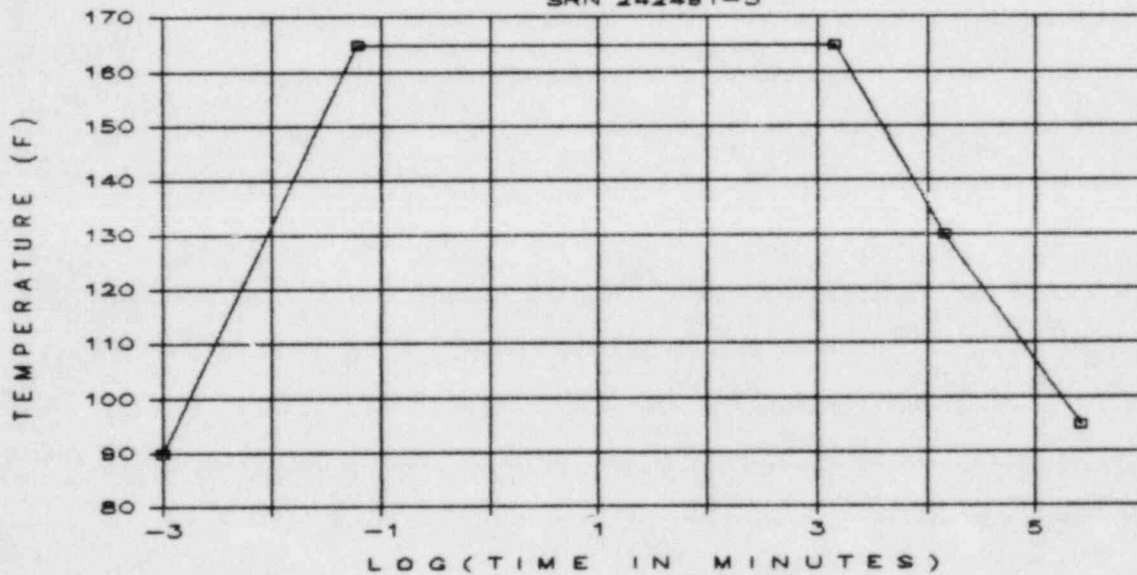
SPECIFIED ACCIDENT PROFILES

SRN 242491-3



SPECIFIED ACCIDENT PROFILES

SRN 242491-3



TEMPERATURE -----

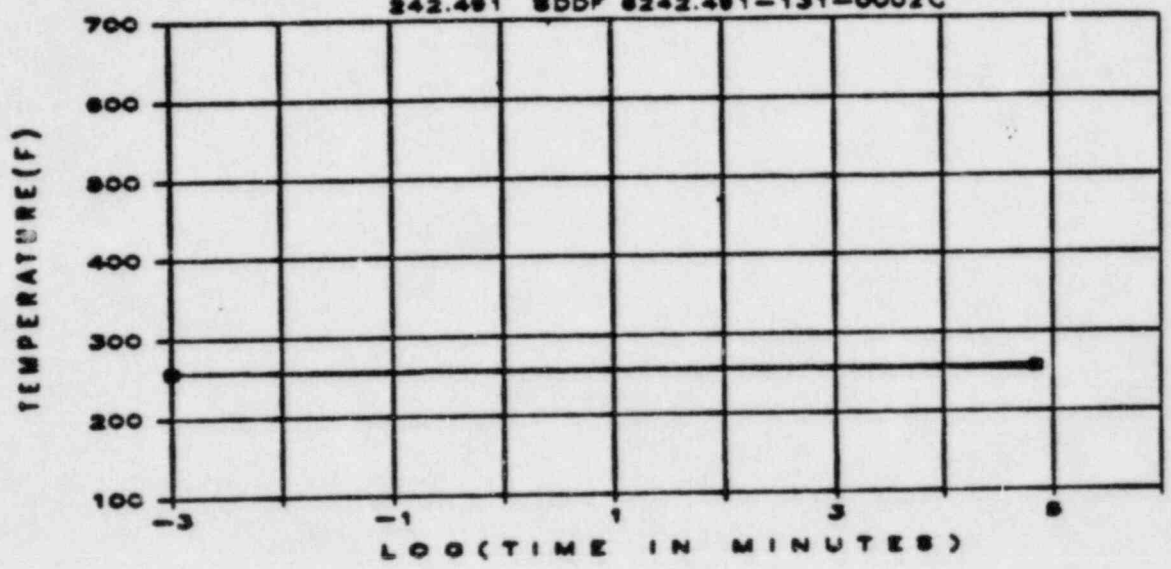
TIME	0	6sec	1day	10days	180days	
LOG(MINUTES)	-3.00	-1.22	3.16	4.16	5.41	
TEMP(F)	90	165	165	130	95	85
TIME(MIN)	0.001	0.06	1440	14400	259200	

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

242.491 SDDF 6242.491-131-0002C



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

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

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

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

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBRG	QUAL. LIFE	OPTIME CC
SRN 242521-1				
SPEC 242.521				
ENS SHGR STANDBY 4160V - SYSTEM				
SENS SHG3A	5HK250	FB-095-G	40 YEARS	IHR A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242521-1
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 SUBNO 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

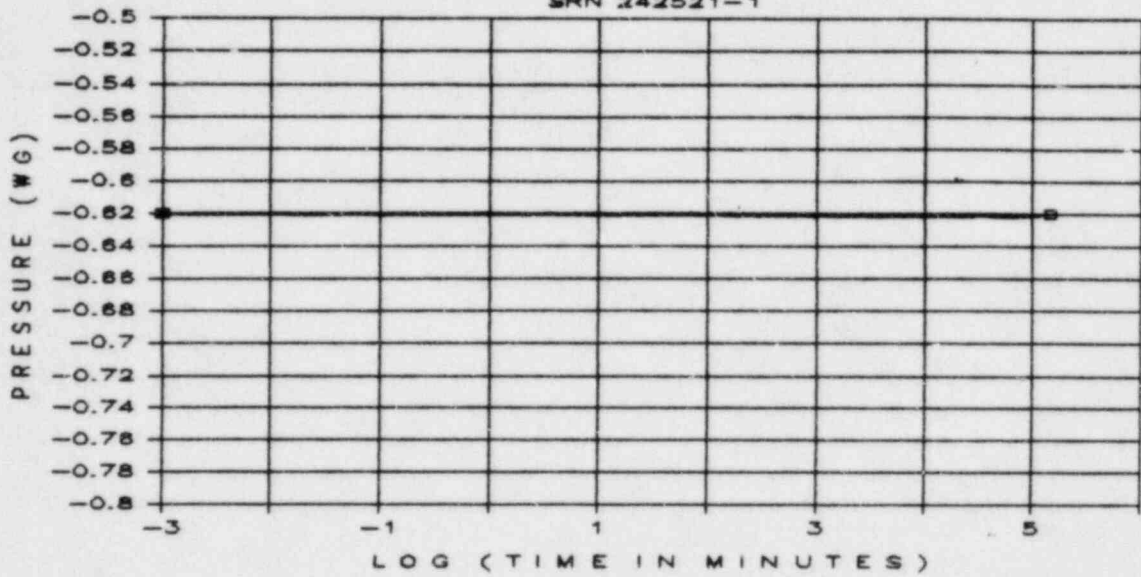
DATE 11/27/84

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.

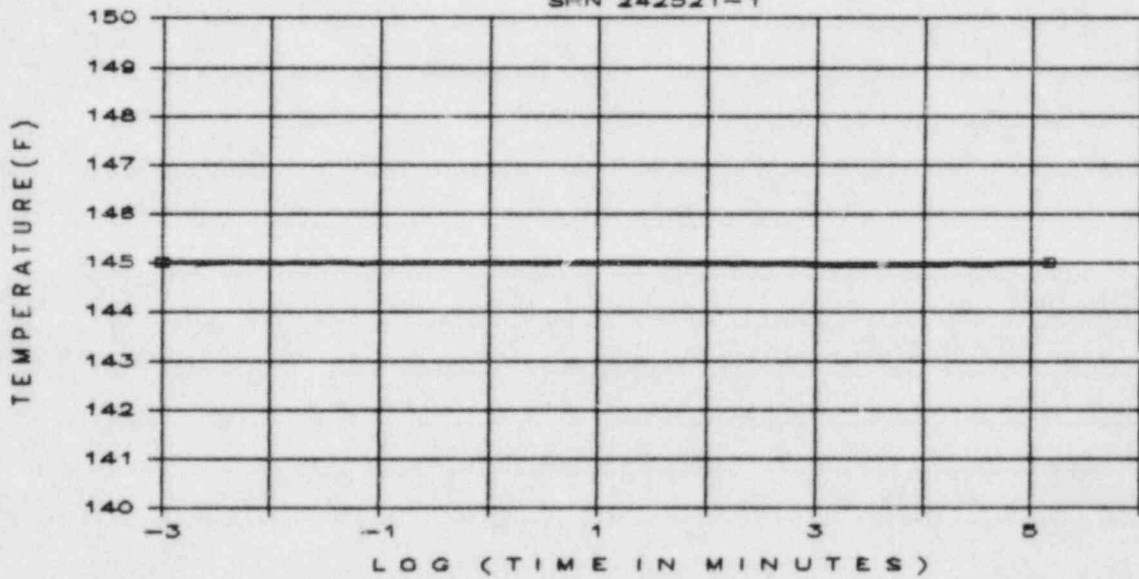
SPECIFIED ACCIDENT PROFILE

SRN 242521-1



SPECIFIED ACCIDENT PROFILE

SRN 242521-1



SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 242521

T E M P E R A T U R E				
TIME	0	100days		
LOG (MINUTES)	-3.00	5.16		
TEMP (F)	145	145	140	150
TIME (MIN)	0.001	144000		
P R E S S U R E				
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
SYSTEM COMPONENT EVALUATION WORK SHEET

SR# 242521-2
REV 7
DATE 06 Dec-84
SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE	QUALIFIED	QUAL. METHOD	MARGIN DEMO	REMARKS
EQUIP NO.: SEE SHEET 2	TEMP (F):	1 HOUR	6 HOURS	3	2	AN + DATA	YES	NOTE 1
SYSTEM: SEE SHEET 2	NORMAL	122	122	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	1	2	NA	NA	
TYPE: (DESCRIPTION)	ACCIDENT	122	149	1	2	AN + DATA	YES	NOTE 2
	PRESS (PSIG)							NOTE 1
SKV SWITCHGEAR	NORMAL	ATMOS	ATMOS	1	2	NA + DATA	NA	
	ABNORMAL	NA	NA	1	2	NA	NA	
MANUFACTURER:	ACCIDENT	ATMOS	ATMOS	1	2	AN + DATA	NO	NOTE 2
BROWNY BOVIERI ELECTRIC								NOTE 1
MODEL: SEE SHEET 2	NORMAL	90	90	1	2	AN + DATA	NA	
	ABNORMAL	NA	NA	1	2	NA	NA	
SAFETY FUNCTION: -- --	ACCIDENT	90	90	1	2	AN + DATA	NA	NOTE 2
TO TRIP RCS PUMPS WHEN								NOTE 1
A LOCA OCCURS	RADIATION:							
	NORM GAMMA	2.9E4	7.1E4	1,4	2	AN + DATA	NA	
	ACC GAMMA	1.414E4	7.1E4	1,4	2	AN + DATA	YES	
OP. CODE: SEE SHEET 2	NORM BETA	0	8E5	1,4	2	AN + DATA	NA	
	ACC BETA	4.47E2	8E5	1,4	2	AN + DATA	YES	
	NEUTRON	0	NA	1	NA	NA	NA	
ACCURACY -- --	SURBERGENCE:	NA	NA	NA	NA	NA	NA	
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SURBERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SURBERGENCE OR SPRAY/FROTH								
CONDITIONS								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0568, CAT 1								
MAINT/SURVEILL -- --								
REFERENCE: 5								
QUALIFIED LIFE -- --								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

- DOCUMENT REFERENCE:
- SPECIFICATION 242,521 REV.1 ADD.6 & E&DCR NO. P-22.185B
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6242,521-102-007B
 - POST-ACCIDENT OPERABILITY PERIOD: SEE P&ID DOCUMENT NO. 245,600, REV.0 E&C NO. 94 & 96 REV. 1
 - CALCULATION NO. 12210-PR(C)-549
 - VENDOR MAINTENANCE MANUAL MS 3.2.1.9-1A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242521-2
 REV 1
 SHEET NO 2A
 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 SUCHRG GC

SRN 242521-2

SPEC 242.521

ENS SHGR STANDBY 4160V - SYSTEM

1ENS*SHG3B

5HK250

AB-119-6

40 YEARS

1HR
 A

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242521-2
REV. 1
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. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	OPTIME CC
SRN 242521-2				
SPEC 242.521				
ENS SNCR STANDBY 4160V - SYSTEM				
1ENS*SHG4B	SHK250	AB-114-6	40 YEARS	1HR A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

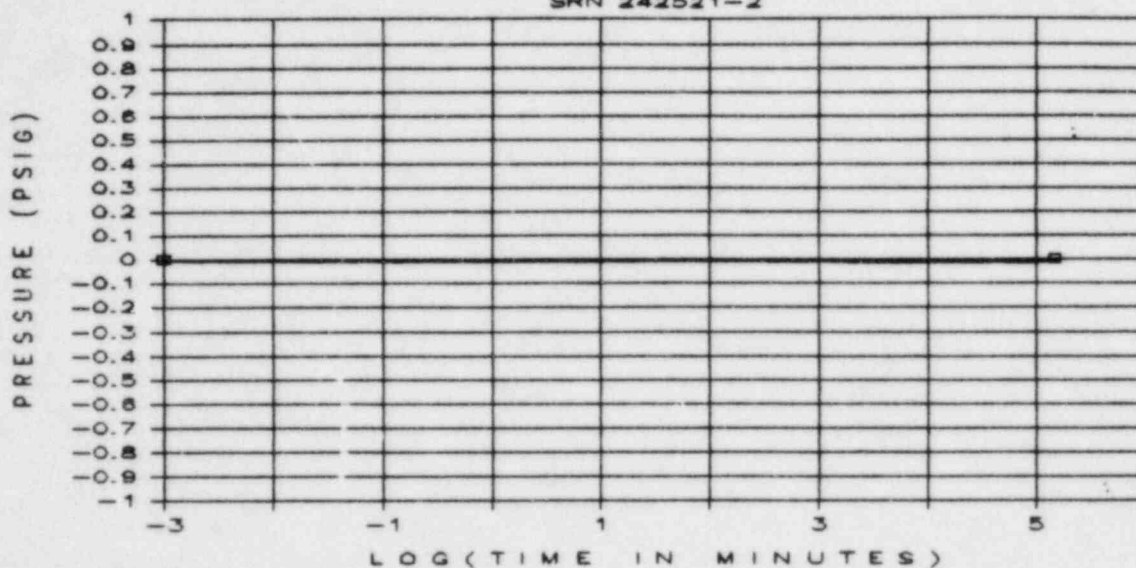
SRN 242521-2
REV 0
SHEET NO. 3
DATE 11/27/84

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.

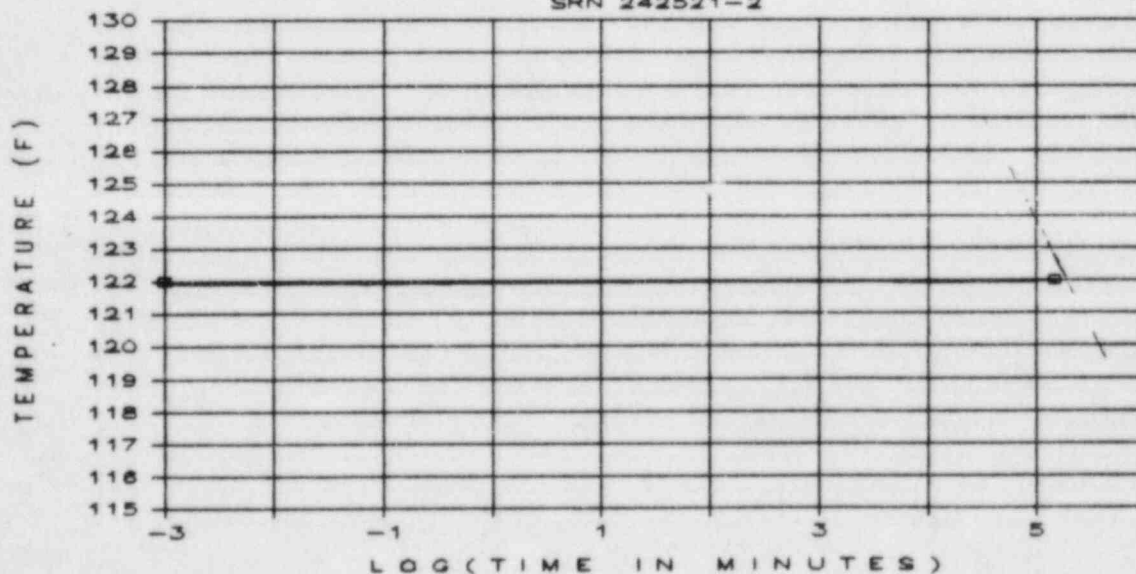
SPECIFIED ACCIDENT PROFILES

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			

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	OBSERVED VALUE	ACCEPTED	REMARKS
EQUIP NO.: SEE SHEET 2	TEMP (F)	100 DAYS		2	NOTE-2
SYSTEM: SEE SHEET 2	NORMAL	114		2	NOTE-1
TYPE: (DESCRIPTION) 480V LOAD CENTER	ABNORMAL	NA		NA	
	ACCIDENT	ATHOS		2	NOTE-2
PRESSURE(SIG)	NORMAL	ATHOS		2	NOTE-1
	ABNORMAL	NA		NA	
MANUFACTURER: FOWELL ELECTRICAL	ACCIDENT	2, 1		2	NOTE-2
MODEL: SEE SHEET 2	NORMAL	90		2	NOTE-1
SAFETY FUNCTION: -- -- PROVIDE 480V POWER TO CLASS 1E LOADS	ABNORMAL	NA		NA	
	ACCIDENT	100		2	NOTE-2
OP. CODE: SEE SHEET 2	RADIATION			2	NOTE-1
	NORM GAMMA	7E-2		2	
	ACC GAMMA	12.05E4 TTD		2	
	NORM BETA			2	
	ACC BETA			2	
	NEUTRON			2	
ACCURACY -- -- SPEC: NA DEMO: NA	SFRAY	NA		NA	
	SURMERGENCE	NA		NA	

DOCUMENT REFERENCE:
 1. SPECIFICATION 242,533 REV.1, ADD.1 / E31 P214.77A
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,
 SDDF # 6542,533-265-012A
 3. POST-ACCIDENT OFFRABILITY PERIOD: SEE
 PAMP DOCUMENT NO. 293,600, REV.0

DOCUMENTATION ACCEPTABILITY:
 RIBES 0580,CAT I
 QUALIFICATION IN PROGRESS
 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 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

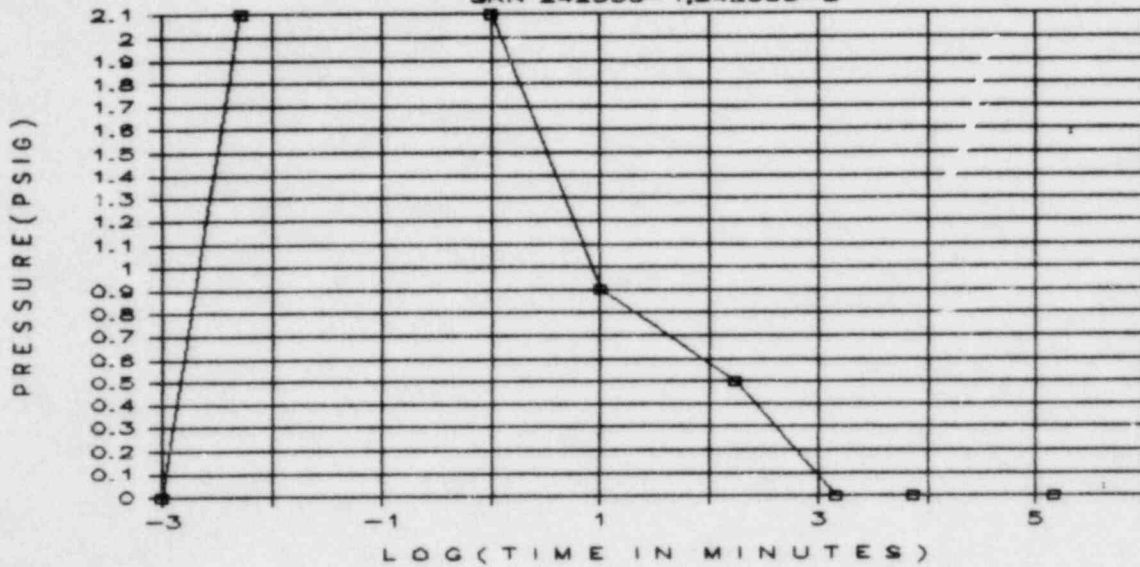
DATE 11/28/84

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.

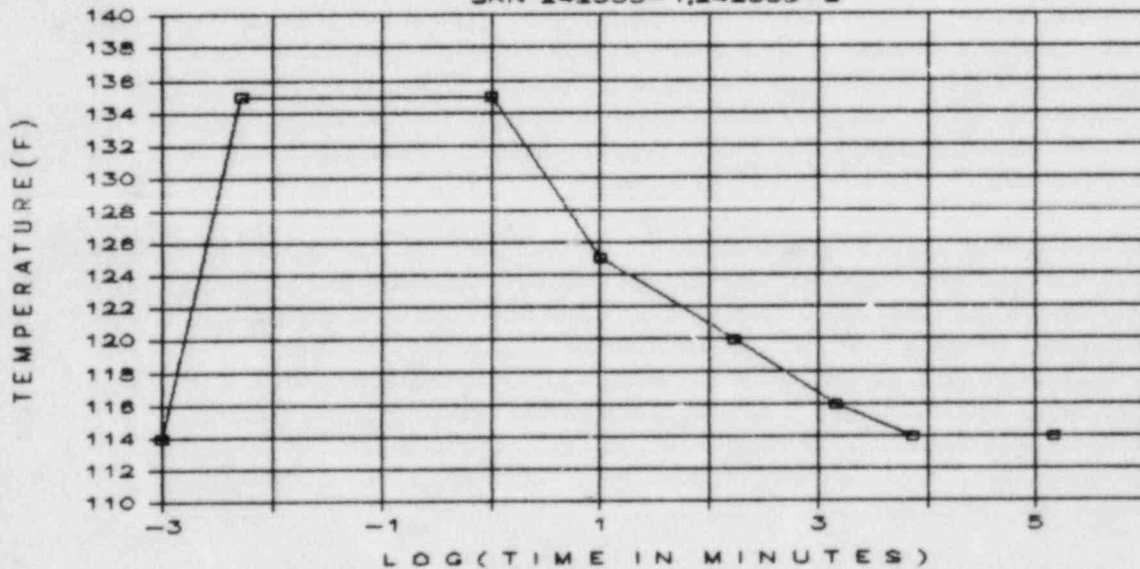
SPECIFIED ACCIDENT PROFILES

SRN 242533-1,242533-2



SPECIFIED ACCIDENT PROFILES

SRN 242533-1,242533-2



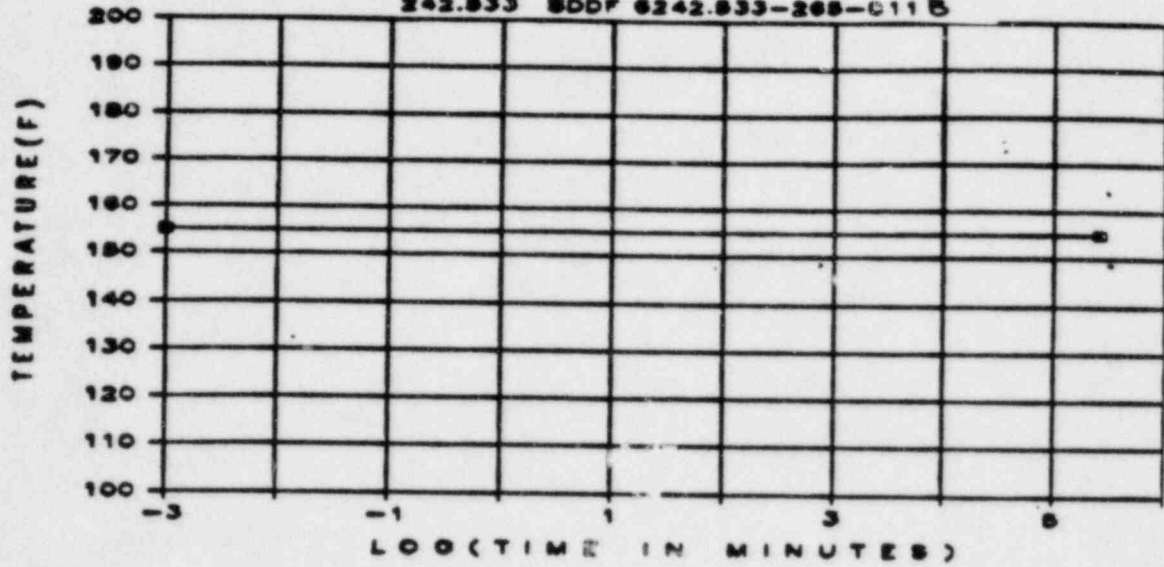
SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 242533

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

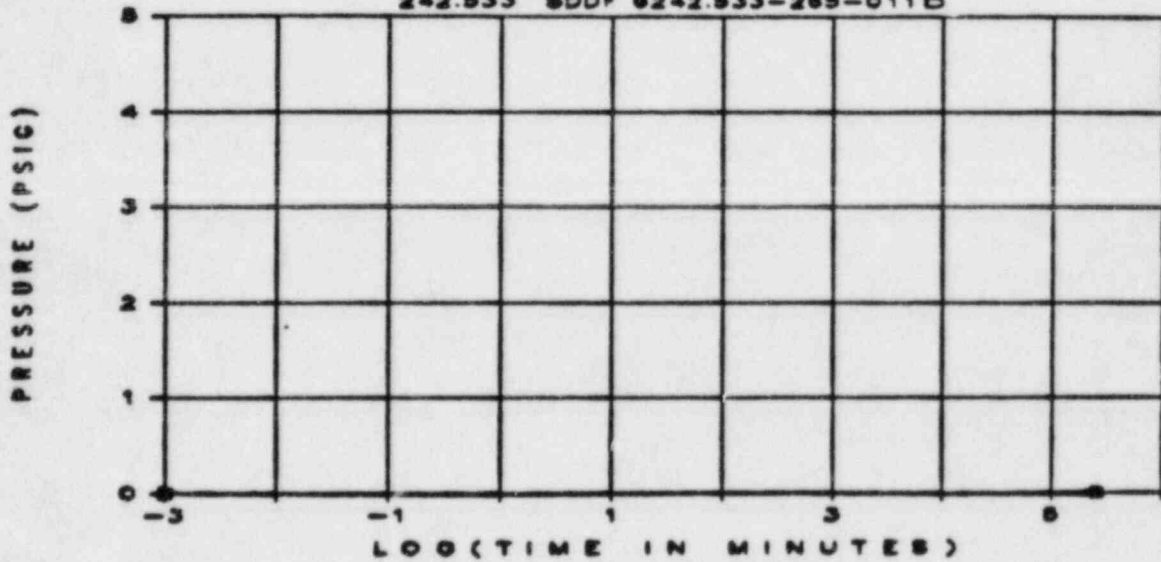
TEST PROFILE

242.533 BDDF 6242.533-265-011B



TEST PROFILE

242.533 BDDF 6242.533-265-011B



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

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

FROTHPROOFING CORROSIONS AND QUALITY EVALUATION

EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE	QUALIFIED	REMARKS
EQUIP NO.: SEE SHEET 2	TOP. TEMP.	100 DEG S	100 DEG S	5	TEST-SUB	YES
SYSTEM: SEE SHEET 2	NORMAL	114	114	1	TEST-SUB	NO
	ABNORMAL	NO	NO	NO	NO	NO
TYPE: DESCRIPTION	ACCIDENT	135	135	1	TEST-SUB	YES
TRANSFORMER FOR 480V LOAD CENTER	NORMAL	ATBOS	ATBOS	1	TEST-SUB	NO
	ABNORMAL	NO	NO	NO	NO	NO
MANUFACTURER: SOUTHERN TRANSFORMER	ACCIDENT	2.1	2.1	1	TEST-SUB	YES
MODEL: SEE SHEET 2	NORMAL	90	100	1	TEST-SUB	NO
	ABNORMAL	NO	NO	NO	NO	NO
SAFETY FUNCTION: PROVIDE 480V POWER	ACCIDENT	100	100	1	TEST-SUB	NO
	RADIATION	---	---	---	---	---
	NORM GAMMA	7E2	---	---	---	---
	ACC GAMMA	12,000 E4 TTD	4E3	1	EX-GRN	NO
TOP. CODE: SEE SHEET 2	NORM BETA	---	---	---	---	---
	ACC BETA	---	---	---	---	---
	HEURON	---	---	---	---	---
	SFRAY	NO	NO	NO	NO	NO
ACCURACY	SURBERGENCE	NO	NO	NO	NO	NO
SPEC: NO						
DEND: NO						
TORE NO.: SEE SHEET 2						
SURBERGENCE						
SFRAY/FROTH						
EQUIPMENT NOT SUBJECT TO SURBERGENCE OR SFRAY/FROTH						
DOCUMENTATION ACCEPTABILITY: ACCEPTABLE TO NUREG 0588, CAT I						
TRAIN/SURFELL						
REFERENCE: NOT REQUIRED						
QUALIFIED LIFE (YEARS): SEE SHEET 2						
REFERENCE: 2						

DOCUMENT REFERENCE:

1. SPECIFICATION 242.551 REV. 1, 000.1 / EDDER P214276
2. NUREG EHT/DSORP/N761 QUALITY EVALUATION REFURCT.
3. FIRST-ACCIDENT DEFENSIBILITY PREDICTION SET FROM DOCUMENT NO. 242,000, 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.

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*MCC2A	SERIES 5600	AB-141-4	40 YR	1000 A
1EHS*MCC2B	SERIES 5600	AB-141-2	40 YR	1000 A
1EHS*MCC2C	SERIES 5600	AB-141-4	40 YR	1000 A
1EHS*MCC2D	SERIES 5600	AB-141-2	40 YR	1000 A
1EHS*MCC2E	SERIES 5600	AB-114-1	40 YR	1000 A
1EHS*MCC2F	SERIES 5600	AB-114-3	40 YR	1000 A
1EHS*MCC2G	SERIES 5600	AB-114-1	40 YR	1000 A
1EHS*MCC2H	SERIES 5600	AB-114-3	40 YR	1000 A
1EHS*MCC2J	SERIES 5600	AB-141-1	40 YR	1000 A
1EHS*MCC2K	SERIES 5600	AB-141-2	40 YR	1000 A
1EHS*MCC2L	SERIES 5600	AB-141-1	40 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 242562-1

REV 1

SHEET NO. 3

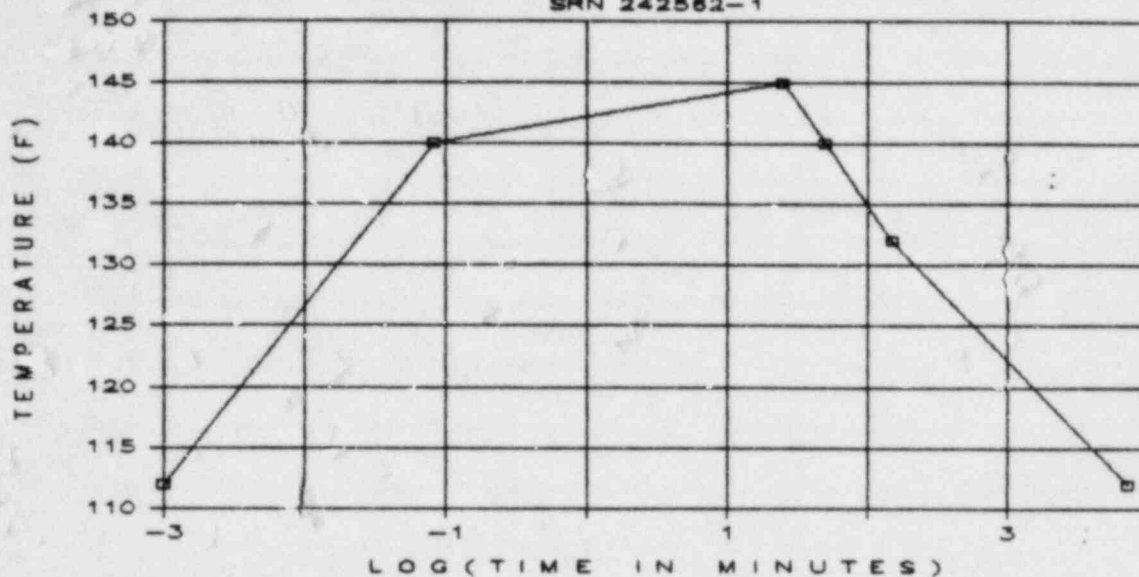
DATE 11/27/84

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.

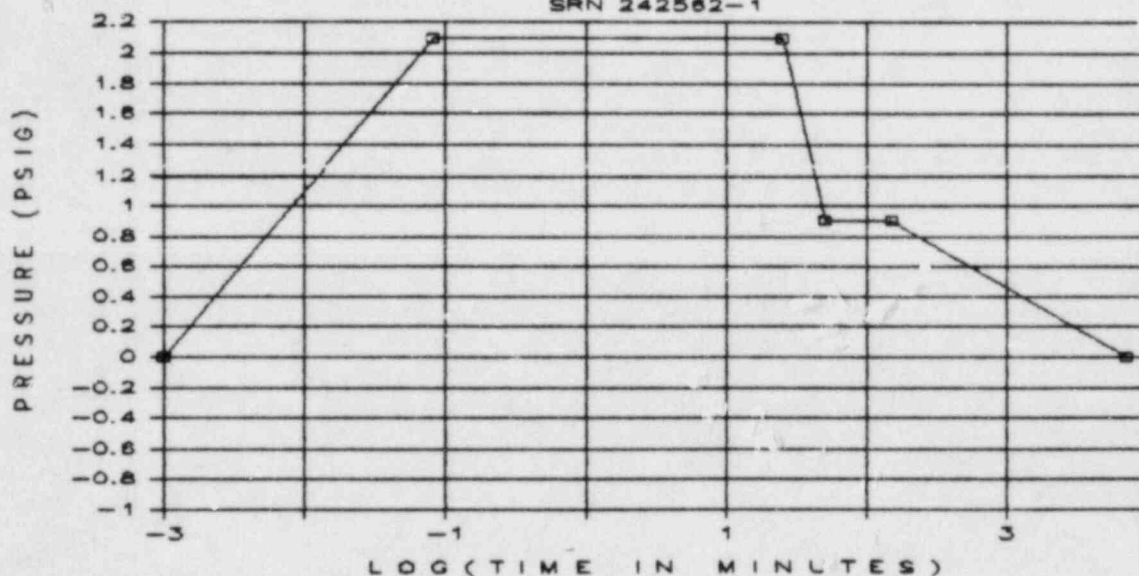
SPECIFIED ACCIDENT PROFILES

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

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

SRN 247250-1
REV 0
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 1000
A

1RMS*RE125

AB-170-1 40 YEARS 1000
A

REG.G.1.97

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-1

REV 0

SHEET NO. 3

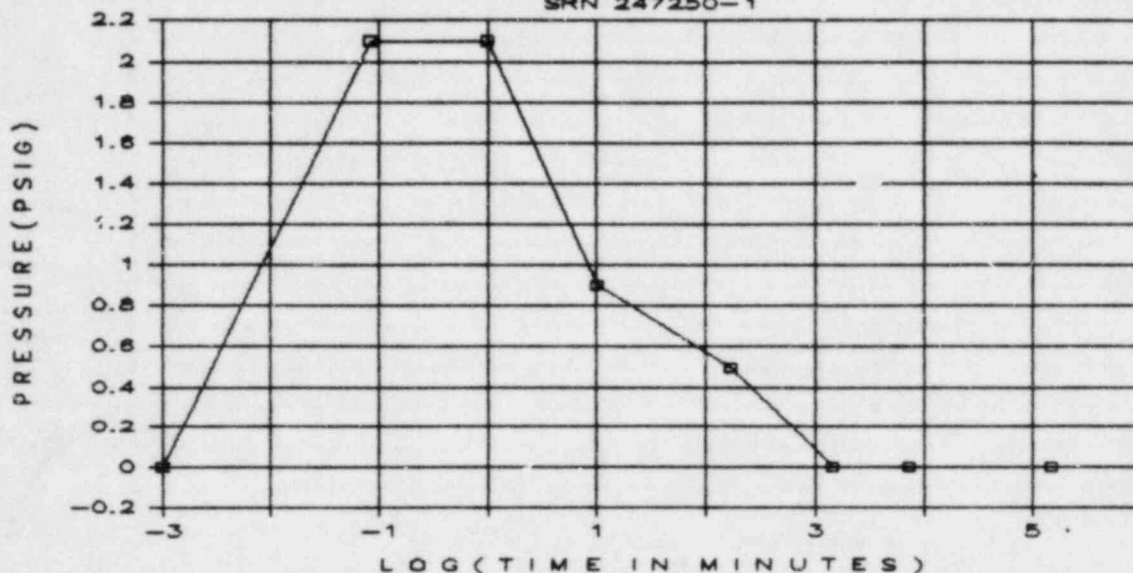
DATE 11/27/84

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.

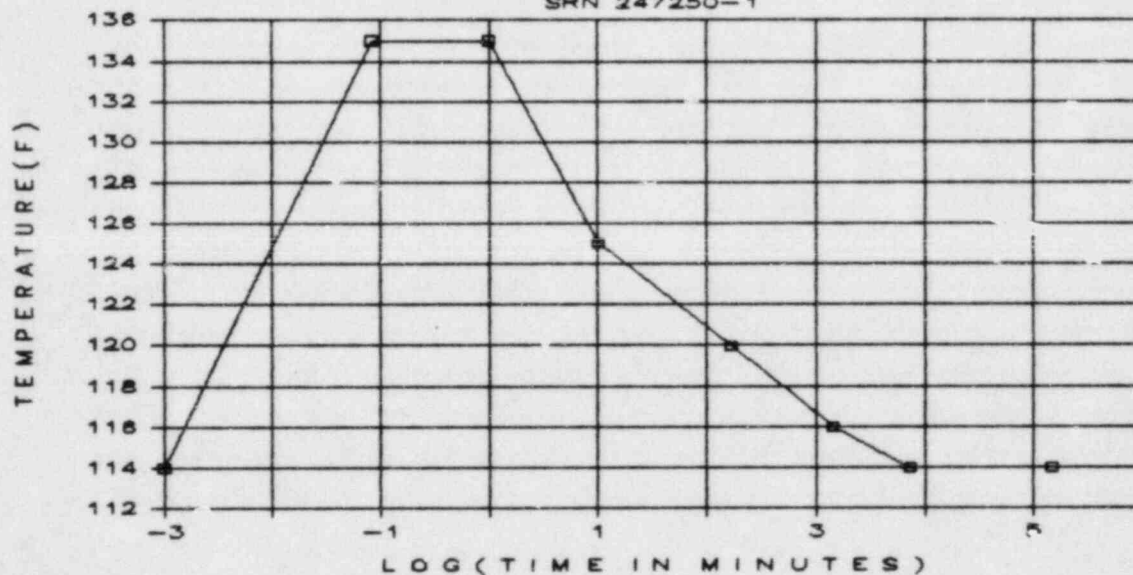
SPECIFIED ACCIDENT PROFILE

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

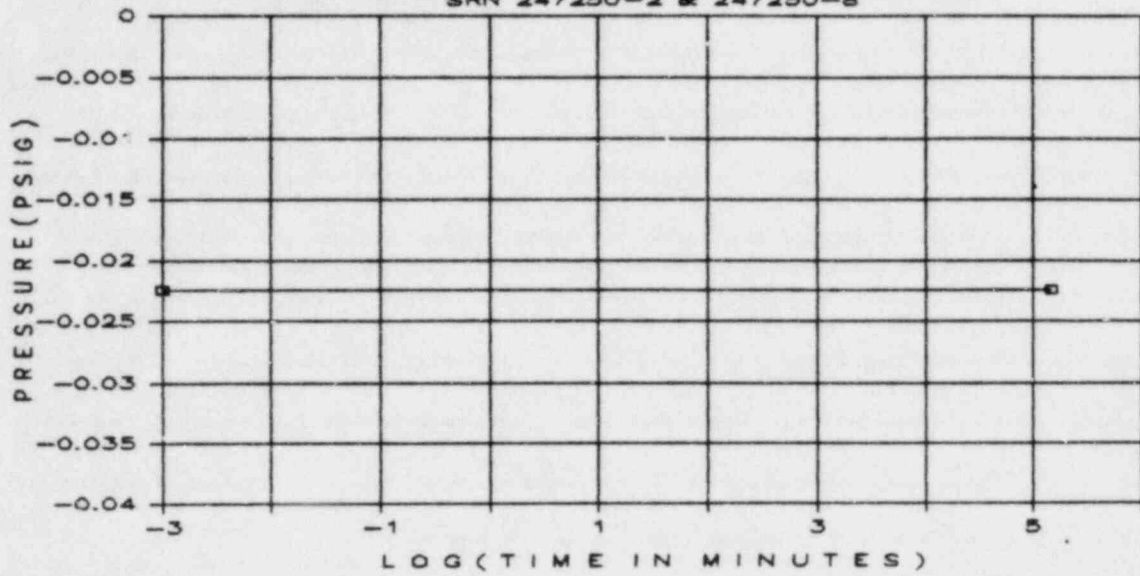
SRN 247250-2
REV 0
SHEET NO. 3
DATE 11/27/84

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.

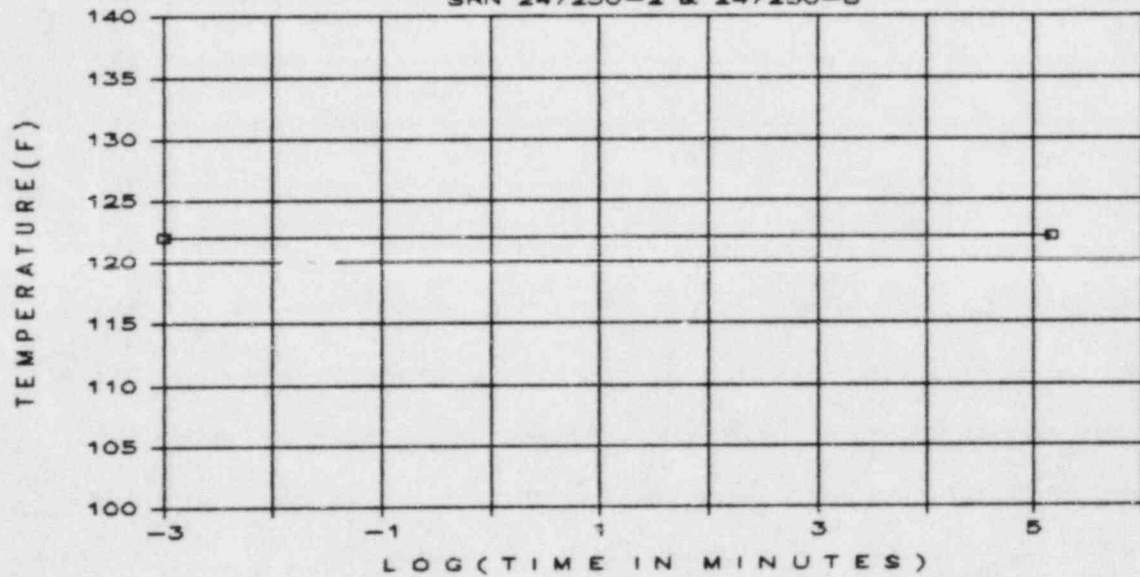
SPECIFIED ACCIDENT PROFILE

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	
P R E S S U R E -----			
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 SUBDRG 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

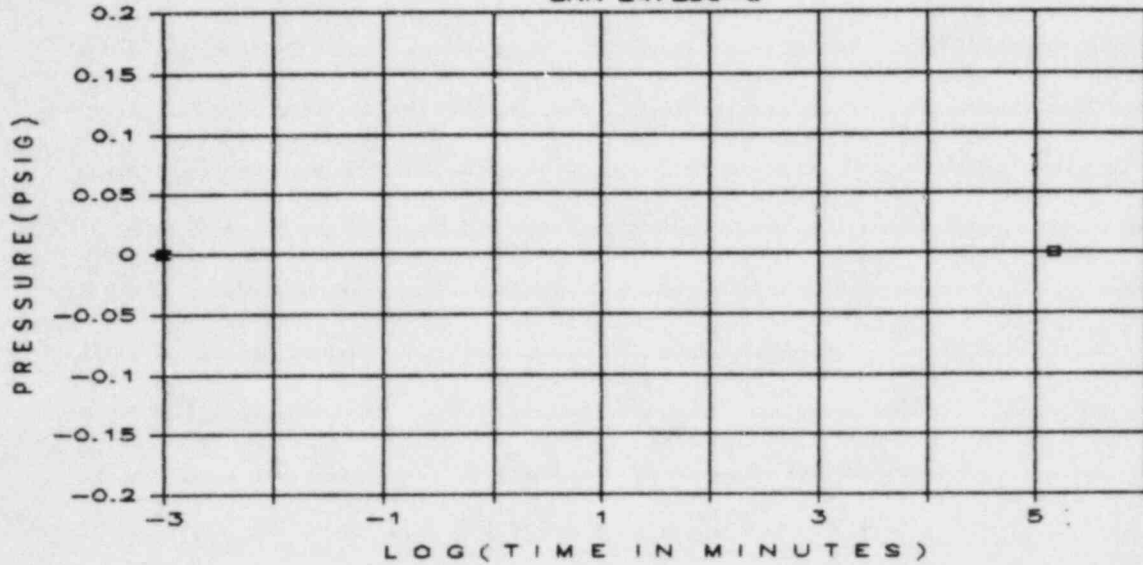
DATE 11/27/84

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.

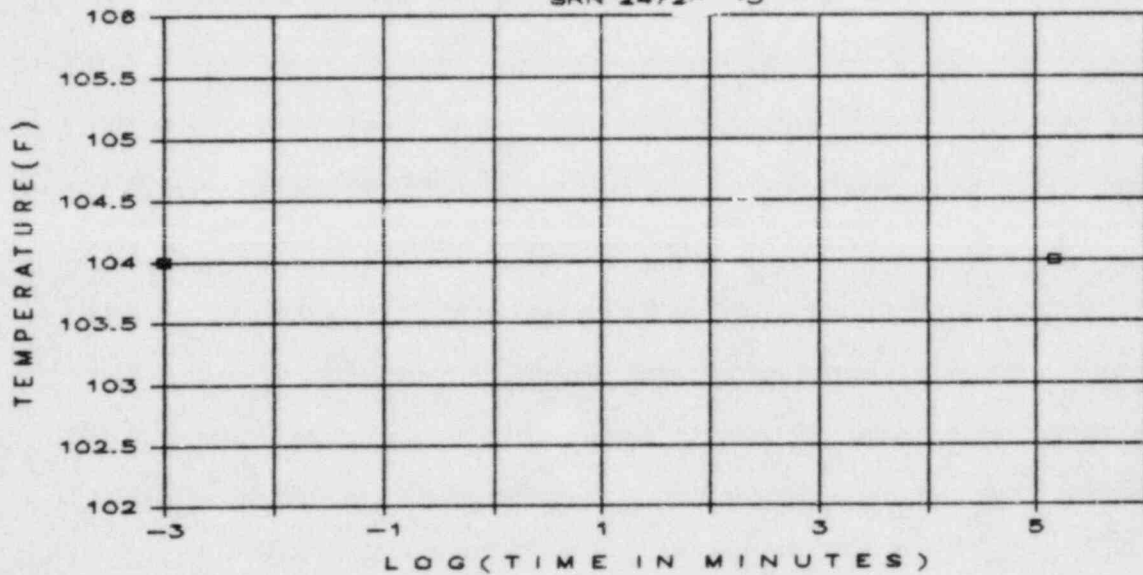
SPECIFIED ACCIDENT PROFILE

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
P R E S S U R E -----	
TIME	0sec 100days
LOG(MINUTES)	-3.00 5.16
PRES(PSIG)	0 0
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 247250-4
 REV 0
 SHEET NO. 2
 DATE 11/27/84

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

SRN 247250-4
 SPEC 247.250
 RBS RADIATION MONITORING

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME CC
1RMS*RE111		CT-G	40 YEARS	N/A C
1RMS*RE112		CT-4	40 YEARS	N/A C

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

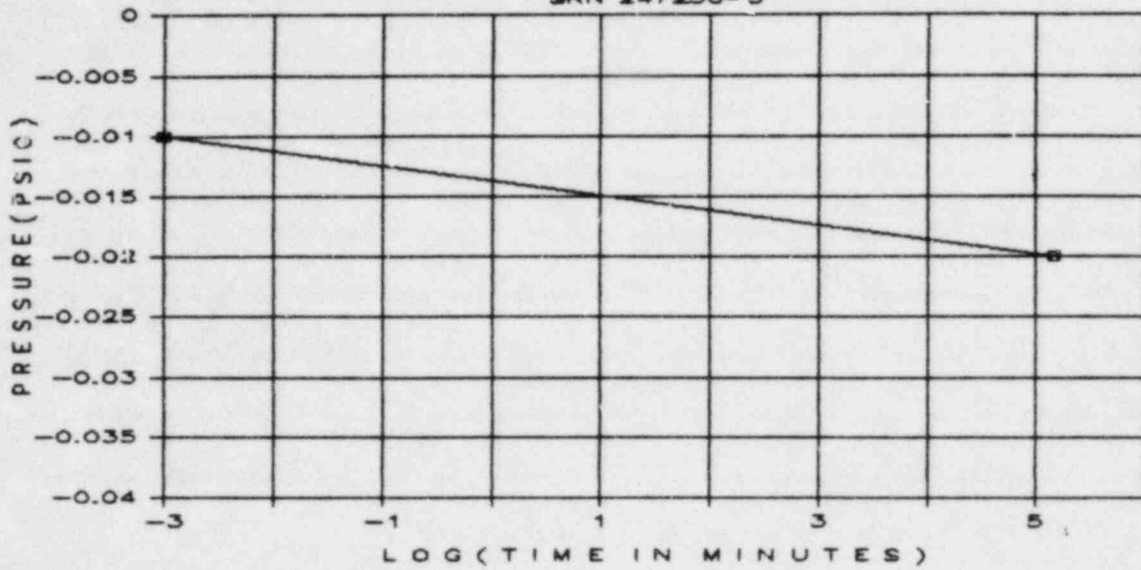
SRN 247250-4
REV 0
SHEET NO. 3
DATE 11/27/84

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.

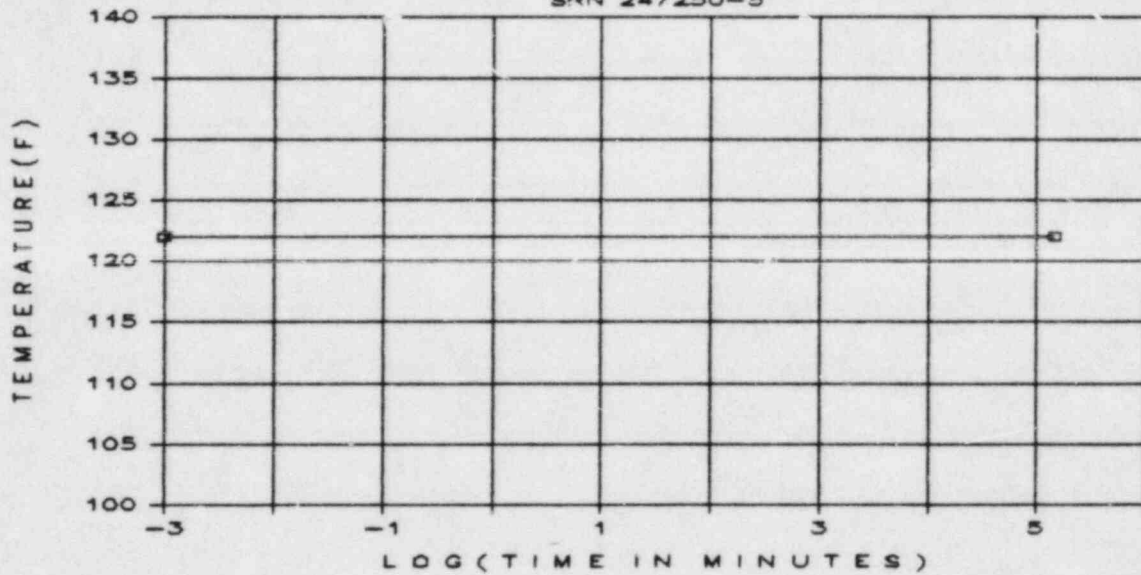
SPECIFIED ACCIDENT PROFILE

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

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
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.

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. REMARKS	ENV. ZONE SUBNRG	QUAL. LIFE	OPTIME OC
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SRN 247250-6

SPEC 247.250

RHS RADIATION MONITORING

IRHS*RE16A

REG.G.1.97	CT-G	40 YEARS	1000 A
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IRHS*RE16B

REG.G.1.97	CT-G	40 YEARS	1000 A
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IRHS*RE20A

REG.G.1.97	DH-1	40 YEARS	1000 A
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IRHS*RE20B

REG.G.1.97	DH-1	40 YEARS	1000 A
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RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-6

REV 0

SHEET NO. 3

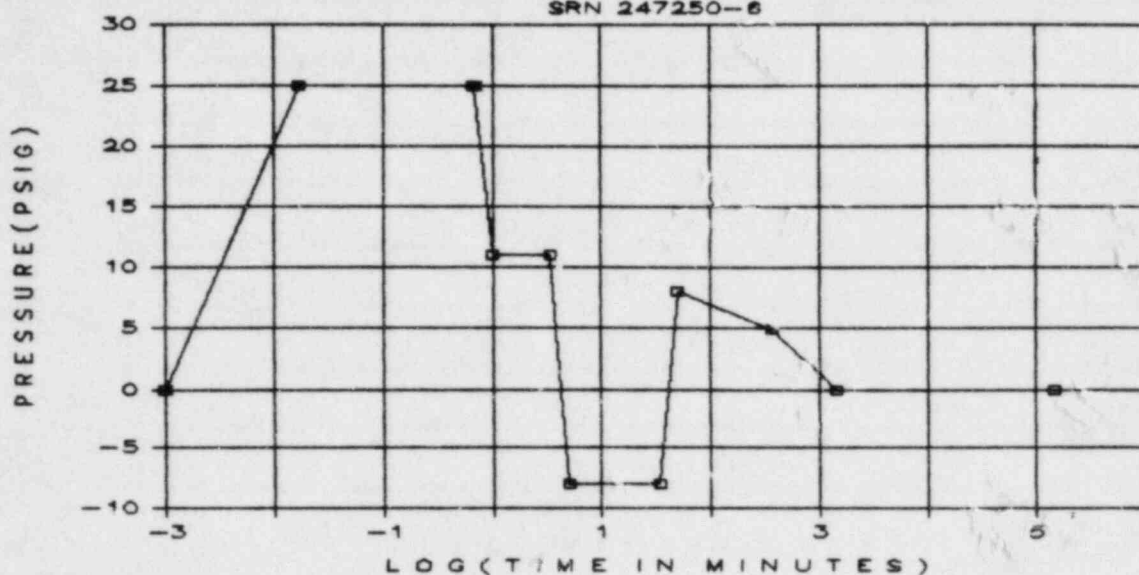
DATE 11/27/84

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.

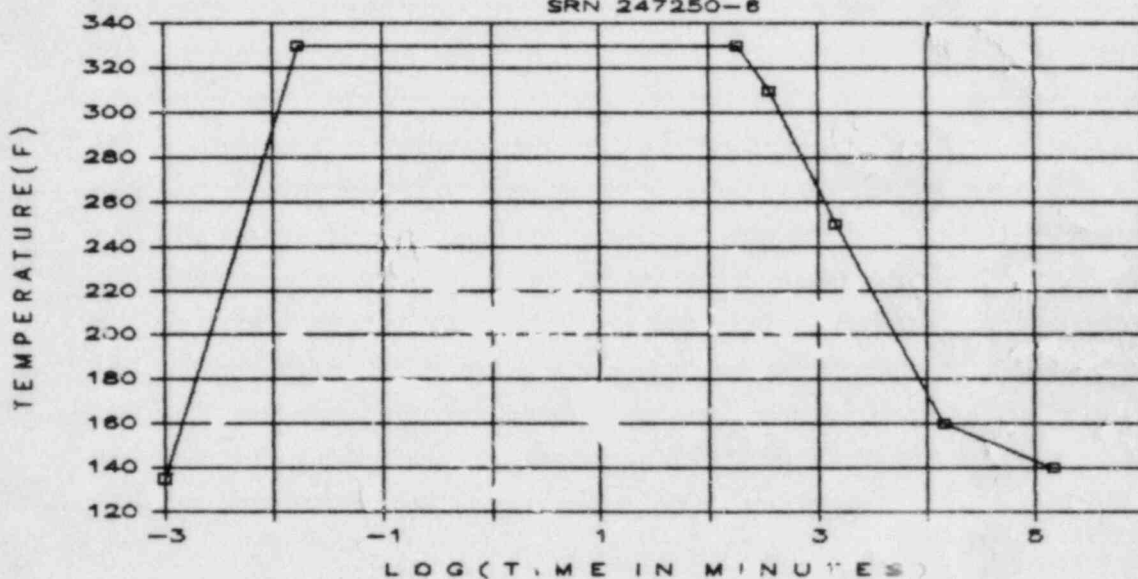
SPECIFIED ACCIDENT PROFILE

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

IRMS4RE21A

CT-5A 40 YEARS 1000
 A

IRMS4RE21B

CT-5A 40 YEARS 1000
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RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247250-7

REV 0

SHEET NO. 3

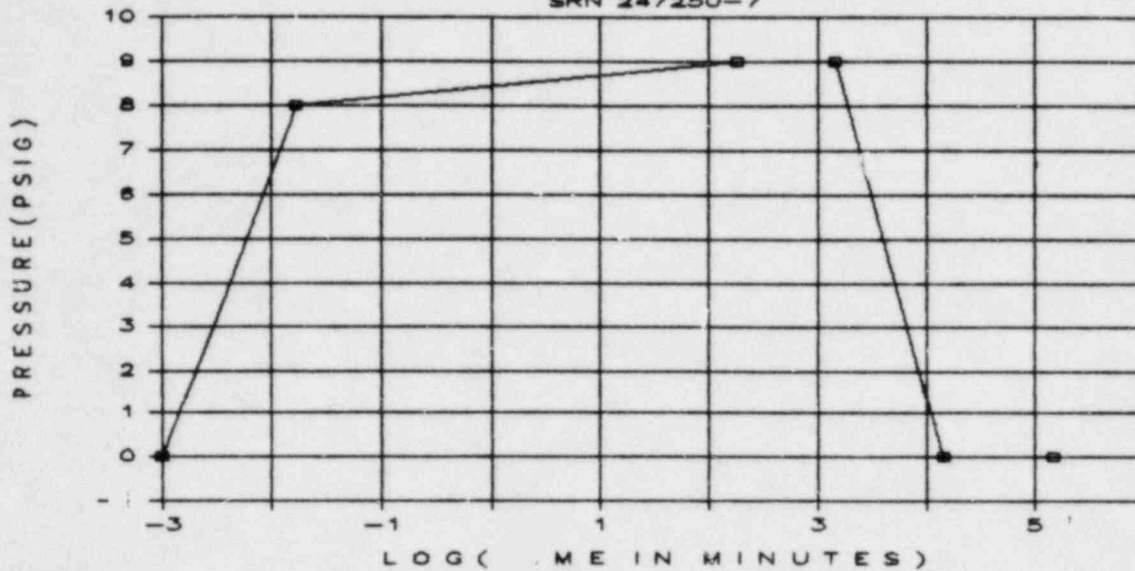
DATE 11/27/84

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.

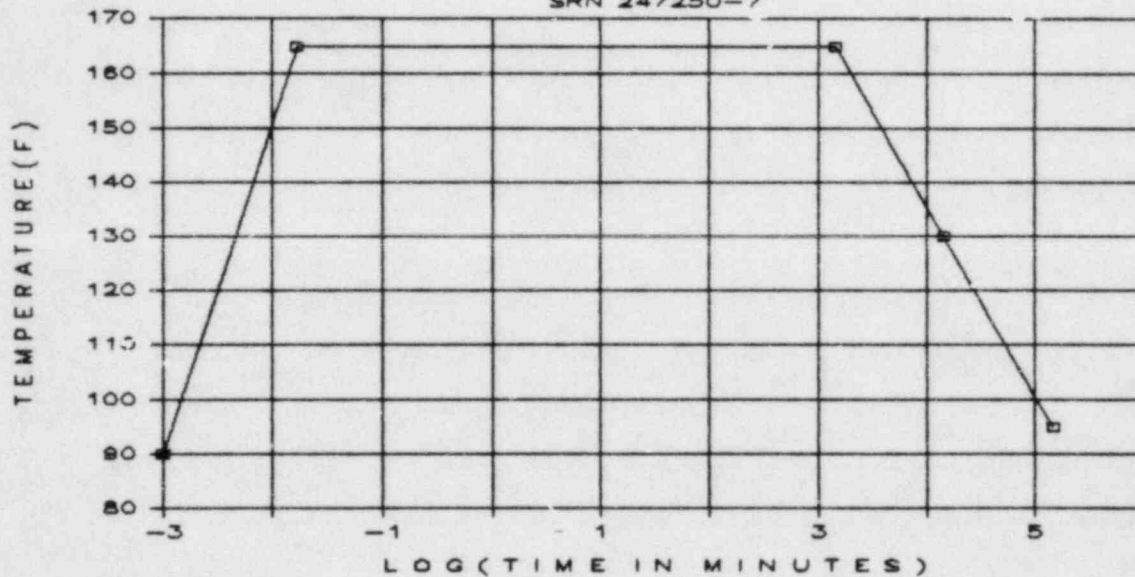
SPECIFIED ACCIDENT PROFILE

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	80
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
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247250-8
REV 0
DATE 03-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION						MARGIN DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD		
				SPECIFIED	QUALIFIED			
EQUIP NO.: SEE SHEET 2	OP.TIME:	1 HR	6 HRS	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)							NOTE-1
(PI)6 MONITOR)	NORMAL	0.25" H2O	ATMOS	1	2	TEST-SIM	NA	
MANUFACTURER: GA TECH.	ABNORMAL	0.62" H2O	ATMOS	1	2	TEST-SIM	NA	
	ACCIDENT	0.62" H2O	ATMOS	1	2	TEST-SIM	YES	
MODEL: SEE SHEET 2	RH (%):							NOTE-1
	NORMAL	55	95	1	2	TEST-SIM	NA	
SAFETY FUNCTION: - - -	ABNORMAL	38	95	1	2	TEST-SIM	NA	
MONITOR RADIATION	ACCIDENT	38	95	1	2	TEST-SIM	NA	
	RADIATION:							NOTE-1
	NORM GAMMA	7E2		1			NA	
OP. CODE: SEE SHEET 2	ACC GAMMA	3E2	1.1E3	1	2	AN+DATA	YES	NOTE-2
	NORM BETA	0		1			NA	
	ACC BETA	6E2		1			YES	NOTE-3
	NEUTRON	0		1			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 SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
NUREG 0588, CAT I								
ACCEPTABLE FOR ALL ITEMS								
EXCEPT SAMPLE PUMP MOTOR.								
SEE NOTE 5.								
MAINT/SURVEILL - - -								
REFERENCE: 2 (NOTE-4)								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE: 2								

- DOCUMENT REFERENCE:
- SPECIFICATION 247.250 REV.0, ADD.1 / E&DCR NO.P40,957A
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT;
 - SDDF # 6247.250-329-044C
 - 6247.250-329-022B
 - 6247.250-329-019B
 - 6247.250-329-045B
 - 6247.250-329-091A
 - 6247.250-329-023E
 - 6247.250-329-001C
 - 6247.250-329-091B
 - 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 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

1RMS*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.

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. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	CP TIME CC
SRN 247250-9				
SPEC 247.250				
RMS RADIATION MONITORING				
1RMS*RI21A		CT-5A	40 YEARS	N/R 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
 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 SUBMRS	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

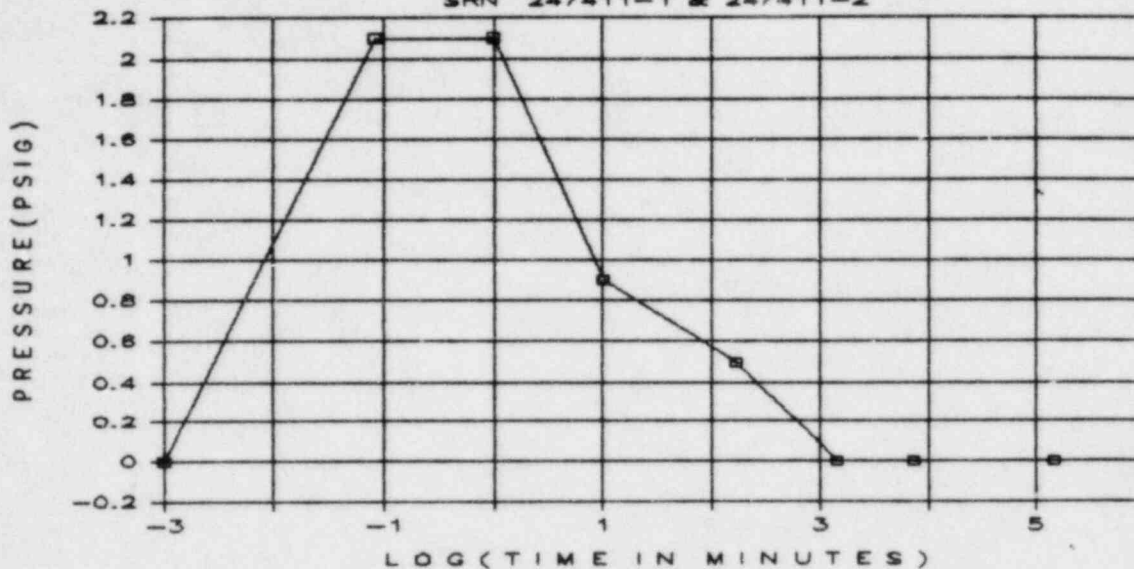
SRN 247411-1
REV 0
SHEET NO. 3B
DATE 11/27/84

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.

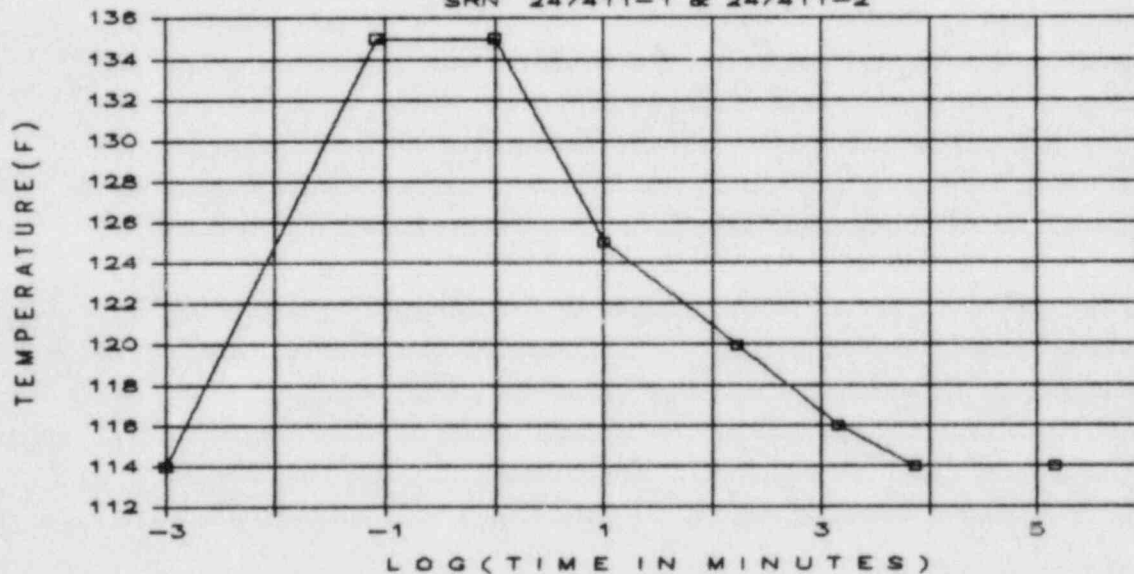
SPECIFIED ACCIDENT PROFILE

SRN 247411-1 & 247411-2



SPECIFIED ACCIDENT PROFILE

SRN 247411-1 & 247411-2

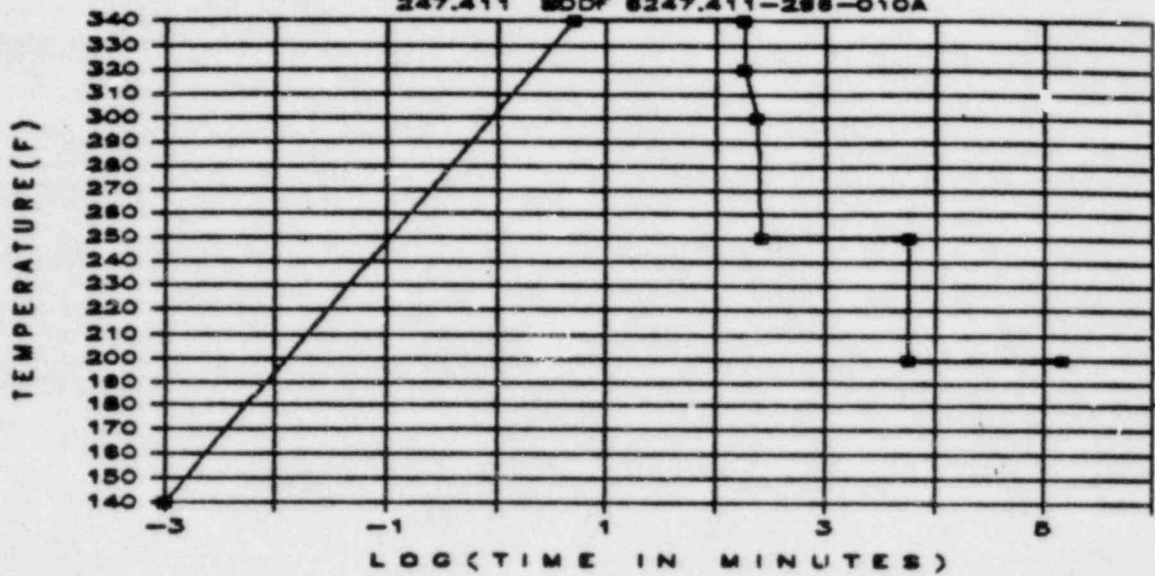


TEMPERATURE								
TIME	0sec	5sec	1min	10min	2.8hrs	1day	5days	100days
LOG (MINUTES)	-3.00	-1.08	0.00	1.00	2.23	3.16	3.86	5.16
TEMP (F)	114	135	135	125	120	116	114	114
TIME (MIN)	0.001	0.083	1	10	168	1440	7200	144000

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

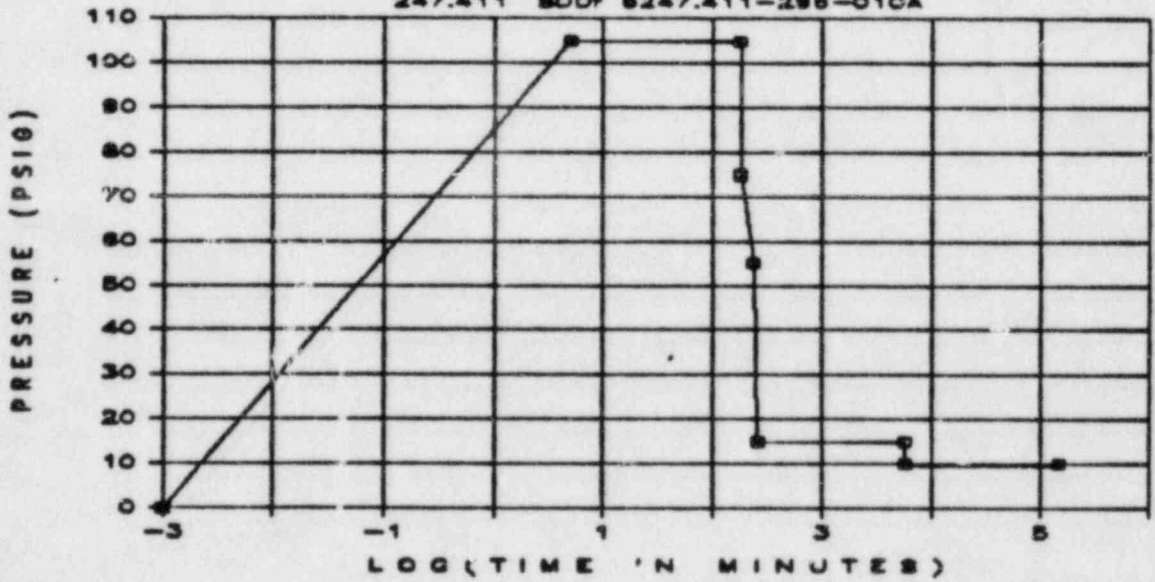
TEST PROFILE

247.411 SDDF 6247.411-296-010A



TEST PROFILE

247.411 SDDF 6247.411-296-010A

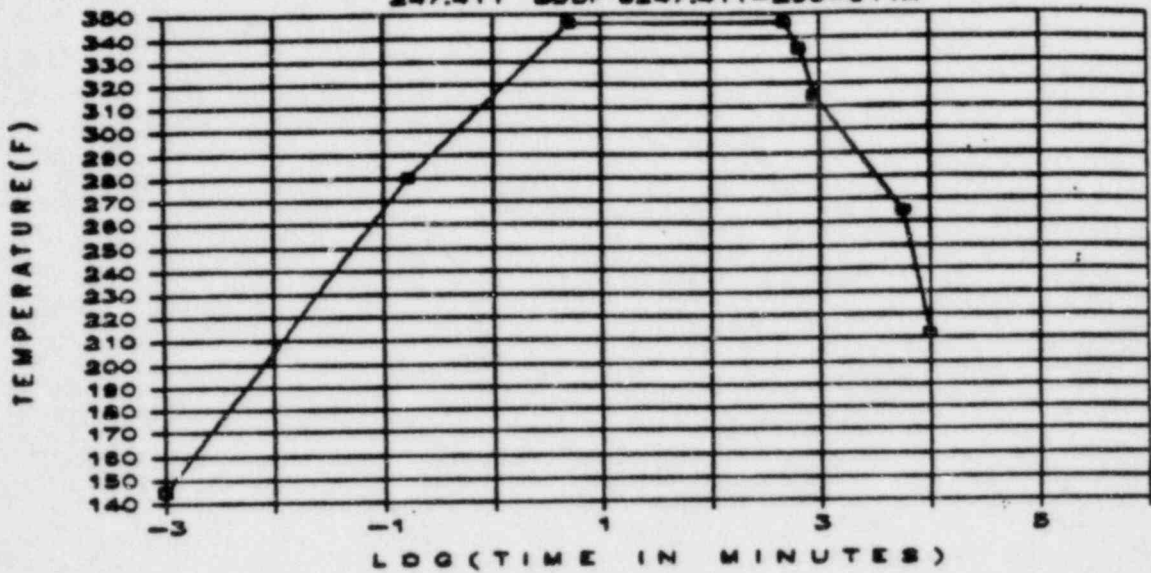


TEST PROFILE DATA FOR 247.411 SDDF 6247.411-296-010A

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

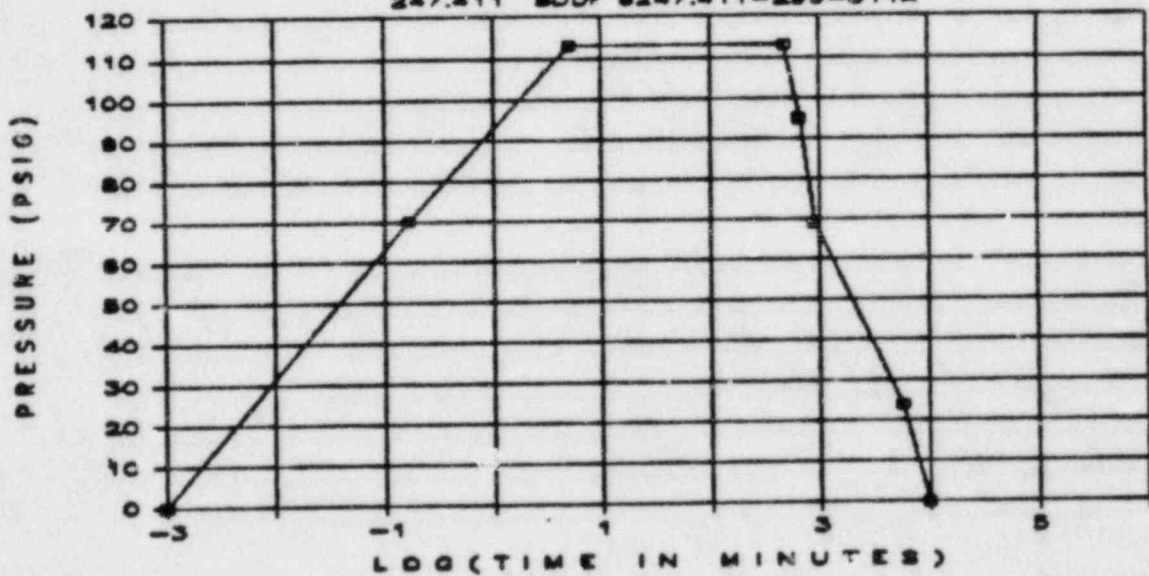
TEST PROFILE

247.411 SDDF 6247.411-296-011A



TEST PROFILE

247.411 SDDF 6247.411-296-011A

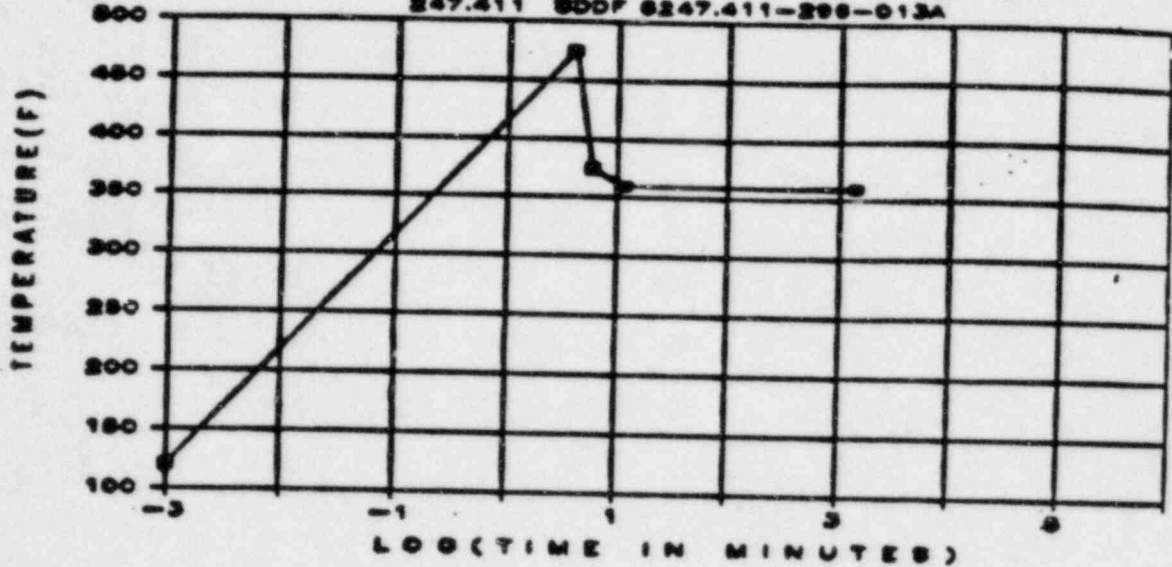


TEST PROFILE DATA FOR 247.411 SDDF 6247.411-296-011A

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

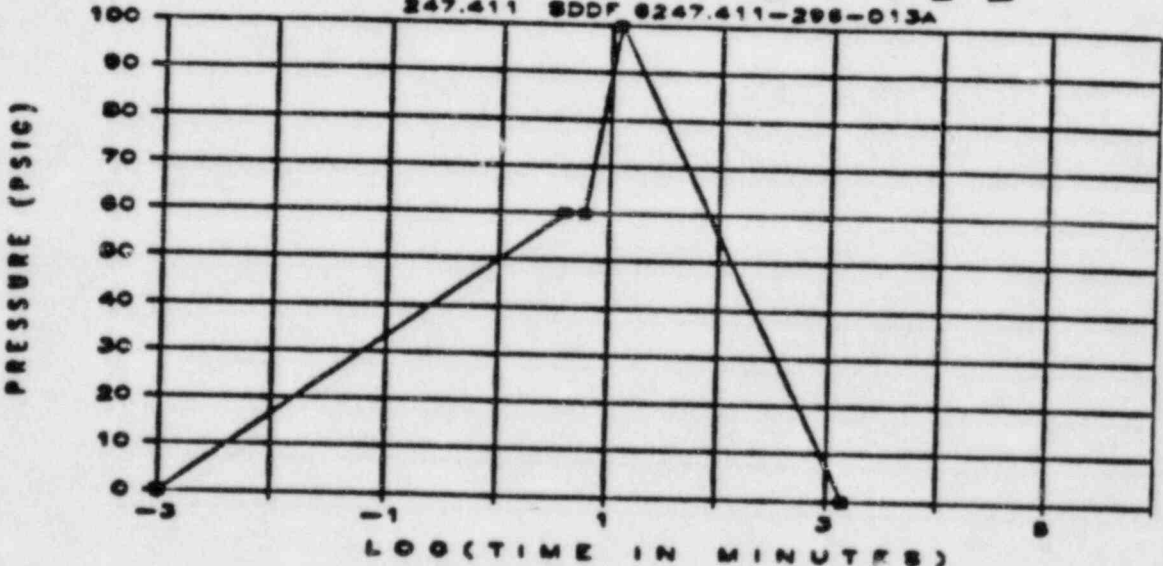
TEST PROFILE

247.411 SDDF 6247.411-296-013A



TEST PROFILE

247.411 SDDF 6247.411-296-013A



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 (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 SUBIRG OC

SRN 247411-2

SPEC 247.411

JPB SUPERSTRUCTURE - PRIMARY AUXILIARY BUILDING

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBIRG	QUAL. LIFE	OPTIME OC
1JPB*RAK1	NONE, UNIQUE Instrument Rack Terminal Boards	AB-095-6	40 Years	100D A
1JPB*RAK2	NONE, UNIQUE Instrument Rack Terminal Boards	AB-095-6	40 Years	100D A
1JPB*RAK3	NONE, UNIQUE Instrument Rack Terminal Boards	AB-141-2	40 Years	100D A
1JPB*RAK4	NONE, UNIQUE Instrument Rack Terminal Boards	AB-141-1	40 Years	100D 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							
	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-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	
MODEL: SEE SHEET 2		RH (%)							NOTE 1
		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	
ACCURACY - -		SPRAY	NA	NA			NA	NA	
		SUBMERGENCE	NA	NA			NA	NA	
SPEC: 5% FULL SCALE									
DEMO: 5% FULL SCALE									
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 (NOT REQUIRED)									
REFERENCE:2									
QUALIFIED LIFE - - -									
(YEARS): SEE SHEET 2									
REFERENCE:2									

- DOCUMENT REFERENCE:
1. SPECIFICATION 247.421, REV. 0, ADD. 1
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.421-313-004A
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 4. CALCULATION NO. 12210-FR(C)-541 - GAS SPECIFIC RADIATION CALCULATION

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME OC
ICHS*AT25A	Part of ICMS* PNL 10A	AB-114-6	5 Years	1000 A
ICHS*AT25B	Part of ICMS* PNL 10B	AB-141-3	5 Years	1000 A
ICHS*PNL10A	KIII,UNIQUE	AB-141-4	5 Years	1000 A
ICHS*PNL10B	KIII,UNIQUE	AB-141-3	5 Years	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

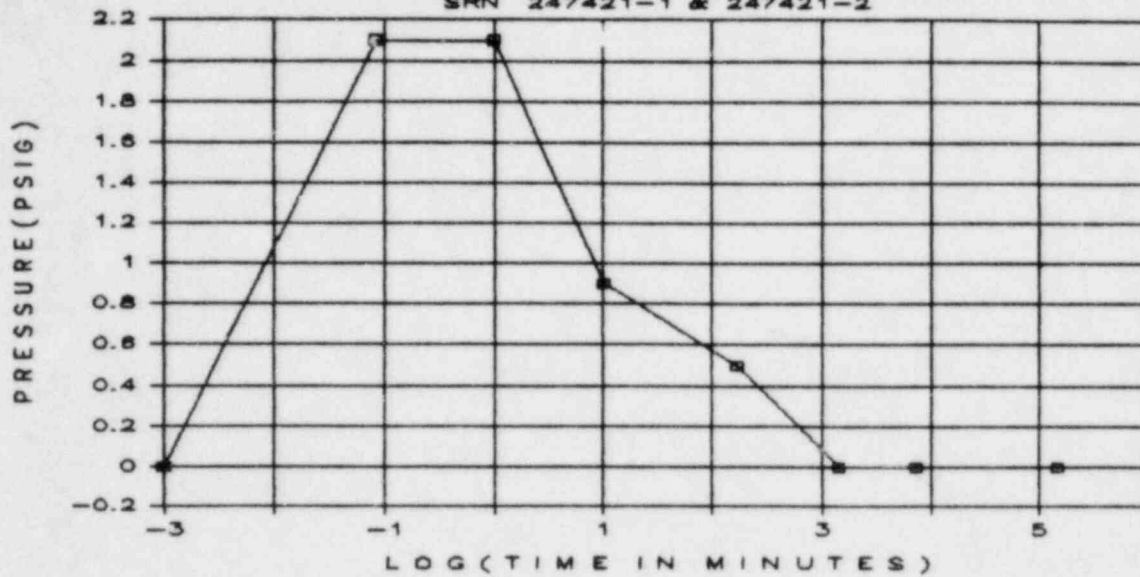
SRN 247421-1
REV 0
SHEET NO. 3
DATE 11/27/84

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.

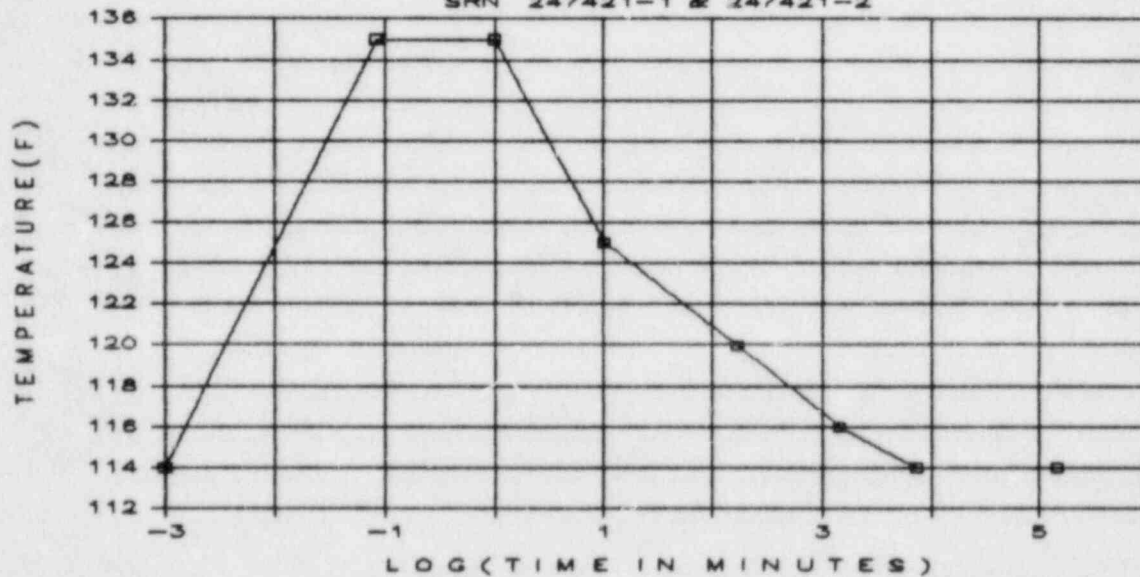
SPECIFIED ACCIDENT PROFILE

SRN 247421-1 & 247421-2



SPECIFIED ACCIDENT PROFILE

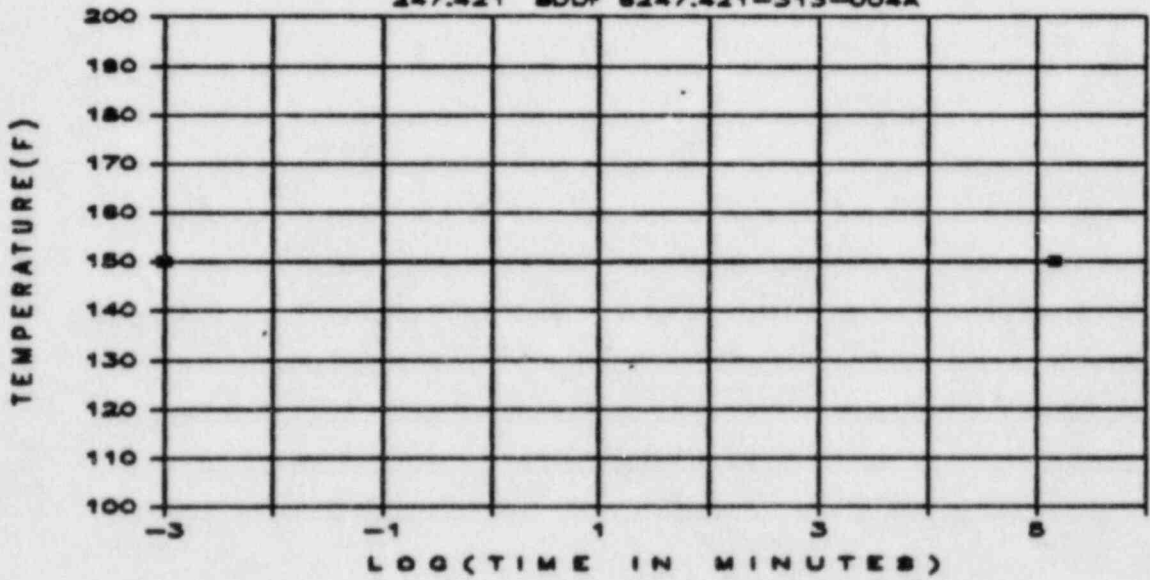
SRN 247421-1 & 247421-2



TEMPERATURE								
TIME	0sec	5sec	1min	10min	2.0hrs	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	2.0hrs	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. LODE: 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:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECTED TO								
SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY:								
ACCEPTABLE TO NUREG 0588,CAT I								
MAINT/SURVEILL (NOT REQUIRED)								
REFERENCE:2								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE:2								

- DOCUMENT REFERENCE:
1. SPECIFICATION 247.421, REV. 0, ADD. 1
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.421-313-004A
 3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0

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

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBNRG	QUAL. LIFE	OPTIME OC
SRN 247421-2				
SPEC 247.421				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*PNL12A	KIII,UNIQUE	AB-141-1	5 years	1000 A
1CHS*PNL12B	KIII,UNIQUE	AB-141-2	5 years	1000 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								
SYSTEM: SEE SHEET 2								
VENTILATION SYSTEMS								
TYPE: (DESCRIPTION)								
THERMAL FLOW DETECTING ELEMENTS								
MANUFACTURER: FLUID COMPONENTS INC.								
MODEL: SEE SHEET 2								
SAFETY FUNCTION: - - -								
CONTINUING OPERATION OF SAFETY SYSTEMS								
OP. CODE: SEE SHEET 2								
ACCURACY - -								
SPEC: NA								
DEMO: NA								
ZONE NO.: SEE SHEET 2								
SUBMERGENCE:								
SPRAY/FROTH:								
EQUIPMENT NOT SUBJECT TO SUBMERGENCE OR SPRAY/FROTH								
DOCUMENTATION ACCEPTABILITY: NUREG 0588, CAT I								
QUALIFICATION IN PROGRESS (SEE NOTE-2)								
MAINT/SURVEILL - - -								
REFERENCE:								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE:								

- DOCUMENT REFERENCE:
1. SPECIFICATION 247.433 REV.0, ADD.3
 2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.433-315-002C (TEST PLAN)
 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 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				
IGTS*FE24A	FR72-1R	AB-141-5	Later	1000 A
IGTS*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	FR72-4R	AB-141-2	Later	1000 A
1HVR*FE28A	FR72-4R	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

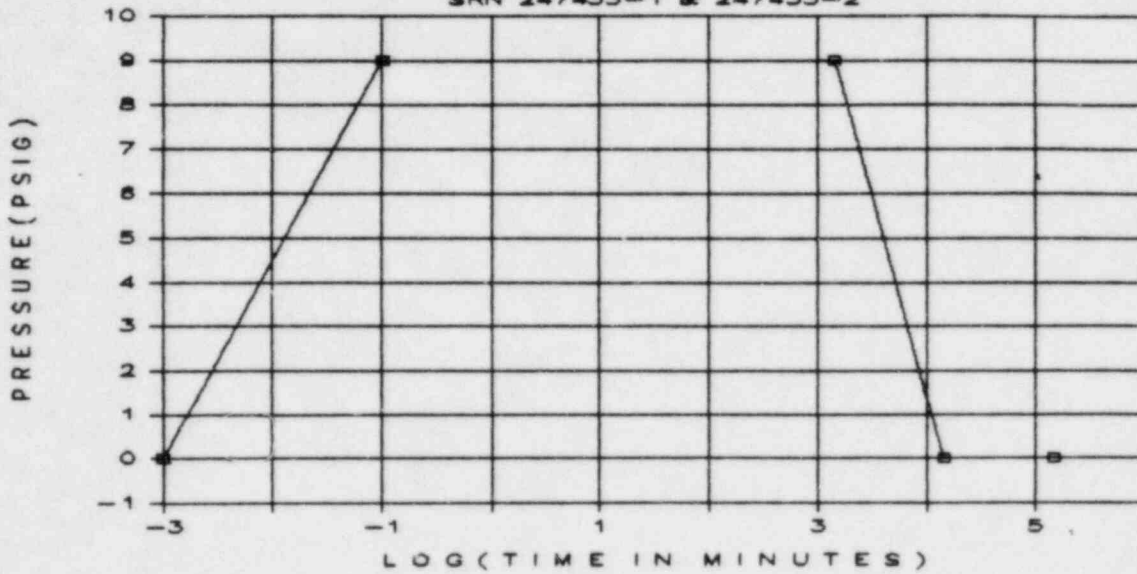
DATE 11/27/84

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.

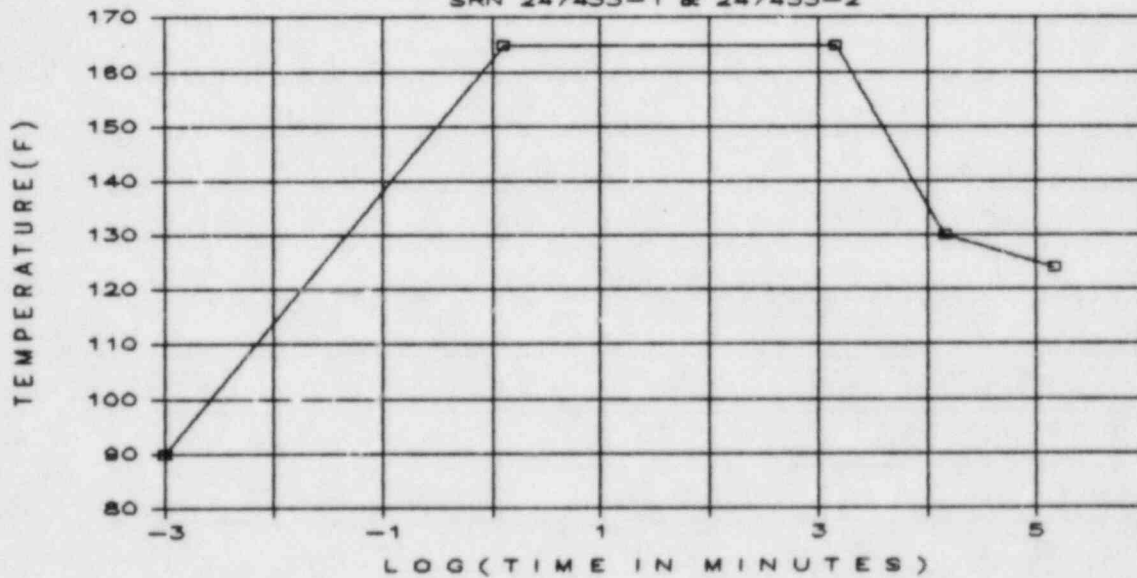
SPECIFIED ACCIDENT PROFILE

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
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 SUCHRG	QUAL. LIFE	OPTIME OC

SRN 247433-2				
SPEC 247.433				
GTS GAS TREATMENT STANDBY				
IGTS*FS24A	FR72-1R	AB-141-5	Later	1000 A
IGTS*FS24B	FR72-1R	AB-141-6	Later	1000 A
IHVF VENTILATION - FUEL BUILDING				
IHVF*FS109	FR72-4R	FB-148-2	Later	1000 A
IHVF*FS32A	FR72-4R	FB-148-1	Later	1000 A
IHVF*FS32B	FR72-4R	FB-148-1	Later	1000 A
IHVR VENTILATION - REACTOR PLANT				
IHVR*FS29A	FR72-4R	AB-170-1	Later	1000 A
IHVR*FS29B	FR72-4R	AB-170-1	Later	1000 A
IHVR*FS56A	FR72-4R	AB-141-2	Later	1000 A
IHVR*FS56B	FR72-4R	AB-141-2	Later	1000 A
LSV LEAKAGE CONTROL - PENETRATION VALVE				
ILSV*FS20A	FR72-1R	AB-141-2	Later	30 D A

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

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

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.

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	100D A
1CHS*RTD41B	122-3046-12	DH-1	40 YR	100D A
1CHS*RTD41C	122-3046-12	DH-1	40 YR	100D A
1CHS*RTD41D	122-3046-12	DH-1	40 YR	100D A
1CHS*RTD43A	122-3046-12	DH-1	40 YR	100D A
1CHS*RTD43B	122-3046-12	DH-1	40 YR	100D A
1CHS*RTD43C	122-3046-12	DH-1	40 YR	100D A
1CHS*RTD43D	122-3046-12	DH-1	40 YR	100D A
1CHS*RTD43E	122-3046-12	DH-1	40 YR	100D A
1CHS*RTD43F	122-3046-12	DH-1	40 YR	100D A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247461-1

REV 1

SHEET NO. 3

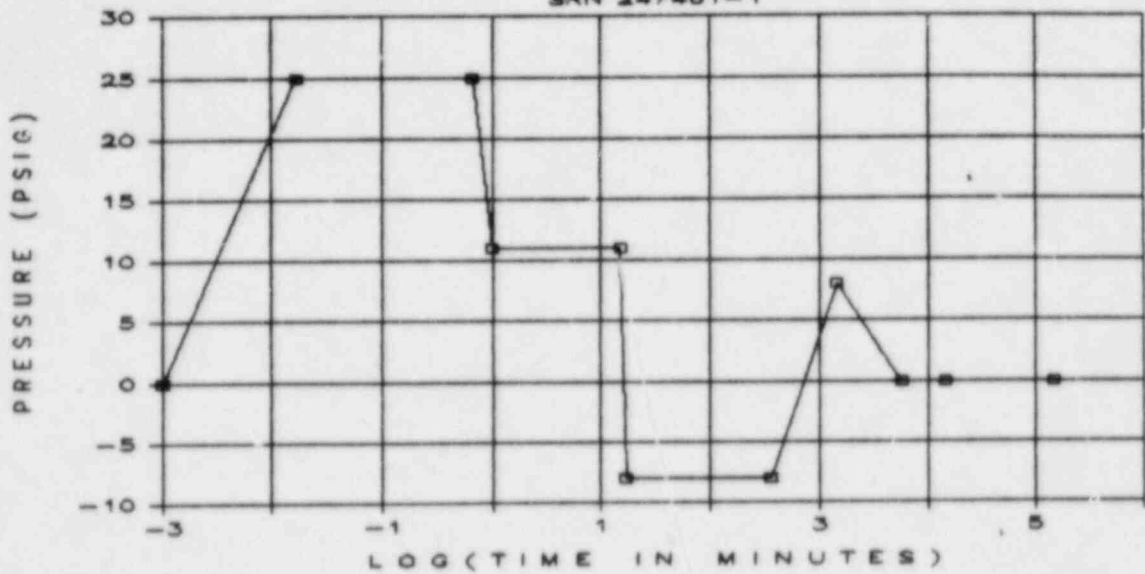
DATE 11/26/84

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.

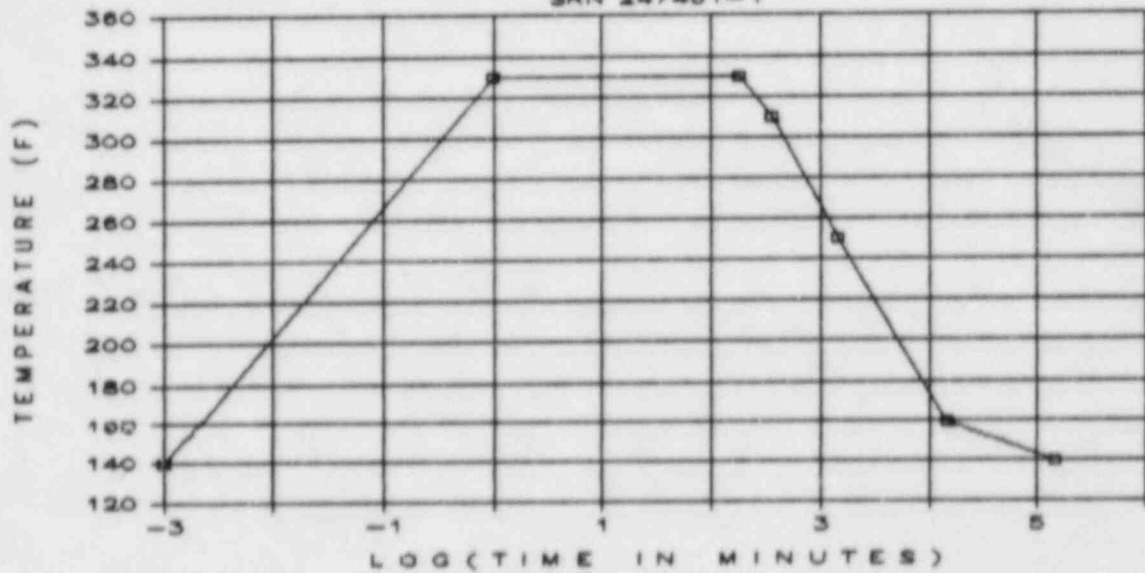
SPECIFIED ACCIDENT PROFILES

SRN 247461-1



SPECIFIED ACCIDENT PROFILES

SRN 247461-1



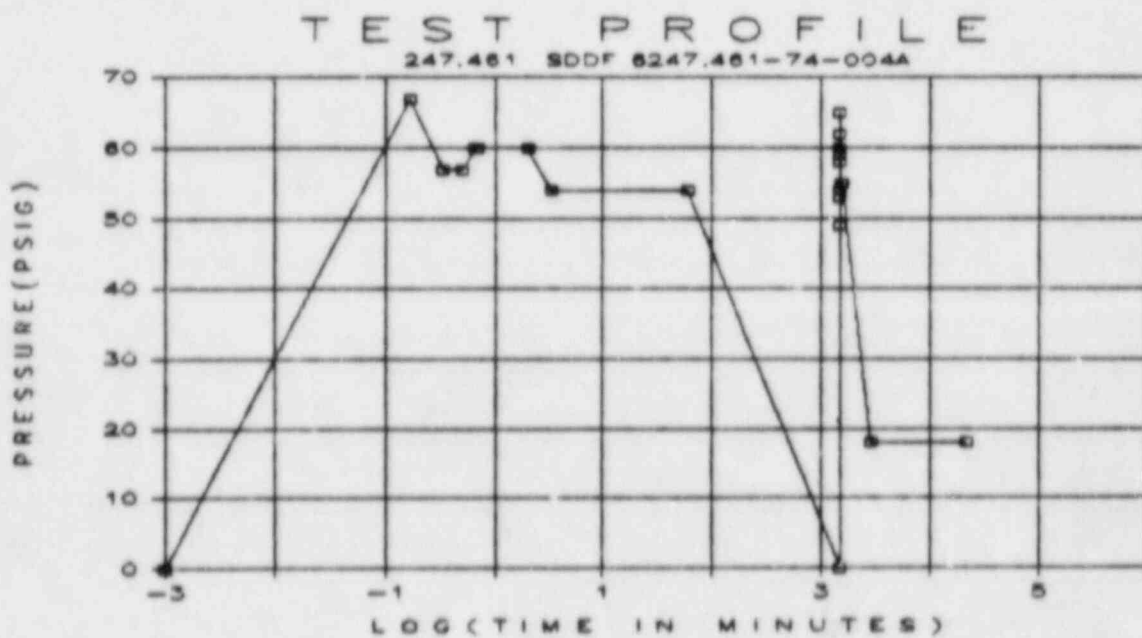
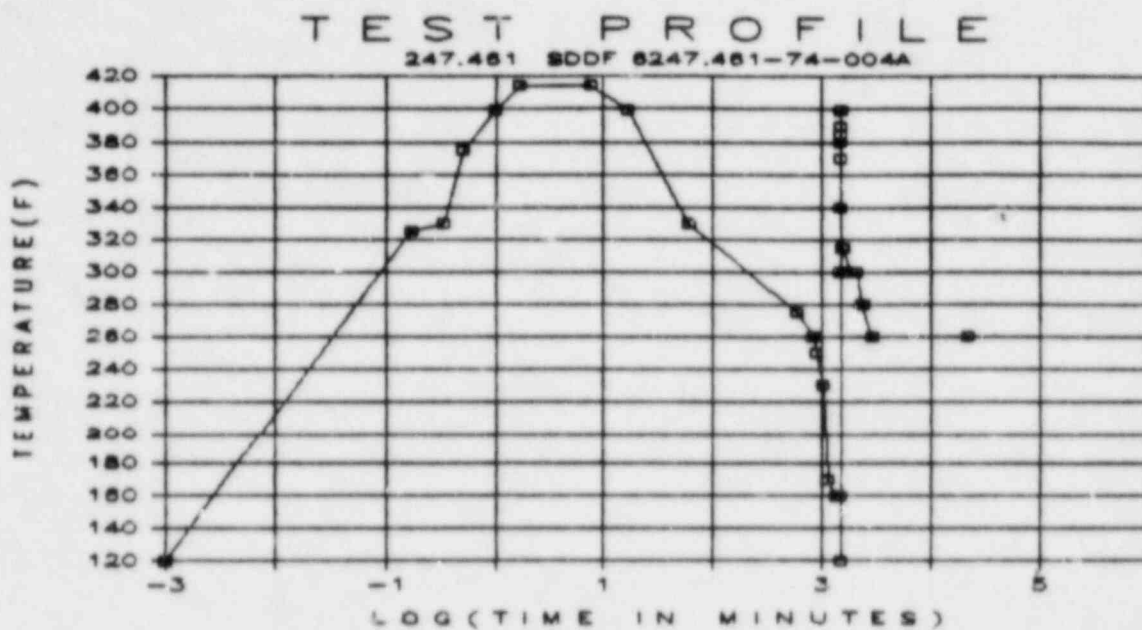
SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 247461

TEMPERATURE -----

TIME	0	40sec	3hrs	6hrs	1day	10days	100days		
LOG (MINUTES)	-3.00	0.00	2.26	2.56	3.16	4.16	5.16		
TEMP (F)	140	330	330	310	250	160	140	120	350
TIME (MIN)	0.001	1	180	360	1440	14400	144000		

PRESSURE -----

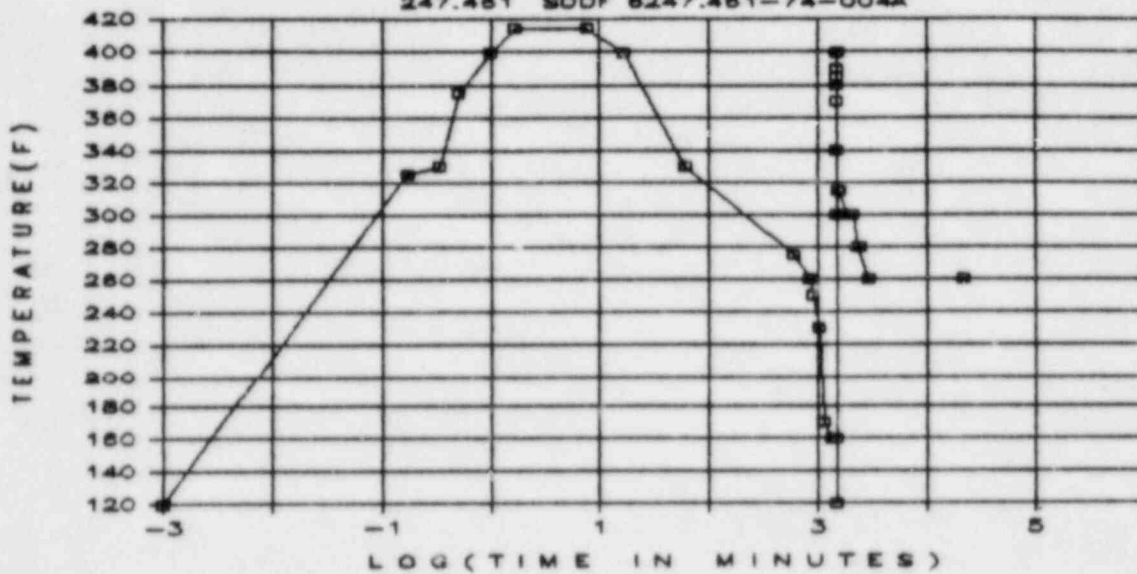
TIME	0	1.0sec	40sec	60sec	900sec	1000sec	6hrs	1day	4days	10days	100days
LOG (MINUTES)	-3.00	-1.78	-0.18	0.00	1.18	1.22	2.56	3.16	3.76	4.16	5.16
PRES (PSIG)	0	25	25	11	11	-8	-8	8	0	0	0
TIME (MIN)	0.001	0.0167	0.66	1	15	16.7	359	1440	5760	14400	144000



SEE NEXT PAGE FOR DATA

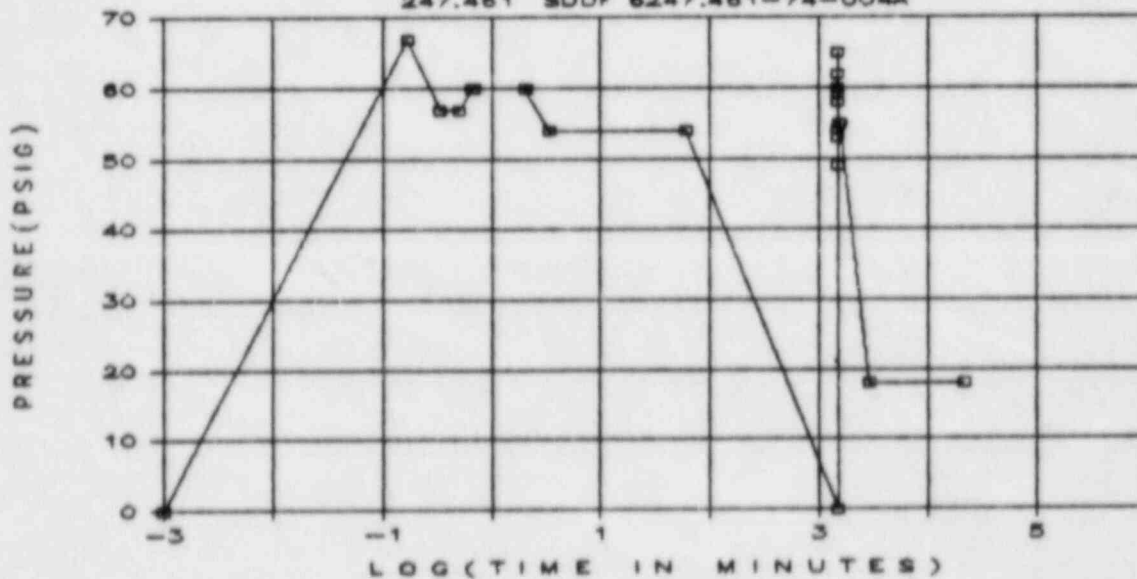
TEST PROFILE

247.461 SDDF 6247.461-74-004A



TEST PROFILE

247.461 SDDF 6247.461-74-004A



SEE NEXT PAGE FOR DATA

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

TEMPERATURE -----

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

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	57	57	60	60	54	54	6	53	49	54	59	65

CONT'D

TEMPERATURE -----

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

PRESSURE -----

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

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

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	20sec	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	0	53	40	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	25h70s	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)	60	62	60	58	55	55	12	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 - HARSH ENVIRONMENT ONLY

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	QUAL. LIFE	OPTIME OC
SRN 247461-2				
SPEC 247.461				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*RTD24A	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24B	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24C	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24D	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24E	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24F	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24G	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24H	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24J	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD24K	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD40A	122-3046-12	CT-SP Y	40 YR	100D A
1CHS*RTD40B	122-3046-12	CT-SP Y	40 YR	100D 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

HARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	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

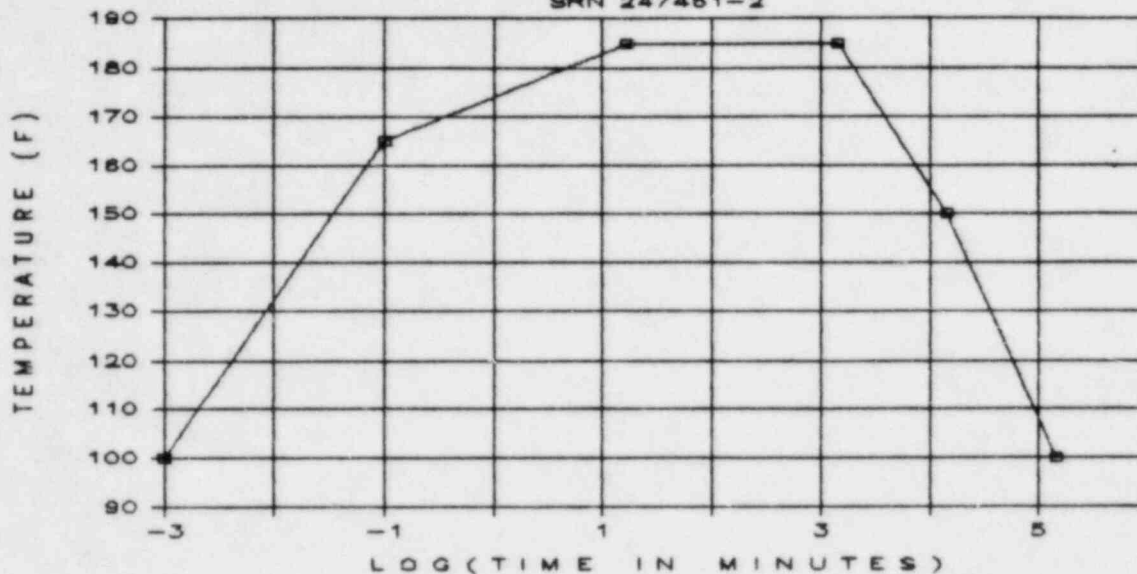
SRN 247461-2
REV 0
SHEET NO. 3
DATE 11/26/84

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.

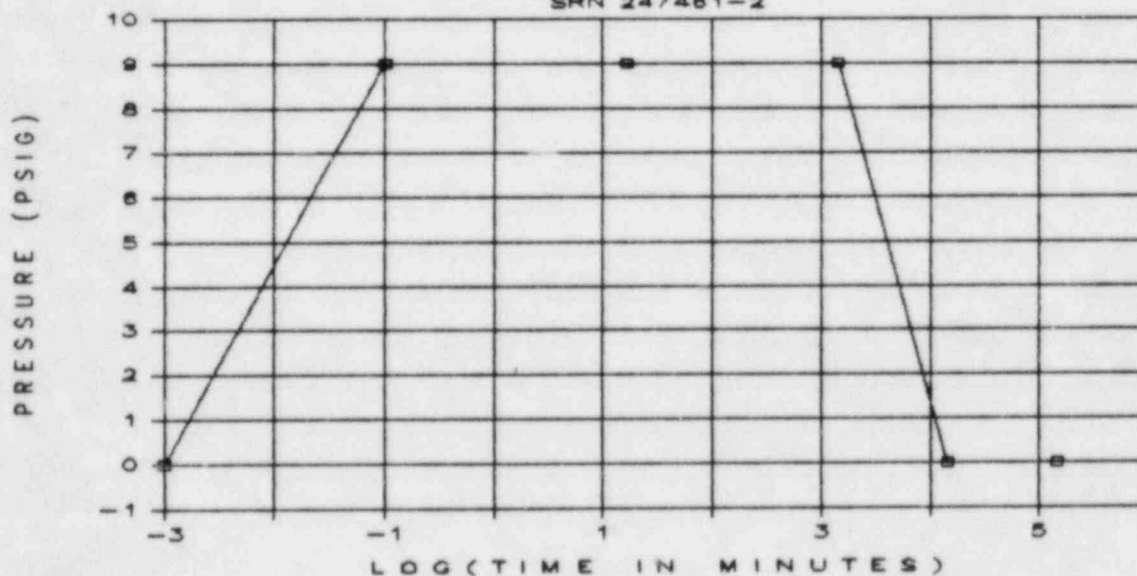
SPECIFIED ACCIDENT PROFILES

SRN 247461-2



SPECIFIED ACCIDENT PROFILES

SRN 247461-2



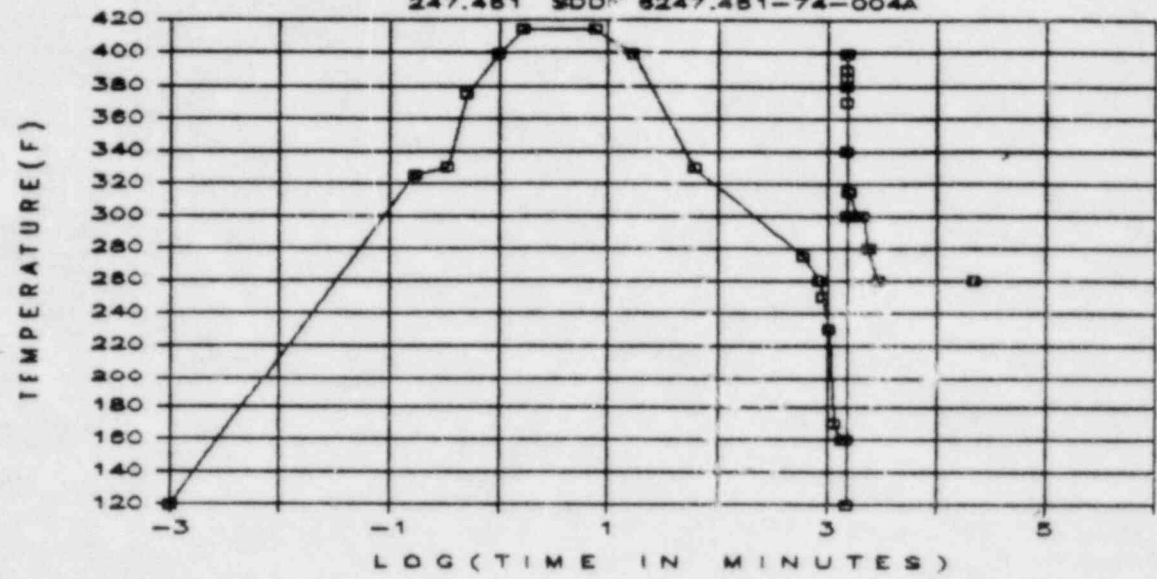
SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 247461

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

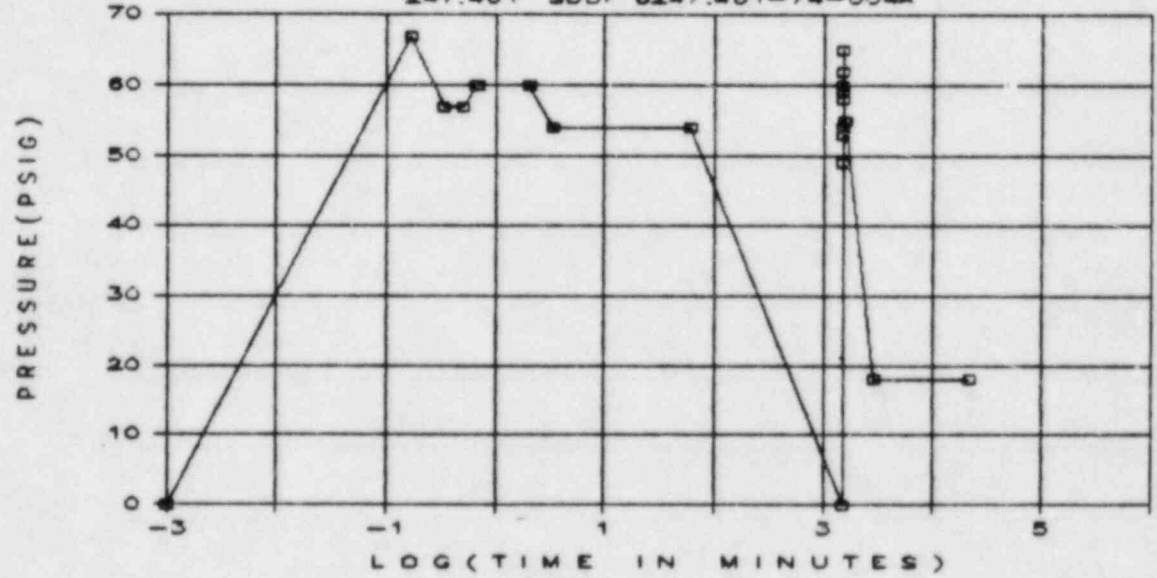
TEST PROFILE

247.461 SDDF 6247.461-74-004A



TEST PROFILE

247.461 SDDF 6247.461-74-004A



SEE NEXT PAGE FOR DATA

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

TEMPERATURE														
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

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	57	57	60	60	54	54	0	53	49	54	59	65

CONT'D

TEMPERATURE														
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

PRESSURE										
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		

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

AUVILIARY BUILDING AND FUEL BUILDING

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247461-3
REV 0
DATE 01-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION				DOCUMENT REFERENCE			DUAL METHOD	MARGIN DEMO	REMARKS
	PARAMETER	SPECIFIED VALUE	QUALIFIED 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	122	140	1	2		AN+DATA	NA		
	ABNORMAL	130	200	1	2		AN+DATA	NA	NOTE-3	
TYPE: (DESCRIPTION)	ACCIDENT	145	400	1	2		TEST-SIM	YES		
RESISTANCE TEMPERATURE	PRESS (PSIG)								NOTE-1	
DETECTOR (RTD)	NORMAL	.25" WG	ATMOS	1	2		AN+DATA	NA		
	ABNORMAL	-.62" WC	65	1	2		AN+DATA	NA	NOTE-3	
MANUFACTURER: PYCO	ACCIDENT	2.1	65	1	2		TEST-SIM	YES		
	RH (%)								NOTE-1	
MODEL: SEE SHEET 2	NORMAL	20 TO 90	100	1	2		AN+DATA	NA		
	ABNORMAL	40	100	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	5E7	2.2E8	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:										
SPRAY/FROTH:										
EQUIPMENT NOT SUBJECTED TO										
SUBMERGENCE OR SPRAY/FROTH										
DOCUMENTATION ACCEPTABILITY:										
ACCEPTABLE TO NUREG 0588,CAT I										
SEE NOTE-5										
MAINT/SURVEILL - - -										
REFERENCE: 2										
QUALIFIED LIFE - - -										
(YEARS): 40										
REFERENCE: 2 (SEE NOTE-4)										

- DOCUMENT REFERENCE:
- SPECIFICATION 247.461 REV.1, ADD.3 & E&DCR NO.P40,705A
 - VENDGR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.461-174-004A,B,C,D
 - POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0
 - CALCULATION NO. 12210-E05-43

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. 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-148-6	40 YR	1000 A
1HVF*RTD1B	122-4030-04	FB-148-1	40 YR	1000 A
1HVF*RTD30A	122-4030-04	FB-148-6	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
 SUEHRG OC
 REMARKS

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

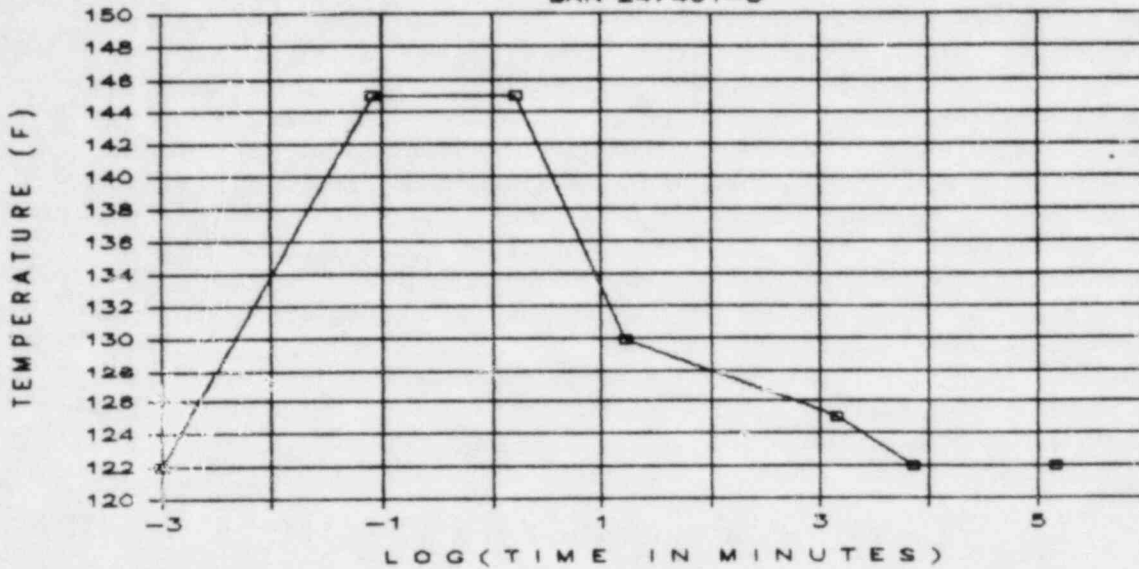
DATE 11/26/84

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.

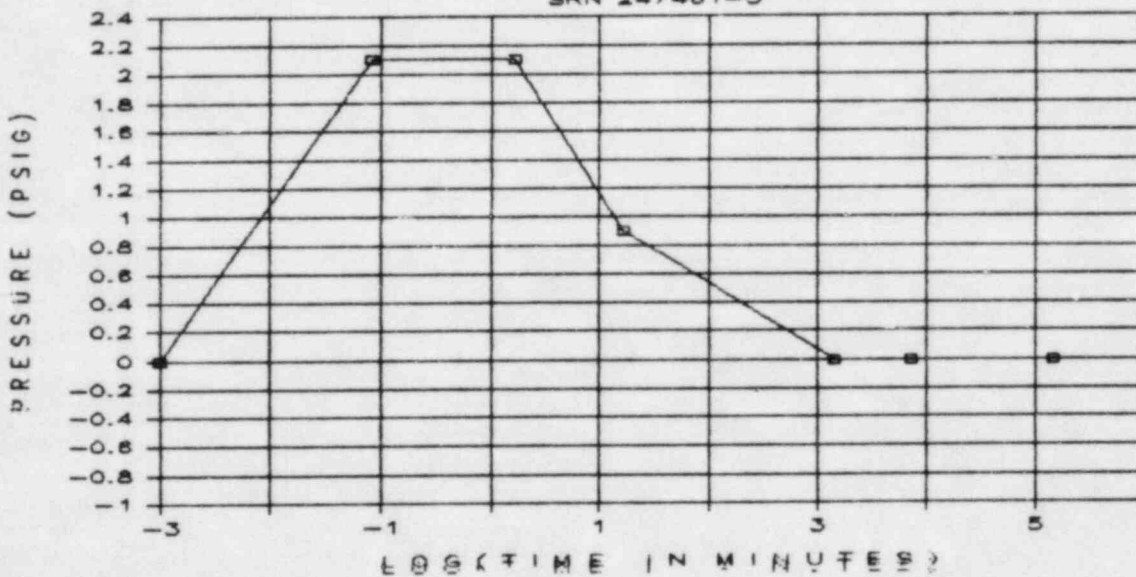
SPECIFIED ACCIDENT PROFILES

SRN 247461-3



SPECIFIED ACCIDENT PROFILES

SRN 247461-3



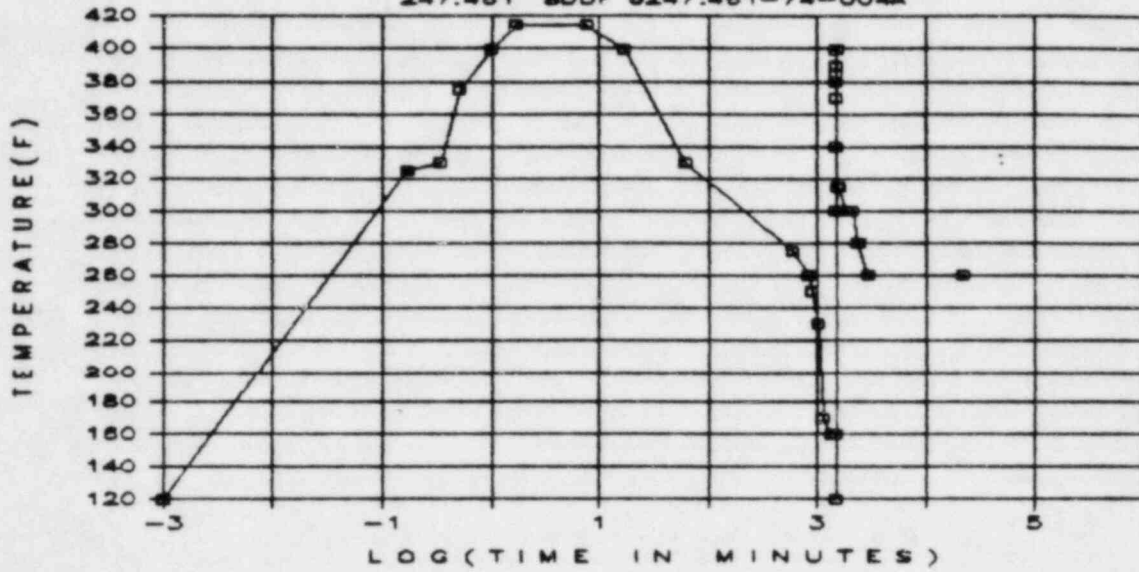
SPECIFIED ACCIDENT CONDITIONS FOR SPECIFICATION: 247461

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

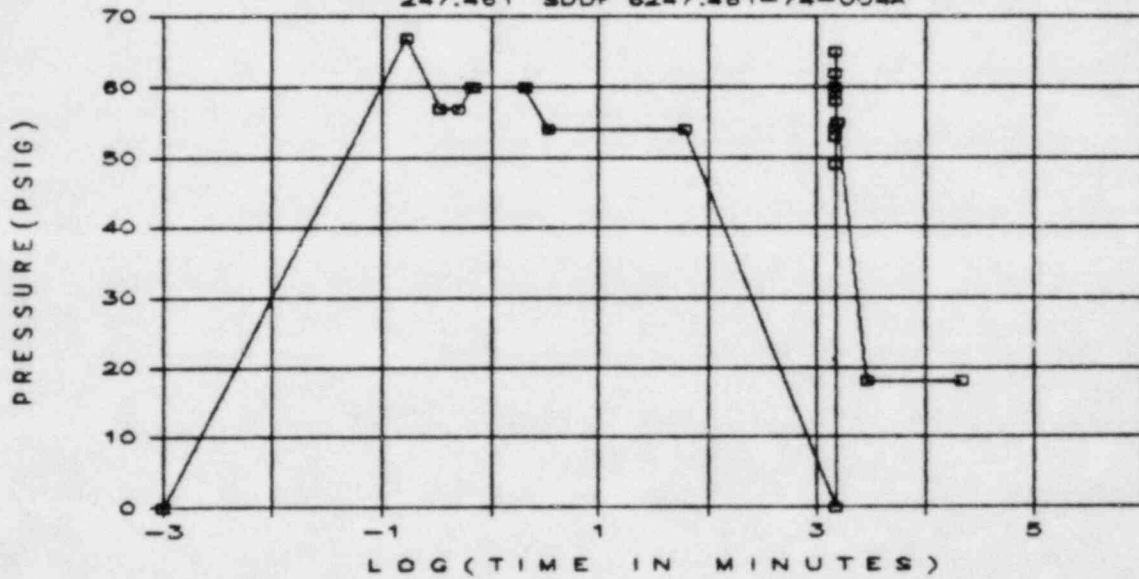
TEST PROFILE

247.461 SDDF 8247.461-74-004A



TEST PROFILE

247.461 SDDF 8247.461-74-004A



SEE NEXT PAGE FOR DATA

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

TEMPERATURE														
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
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	57	57	60	60	54	54	0	53	49	54	59	65
CONT'D														
TEMPERATURE														
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
PRESSURE														
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						
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									

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 SUBHRG	QUAL. LIFE	OPTIME CC
SRN 247481-1				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*PDT29B	11530B4	AB-141-2	14.7 years	1000 A
1CHS*PT3A	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*LT 138	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

SRN 247481-1
 Rev. 0
 Sheet No 2C
 Date: 27 Nov 81

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

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

SRN 247481-1				
HVR VENTILATION - REACTOR PLANT				
1HVR*PDT60D	11530B3PA	AB-141-2	14.7 years	100D A
1HVR*PDT60E	11530B3PA	AB-141-2	14.7 years	100D A
1HVR*PDT60F	11530B3PA	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

ABU notes

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 D
 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	1153GP6PA	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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUB/IRG	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	1153CB7PA	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*LT11B	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 SUDHRG	QUAL. LIFE	OPTIME OC

SRN 247481-1				
SFC SPENT FUEL POOL COOLING AND CLEAN-UP				
1SFC*LT28A	1153084PG,1159C10A	FB-113-1	20 Years	1000 A
1SFC*LT28B	1153084PG,1159C10A	FB-113-1	20 Years	1000 A
SHP SERVICE WATER				
1SHP*FT59A	1153084	FB-095-G	10.7 Years	1000 A
1SHP*FT59B	1153084	FB-095-G	10.7 Years	1000 A
1SHP*FT60A	1153084	FB-095-G	10.7 Years	1000 A
1SHP*FT60B	1153084	FB-095-G	10.7 Years	1000 A
1SNP*FT64A	1153085	PT-3	18 Years	1000 A
1SNP*FT64B	1153085	PT-3	18 Years	1000 A
1SNP*PT21A	1153087	PT-3	15.5 Years	1000 A
1SNP*PT21B	1153087	PT-3	15.5 Years	1000 A
1SNP*PT21C	1153087	PT-3	15.5 Years	1000 A
1SNP*PT21D	1153087	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 SUBHRG	QUAL. LIFE	OPTIME OC
SRN 247481-1				
SWP SERVICE WATER				
1SWP*PT21E	1153GB7	PT-3	15.5 Years	1000 A
1SWP*PT21F	1153GB7	PT-3	15.5 Years	1000 A
1SWP*PT21G	1153GB7	PT-3	15.5 Years	1000 A
1SWP*PT21H	1153GB7	PT-3	15.5 Years	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247481-1

REV 0

SHEET NO. 3

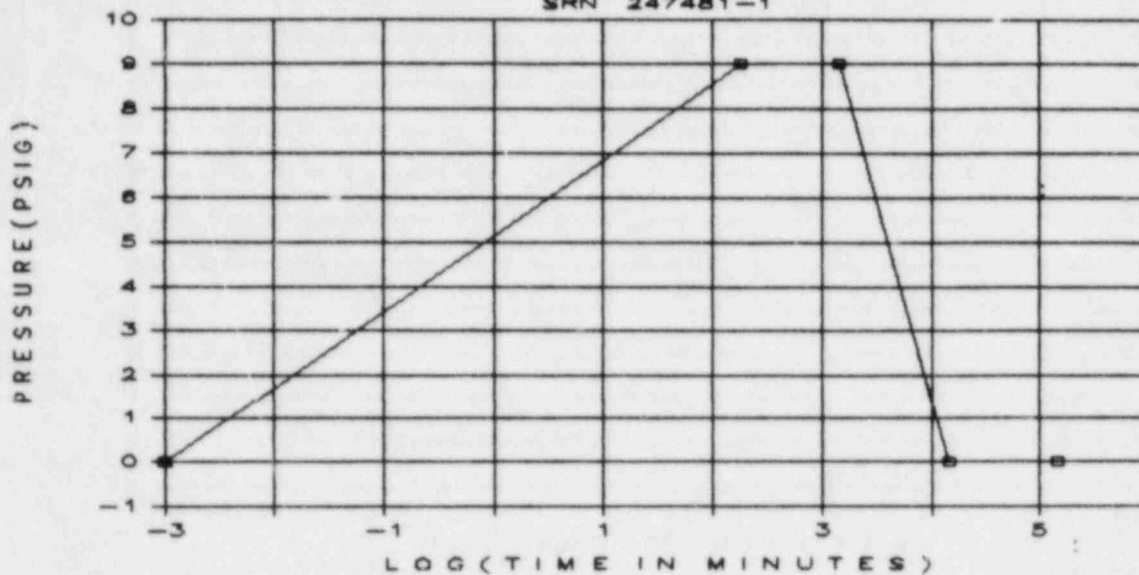
DATE 11/27/84

NOTES

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.

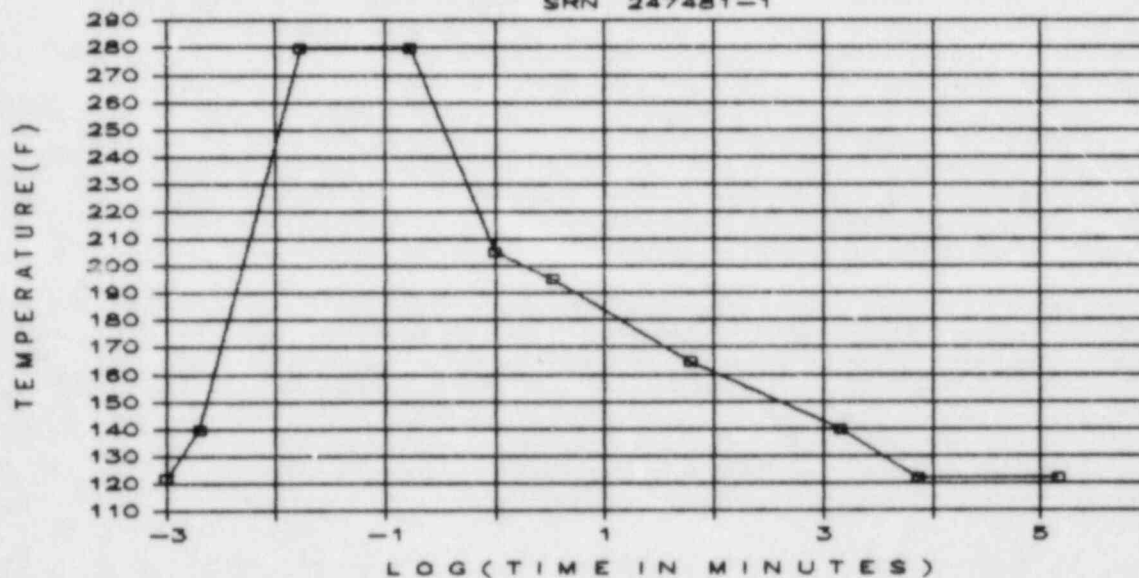
SPECIFIED ACCIDENT PROFILE

SRN 247481-1



SPECIFIED ACCIDENT PROFILE

SRN 247481-1

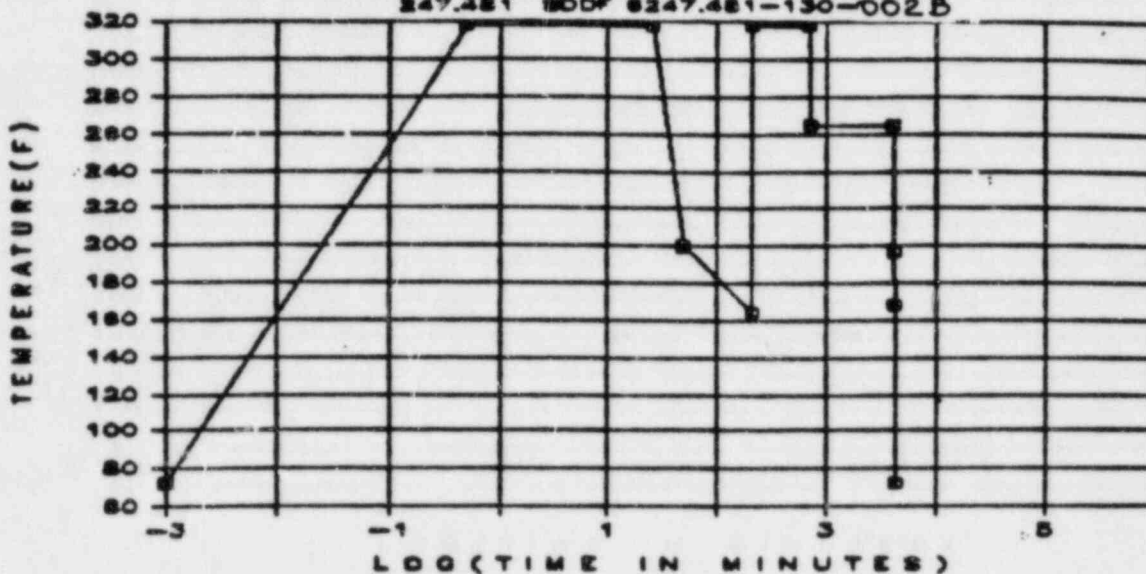


TEMPERATURE										
TIME	0sec	0.1sec	1sec	10sec	60sec	200sec	1hr	1day	5days	100days
LOG (MINUTES)	-3.00	-2.70	-1.77	-0.77	0.00	0.52	1.78	3.16	3.86	5.16
TEMP (F)	122	140	280	280	205	195	165	140	122	122
TIME (MIN)	0.001	0.002	0.017	0.17	1	3.33	60	1440	7200	144000

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

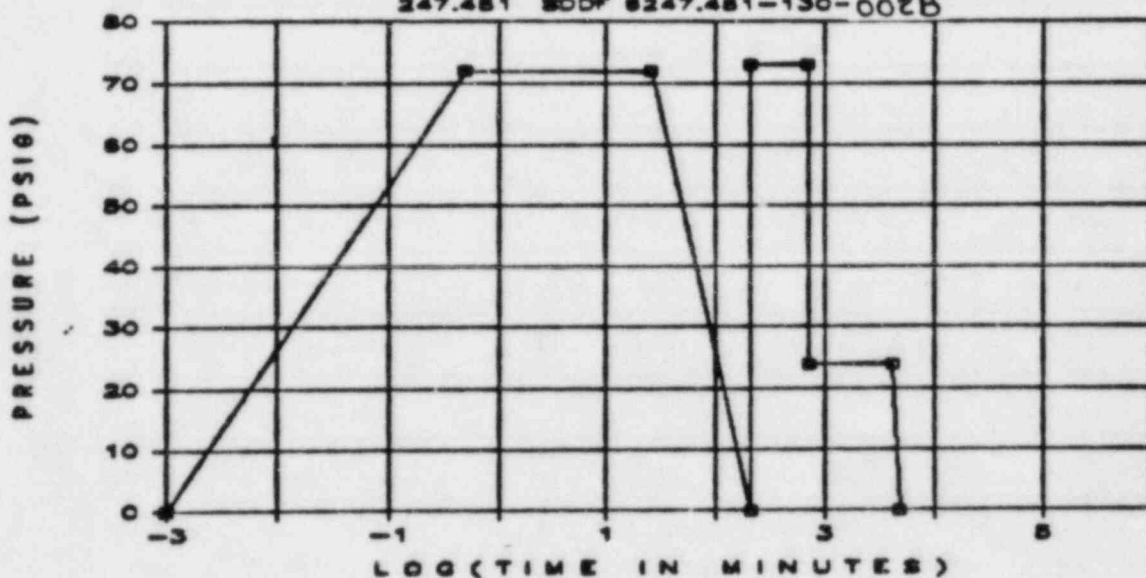
TEST PROFILE

247.481 BDDF 6247.481-130-002B



TEST PROFILE

247.481 BDDF 6247.481-130-002B



TEST PROFILE DATA FOR 247.481 BDDF 6247.481-130-008A

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			

SRN 247491-1
REV 0
SHEET NO. 2
DATE 12-6-84

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

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

MARK NO

SRN 247491-1

SPEC 247.491

B33 REACTOR RECIRC VALVE FLOW CONTROL

1B33*SOVF019

MODEL/CATALOG NO.

REMARKS

ENV. ZONE QUAL. LIFE

SUCHRG

CPTIME

OC

DH-1

1.5 YR

1 HR

NP8320

A

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:

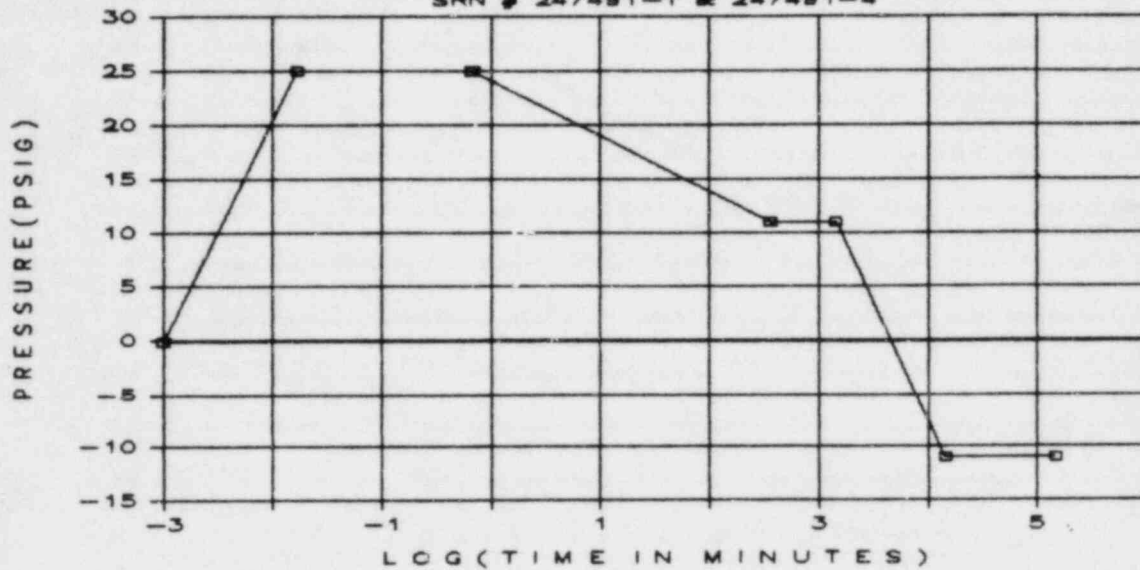
Combined radiation in DW-1 to solenoid coil is 1.21E8 rads equivalent to gamma.

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.

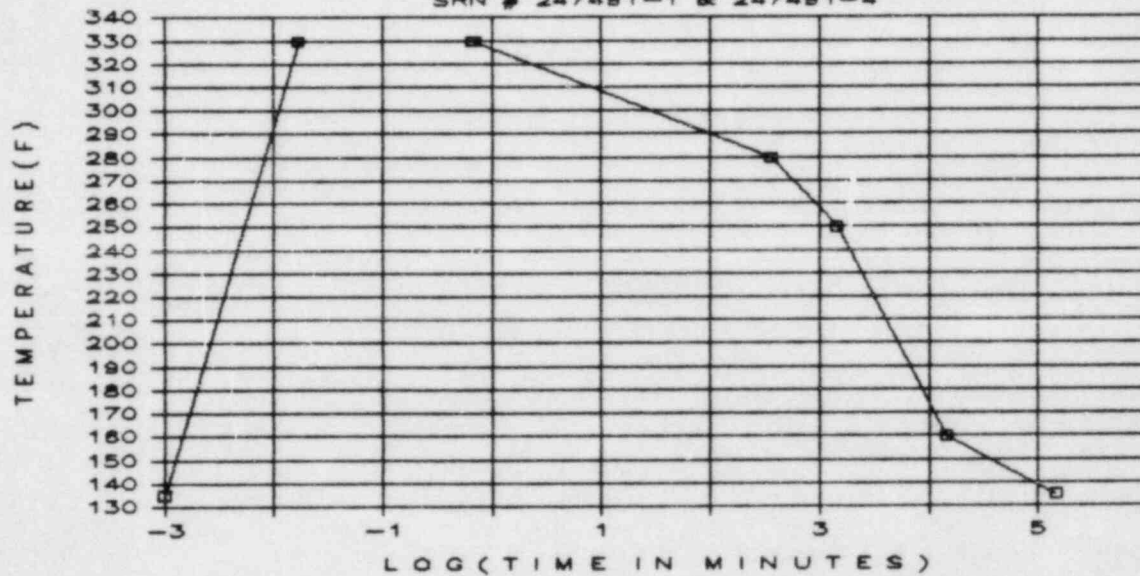
SPECIFIED ACCIDENT PROFILE

SRN # 247491-1 & 247491-4



SPECIFIED ACCIDENT PROFILE

SRN # 247491-1 & 247491-4

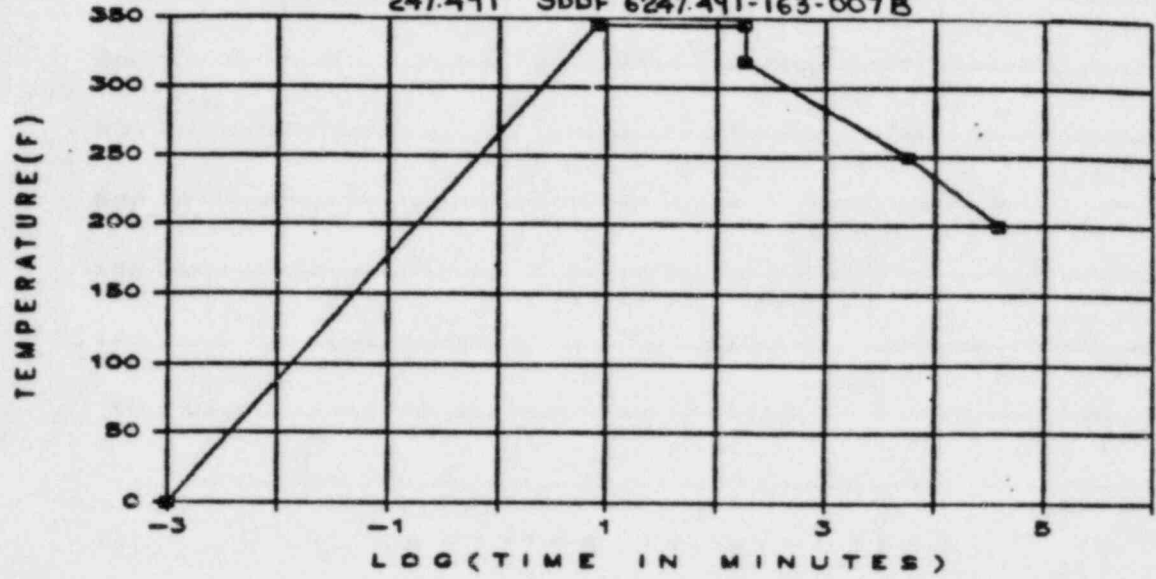


TEMPERATURE							
TIME	0sec	1sec	40sec	6hr	1day	10days	100days
LOG (MINUTES)	-3.00	-1.77	-0.17	2.56	3.16	4.16	5.16
TEMP(F)	135	330	330	280	250	160	135
TIME(MIN)	0.001	0.017	0.67	360	1440	14400	144000

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

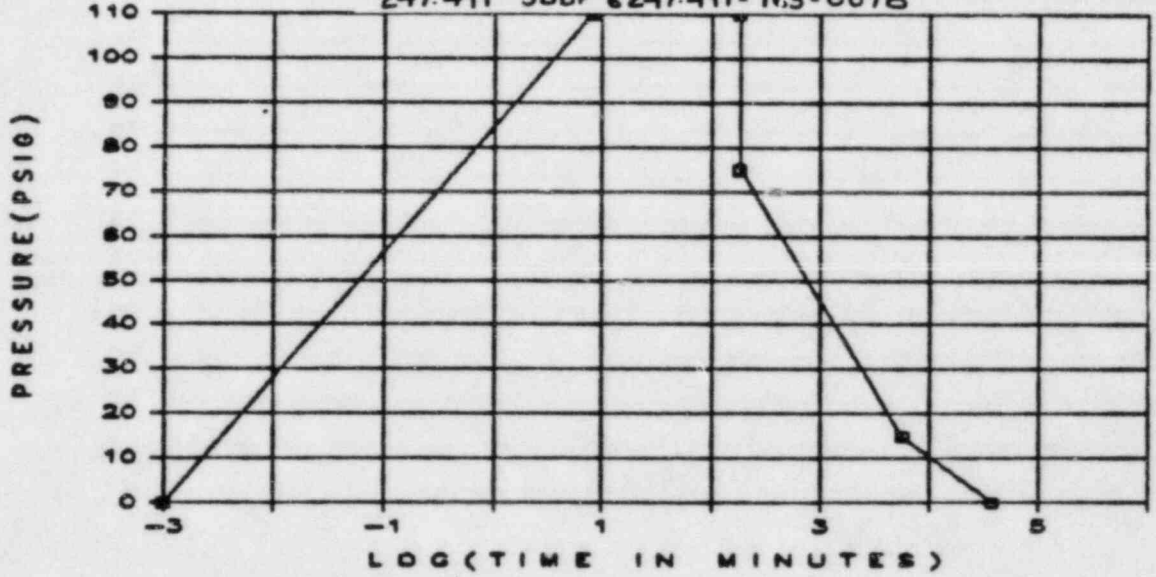
TEST PROFILE

247.491 SDDF 6247.491-163-007B



TEST PROFILE

247.491 SDDF 6247.491-163-007B

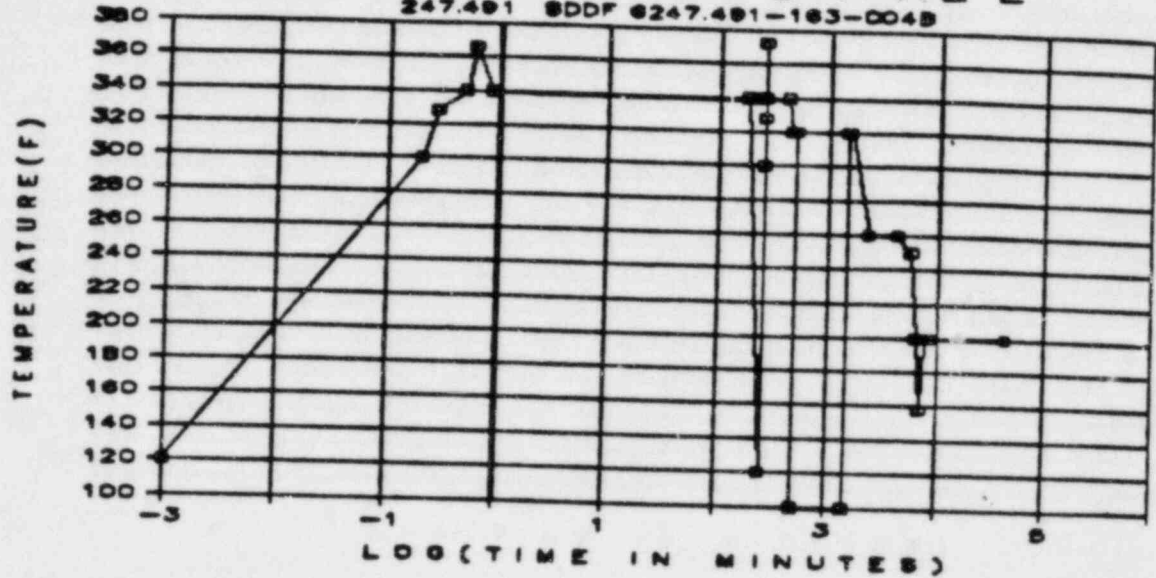


TEST PROFILE DATA FOR 247.491 SDDF 6247.491-163-007B
SOLENOID VALVES

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

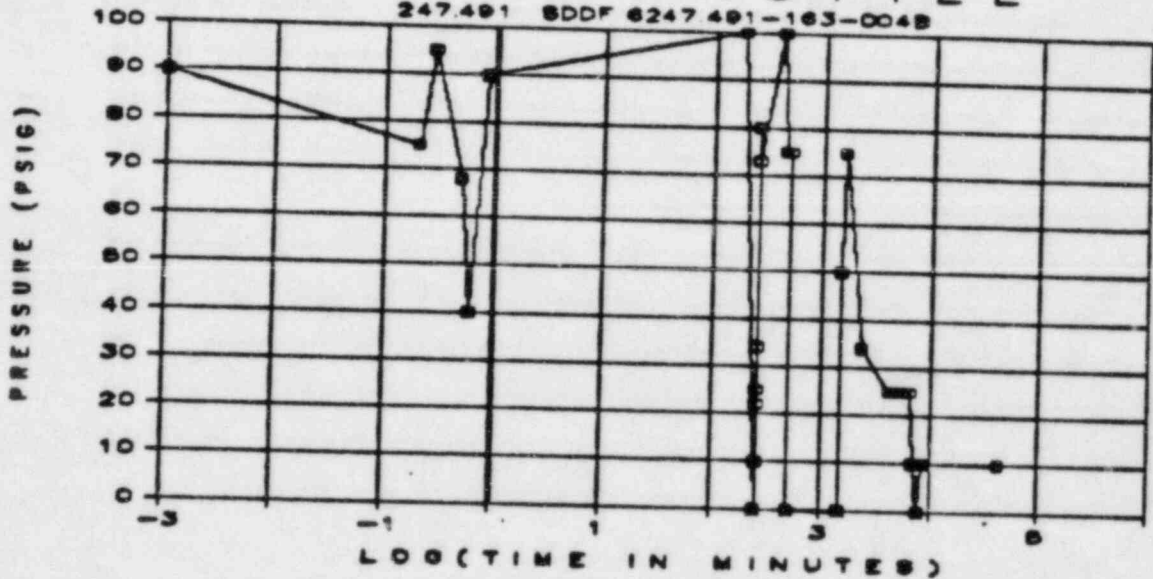
TEST PROFILE

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
C O N T ' 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
C O N T ' 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
 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:	70 MIN	100 DAYS	3	2,4	AN+DATA	YES	NOTE-3
SYSTEM: SEE SHEET 2	TEMP (F):							
	NORMAL	122	140	1	2,4	TEST-IDENT	NA	NOTE-1
	ABNORMAL	NA	NA	NA	NA	NA	NA	NOTE-2
TYPE: (DESCRIPTION)	ACCIDENT:	280	346	1	2	TEST-IDENT	YES	
SOLENOID VALVE	PRESS (PSIG):							
	NORMAL	1" H2O	ATMOS	1	2	AN+DATA	NA	NOTE-1
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MANUFACTURER: ASCO	ACCIDENT:	9	110	1	2	TEST-IDENT	YES	
	IRH (%):							
MODEL: SEE SHEET 2	NORMAL	90	100	1	2	TEST-IDENT	NA	NOTE-1
	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:							
WATER FLOW	ACC GAMMA:	2.9E7 TID	2E8	1	2	TEST-IDENT	YES	
OP. CODE: SEE SHEET 2	NORM BETA:							
	ACC BETA:							
	NEUTRON:							
	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:

- SPECIFICATION 247.491 REV.0 ADD.6 / EDCR P40,702A(FIGURE-2)
- VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.491-163-007E
- POST-ACCIDENT OPERABILITY PERIOD: SEE PAOF DOCUMENT NO. 245.600, REV.0
- CALCULATION NO. 12210-EOS-42
- ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS FORM NO. M-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 SUDMRG	QUAL. LIFE	OPTIME OC

SRN 247491-2				
SPEC 247.491				
B33 REACTOR RECIRC VALVE FLOW CONTROL				
1B33*SOVF020	NP8320 NOTE-A	CT-3	9.6 YR	1 HR A
DER DRAINS - REACTOR BLDG EQUIPMENT				
1DER*SOV126	NP8320 NOTE-A	CT-3	9.6 YR	1HR A
1DER*SOV127	NP8320 NOTE-A	FB-113-G	2.2 YR	1HR A
DFR DRAINS - REACTOR PLANT FLOOR				
1DFR*SOV101	NP8320 NOTE-A	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

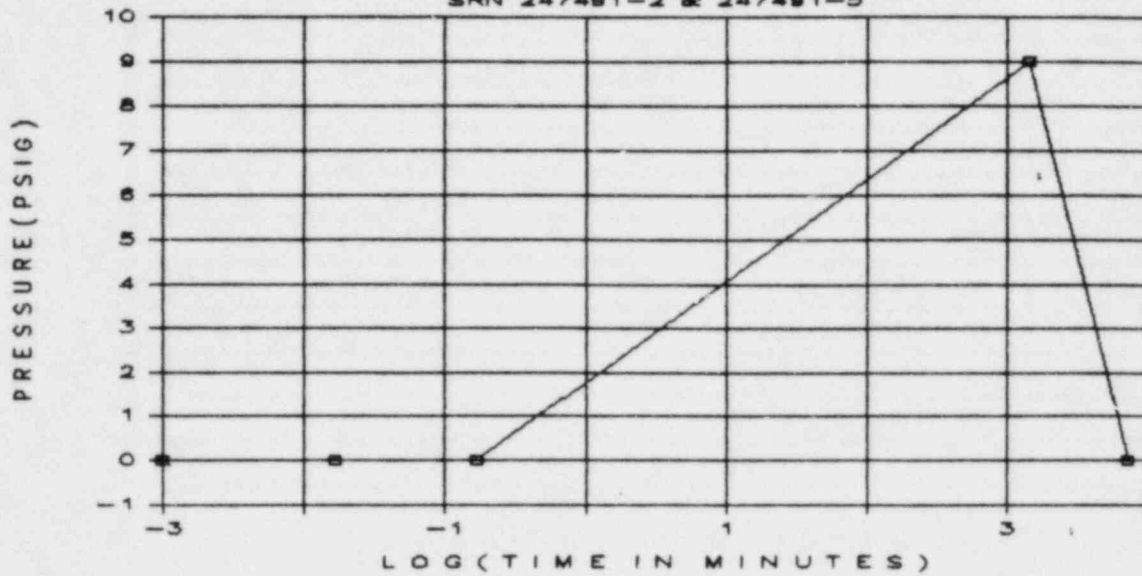
SRN 247491-2
REV 0
SHEET NO. 3
DATE 11/29/84

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.

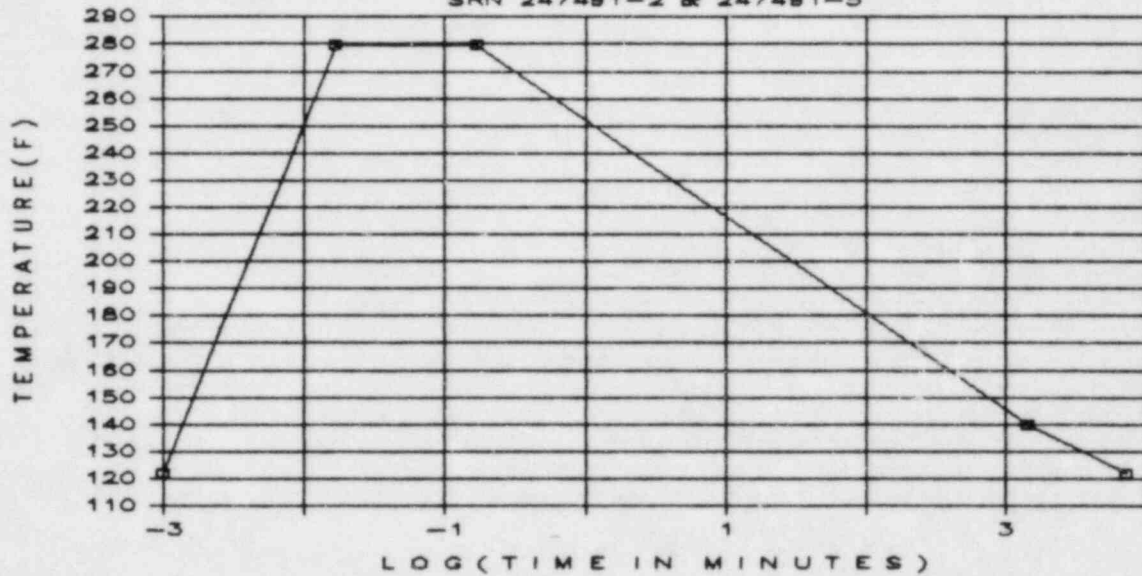
SPECIFIED ACCIDENT PROFILE

SRN 247491-2 & 247491-5

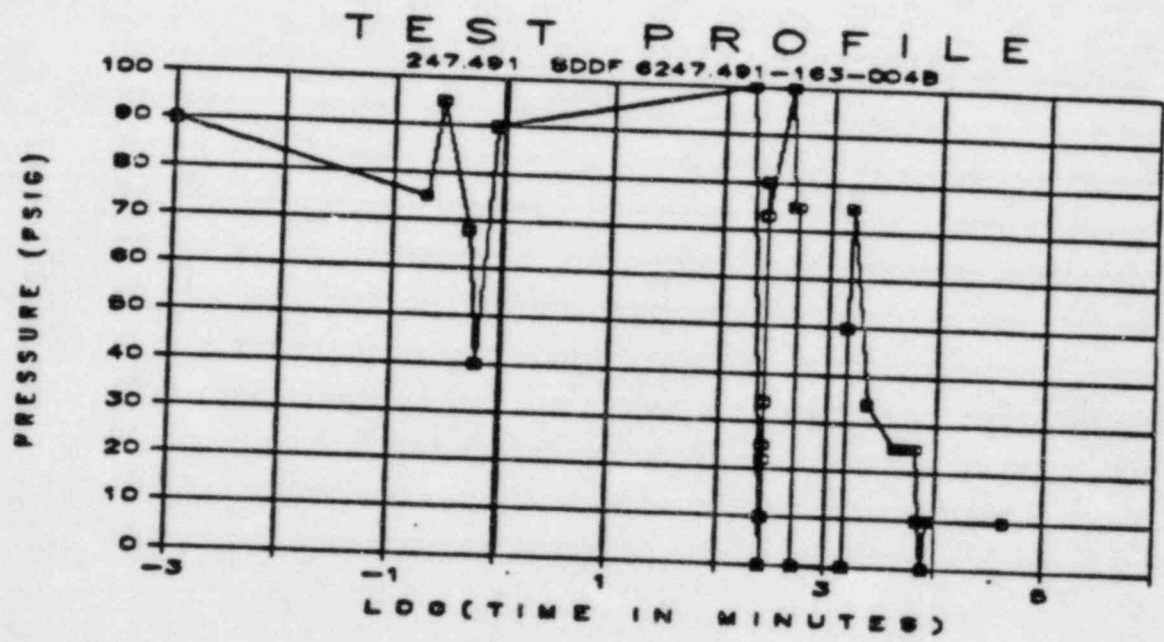
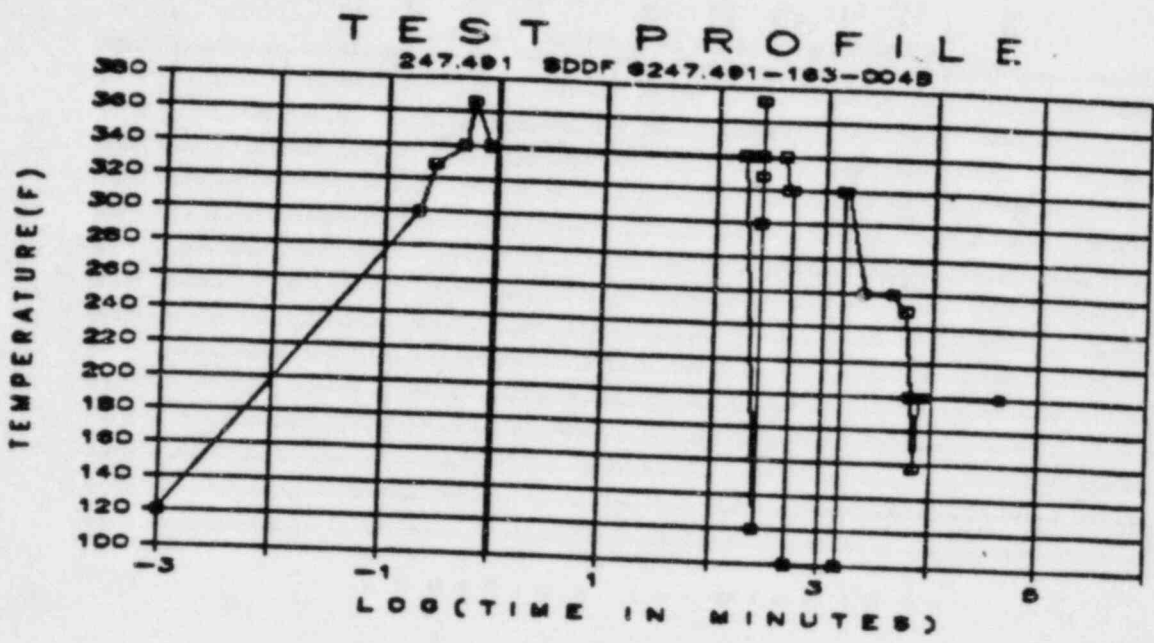


SPECIFIED ACCIDENT PROFILE

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
C O N T ' 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
C O N T ' 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

ENVIRONMENTAL CONDITIONS AND QUALIFICATION								
EQUIPMENT DESCRIPTION	PARAMETER	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS
		VALUE	VALUE	SPECIFIED	QUALIFIED	METHOD	DEMO	
EQUIP NO.: SEE SHEET 2	UP.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) SOLENOID VALVE	ACCIDENT	135	346	1	2	TEST-IDENT	YES	
	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: - - - SEE NOTE 5	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
	RADIATION:							NOTE-1
	NORM GAMMA						NA	
OP. CODE: SEE SHEET 2	ACC GAMMA	2.9E7 T1D	2E8	1	2	TEST-IDENT	YES	
	NORM BETA						NA	
	ACC BETA						NA	
	NEUTRON						NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
ACCURACY - - SPEC: NA DEMO: 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: 4,5								
QUALIFIED LIFE - - - (YEARS): SEE SHEET 2 REFERENCE: 4 (NOTE-4)								

- DOCUMENT REFERENCE:
- SPECIFICATION 247.491 REV.0 ADD.6 / E&DCR P40,702A(Figure-3)
 - VENDOR ENVIRONMENTAL QUALIFICATION REPORT,
SDDF # 6247.491-163-007B
 - POST-ACCIDENT OPERABILITY PERIOD: SEE
PAOP DOCUMENT NO. 245.600, REV.0
 - CALCULATION NO. 12210-EGS-42
 - ASCO INSTALLATION AND MAINTENANCE INSTRUCTIONS FORM NO. V-5970

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 SUBNRG	QUAL. LIFE	OPTIME OC
SRN 247491-3				
SPEC 247.491				
E12 RESIDUAL HEAT REMOVAL				
1E12*SOVF051A	NP8320 NOTE-5	AB-114-8	40 YR	N/R B
1E12*SOVF051B	NP8320 NOTE-5	AB-114-8	40 YR	N/R B
1E12*SOVF065A	NP8320 NOTE-4,6	AB-070-5	40 YR	N/R B
1E12*SOVF065B	NP8320 NOTE-4,6	AB-070-5	40 YR	N/R B
SNP SERVICE WATER				
1SNP*SOV51A	DBQ, NP8320 NOTE-7	AB-141-2	2.2 YR	1000 A
1SNP*SOV51B	DBQ, NP8320 NOTE-7	AB-141-3	2.2 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247491-3

REV 0

SHEET NO. 3

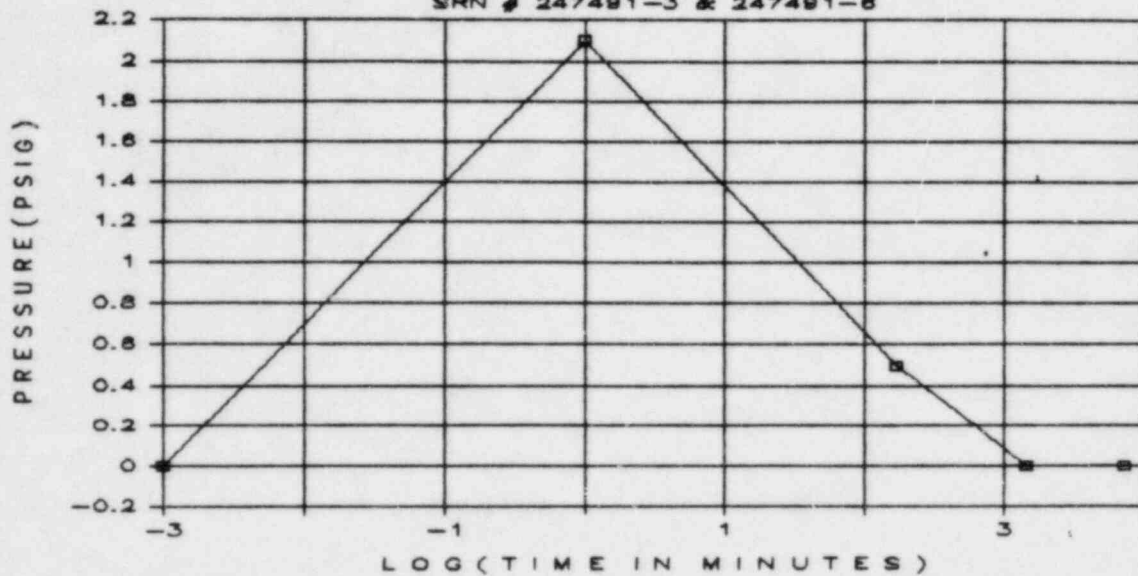
DATE 11/29/84

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.

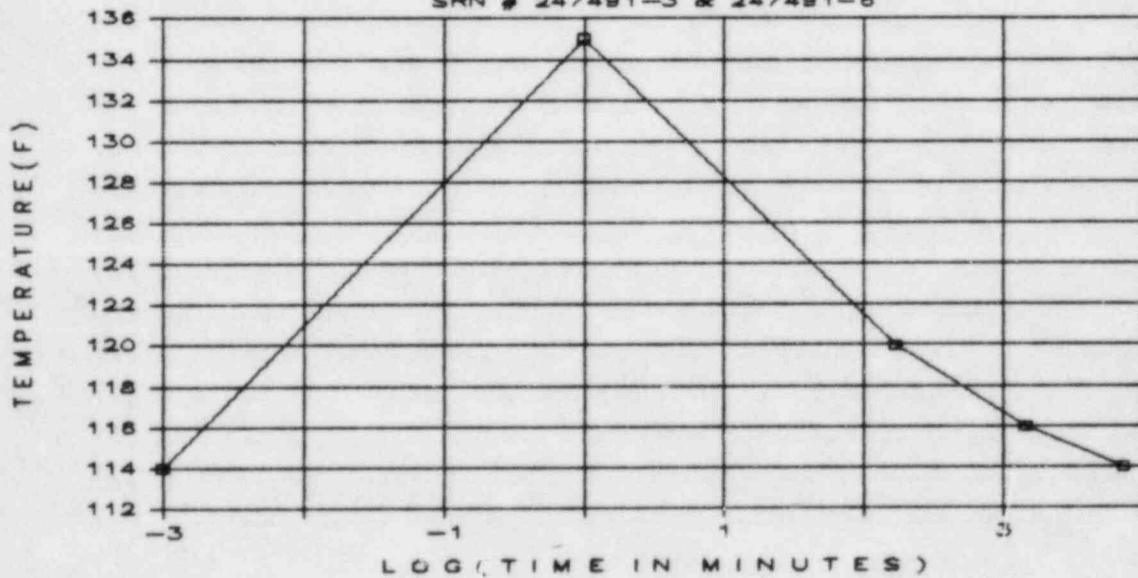
SPECIFIED ACCIDENT PROFILE

SRN # 247491-3 & 247491-6



SPECIFIED ACCIDENT PROFILE

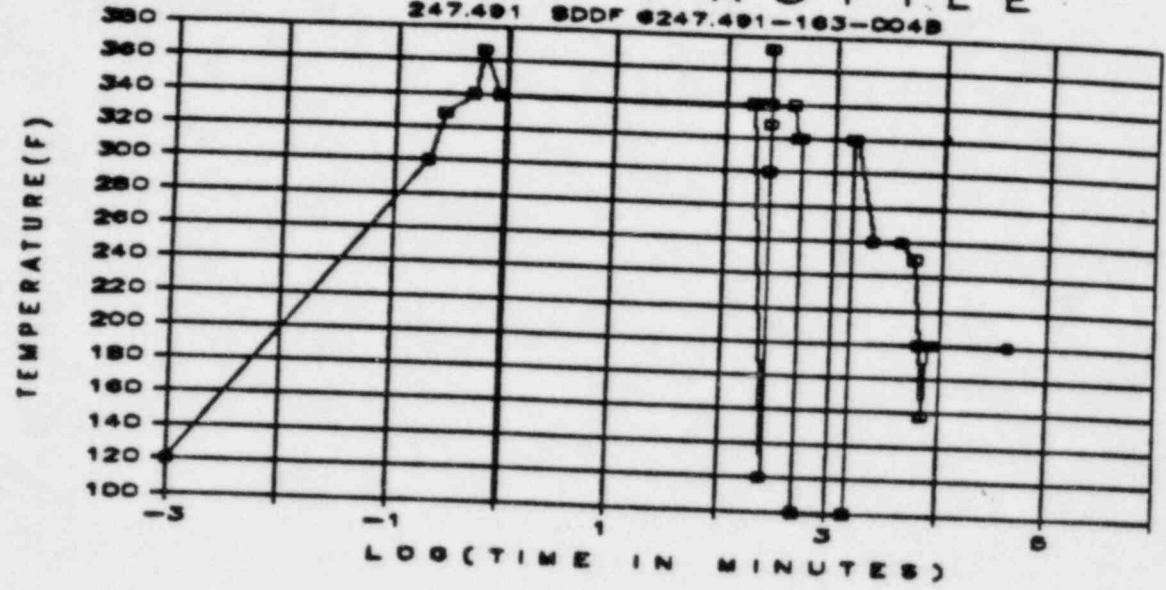
SRN # 247491-3 & 247491-6



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	114 113
TIME (MIN)	0.001	1	168	1440	7200
P R E S S U R E -----					
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 -0.1
TIME (MIN)	0.001	1	168	1440	7200

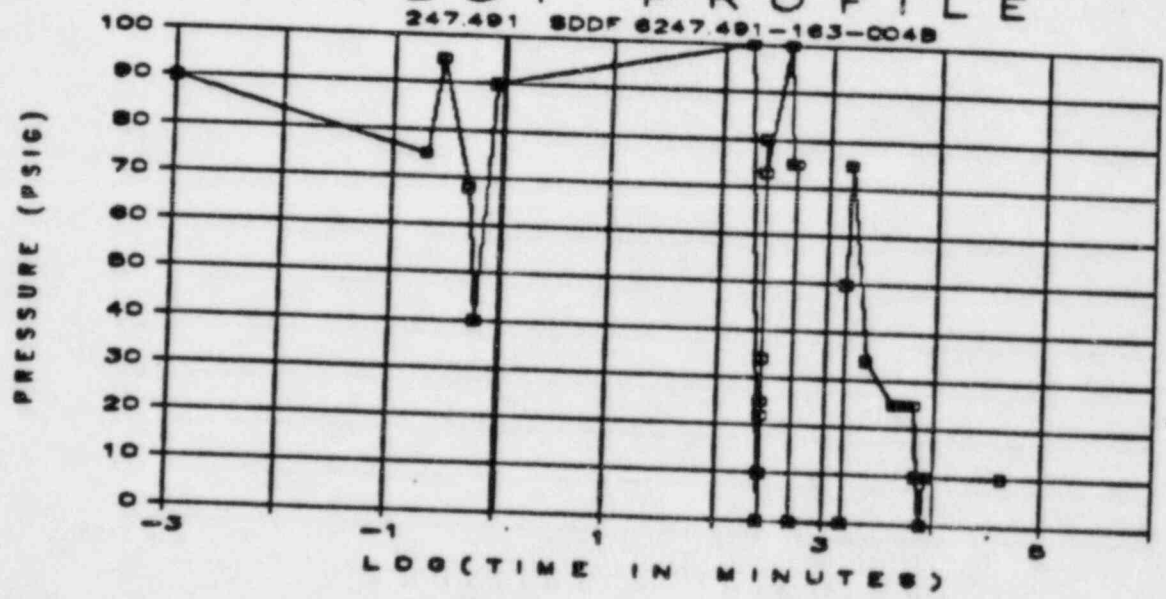
TEST PROFILE

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	

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247491-4
REV 0
DATE 05-Dec-84
SHEET 1

EQUIPMENT DESCRIPTION	ENVIRONMENTAL CONDITIONS AND QUALIFICATION		DOCUMENT REFERENCE		QUAL	MARGIN	REMARKS	
	PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	METHOD		DEMO
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
TYPE: (DESCRIPTION) LIMIT SWITCH	NORMAL	140	194	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
	ACCIDENT	330	375	1	2	TEST-IDENT	YES	
MANUFACTURER: NAMCO	PRESS (PSIG)							NOTE-1
	NORMAL	.5	ATMOS	1	2	AN+DATA	NA	NOTE-4
	ABNORMAL	NA	NA	NA	NA	NA	NA	
MODEL: SEE SHEET 2	ACCIDENT	25 TO -8	100	1	2	TEST-IDENT	YES	NOTE-4
SAFETY FUNCTION: - - -	RH (%)							NOTE-1
	NORMAL	50	100	1	2	TEST-IDENT	NA	
	ABNORMAL	NA	NA	NA	NA	NA	NA	
SAMPLE LINE ISOLATION (DRYWELL)	ACCIDENT	100	100	1	2	TEST-IDENT	NA	
	RADIATION:							NOTE-1
	NORM GAMMA						NA	
OP. CODE: SEE SHEET 2	ACC GAMMA	1.2EB TID	2EB	1,5	2	TEST-IDENT	YES	
	NORM BETA						NA	
	ACC BETA						NA	
ACCURACY - -	NEUTRON						NA	
	SPRAY	NA	NA	NA	NA	NA	NA	
	SUBMERGENCE	NA	NA	NA	NA	NA	NA	
ZONE NO.: SEE SHEET 2	DOCUMENT REFERENCE:							
SUBMERGENCE:	1. SPECIFICATION 247.491 REV.0 ADD.6 / E&DCR F40,702A (FIGURE-1)							
SPRAY/FROTH:	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT, SDDF # 6247.491-163-004B							
EQUIPMENT NOT SUBJECT 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	4. CALCULATION NO. 12210-EQS-49							
	5. CALCULATION NO. 12210-EQS-50							
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. ENV. ZONE QUAL. LIFE OPTIME
REMARKS SUBMRG OC

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.

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. 2B
 DATE 12-6-84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUSHRG	QUAL. LIFE	OPTIME 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*TVSA	ED, EA180 NOTE-4	CT-G	40YR	1 HR A
1HVN*TVSB	ED, EA180 NOTE-4	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.

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. REMARKS	ENV. ZONE SUBMRG	QUAL. LIFE	OPTIME 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.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM
SYSTEM COMPONENT EVALUATION WORK SHEET

SRN 247497-1
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:	30 DAYS			3	2		
SYSTEM: SEE SHEET 2	TEMP (F):							NOTE-1
TYPE: (DESCRIPTION) ELECTRO-HYDRAULIC ACTUATORS	NORMAL:	122			1	2		
	ABNORMAL:	NA			1	2		
	ACCIDENT:	150			1	2		
MANUFACTURER: BORG WARNER	PRESS (PSIG):							NOTE-1
	NORMAL:	ATMOS			1	2		
	ABNORMAL:	NA			1	2		
MODEL: SEE SHEET 2	ACCIDENT:	2.1			1	2		
	RH (%):							NOTE-1
	NORMAL:	90			1	2		
SAFETY FUNCTION: - - - CONTROL SEAL AIR PRESSURE	ABNORMAL:	NA			1	2		
	ACCIDENT:	100			1	2		
	RADIATION:							NOTE-1
OP. CODE: SEE SHEET 2	NORM GAMMA:				1	2		
	ACC GAMMA:	7E6 TID			1	2		
	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	
ZONE NO.: SEE SHEET 2	DOCUMENT REFERENCE:							
SUBMERGENCE:	1. SPECIFICATION 247.497 REV.0, ADD.1 / EMDCR P40,457B							
SPRAY/FROTH:	2. VENDOR ENVIRONMENTAL QUALIFICATION REPORT,							
EQUIPMENT NOT SUBJECT TO SUBMERGENCE OR SPRAY/FROTH	SDDF # (AWAITING REPORT)							
	3. POST-ACCIDENT OPERABILITY PERIOD: SEE PAOP DOCUMENT NO. 245.600, REV.0							
DOCUMENTATION ACCEPTABILITY:	NUREG 0588, CAT I							
QUALIFICATION IN PROGRESS								
MAINT/SURVEILL - - -								
REFERENCE:								
QUALIFIED LIFE - - -								
(YEARS): SEE SHEET 2								
REFERENCE:								

RBS-ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247497-1

REV 0

SHEET NO. 2

DATE 12-6-84

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

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUBHRG	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

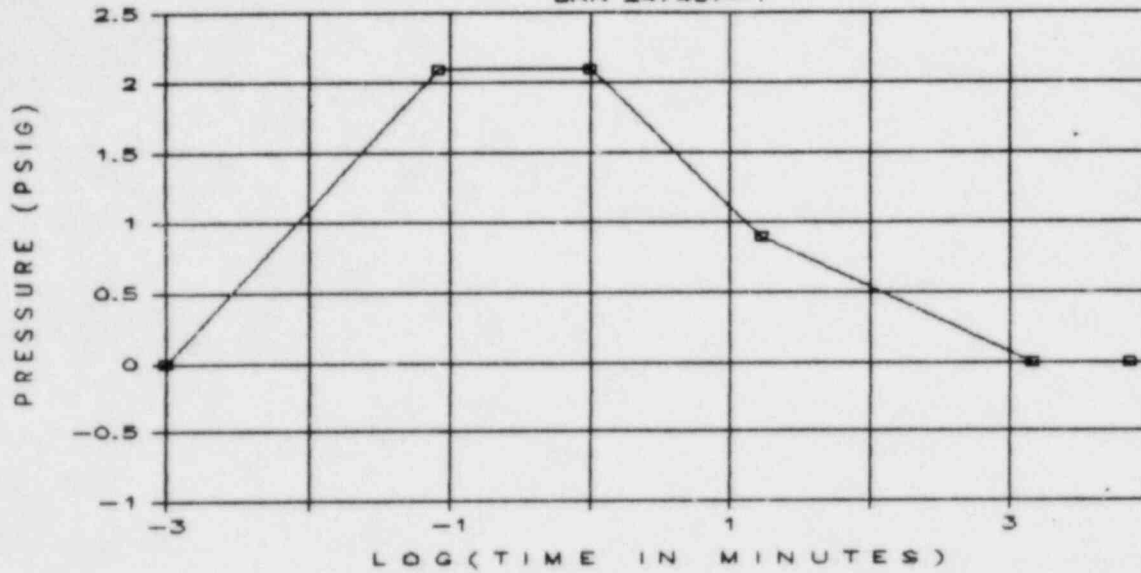
DATE 11/28/84

NOTES

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

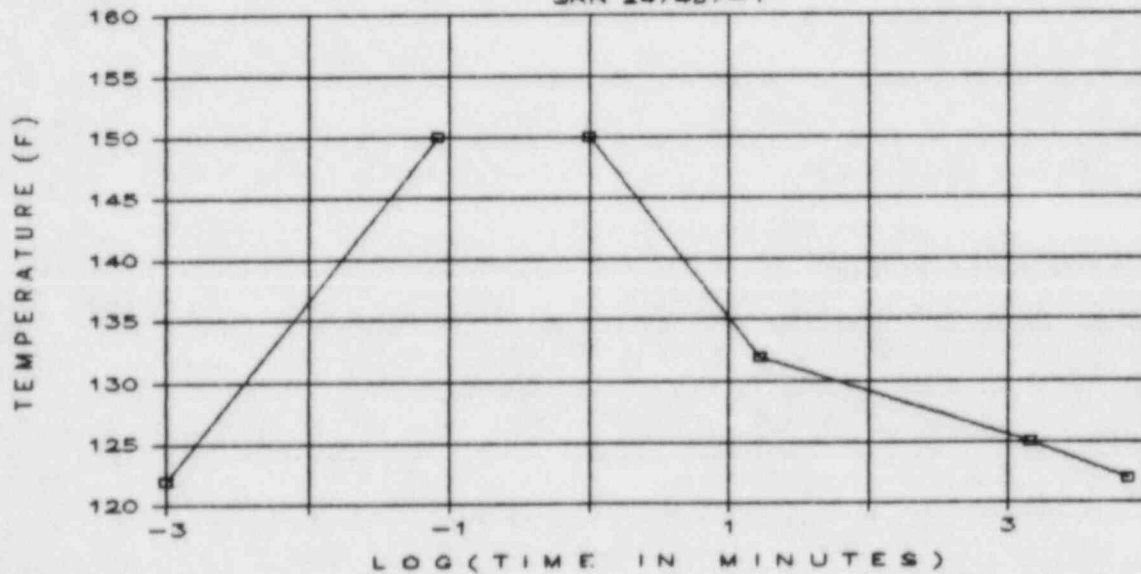
SPECIFIED ACCIDENT PROFILES

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
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 SUBIRG	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. 2B
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 11/26/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUDHRG	QUAL. LIFE	OPTIME OC
SRN 247501-1				
SPEC 247.501				
CHS CONTAINMENT ATMOSPHERE MONITORING				
1CHS*SOV34C	77KK-003	CT-G	5 YR	1000 A
1CHS*SOV34D	77KK-003	CT-5A	5 YR	1000 A
1CHS*SOV35A	77KK-002	CT-G	5 YR	1000 A
1CHS*SOV35B	77KK-002	CT-5A	5 YR	1000 A
1CHS*SOV35C	77KK-002	CT-G	5 YR	1000 A
1CHS*SOV35D	77KK-002	CT-G	5 YR	1000 A
SSR REACTOR PLANT SAMPLING SYSTEM				
1SSR*SOV130	77KK-008	CT-G	5 YR	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247501-1

REV 0

SHEET NO. 3

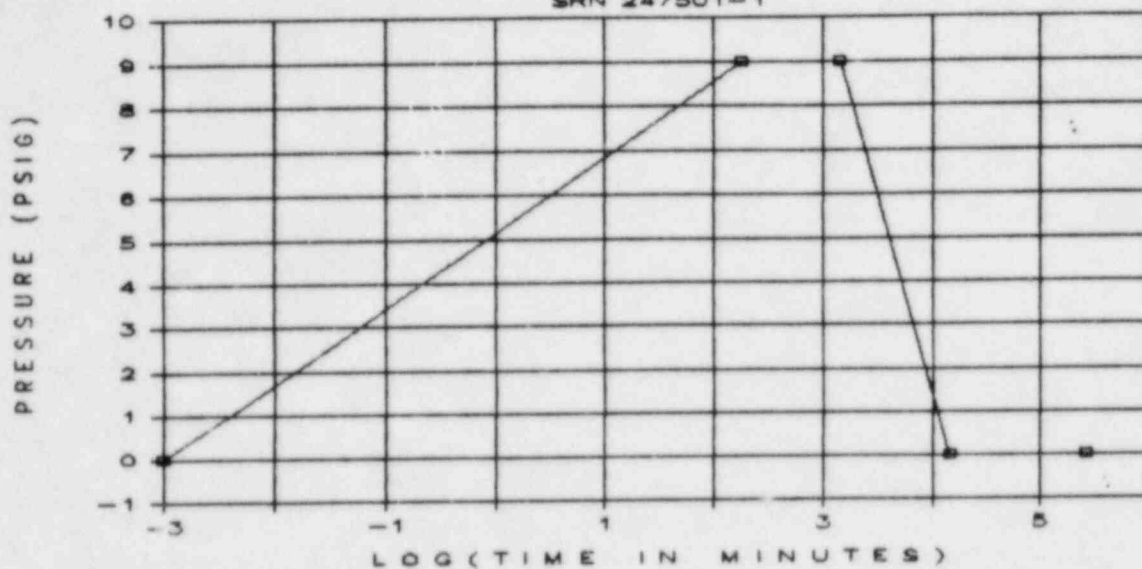
DATE 11/27/84

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.

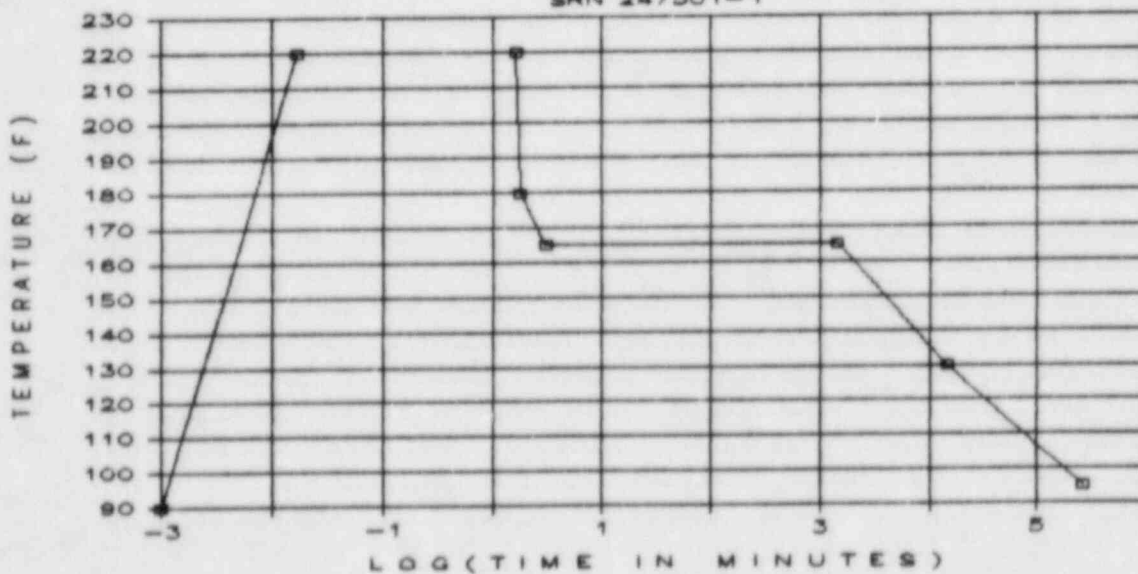
SPECIFIED ACCIDENT PROFILES

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
TIME (MIN)	0.001	180	1440	14400	259200

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
 RES-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 SUBIRG	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

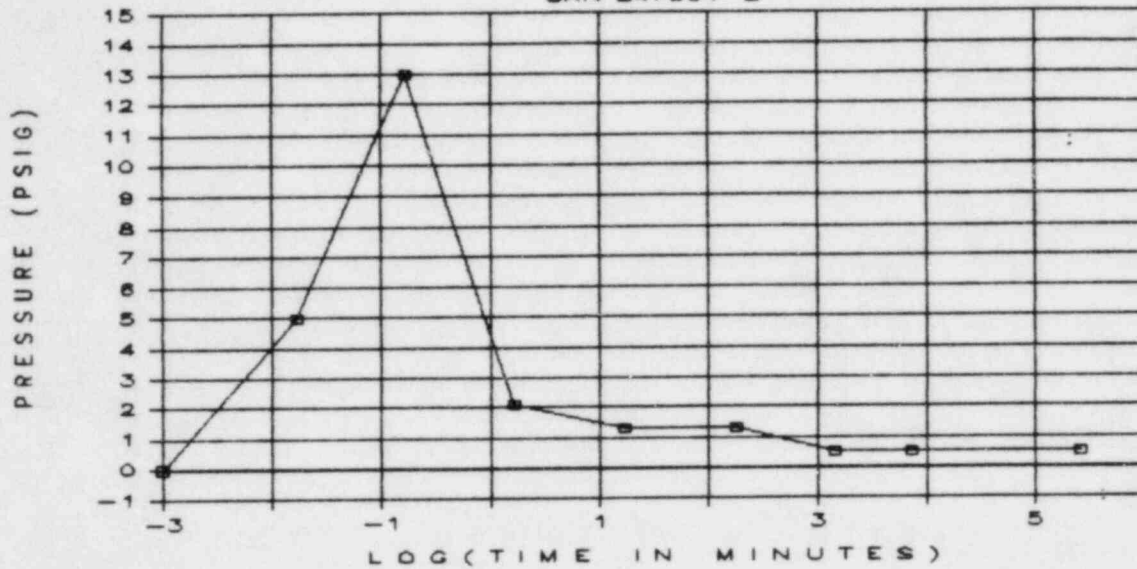
DATE 11/27/84

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.

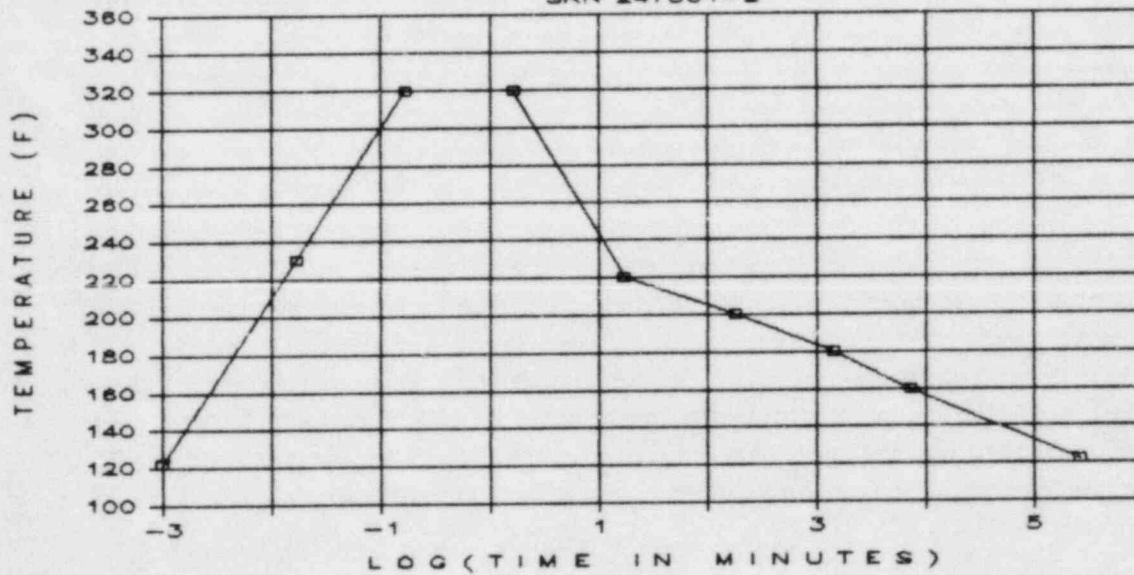
SPECIFIED ACCIDENT PROFILES

SRN 247501-2



SPECIFIED ACCIDENT PROFILES

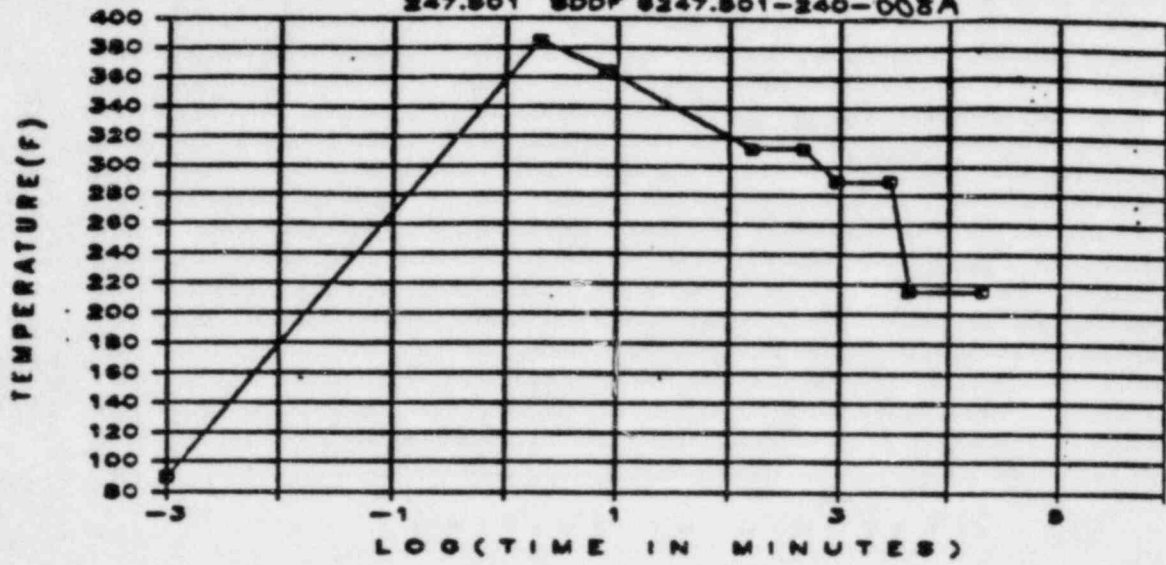
SRN 247501-2



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

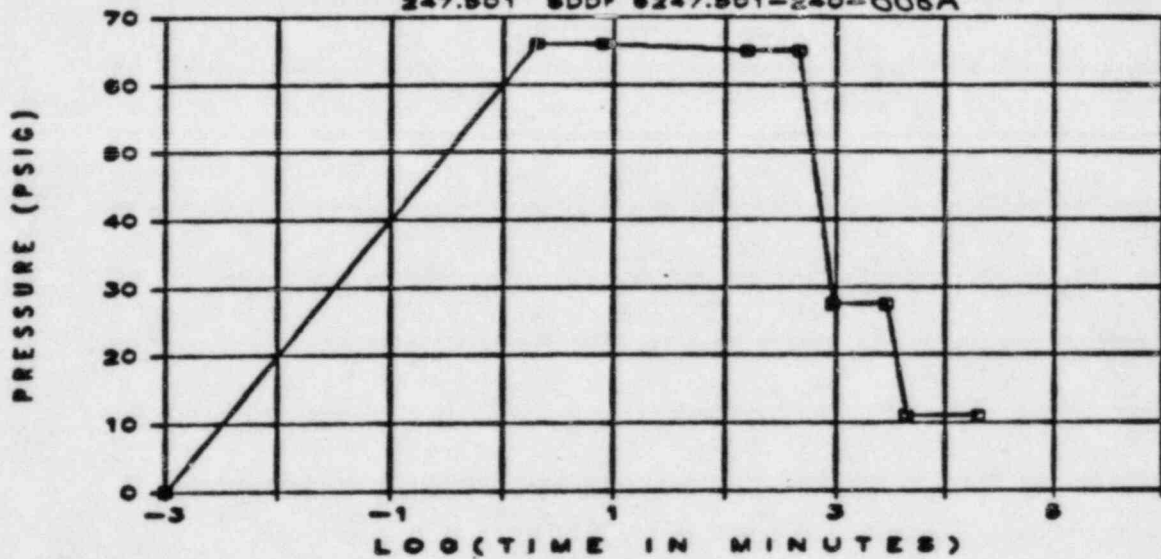
TEST PROFILE

247.501 BDDF 247.501-240-002A



TEST PROFILE

247.501 BDDF 247.501-240-002A



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

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 SUBHRG	QUAL. LIFE	OPTIME OC
SRN 247501-3				
SPEC 247.501				
IAS INSTRUMENT AIR				
IIAS*SOV45A	77KK-005	FB-148-G	5 YR	1000 A
IIAS*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.

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247529-1

REV 0

SHEET NO. 3

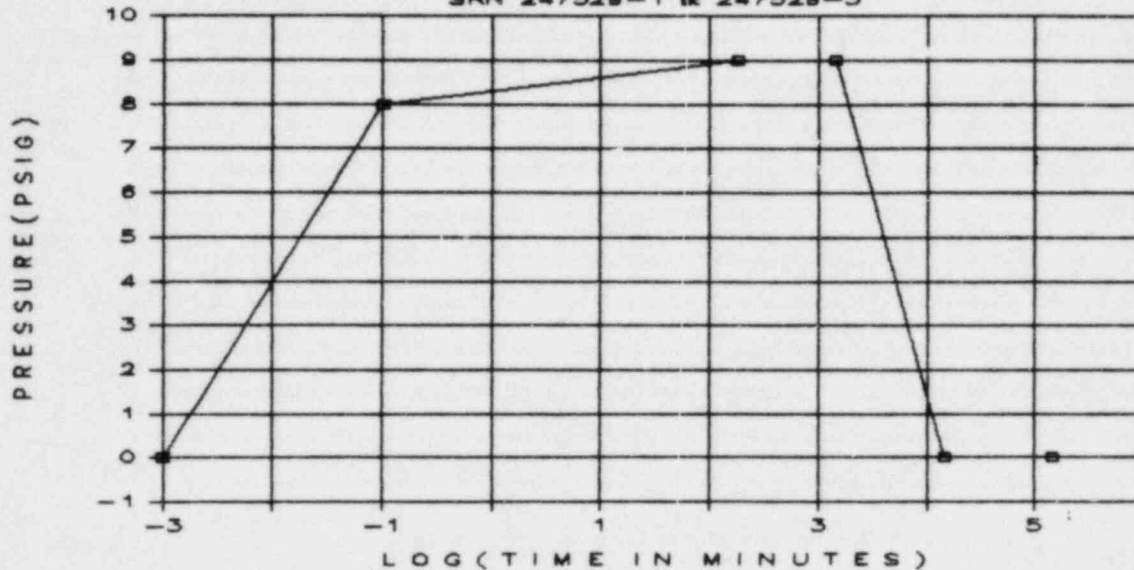
DATE 11/27/84

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.

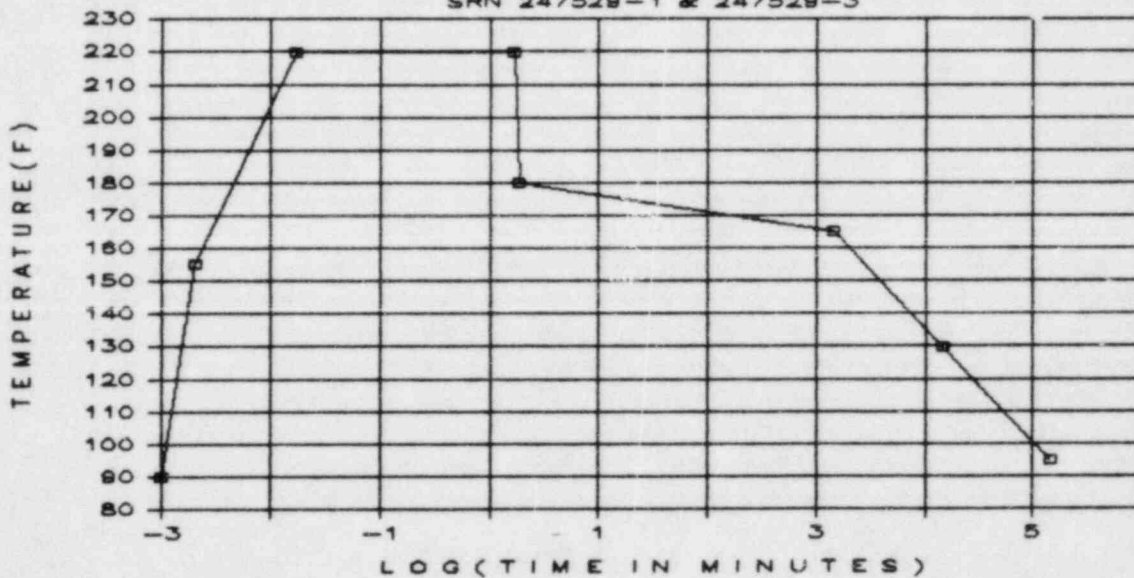
SPECIFIED ACCIDENT PROFILE

SRN 247529-1 & 247529-3



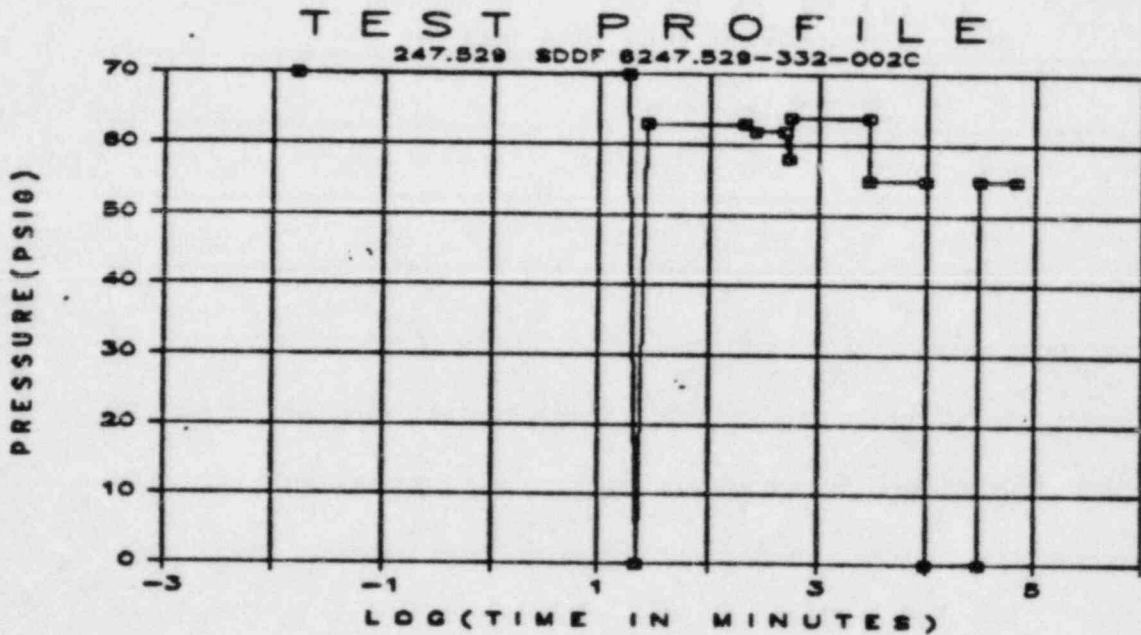
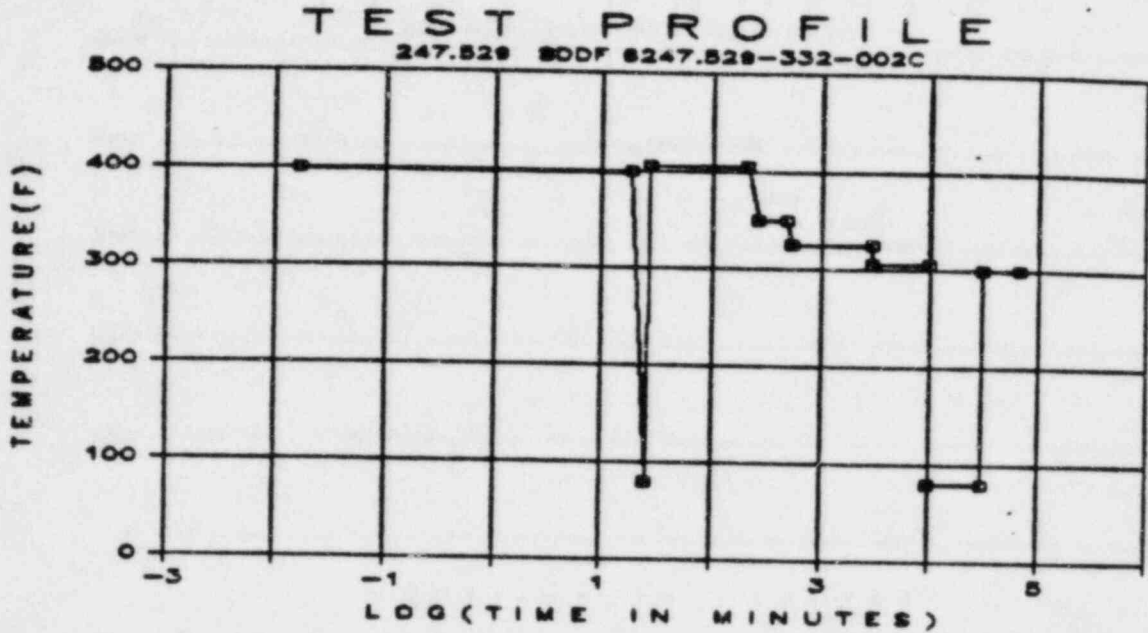
SPECIFIED ACCIDENT PROFILE

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	3hr25min	4.4hr	7hr55min	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	3hr25min	4.4hr	7hr55min	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

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 SUBHRS	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 - HARGH ENVIRONMENT ONLY

SRN 247529-2
 REV 0
 SHEET NO. 2 (PAGE 2 OF 2)
 DATE 11/27/84

MARK NO	MODEL/CATALOG NO. REMARKS	ENV. ZONE SUCHRG	QUAL. LIFE	OPTIME CC
SRN 247529-2				
SPEC 247.529				
SVV STEAM VENTS - SAFETY VALVES				
1SVV*ZE10K	E2273AM1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10L	E2273AM1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10H	E2273AM1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10N	E2273AM1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10P	E2273AM1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10Q	E2273AM1 REG.G.1.97	DH-1	40 YEARS	1000 A
1SVV*ZE10R	E2273AM1 REG.G.1.97	DH-1	40 YEARS	1000 A

RBS - ENVIRONMENTAL QUALIFICATION PROGRAM

SRN 247529-2

REV 0

SHEET NO. 3

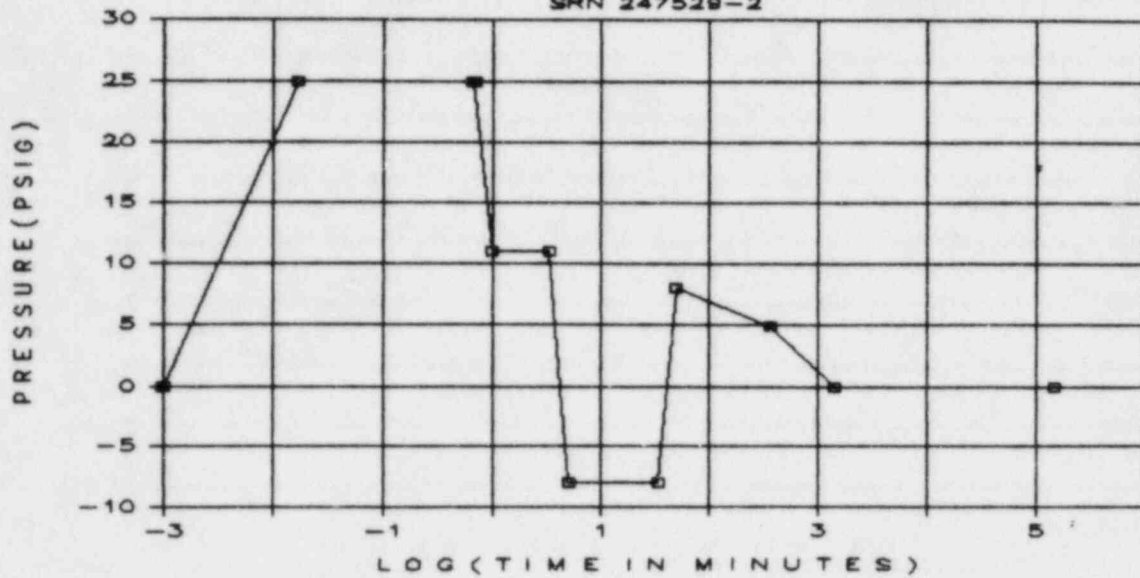
DATE 11/27/84

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.

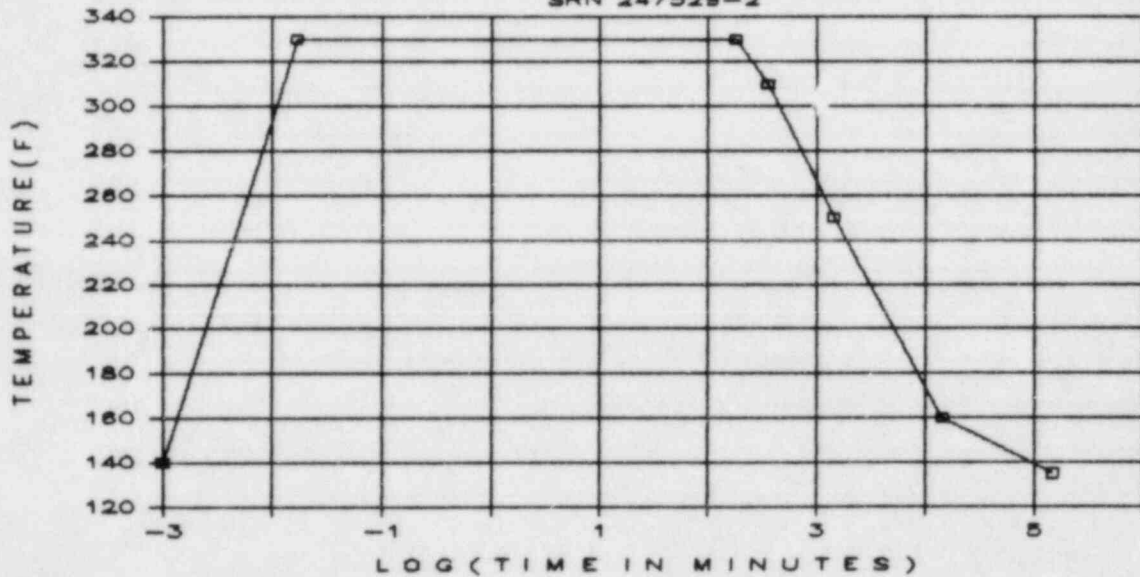
SPECIFIED ACCIDENT PROFILE

SRN 247529-2



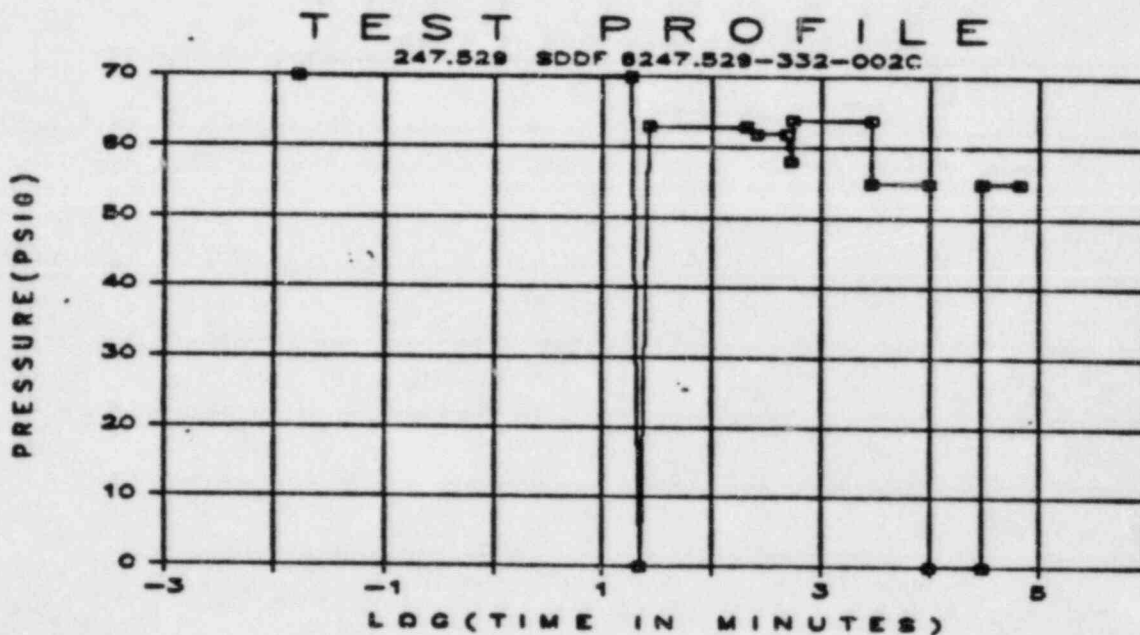
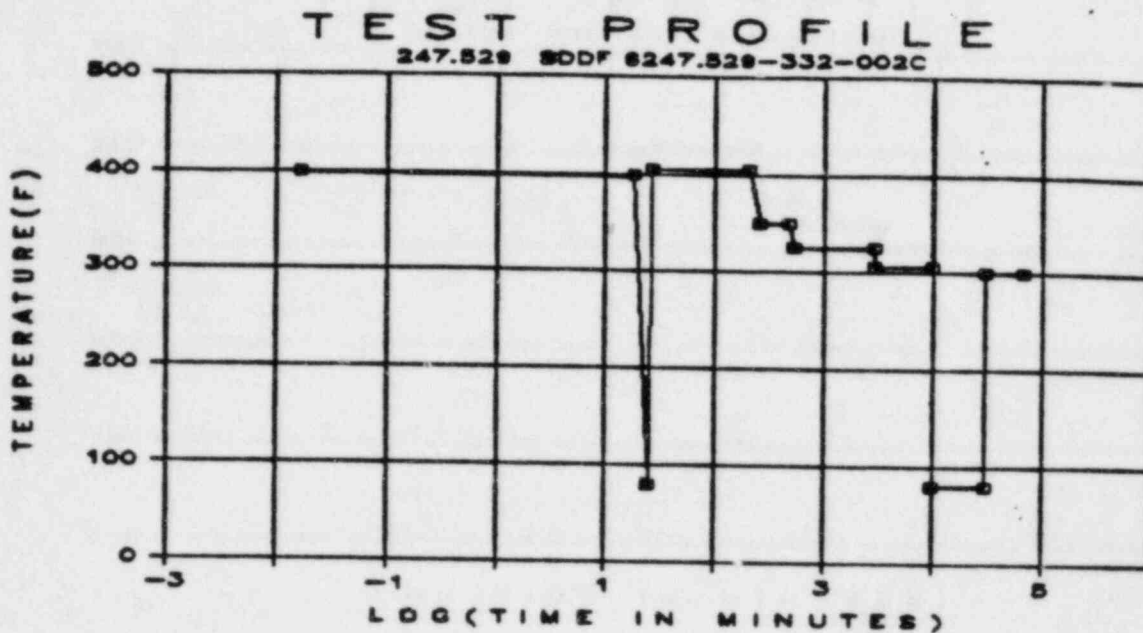
SPECIFIED ACCIDENT PROFILE

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	3.33333	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
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 SUDIRG	QUAL. LIFE	OPTIME OC
SRN 247529-3				
SPEC 247529				
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

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

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:	atrospheric	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 (%):							
MODEL: see sheet 2		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: <+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 ELEVATION: 109' (Note 6)		2. River Bend Station FSAR, Appendix 6A, Figure 6A-10.2							
ABOVE FLOOD LEVEL? Yes		3. GE Interim Environmental Qualification Report QUAL-710-84-036							
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	:
:	:	:	:	:	:
:Control Rod Drive Hydraulic System					
: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	:
:	:	:	:	:	:
:Reactor Protection System (RPS)					
: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

SFN 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
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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
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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

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

: 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.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES	
			SPECIFIED	QUALIFIED			(see sheet 2)	
EQUIP NO: C11-N012A-D								
SYSTEM: Control Rod Drive Hydraulic System	OP. TIME: 12 hours	50 days	3	3	TEST-IDENT	YES	2	
TYPE: Level Transmitter	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
	ACCIDENT	165	290	1	3	TEST-IDENT	YES	3,4
MANUFACTURER: Gould, Inc.	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
	ACCIDENT	9	17.6	1	3	TEST-IDENT	YES	3,5
MODEL: PD3218 (Note 1)	RH (%): NORMAL	50	see below	1	3	N/A	N/A	
	ABNORMAL	100	see below	1	3	N/A	N/A	
	ACCIDENT	100	100	1	3	TEST-IDENT	N/A	
SAFETY FUNCTION: Reactor Trip	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
	NORM BETA	2E3	shielded	1	N/A	N/A	N/A	6
OP. CODE: A	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 LEVEL? Yes	(including change notices no 2-1, 2-2, and 2-3)							
DOCUMENTATION ACCEPTABILITY:	2. River Bend Station FSAR, Appendix 6A,							
Acceptable to NUREG 0588, Cat 1	Figure 6A-10.2							
per NEDE-24326-1-P	3. GE Environmental Qualification Report							
	NEDC-30372							
MAINTENANCE/SURVEILLANCE:								
REFERENCE: 3								
QUALIFIED LIFE (YEARS): 15								
REFERENCE: 3								

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.

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 3)		
			SPECIFIED	QUALIFIED				TEST-IDENT	YES
EQUIP NO:	see sheet 2								
SYSTEM:	see sheet 2								
TYPE:	Temperature Element								
	TEMP (F):								
	NORMAL	122	284	1	2	TEST-IDENT	N/A	2	
	ABNORMAL	140	284	1	2	TEST-IDENT	N/A	2	
	ACCIDENT	320	364	1	2	TEST-IDENT	YES	2,5	
	PRESS (PSIG):								
	NORMAL	atmospheric	atmospheric	1	2	TEST-IDENT	N/A	2	
	ABNORMAL	2.3	see Note 9	1	2	TEST-IDENT	N/A	2,8	
	ACCIDENT	21	38.5	1	2	TEST-IDENT	YES	2,6	
	RH (%):								
	NORMAL	90	100	1	2	TEST-IDENT	N/A	2	
	ABNORMAL	100	100	1	2	TEST-IDENT	N/A	2	
	ACCIDENT	steam/100	steam/100	1	2	TEST-IDENT	N/A	2	
	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	
	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		
	SUBMERGENCE	N/A	N/A	N/A	N/A	N/A	N/A		
ACCURACY	SPEC: +3.1 F								
	DEMO: \leq +3.1 F								
ZONE NO:	see sheet 2								
FLOOD LEVEL									
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								

- DOCUMENT REFERENCE:
- Environmental Design Criteria (EDC)
 SWEC Document No. 215.150, Rev. 2
 (including change notices no. 2-1, 2-2 and 2-3)
 - GE Environmental Report
 NEDC-30373, SDDF# 8224.150-000-071A.

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	:

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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	
F31-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	
F31-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	
F31-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	
F31-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	

NOTES

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

SYSTEM COMPONENT EVALUATION WORK SHEET

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: 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		
	ABNORMAL	N/A	N/A	N/A	N/A	N/A	YES	
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	
	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: 60 psig							
	DEMO: 50 psig							
ZONE NO: TB-095-3	DOCUMENT REFERENCE:							
	1. Environmental Design Criteria (EDC)							
	SWEC Document No. 215.150, Rev. 2							
	(including change notices no. 2-1 and 2-2)							
	2. GE Environmental Qualification Report							
	NEDC-30377, SDDF# 8224.150-000-039A							
DOCUMENTATION ACCEPTABILITY:	Acceptable to NUREG 0588, Cat 1:							
	per NEDE-24326-1-P							
MAINTENANCE/SURVEILLANCE:	REFERENCE: 2							
QUALIFIED LIFE	(YEARS): 6.6							
	REFERENCE: 2							

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 3)	
			SPECIFIED	QUALIFIED				
EQUIP NO:	see sheet 2							
SYSTEM:	see sheet 2							
TYPE: Level Switch	OP. TIME:	12 h	Later	Later	Later	Later		
	TEMP (F):							
	NORMAL:	122	Later	1	Later	Later	2	
	ABNORMAL:	N/A	Later	N/A	Later	Later	3	
MANUFACTURER: Magnetrol	ACCIDENT:	140	Later	1	Later	Later	4	
	PRESS (PSIG):							
	NORMAL:	atmospheric	Later	1	Later	Later	2	
	ABNORMAL:	N/A	Later	N/A	Later	Later	3	
MODEL: 5.0-751	ACCIDENT:	9	Later	1	Later	Later	4	
	RH (%):							
	NORMAL:	90	Later	1	Later	Later	2	
	ABNORMAL:	N/A	Later	N/A	Later	Later	3	
SAFETY FUNCTION: Safeguards Actuation	ACCIDENT:	100	Later	1	Later	Later	4	
	RADIATION:							
	NORM GAMMA:	4E4 R	Later	1	Later	Later	2,6	
	ACC GAMMA:	4E6 R	Later	1	Later	Later	5	
OP. CODE: A	NORM BETA:	3E3 R	Later	1	Later	Later	2,6	
	ACC BETA:	3.4E7 R	Later	1	Later	Later	5	
	NEUTRON:	N/A	Later	N/A	Later	Later		
	SPRAY:	N/A	Later	N/A	Later	Later		
ACCURACY	SUBMERGENCE:	N/A	Later	N/A	Later	Later		
	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								
ELEVATION:	109' (Note 1)							
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

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE	QUAL METHOD	MARGIN DEMO	NOTES (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	
MANUFACTURER: NAMCO		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: EA170-51101		RH (%):							
		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
OP. CODE: A		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: NA		SUBMERGENCE:	N/A	N/A	N/A	N/A	N/A	N/A	
DEMO: NA									
ZONE NO: TB-095-3		DOCUMENT REFERENCE:							
		1. Environmental Design Criteria (EDC) SWEC Document No. 215.150, Rev. 2 (including change notices no. 2-1 and 2-2)							
FLOOD LEVEL		2. GE Environmental Qualification Report NEDC-30386, Rev. 1, SDDP# 8224.150-000-40B							
ELEVATION: NA									
ABOVE FLOOD LEVEL? NA									
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									

SYSTEM COMPONENT EVALUATION WORK SHEET

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							
SYSTEM:	see sheet 2							
TYPE:	Pump Motor							
MANUFACTURER:	GE							
MODEL:	see sheet 2							
SAFETY FUNCTION:	Emergency Core Cooling, Containment Heat Removal							
OP. CODE:	A							
ACCURACY	SPEC: NA DEMO: NA							
ZONE NO:	see sheet 2							
FLOOD LEVEL	ELEVATION: NA ABOVE FLOOD LEVEL? NA							
DOCUMENTATION ACCEPTABILITY:	Acceptable to NUREG 0508, Cat 1 per NEDE-24326-1-P							
MAINTNANCE/SURVEILLANCE:	REFERENCE: 2							
QUALIFIED LIFE	(YEARS): 40 REFERENCE: 2							

- DOCUMENT REFERENCE:
- Environmental Design Criteria (EDC)
 SWEC Document No. 215.150, Rev. 2
 (including change notices no. 2-1 and 2-2)
 - GE Environmental Qualification Report
 NEDC-30614, SDDP# 8224.150-000-057A

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
		PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	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									

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	0	135-345*
0.1	- 0.3s	0-3h	345
0.3	- 1s	3-6h	345-325
1s	- 3h	6h-30h	325-265
3h	- 6h	30h-7d	265-200
6h	- 1d		
1d	- 10d		
10d	- 100d		

*rise time at the maximum capability of the test facility.

: 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.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL	MARGIN	METHOD	DFMO	NOTES (see Sheet 3)
			SPECIFIED	QUALIFIED					
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			1,8
ABNORMAL:	260	see Note 8	1	2	N/A	N/A			1,8
ACCIDENT:	330	357	1	2	TEST-IDENT	YES			1,6
TYPE: MSIV Limit Switch									
PRESS (PSIG):									
NORMAL:	0.5	atmospheric	1	2	N/A	N/A			1
ABNORMAL:		see Note 9	1	2	N/A	N/A			1,9
ACCIDENT:	25	69	1	2	TEST-IDENT	YES			1,7
MANUFACTURER: Namco									
RH (%):									
MODEL: EA 740, Rev. K									
NORMAL:	90	see below	1	2	N/A	N/A			1
ABNORMAL:	100	see below	1	2	N/A	N/A			1
ACCIDENT:	steam/100	steam/100	1	2	TEST-IDENT	N/A			1
SAFETY FUNCTION: Reactor Trip									
RADIATION:									
NORM GAMMA:	9.4E6 R	1.87E7 R	1	2	N/A	N/A			1,2
ACC GAMMA:	1E6 R	2.97E8 R	1	2	TEST-IDENT	YES			1,3
OP. CODE: A									
NORM BETA:	6.3E3 R	see Note 10	1	2	N/A	N/A			1,2,10
ACC BETA:	1.3E7 R	see Note 10	1	2	N/A	N/A			1,3,10
NEUTRON:	2.2E6 R	see Note 10	1	2	N/A	N/A			1,2,4,10
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)									
2. GE Environmental Qualification Report 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									

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 2

EQUIP. NO.	DRAWING NO.	MODEL NO.	ENV. ZONE	OP. TIME	NOTES
: Nuclear Boiler System :					
:B21-NO22A :	:	EA740, Rev. K :	DW-1 :	1 h :	:
:B21-NO22B :	:	EA740, Rev. K :	DW-1 :	1 h :	:
:B21-NO22C :	:	EA740, Rev. K :	DW-1 :	1 h :	:
:B21-NO22D :	:	EA740, Rev. K :	DW-1 :	1 h :	:
:B21-NO28A :	:	EA740, Rev. K :	AB-114-2 :	1 h :	:
:B21-NO28B :	:	EA740, Rev. K :	AB-114-2 :	1 h :	:
:B21-NO28C :	:	EA740, Rev. K :	AB-114-2 :	1 h :	:
:B21-NO28D :	:	EA740, Rev. K :	AB-114-2 :	1 h :	:
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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	0 - 52m 357*
0.1 - 0.3s	52m- 3h 357-346
0.3 - 1s	3h- 6h 346-327
1s- 3h	6h- 30h 327-272
3h- 6h	30h- 4d 272-260
6h- 1d	4d- 34d 260-215
1d- 10d	34d-100d 215
10d- 100d	

*rise time at the maximum capability of the test facility.

: 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.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	DOCUMENT REFERENCE	QUAL METHOD	MARGIN DEMO	NOTES (see sheet 2)	
EQUIP NO:	E51-C002								
SYSTEM:	Reactor Core Isolation Cooling Systems								
TYPE:	RCIC Turbine								
MANUFACTURER:	Terry Corp.								
MODEL:	GS-2								
SAFETY FUNCTION:	Drive RCIC Pump								
OP. CODE:	A (Note 1)								
ACCURACY	SPEC: NA DEMO: NA								
ZONE NO:	Turbine: AB-070-3 Control Panel: AB-095-4								
FLOOD LEVEL	ELEVATION: NA ABOVE FLOOD LEVEL? NA								
DOCUMENTATION ACCEPTABILITY:	Acceptable to NUREG 0588, Cat 1 per NEDE-24326-1-P								
MAINTENANCE/SURVEILLANCE:	REFERENCE: 2								
QUALIFIED LIFE (YEARS):	5 (Note 5)								
REFERENCE:	2								

- DOCUMENT REFERENCE:
- RBV-2080 dated July 20, 1984
 - GE Environmental Qualification Report NEDC-30791, SDDF# 8224.150-000-076A

GULF STATES UTILITIES
RIVER BEND STATION - UNIT 1
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.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see Sheet 2)		
EQUIP NO: C41-C001A,B									
SYSTEM: Standby Liquid Control System	OP. TIME: 2 hours	36 hours	2	2	Test Ident	Yes	1		
TYPE: Pump Motor	TEMP (F): NORMAL	90	104	1	2	Test Ident	Yes		
	ABNORMAL	140	150	1	2	Test Ident	Yes		
	ACCIDENT	165	200	1	2	Test Ident	Yes	2,5	
MANUFACTURER: GE	PRESS (PSIG): NORMAL	- 1"W.G.	atmospheric	1	2	Test Ident	Yes		
	ABNORMAL	2.3	18	1	2	Test Ident	Yes		
	ACCIDENT	9	16.5	1	2	Test Ident	Yes	2,6	
MODEL: 5K324AN2960	PH (%): NORMAL	50	ambient	1	NA	NA	NA		
	ABNORMAL	100	100	1	2	Test Ident	NA		
	ACCIDENT	100	100	1	2	Test Ident	NA		
SAFETY FUNCTION: Reactivity Control	RADIATION: NORM GAMMA	9E2	see Note 7	1	NA	NA	NA	3,7	
	ACC GAMMA	2E6	3.9E7R	1	2	Test Ident	Yes	4	
	NORM BETA	2E3	see Note 7	1	NA	NA	NA	3,7	
OP. CODE: A	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									

: 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.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION						
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	SPECIFIED	QUALIFIED	QUAI. METHOD	MARGIN DEMO	NOTES (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	10	
	ABNORMAL	140	see Note 10	1	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	11	
MANUFACTURER: Conax		ACCIDENT	9	16.5	1	2	TEST-IDENT: YES 3,8	
MODEL: 7048-17000-01		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: 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 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	
	SPEC: NA							
	DEMO: NA							
ZONE NO: CT-4		DOCUMENT REFERENCE:						
FLOOD LEVEL		1. Environmental Design Criteria (EDC)						
ELEVATION: 109'		SWEC Document No. 215.150, Rev. 2						
ABOVE FLOOD LEVEL? Yes		(including change notices 2-1, 2-2 and 2-3)						
DOCUMENTATION ACCEPTABILITY:		2. GE Environmental Qualification Report						
Acceptable to NUREG 0588, Cat 1		NEDC-30674, SDDF# 8224.150-000-062B						
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								

: 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

: 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.

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

: 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
 REV 1
 DATE 12-13-84
 SHEET 1

ENVIRONMENTAL CONDITIONS AND QUALIFICATION								
EQUIPMENT DESCRIPTION	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 Hydraulic System	TEMP (F):							
	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):							
MANUFACTURER: Valcor	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
	ACCIDENT:	9	17.05	1	3	TEST-IDENT	YES	5,6
MODEL: V70900-45	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: Scram Discharge Volume Isolation	ACCIDENT:	100	100	1	3	TEST-IDENT	N/A	
	RADIATION:							
	NORM GAMMA:	4E4 R	see Note 9	1	N/A	N/A	N/A	2,9
OP. CODE: A	ACC GAMMA:	7E5 R	3.9E7 R	1	3	TEST-IDENT	YES	3
	NORM BETA:	2E3 P	see Note 9	1	N/A	N/A	N/A	2,9
	ACC BETA:	5E5 R	see Note 9	1	N/A	N/A	N/A	3,9
ACCURACY	NEUTRON:	0	N/A	1	N/A	N/A	N/A	
	SPRAY:	7 seconds	3 hours	2	3	TEST-IDENT	YES	
SUBMERGENCE:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
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)								
2. River Bend Station PSAR, Appendix 6A, Figure 6A-10.2								
3. GE Environmental Qualification Report NEDC-30759, SDDF# 8224.150-000-075A								
DOCUMENTATION ACCEPTABILITY: Acceptable to NUPEG 0588,Cat 1: per NEDE-24326-1-P								
MAINTENANCE/SURVEILLANCE: Replace O-rings every 5 years REFERENCE: 3								
QUALIFIED LIFE (YEARS): 40 REFERENCE: 3								

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.

SYSTEM COMPONENT EVALUATION WORK SHEET

EQUIPMENT DESCRIPTION		ENVIRONMENTAL CONDITIONS AND QUALIFICATION							
PARAMETER	SPECIFIED VALUE	QUALIFIED VALUE	DOCUMENT REFERENCE		QUAL METHOD	MARGIN DEMO	NOTES (see sheet 2)		
			SPECIFIED	QUALIFIED				TEST-IDENT	YES
EQUIP NO: C11-F110A,B									
SYSTEM: Control Rod Drive Hydraulic System	OP. TIME: None	100 days	3	3	TEST-IDENT	YES			
TYPE: Backup Scram Solenoid Valve	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	
	ACCIDENT	165	215	1	3	TEST-IDENT	YES		
MANUFACTURER: Valcor	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	
	ACCIDENT	9	17.05	1	3	TEST-IDENT	YES	1,4	
MODEL: V70900-43	RH (%): NORMAL	50	N/A	1	N/A	N/A	N/A		
	ABNORMAL	100	N/A	1	N/A	N/A	N/A		
	ACCIDENT	100	100	1	3	TEST-IDENT	N/A	1,5	
SAFETY FUNCTION: Not Safety-Related	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	
	NORM BETA	2E3 R	shielded	1	3	N/A	N/A	2	
OP. CODE: B	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:								
FLOOD LEVEL	1. Environmental Design Criteria (EDC)								
ELEVATION: 109'	SWEC Document No. 215.150, Rev. 2								
ABOVE FLOOD LEVEL? Yes	(including change notice 2-1, 2-2 and 2-3)								
DOCUMENTATION ACCEPTABILITY:	2. River Bend Station FSAR, Appendix 6A, Figure 6A-12.2								
Acceptable to NUREG 0588, Cat 1	3. GE Environmental Qualification Report								
per NEDE-24326-1-P	NEDC-30669, SDDF# 8224.150-000-072A								
MAINTENANCE/SURVEILLANCE:	Replace 0-rings and Grafoil gasket every 5 years								
REFERENCE: 3									
QUALIFIED LIFE (YEARS): 40									
REFERENCE: 3									

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

SYSTEM COMPONENT EVALUATION WORK SHEET

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	1	
TYPE:	Main Steam Safety/Relief Valve	TEMP (F):						
		NORMAL: 140	Later	1	Later	Later		
		ABNORMAL: 260	Later	1	Later	Later		
MANUFACTURER:	Crosby	ACCIDENT: 280	Later	1	Later	Later	2,4	
		PRESS (PSIG):						
		NORMAL: 0.5	Later	1	Later	Later		
MODEL:	see sheet 2	ABNORMAL: 5	Later	1	Later	Later		
		ACCIDENT: 11	Later	1	Later	Later	2,5	
		RH (%):						
SAFETY FUNCTION:	RPV Overpressure Protection	NORMAL: 50	Later	1	Later	Later		
		ABNORMAL: 100	Later	1	Later	Later		
		ACCIDENT: steam/100	Later	1	Later	Later		
OP. CODE:	A	RADIATION:						
		NORM GAMMA: 9.4E6 R	Later	1	Later	Later	3	
		ACC GAMMA: 0	Later	2	Later	Later		
ACCURACY	SPEC: NA DEMO: NA	NORM BETA: 6.3E3 R	Later	1	Later	Later	3	
		ACC BETA: 0	Later	2	Later	Later		
		NEUTRON: 2.2E6 R	Later	1	Later	Later	3,6	
		SPRAY: N/A	N/A	N/A	N/A	N/A		
		SUBMERGENCE: N/A	N/A	N/A	N/A	N/A		
ZONE NO:	DW-1	DOCUMENT REFERENCE:						
FLOOD LEVEL	ELEVATION: 105'-3"	1. Environmental Design Criteria (EDC) SWEC Document No. 215.150, Rev. 2 (including change notices no. 2-1, 2-2 and 2-3)						
ABOVE FLOOD LEVEL?	Yes	2. GSS-4058 dated January 3, 1984						
DOCUMENTATION ACCEPTABILITY:	Later NUREG 0588, CAT 1	Qualification is in progress						
MAINTENANCE/SURVEILLANCE:	REFERENCE: Later							
QUALIFIED LIFE (YEARS):	Later							
REFERENCE:	Later							

:
: 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

: Later

: 5. Pressure vs. time history:
:

: Specified, psig

: Qualified, psig

: 0-60s 0-11
: 60s- 1d 11
: 1d-10d 11-0

: Later

- : 6. One neutron per square-centimeter is equivalent to 8E-9 rads gamma radiation.
:
: