

S U

SACRAMENTO MUNICIPAL UTILITY DISTRICT ☐ 6201 S Street, Box 15830, Sacramento, California 95813; (916) 452-3211

January 13, 1981



Director of Nuclear Reactor Regulation
Attention: Darrell G. Eisenhut, Director
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docket 50-312
Rancho Seco Nuclear Generating
Station, Unit No. 1

Dear Mr. Eisenhut:

Enclosed is Amendment 1 to the District's October 31, 1980
submittal on 79-01B. This amendment makes the following changes to the
report:

- 1) corrects typographical errors;
- 2) adds information received from vendors since
November 1, 1980;
- 3) clarifies the Basis for Interim Operation;
- 4) reflects changes as a result of the review with
the IE Region V inspector;
- 5) revises Appendix D (Open Items);
- 6) corrects the master list

Changes to the report are indicated by a vertical line in the
margin marked with a "1". Attachment A indicates all pages that have been
changed by this addendum. The Table of Contents, Sections I, II, III, and IV,
and Appendices A, B, C, and D of the October 31, 1980 submittal are entirely
replaced by this addendum. Should you have any questions, please do not
hesitate to contact me.

Sincerely,

John J. Mattimoe
John J. Mattimoe
Assistant General Manager
and Chief Engineer

Sworn to me and subscribed before
me this 13th day of January, 1981.

Patricia K. Geisler
Notary Public



Enclosure

8101220 **303**

LIST OF EFFECTIVE PAGES

Page or
Figure Number

Issue

Page or
Figure Number

Issue

I. Original
II Amendment 1
III Amendment 1
IV Original
V Amendment 1
VI Original
VII. Amendment 1

1-1. Original
1-3. Amendment 1
1-4. Original
1-5. Original
1-6. Original
2-1. Original
2-2. Original
2-3. Amendment 1
2-4. Original
3-1. Original
3-2. Amendment 1
3-3. Amendment 1
3-4. Original
3-5. Amendment 1
3-6. Original
3-7. Amendment 1
4-1. Amendment 1
4-2. Amendment 1
4-3. Original
4-4. Amendment 1
4-5. Amendment 1
4-6. Amendment 1
4-7. Amendment 1
4-8. Original
4-9. Original
4-10 Original
4-11 Original
4-12 Original
4-13 Amendment 1
4-14 Amendment 1
4-15 Amendment 1
4-16 Amendment 1
4-17 Original
4-18 Original

4-19 Amendment 1
4-20 Original
4-21 Amendment 1
4-22 Amendment 1
4-23 Original
4-24 Amendment 1
4-25 Original
4-26 Amendment 1
4-27 Original
4-28 Amendment 1
4-29 Amendment 1
4-30 Amendment 1
4-31 Amendment 1
4-32 Amendment 1
4-33 Amendment 1
4-34 Amendment 1
4-35 Amendment 1
4-36 Original
4-37 Original
4-38 Original
4-39 Amendment 1
4-40 Amendment 1
4-41 Amendment 1
4-42 Original
4-43 Amendment 1
4-44 Amendment 1
4-45 Amendment 1
4-46 Amendment 1
4-47 Amendment 1

APPENDIX A

Table of
Contents Original
A-1 Original
A-2 Original
A-3 Original
A-4 Original
A-5 Original
A-6 Original
A-7 Original
A-8 Original

LIST OF EFFECTIVE PAGES (Cont'd)

Page or
Figure Number

Issue

Page or
Figure Number

Issue

APPENDIX A (Cont'd)

A-9 Original
A-10 Amendment 1
A-11 Original
A-12 Original
A-13 Original
A-14 Original
A-15 Original
A-16 Original
A-17 Original
A-18 Original
A-19 Original
A-20 Original
A-21 Original
A-22 Original
A-23 Original
A-24 Amendment 1
A-25 Amendment 1

APPENDIX B

Contents Amendment 1
all pages Amendment 1

APPENDIX C

Fig. 1.0 Original
Fig. 2.0 Original
Fig. 5.0 Amendment 1
Fig. 6.0 Amendment 1
Fig. 7.0 Amendment 1
Fig. 7.0.1 Amendment 1
Fig. 7.0.2 Amendment 1
Fig. 8.0 Amendment 1
Fig. 9.0 Original
Fig. 10.0 Original
Fig. 11.0 Amendment
Fig. 12.0 Amendment 1
Fig. 1.1 Original
Fig. 1.2 Original
Fig. 1.3 Original
Fig. 1.4 Original

APPENDIX C (Cont'd)

Fig. 1.4 Original
Fig. 1.5 Original
Fig. 1.6 Original
Fig. 1.7 Original
Fig. 1.8 Original
Fig. 1.9 Original
Fig. 1.10 Amendment 1
Fig. 2.1 Original
Fig. 2.2 Original
Fig. 2.3 Original
Fig. 2.4 Original
Fig. 2.5 Original
Fig. 2.6 Original
Fig. 2.7 Original
Fig. 2.8 Original
Fig. 2.9 Original
Fig. 2.10 Amendment 1
Fig. 5.1 Amendment 1
Fig. 6.1 Amendment 1
Fig. 6.2 Amendment 1
Fig. 6.3 Amendment 1
Fig. 7.1 Amendment
Fig. 9.1 Original
Fig. 9.2 Original
Fig. 9.3 Original
Fig. 9.4 Original
Fig. 9.5 Amendment 1
Fig. 9.6 Amendment 1
Fig. 10.1 Original
Fig. 10.2 Original
Fig. 10.3 Original
Fig. 10.4 Original
Fig. 10.5 Original
Fig. 10.6 Amendment 1
Fig. 10.7 Amendment 1
Fig. 12.1 Amendment 1

LIST OF EFFECTIVE PAGES (Cont'd)

Page or
Figure Number

Issue

Page or
Figure Number

Issue

APPENDIX D

D-1 Amendment 1
D-2 Amendment 1
D-3 Amendment 1
D-4 Amendment 1
D-5 Amendment 1
D-6 Amendment 1
D-7 Amendment 1
D-8 Amendment 1
D-9 Amendment 1
D-10. . . . Amendment 1
D-11. . . . Amendment 1
D-12. . . . Amendment 1
D-13. . . . Amendment 1
D-14. . . . Amendment 1
D-15. . . . Amendment 1

TABLE OF CONTENTS

VOLUME I

1. INTRODUCTION AND SUMMARY

<u>SECTION</u>		<u>PAGE</u>
1.1	SMUD AND RANCHO SECO DESCRIPTION	1-1
1.2	PURPOSE AND SUMMARY	1-1
1.3	ABBREVIATIONS	1-2
1.4	DEFINITIONS	1-3
1.5	DOCUMENTATION AND RECORDS	1-4
1.6	STAFF	1-5
1.7	REFERENCES	

2. BACKGROUND AND DISCUSSION

2.1	NRC ACTIONS	2-1
2.2	REPORT CONTENT	2-1
2.3	REFERENCES	

3. METHODOLOGY AND SERVICE CONDITIONS

3.1	IDENTIFICATION OF EQUIPMENT	3-1
3.2	SERVICE CONDITIONS INSIDE CONTAINMENT FOR LOSS OF COOLANT ACCIDENT	3-1
3.3	SERVICE CONDITIONS INSIDE CONTAINMENT FOR A MAIN STEAM LINE BREAK	3-2
3.4	SERVICE CONDITIONS FOR A HIGH ENERGY LINE BREAK OUTSIDE CONTAINMENT	3-2
3.5	SERVICE CONDITIONS FOR RECIRCULATING FLUIDS	3-3
3.6	QUALIFICATION METHODS	3-3
3.7	REFERENCES	3-5

4. EQUIPMENT EVALUATION

<u>SECTION</u>		<u>PAGE</u>
4.1	<u>GENERAL COMMENTS</u>	4-1 1
4.1.1	AGING	4-1
4.1.2	FIELD VERIFICATION	4-1
4.1.3	RESOLUTION OF OPEN ITEMS	4-1 1
4.1.4	REFERENCES	4-2
4.2	<u>CONTAINMENT ISOLATION SYSTEM</u>	4-3
4.2.1	SYSTEM DESCRIPTION	4-3
4.2.2	EQUIPMENT QUALIFICATION	4-3
4.2.2.1	MOTOR OPERATED VALVES	4-3
4.2.2.2	PILOT SOLENOID VALVES	4-5
4.2.2.3	LIMIT SWITCHES	4-6
4.2.3	REFERENCES	4-7
4.3	<u>CORE FLOOD SYSTEM</u>	4-8
4.3.1	SYSTEM DESCRIPTION	4-8
4.3.2	EQUIPMENT QUALIFICATION	4-8
4.3.2.1	LEVEL TRANSMITTERS	4-8
4.3.3	REFERENCES	4-9
4.4	<u>CONTROL ROD DRIVE</u>	4-10
4.4.1	SYSTEM DESCRIPTION	4-10
4.4.2	EQUIPMENT QUALIFICATION	4-10
4.4.2.1	CONTROL ROD DRIVE MECHANISMS	4-10
4.4.3	REFERENCES	4-11

<u>SECTION</u>		<u>PAGE</u>
4.5	<u>DECAY HEAT SYSTEM</u>	4-12
4.5.1	SYSTEM DESCRIPTION	4-12
4.5.2	EQUIPMENT QUALIFICATION	4-12
4.5.2.1	MOTOR OPERATED VALVES	4-12
4.5.2.2	DECAY HEAT PUMP MOTORS	4-13
4.5.2.3	FAN MOTORS	4-13 1
4.5.2.4	FLOW TRANSMITTERS	4-14
4.5.2.5	LIMIT SWITCHES	4-14
4.5.2.6	FLOW TRANSMITTERS	4-14
4.5.3	REFERENCES	4-16
4.6	<u>HEATING AND VENTILATION SYSTEM</u>	4-17
4.6.1	SYSTEM DESCRIPTION	4-17
4.6.2	EQUIPMENT QUALIFICATION	4-17
4.6.2.1	EMERGENCY AIR CIRCULATOR AND COOLER UNITS	4-17
4.6.3	REFERENCES	4-18
4.7	<u>MAIN FEEDWATER SYSTEM</u>	4-19
4.7.1	SYSTEM DESCRIPTION	4-19
4.7.2	EQUIPMENT QUALIFICATION	4-19
4.7.2.1	LEVEL TRANSMITTERS	4-19
4.7.3	REFERENCES	4-20
4.8	<u>MAIN STEAM SYSTEM</u>	4-21
4.8.1	SYSTEM DESCRIPTION	4-21
4.8.2	EQUIPMENT QUALIFICATION	4-21
4.8.2.1	PRESSURE SWITCHES	4-21
4.8.3	REFERENCES	4-22

<u>SECTION</u>		<u>PAGE</u>
4.9	<u>NUCLEAR SERVICE COOLING WATER SYSTEM</u>	4-23
4.9.1	SYSTEM DESCRIPTION	4-23
4.9.2	EQUIPMENT QUALIFICATION	4-23
4.9.2.1	MOTOR OPERATED VALVES	4-23
4.9.3	REFERENCES	4-25
4.10	<u>REACTOR BUILDING SPRAY SYSTEM</u>	4-26
4.10.1	SYSTEM DESCRIPTION	4-26
4.10.2	EQUIPMENT QUALIFICATION	4-26
4.10.2.1	MOTOR OPERATED VALVES	4-26
4.10.2.2	PUMPS MOTORS	4-27
4.10.3	REFERENCES	4-28
4.11	<u>REACTOR COOLANT SYSTEM</u>	4-29
4.11.1	SYSTEM DESCRIPTION	4-29
4.11.2	EQUIPMENT QUALIFICATION	4-29
4.11.2.1	MOTOR OPERATED VALVES	4-29
4.11.2.2	TEMPERATURE ELEMENTS	4-30
4.11.2.3	LEVEL TRANSMITTERS	4-30
4.11.2.4	VALVE POSITION INDICATOR	4-31 1
4.11.3	REFERENCES	4-32
4.12	<u>REACTOR PROTECTION SYSTEM</u>	4-33
4.12.1	SYSTEM DESCRIPTION	4-33
4.12.2	EQUIPMENT QUALIFICATION	4-33
4.12.2.1	FLOW TRANSMITTERS	4-33
4.12.2.2	PRESSURE SWITCHES	4-33

<u>SECTION</u>		<u>PAGE</u>
4.12.2.3	PRESSURE TRANSMITTERS	4-34
4.12.2.4	TEMPERATURE TRANSMITTERS	4-34
4.12.3	REFERENCES	4-36
4.13	<u>SAFETY FEATURES ACTUATION SYSTEM</u>	4-37
4.13.1	SYSTEM DESCRIPTION	4-37
4.13.2	EQUIPMENT QUALIFICATION	4-37
4.13.2.1	PRESSURE TRANSMITTERS (REACTOR COOLANT)	4-37
4.13.2.2	PRESSURE TRANSMITTERS (REACTOR BUILDING)	4-37
4.13.3	REFERENCES	4-39
4.14	<u>SEAL INJECTION AND MAKEUP SYSTEM</u>	4-40
4.14.1	SYSTEM DESCRIPTION	4-40
4.14.2	EQUIPMENT QUALIFICATION	4-40
4.14.2.1	MOTOR OPERATED VALVES	4-40
4.14.2.2	PUMP MOTORS	4-41
4.14.2.3	FLOW TRANSMITTERS	4-42
4.14.2.4	FAN MOTORS	4-42
4.14.2.5	5 KV TRANSFER SWITCH	4-43
4.14.2.6	480V TRANSFER SWITCH	4-43
4.14.3	REFERENCES	4-44
4.15	<u>INTERFACES</u>	4-45
4.15.1	SYSTEM DESCRIPTION	4-45
4.15.2	EQUIPMENT QUALIFICATION	4-45
4.15.2.1	CONTAINMENT ELECTRICAL PENETRATION	4-45
4.15.2.2	600V POWER, CONTROL AND INSTRUMENTATION CABLE	4-45
4.15.2.3	5KV POWER CABLE	4-45

<u>SECTION</u>		<u>PAGE</u>
4.15.2.4	TERMINATION LUGS	4-46
4.15.2.5	INSULATING TAPE	4-46
4.15.2.6	TERMINAL BLOCKS	4-47
4.15.3	REFERENCES	4-49

APPENDICES

APPENDIX A	MASTER LIST OF SYSTEMS AND EQUIPMENT.	
APPENDIX B	SYSTEM COMPONENT EVALUATION WORK SHEET.	
APPENDIX C	PRESSURE, TEMPERATURE PROFILES FOR ACCIDENT CONDITIONS.	
APPENDIX D	INDEX OF EQUIPMENT/OPEN ITEMS	1
APPENDIX E	IE BULLETIN 79-01B AND SUPPLEMENTS 1, 2, AND 3.	
APPENDIX F	ORDERS FOR MODIFICATION OF RANCHO SECO NUCLEAR GENERATING STATION, PURSUANT TO IE BULLETIN 79-01B.	
APPENDIX G	LICENSEE EVENT REPORTS.	
APPENDIX H	PLANT ARRANGEMENT DRAWINGS.	1

1. INTRODUCTION AND SUMMARY

1.1 SMUD and RANCHO SECO DESCRIPTION

Sacramento Municipal Utility District (SMUD) serves over 300,000 customers in an area exceeding 750 square miles surrounding Sacramento, California. In 1979, SMUD power plants generated 9 million kilowatt hours. The maximum generating capability of SMUD power plants is 1,563 megawatts, including 913 megawatts from Rancho Seco Nuclear Generating Station.

Rancho Seco is a single-unit pressurized water reactor. It is located 25 miles southeast of Sacramento at Clay Station, California. The nuclear steam supply system is a Babcock & Wilcox design with a rating of 2,772 megawatts thermal. The turbine/generator is a Westinghouse unit with a gross capacity of 963 electrical megawatts. Listed below are significant dates for Rancho Seco:

ITEM	DATE
Application for Construction Permit	November, 20, 1967
Construction Permit Issued	October, 11, 1968
Operating License Granted	August, 16, 1974
First Time Critical	September, 16, 1974
Commerical Operation	April, 18, 1975

1.2 PURPOSE AND SUMMARY

I&E Bulletin 79-01B, dated January 14, 1980 (Appendix E), and Order for Modification of License, dated August 29, 1980 (Appendix F), directed the District to:

- 1) Review environmental qualification data for required electrical equipment.
- 2) Verify that documentation qualified the equipment as required in Division of Operating Reactors Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors: (DOR Guidelines).
- 2) Submit a report documenting the results of the review.

The District has completed the required review of qualification for electrical equipment. This report:

- 1) Documents the results of the review.
- 2) Identifies all outstanding items (Appendix D).
- 3) Satisfies all reporting requirements stated in I&E Bulletin 79-01B.

All outstanding items identified in Appendix D will be resolved by June 30, 1982.

This report supersedes all information presented in the March 3, 1980 and May 5, 1980 submittal to the NRC for 79-01B.

1.3

ABBREVIATIONS

Babcock & Wilcox	B&W
Component Cooling Water System	CCW
Containment Isolation System	CIS
Control Rod Drive	CRD
Core Flood System	CFS
Core Flood Tank	CFT
Decay Heat System	DHS
Division of Operating Reactors	DOR
Electric Power Research Institute	EPRI
Heating and Ventilating System	HVS
High Energy Line Break	HELB
Inspection and Enforcement	IE
License Event Report	LER
Loss of Coolant Accident	LOCA
Main Feedwater System	MFWS
Main Steam Line Break	MSLB
Main Steam System	MSS
Nuclear Instrumentation	NI
Nuclear Regulatory Commission	NRC
Nuclear Service Cooling Water	NSCW
Nuclear Service Raw Water	NSRW
Pressurized Water Reactor	PWR
Reactor Building Spray System	RBS
Reactor Coolant System	RCS
Reactor Protection System	PRS
Sacramento Municipal Utility District	SMUD
Safety Features Actuation System	SFAS
Seal Injection and Makeup System	SIM
Union of Concerned Scientists	UCS

DEFINITIONS

<u>Word</u>	<u>Definitions</u>
ACCIDENT	High energy line break inside or outside containment or loss of coolant accident
COLD SHUTDOWN	The reactor is subcritical by at least one percent K/K and the average reactor coolant temperature is less than 200°F
COOLDOWN	The reactor is subcritical by at least one percent K/K and is being taken from a hot shutdown condition to a cold shutdown condition
HARSH ENVIRONMENT	An area in the plant where an accident causes: Temperatures greater than 122°F or Pressures greater than 2 psig or Accumulated radiation dose greater than 3×10^4 Rads or chemical spray
HIGH ENERGY LINE	Any line greater than 200°F or 275 psig which is above these conditions for greater than two percent of the time it is in operation
HOT SHUTDOWN	The reactor is subcritical by at least one percent K/K and the average reactor coolant temperature is at or greater than 525°F
OPERATING TIME	The amount of time required for the equipment to perform its function and maintain a safe condition.
REQUIRED ELECTRICAL EQUIPMENT	Electrical equipment located in a harsh environment and necessary to mitigate the consequences of the accident or achieve safe shutdown.
SIMULTANEOUS	Environment testing with all test parameters at the same time.
SEPARATE EFFECTS	Environmental testing with test parameters applied separately to different test specimens.
SEQUENTIAL	Environmental testing with test parameters applied sequentially to the same test specimen.
ENGINEERING ANALYSIS	An evaluation which may involve a combination of testing (whether simultaneous, separate effects or sequential) and materials susceptibility to degradation to determine the environmental capability of an equipment item.

DOCUMENTATION AND RECORDS

The District has complete and auditable records which were used to support the conclusions in the report. They are maintained at a central location and will be updated to include any additions or modifications.

The records include:

- 1) Vendor Test Reports
- 2) Environmental Qualification Method and Analysis
- 3) Referenced Documents

Phone conversations and certification of compliance were not considered to be adequate to justify qualification. The District obtained a combination of testing information and performed an analysis to determine the qualification of a component.

The records and this report have been reviewed and audited by the District's Quality Assurance Department.

NUS Corporation, Western Operations Consulting Division of Palo Alto, California, and the District prepared this response to I&E Bulletin 79-01B. The people involved have extensive experience in nuclear power plants.

Listed below are the resumes for the District's personnel:

R. E. Daniels, Supervising Electrical Engineer

Mr. Daniels received a Bachelor's Degree in Electrical Engineering, Magna cum laude, from the University of Pittsburgh in 1970 and a Master's Degree in Electrical Engineering in 1971. He has also completed 12 credits of graduate courses in Nuclear Engineering.

He joined the Rancho Seco Project Engineering Group in May, 1971, and has been responsible for the preparation and review of specifications for electrical equipment, the plant relay coordination, and the writing and review of criteria for testing electrical equipment.

R. A. Dieterich, Senior Nuclear Engineer

Mr. Dieterich is a graduate of the University of Kansas with a Bachelor of Science Degree in Engineering Physics, with a major area of study in Nuclear Engineering.

In 1970 he joined the Rancho Seco Project Engineering Group, where he has participated in design review, licensing, and has served as site liaison on the nuclear steam supply system during construction.

H. Knieriem, Assistant Electrical Engineer

Mr. Knieriem received a Bachelor of Science Degree in Electrical and Electronics Engineering from California State University at Sacramento and joined SMUD's Department of Generation Engineering in June, 1980.

Listed below are resumes for the NUS personnel:

A. M. Ross, Manager, Western Operation

Mr. Ross is a Nuclear Engineer with over fifteen years of experience in the design, construction and operation of nuclear power plants and in analyzing regulatory requirements and interfacing with the USNRC and other regulatory agencies.

J. W. Wanless, Consulting Engineer

Mr. Wanless is an Electrical Engineer with over thirteen years of industrial and nuclear experience in the design and installation of plant electrical systems. As Project Manager on an EPRI-sponsored equipment qualification program, he is cognizant of the nuclear industry approach to the environmental qualification requirements for Class IE electrical equipment.

R. D. Allen, Principal Engineer

Mr. Allen is a Mechanical Engineer with over twelve years' experience in the application of nuclear regulatory and industry standards to the design, construction, installation and operation of electrical and mechanical equipment in safety-related systems in commercial nuclear power plants.

S. J. Gazda, Staff Engineer

Mr. Gazda is a Nuclear Engineer with over five years' experience in performing radiation dose and shielding analyses for commercial nuclear power plants. He has an in-depth understanding of nuclear regulatory requirements and overall plant design.

R. J. Lodwick, Principal Engineer

Mr. Lodwick is a Nuclear Engineer with over twelve years' experience in design, operation, maintenance and licensing of naval and commercial nuclear power plants.

2. BACKGROUND AND DISCUSSION

2.1 NRC ACTIONS

On November 4, 1977, the Union of Concerned Scientists filed a "Petition for Emergency and Remedial Relief" with the NRC. The petition alleged deficiencies in the environmental qualifications of components at operating nuclear plants.

Table 2-1 summarizes the NRC's actions in response to this petition.

2.2 REPORT CONTENT

Listed below are the District's responses to the requirements in the documents in Table 2-1.

<u>Item</u>	<u>Requirement</u>	<u>Response</u>
2.2.1 Master List of Systems and Electrical Equipment	Provide a master list of systems and electrical equipment required to mitigate the consequences of an accident or achieve cold shutdown and are located in a harsh environment.	This master list is in Appendix A. It includes TMI-2 items that have been installed and are required to be environmentally qualified.
2.2.2 Environmental Qualification	For each item on the master list complete a "System Component Evaluation Work Sheet".	Appendix B contains the work sheets for all items on the master list.
2.2.3 Service Conditions	Provide service condition profiles for LOCA and MSLB inside containment and HELB outside containment.	Section 3 and Appendix C provide the service conditions for LOCA and MSLB inside containment HELB outside containment.
2.2.4 Comparison to DOR Guidelines	Evaluate the qualification of items on the master list against the guideline provided in DOR Guidelines.	Section 3.6 describes how the District used the DOR Guidelines to evaluate the qualification of equipment on the list.
2.2.5 Flood Level	Identify the maximum flood level inside primary containment.	Maximum flood level inside containment is 16 feet below grade (8 feet above the floor).

<u>Item</u>	<u>Requirement</u>	<u>Response</u>
2.2.6 Licensee Event Report	Submit a LER for any item on the master list which has been determined as not being capable of meeting environmental qualification requirements for service intended.	Appendix G contains copies of all LER's written as a result of I&E Bulletin 79-01B.
2.2.7 Report Content	The submittals should be formatted in a manner with justifications and conclusions rather than solely the data sheets which were previously submitted.	Justification for continued interim operation for all equipment with outstanding items or unqualified equipment is contained in Section 4. All equipment is identified in Section 4. The detailed analysis to justify the District's conclusion that an item is qualified to DOR Guidelines is contained in our files.
2.2.8 Files	A central file location should be maintained at the utility. Test reports will be included in this file and will be available for staff review on demand.	The District has established files and file systems at both the headquarters and at the plant site. These files will be kept current and will be available for NRC review on demand.

TABLE 2-1
NRC ACTIONS IN RESPONSE TO
UCS PETITION ON ENVIRONMENTAL QUALIFICATION

<u>DATE</u>	<u>DOCUMENT</u>	<u>DESCRIPTION</u>
May 31, 1978	IE Circular 78-08	Requested that licensees "should examine installed safety-related electrical equipment, and ensure appropriate documentation of its qualifications to function under accident conditions". No written response was required.
February 8, 1979	IE Bulletin 79-01	Required the licensees to respond in writing on the documentation and qualification of safety-related electrical equipment required to function under accident conditions.
June 6, 1979	IE Bulletin 79-01A	Provided information on deficiencies in the environmental qualification of ASCO solenoids.
January 14, 1980	IE Bulletin 79-01B	Clarified and increased the scope of IE 79-01.
February 29, 1980	Supplement to 79-01B	Generic questions and answers concerning IE 79-01B
May 23, 1980	Commission Order to Staff (CLI-80-21)	Required (1) DOR guidelines be used to qualify equipment for operating plants; (2) Staff to issue SER's by February 1, 1981; (3) All safety-related equipment qualified to DOR guidelines by June 30, 1982.
September 19, 1980	Order for Modification of License	Required a report by November 1, 1980, on environmental qualifications of electrical equipment in a harsh environment.
September 29, 1980	Supplement 2 to 79-01B	Contained additional clarifications and modification of requirements.
October 24, 1980	Supplement 3 to 79-01B	Clarified information regarding (1) the submittal of qualification information for equipment resulting from TMI Action Plan requirements and (2) the qualification of equipment which is required to achieve a cold shutdown condition.

3. METHODOLOGY AND SERVICE CONDITIONS

3.1

IDENTIFICATION OF EQUIPMENT

Appendix A is a master list of systems and electrical equipment exposed to a harsh environment which are required to:

"Achieve emergency reactor shutdown, containment isolation, reactor core cooling, containment and reactor heat removal, and prevention of significant release of radioactive material to the environment."

Table 3-1 indicates the references used in preparing the master list. The method used in developing the master list is described below and in Figure 3-1.

- a) Develop a list of systems and electrical equipment required to mitigate an accident by reviewing the FSAR, DOR Guidelines, and Answer 5 in Supplement No. 2 to IE Bulletin No. 79-01B.
- b) Compare the list of mitigating systems and electrical equipment to plant emergency procedures.
- c) Determine what equipment is on the list and not in the emergency procedures.
- d) Add the equipment from (c) to the emergency procedures.
- e) Determine what equipment in the emergency procedures is required to mitigate an accident or achieve cold shutdown.
- f) Add the equipment in (e) to the list.
- g) Determine what equipment in the emergency procedures is not required to mitigate an accident or achieve cold shutdown.
- h) Modify procedures to:
 - (i) Indicate equipment is not required for accident mitigation.
 - (ii) Identify required equipment that can perform function.
- i) Define harsh environments.
- j) Determine if equipment on list generated in (f) is in a harsh environment.
- k) All equipment identified in (j) is the master list for this report.

3.2

SERVICE CONDITIONS INSIDE CONTAINMENT FOR LOCA

3.2.1 TEMPERATURE AND PRESSURE CONDITIONS

The containment temperature and pressure profiles as a function of time are shown in Appendix C on Profile 1.0 and Profile 2.0. The profiles are obtained from the FSAR Figures 14.4-2 and 14.4-3, sheet one.

3.2.2 RADIATION

The maximum 30-day integrated dose to equipment inside containment is for a release of 100 percent noble gases, 50 percent iodines, and 1 percent particulates to the containment atmosphere. The dose is 1.0×10^8 rads beta² and 4×10^6 rads gamma.³ This includes the 40-year service dose of 10^4 rads.⁴

3.2.3 SUBMERGENCE

The flood level following a LOCA is 8 feet above the containment floor (16 feet below grade). The water will rise to this level in 40 minutes.⁵

All equipment that will be submerged is indicated in Appendix D.

3.2.4 CHEMICAL SPRAY

The pH of the spray (H_3BO_3 -NaOH) will be 9.3-9.5.⁶

3.2.5 RELATIVE HUMIDITY

The relative humidity is assumed to be 100 percent.

3.3 SERVICE CONDITION INSIDE CONTAINMENT FOR A MAIN STEAM LINE BREAK

All required electrical equipment has been compared to LOCA conditions to determine qualification. The District will perform an analysis to determine if the LOCA qualification conditions exceed or are equivalent to the maximum calculated MSLB conditions. The methods described in Section 1.2 for Category II Plants in NUREG-0588 will be used to perform the qualification.

The analysis will be completed by April 30, 1981.

3.4 SERVICE CONDITION FOR A HELB OUTSIDE CONTAINMENT

The service conditions listed below for a HELB are based on the HELB review in the District's FSAR⁷ and additional analysis.⁸

Temperature	Profiles 5.0 thru 11.0 in Appendix C
Pressure	Atmospheric
Humidity	100%

Chemical Spray N/A

Submergence N/A

Table 3-2 indicates all rooms affected by a HELB.

3.5 SERVICE CONDITIONS FOR RECIRCULATING FLUIDS

The service conditions for recirculating fluids

Temperature 140°F (Maximum)

Pressure Atmospheric

Humidity 100%

Radiation Table 3-2

The radiation dose is based on a release of 100 percent noble gases, 50 percent iodines, and 1 percent particulates to the reactor coolant system. The analysis was performed using the guidelines in NUREG 0578, Paragraph 2.1.6b.⁹

3.6 QUALIFICATION METHOD

The evaluation of equipment qualification was done using the DOR guidelines. To determine type test qualification of equipment on the list, the District evaluated if:

- a) The test environment enveloped the service condition.
- b) The time duration of the test was as long as the period from initiation of the accident until the temperature and pressure return to normal ambient.
- c) The test specimen is the same model as the equipment being qualified.
- d) The test sequence is radiation followed by a steam/air chemical spray (if applicable) environment at elevated temperature and pressure.
- e) The same test specimen is used.
- f) The operational modes tested are representative of actual application requirements.
- g) The failure criteria includes instrument accuracy requirements based on maximum error assumed in the District's FSAR.
- h) No failures occur that invalidated the test.

- i) The equipment mounting and electrical or mechanical seals used during test are equivalent to actual installation.
- j) The equipment was aged prior to testing or it does not contain materials which are known to be susceptible to significant degradation due to thermal and radiation aging.

If the equipment was not tested or could not meet all type test requirements, qualification by a combination of methods was attempted. This included:

- a) Arrhenius techniques for aging
- b) Shielding calculation for beta radiation
- c) Chemical spray qualification for components in corrosion resistant cases
- d) Demonstrating similarity between items tested and installed
- e) Analysis of material degradation properties

If this analysis could not meet all the requirements in the DOR guidelines, the equipment was identified as having outstanding items.

If the analysis indicated that the equipment would fail during the expected service conditions, it was defined as unqualified and an LER was written.

REFERENCES

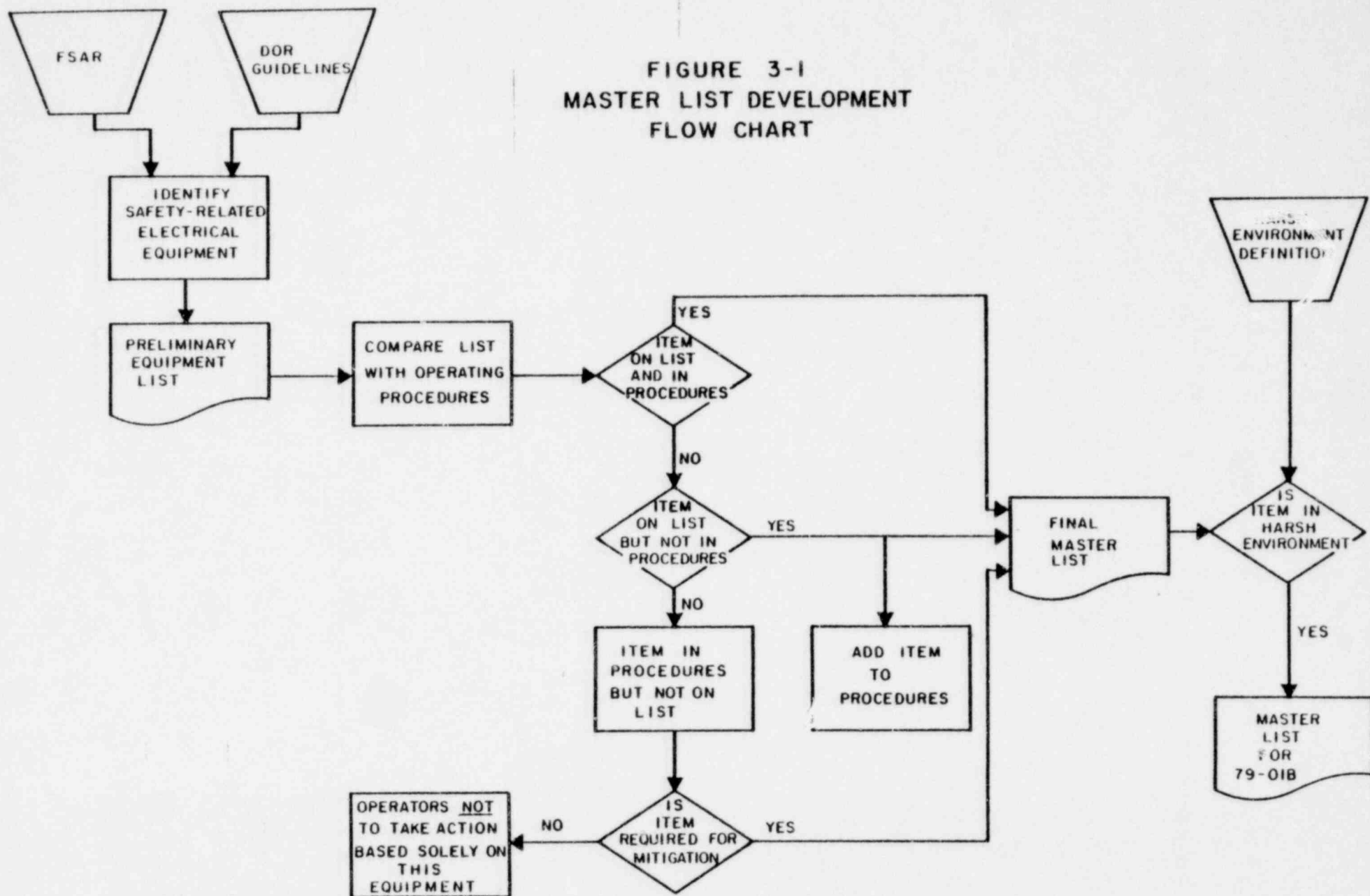
- (1) Division of Operating Reactors "Guidelines for Evaluating Environmental Qualification for Class 1E Electrical Equipment in Operating Reactors", Page 3, Section 3.0, Paragraph 1.
- (2) Bechtel Power Corporation Calculation 2211-1-0 (10/11/80) Post-LOCA Beta Dose to Equipment, October 29, 1980. | 1
- (3) Rancho Seco Nuclear Generating Station, Unit No. 1 Final Safety Analysis Report, Volume III, Paragraph 14.3.9.6, Page 14.3-11.
- (4) Rancho Seco Nuclear Generating Station, Unit No. 1 Final Safety Analysis Report, Volume II, Table 7.1-1, Page 7.1-2a.
- (5) Letter - Mattimoe to Reed, dated November 17, 1975, Subject: ECCS Evaluation for Final Acceptance Criteria.
- (6) Rancho Seco Nuclear Generating Unit No. 1 Final Safety Analysis Report, Volume II, Table 7.1-1, Page 7.1-2a.
- (7) Rancho Seco Nuclear Generating Unit No. 1 Final Safety Analysis Report Volume VI, Appendix 14A, Page 14A-40.
- (8) Bechtel Power Corporation Calculation No. 991-1-0, Equipment Qualification P-T Profiles Outside Containment, October 23, 1980.
- (9) SMUD letter J. J. Mattimoe to R. W. Reid, District Response to NUREG-0578, dated April 11, 1980. | 1

TABLE 3-1
MASTER LIST REFERENCES

<u>REFERENCE EQUIPMENT</u>	<u>SOURCE</u>	<u>PARAGRAPH</u>	<u>PAGES</u>
1. Safety Features Actuated Devices	FSAR	Table 7.1-5	7.1-16
2. Equipment Inside Containment Required to Mitigate HELB Inside Containment	FSAR	Question 4A.32	4A64 to 4A66
3. Equipment Required to Mitigate a HELB Outside Containment	FSAR	Question 14A.23	14A-60 and 14A-61
4. Reactor Building Isolation Valves	FSAR	Table 5.2-2	5.2-49 to 5.2-52
5. Motor Operated Valves	FSAR	Question 4A.33	4A-72 to 4A-73
6. Safety Related Equipment Inside Containment required to Mitigate an Accident	FSAR	Question 7A.16	7A-14 to 4A-17
7. Instrument Loops Requiring Dual Verification of Operability Following Maintenance or Calibration	Administrative Procedure-3	Enclosure 6.7	AP 3/18 to 3/28
8. Equipment Required for LOCA	Emergency Procedures D.5, D.10 and C.47	A11	A11
9. Equipment Required for MSLB	Emergency Procedure D.13	A11	A11

TABLE 3-2HARSH ENVIRONMENTS IN ROOMS WITH REQUIRED EQUIPMENT

<u>ROOM NUMBER</u>	<u>ROOM NAME</u>	<u>200 DAY DOSE</u>	<u>PROFILE</u>
001	West Decay Heat Pump Room	5.5×10^7 Rads	5.0
002	East Decay Heat Pump Room	5.5×10^7 Rads	6.0
043	HPI Pump Room B	2×10^6 Rads	7.0
044	Make Up Pump Room	3×10^6 Rads	8.0
046	Seal Return Cooler Room	2×10^6 Rads	12.0 1
051	East Penetration Room	2×10^7 Rads	9.0
052	West Penetration Room	1.8×10^7 Rads	10.0
053	HPI Pump Room A	3×10^6 Rads	11.0



4. EQUIPMENT EVALUATION

4.1 GENERAL COMMENTS

4.1.1 AGING

Age testing or analysis has been found to be adequate for five classes of equipment - Westinghouse Electric Company Pump Motors, Joy Axivane Fan Coolers, Siemens - Allis (Allis-Chalmers) Motors, Cable, and some Limitorque Valve Operators. For other equipment, an aging analysis based on the materials of construction will be performed or test data will be used to establish a qualified life.

The lack of aging information will not be discussed in Sections 4.2 through 4.15. Aging is indicated as an open item in Appendix D for equipment lacking adequate information. All outstanding aging problems will be resolved by June 30, 1982.

4.1.2 FIELD VERIFICATION

The District has begun a field verification of the manufacturer, model number, location and orientation of equipment. Correct installation as indicated by the test report and the use of appropriate sealing devices will be verified.

4.1.3 RESOLUTION OF OPEN ITEMS

The District plans to receive all available qualification data by March 1, 1981. If data has not been received by that date, the District plans to initiate procurement of qualified replacement equipment. Data retrieval efforts may continue beyond March 1, 1981, if it is expected that acceptable data can be obtained. If at all possible, system modifications will be accomplished during the planned outage in April 1982.

4.1.4 REFERENCES

NONE

1

4.2 CONTAINMENT ISOLATION SYSTEM

4.2.1 SYSTEM DESCRIPTION

The Containment Isolation System (CIS) consists of motor and air-operated valves. They isolate the containment during a LOCA or MSLB inside containment to prevent release of any radioactive material. The following electrical components require review:

<u>ITEM</u>	<u>MANUFACTURER</u>
Motor Operated Valves	Limatorque
Pilot Solenoid Valves	ASCO
Limit Switches	NAMCO

4.2.2 EQUIPMENT QUALIFICATION

4.2.2.1 MOTOR OPERATED VALVES

All the CIS motor operated valves are manufactured by Limatorque Corporation and are Type SMR.

Listed below are the valve plant identification number, location, function, and test report:

<u>PLANT I.D.</u>	<u>ROOM</u>	<u>FUNCTION</u>	<u>TEST REPORT</u> ⁽¹⁾
HV20609	Containment	Steam Gen. "A" Drain	600198(2), 600376A(7)
HV20610	Containment	Steam Gen. "B" Drain	600198, 600376A
HV20611	052	Steam Gen. Drain Isolation	Unknown
SFV22023	Containment	Letdown Isolation	80003(3)
SFV24004	Containment	Seal Return from R.C. Pumps	600198, 600376A
SFV46203	Containment	CCW Return Isolation	600198, 600376A
SFV46907	Containment	CRD CW Return Isolation	600198, 600376A
SFV53504	Containment	R.B. Purge Inlet Isolation	Unknown
SFV53603	Containment	R.B. Purge To Exhaust Fan	600198
SFV53605	Containment	R.B. Purge Equalizing Isolation	Unknown
SFV60001	Containment	RCS Vent Header Isolation	600198, 600376A
SFV60003	002	RCS Drain Header Isolation	F-C3271(4)
SFV66308	002	R.B. Normal Sump Isolation	600198, 600376A
SFV70001	Containment	Pressurizer Liquid Sample Iso.	Unknown
SFV70003	Containment	Pressurizer Gas Sample Isolation	Unknown
SFV72501	Containment	Pressurizer Relief Tank Gas Sample Isolation	600198, 600376A

OUTSTANDING ITEMS

SFV53603 and SFV60003 are qualified to all service conditions except radiation.

SFV22023 was not tested to conditions that envelope service conditions for pressure, temperature, radiation and chemical spray.

The District has no qualification information for HV20611, SFV53504, SFV53605, SFV70001 or SFV70003.

JUSTIFICATION FOR INTERIM OPERATION

SFV53603 is locked closed during plant operation. Its safety position following an accident is closed.

SFV60003 will perform its safety function before being exposed to any accident radiation.

The following justifies interim operation for SFV22023:

- (1) The difference between service and test conditions for pressure and temperature are not significant enough to prevent valve operation.
- (2) The valve will operate before it receives a radiation dose that exceeds its tested dose.
- (3) The valve will operate prior to any chemical spray.
- (4) No failure can cause the valve to go to an unsafe position.

HV20611 can be opened if reactor power is below 15 percent of rated power but is normally closed and remains closed following an accident. The operator closes HV20611 before radiation becomes significant. Additionally, valves HV20609 and HV20610 which isolate the same drain line are qualified.

SFV53504 and SFV53605 are locked closed. The air operated valves outside containment in these purge lines (respectively SFV53503 and SFV53604) are also locked closed, but are not located in a potentially harsh environment.

SFV70001 and SFV70003 can be open during normal operation. They receive an SFAS signal to close. Redundant valve SFV70002, located outside containment also performs the required safety function.

4.2.2.2 PILOT SOLENOID VALVES

All the CIS pilot solenoid valves are manufactured by Automatic Switch Co. (ASCO) and are listed below. They are located outside containment. The valves control the air to pneumatic operated valves. The pneumatic valves fail closed (safe position) for loss of air.

<u>PLANT I.D.</u>	<u>FUNCTION</u>	<u>ROOM</u>
SFY22009	Pilot to SFV22009	051
SFY24013	Pilot to SFV24013	051
SFY46014A	Pilot to SFV46014	051
SFY46014B	Pilot to SFV46014	051
SFY46026	Pilot to SFV46014	051
SFY46027	Pilot to SFV46014	051
SFY46028	Pilot to SFV46014	051
SFY46029	Pilot to SFV46014	051
SFY46204	Pilot to SFV46204	051
SFY46225	Pilot to SFV46204	051
SFY46906A	Pilot to SFV46906	052
SFY46906B	Pilot to SFV46906	052
SFY46908	Pilot to SFV46908	052
SFY46919	Pilot to SFV46908	052
SFY46920	Pilot to SFV46906	052
SFY46921	Pilot to SFV46906	052
SFY46922	Pilot to SFV46906	052
SFY46923	Pilot to SFV46906	052
SFY53610	Pilot to SFV53610	052
SFY60002	Pilot to SFV60002	051
SFY60004	Pilot to SFV60004	002
SFY66309	Pilot to SFV66309	002
SFY70002	Pilot to SFV70002	051
SFY72502	Pilot to SFV72502	051
SFY92520A	Pilot to SFV92520	051
SFY92520B	Pilot to SFV92520	051

OUTSTANDING ITEMS

The solenoid valves are not qualified to recirculating fluid radiation levels following LOCA. Licensee Event Report LER 80-43 was written to document the unqualified solenoid valves.⁵

JUSTIFICATION FOR INTERIM OPERATION

The valves will perform their function prior to radiation exposure due to recirculating fluids.

4.2.2.3 LIMIT SWITCHES

All the CIS air-operated valve limit switches are manufactured by NAMCO and are listed below:

<u>PLANT I.D.</u>	<u>FUNCTION</u>	<u>ROOM</u>
SFV22009	Letdown Isolation	051
SFV24013	Seal Return from RC Pumps	051
SFV46014	CCW Supply Isolation	051
SFV46204	CCW Supply Isolation	051
SFV46906	CRD CW Supply Isolation	052
SFV46908	CRD CW Return Isolation	052
SFV53610	R.B. Purge Equalizing Isolation	052
SFV60002	RCS Vent Header Isolation	051
SFV60004	RCS Drain Header isolation	002
SFV66309	R.B. Normal Sump Isolation	002
SFV70002	Pressurizer Liquid Sample Isolation	051
SFV72502	Pressurizer Relief Tank Gas Sample Isolation	051
SFV92520	N ₂ to Pressurizer Relief Tank Isolation	051

The limit switches are located outside containment in the Auxiliary Building. The switches provide valve position indication.

OUTSTANDING ITEMS

The NAMCO limit switches are not qualified to the recirculating fluid radiation levels following a LOCA. Licensee Event Report LER 80-45 was written to document the unqualified switches.⁶

JUSTIFICATION FOR INTERIM OPERATION

The NAMCO Limit Switches in the containment isolation system are required to provide valve position indication to the operator. They will function properly prior to recirculation.

REFERENCES

- (1) Limitorque Corporation Letter, J. B. Drab (Special Projects Engineer) to D. G. Raasch (SMUD Manager of Generation Engineering Department), "Qualification Information, Rancho Seco P/O 3293, O/N 3F0281," dated September 5, 1980.
- (2) Limitorque Corporation Test Report No. 600198, January 2, 1969.
- (3) Limitorque Corporation Test Report No. B0003, June 7, 1976.
- (4) Franklin Institute Research Laboratories Test Report F-C3271, February 1972.
- (5) SMUD letter RJR 80-560, R.J. Rodriguez to R. H. Engelken, dated November 3, 1980.
- (6) SMUD letter RJR 80-562, R. J. Rodriguez to R. H. Engelken, dated November 3, 1980.
- (7) Limitorque Corporation Test Report No. 600376A, September 1972.

4.3 CORE FLOOD SYSTEM

4.3.1 SYSTEM DESCRIPTION

The Core Flood System (CFS) provides core protection for a large LOCA, including a break in the core flood line. The CFS is passive and operates only when reactor system pressure is less than 600 psig.

The following electrical equipment in the CFS requires review:

<u>COMPONENT</u>	<u>MANUFACTURER</u>
Level Transmitters	Bailey Meter Co.

4.3.2 EQUIPMENT QUALIFICATION

4.3.2.1 LEVEL TRANSMITTERS

The CFS level transmitters are Bailey Model BY3231XA which monitor level in the Core Flood Tank (CFT). Listed below are the plant identification, room, and function:

<u>PLANT I.D.</u>	<u>FUNCTION</u>	<u>ROOM</u>
LT26505	Level of CFT "A"	Containment
LT26506	Level of CFT "B"	Containment
LT26507	Level of CFT "A"	Containment
LT26508	Level of CFT "B"	Containment

OUTSTANDING ITEMS

No qualification documentation has been received from Bailey Meter Company.

JUSTIFICATION FOR INTERIM OPERATION

The level transmitters provide the operator with information as to the relative discharge rates of the two CFT. An uneven discharge rate indicates a break in the CFT discharge line. With this information, the operator can properly align the Decay Heat System (DHS) to provide adequate core cooling. The level transmitters have no function after seven minutes following a LOCA.⁽¹⁾ Because of this short period of operation, the transmitters will function as required.

Additionally, the flow transmitters in DHS, FT-26003 and FT-26004, which will not be subjected to a harsh environment following a break in the CFT discharge line, provide the operator with the same information.

4.3.3

REFERENCES

- (1) Rancho Seco Nuclear Generating Station, Emergency Procedure No. D.5, Loss of Reactor Coolant/Reactor Coolant Pressure, Paragraph 5.3.2, Page D.5-5.

4.4 CONTROL ROD DRIVE SYSTEM

4.4.1 SYSTEM DESCRIPTION

The Control Rod Drive System (CRD) consists of mechanisms to raise, lower and release the reactor control rods during normal and accident conditions. The sole function of the mechanisms during accident conditions is to allow the rods to drop during reactor trip.

4.4.2 EQUIPMENT QUALIFICATION

4.4.2.1 CONTROL ROD DRIVE MECHANISMS

The Control Rod Drive Mechanisms (CRDM) are manufactured by Babcock & Wilcox and are roller-nut type A.

The CRDM are qualified.(1)

4.4.3

REFERENCES

- (1) Babcock and Wilcox Report, BAW-10007, "Control Rod Drive Mechanism Test Program," Revision 1, dated June 1971.

4.5 DECAY HEAT SYSTEM

4.5.1 SYSTEM DESCRIPTION

The Decay Heat System (DHS) provides low pressure injection for a LOCA and decay heat removal normal for plant cooldown.

The following electrical equipment in the DHS requires review:

<u>Item</u>	<u>Manufacturer</u>
Motor Operated Valves	Limatorque
Decay Heat Pump Motors	Westinghouse
Fan Motors	Allis Chalmers
Flow Transmitters	Bailey Meter
Limit Switch	NAMCO
Flow Transmitter	Foxboro

4.5.2 EQUIPMENT QUALIFICATION

4.5.2.1 MOTOR OPERATED VALVES

The DHS valve operators are located on the following lines:

Suction from the BSWT or Reactor Building Sump to the Decay Heat Pumps;

Low pressure injection and cooling water to the RCS

The MOV's in the DHS are Limatorque Type SMB and are listed below:

<u>PLANT I.D.</u>	<u>FUNCTION</u>	<u>TEST REPORT (1)</u>	<u>ROOM</u>
HV20001	Reactor coolant to DHS	500198,(8)500376A(?)	Containment
HV20002	Reactor coolant to DHS	500198, 600376A	Containment
HV20003	Long-term Boron Dilution	Unknown	Containment
HV25007	DHS to HPI Pump A	B0003(9)	052
HV25008	DHS to HPI Pump B	B0003	051
HV26037	Decay Heat Cooler 'A' Bypass	B0003	052
HV26039	Decay Heat Cooler 'B' Bypass	B0003	051
HV25046	Decay Heat Cross Tie 'A'	600456(10)	051
HV26047	Decay Heat Cross Tie 'B'	600456	052

<u>PLANT I.D.</u>	<u>FUNCTION</u>	<u>TEST REPORT (1)</u>	<u>ROOM</u>
HV26105	RB Emerg. Sump to DHS 'A'	B0003	001
HV26106	RB Emerg. Sump to DHS 'B'	B0003	002
SFV25003	DHR 'A' Suction from BWST	F-C3271(11)	052
SFV25004	DHR 'B' Suction from BWST	F-C3271	046
SFV26005	Low Pressure Injection Loop 'B'	F-C3271	052
SFV26006	Low Pressure Injection Loop 'A'	F-C3271	051
SFV26039	Decay Heat Cooldown	B0003	052
SFV25040	Decay Heat Cooldown	B0003	051

OUTSTANDING ITEMS

The District has no qualification information on HV-20003.

HV26105 and HV26106 are not qualified for recirculating fluids radiation levels.

SFV25003, SFV25004, SFV26005, and SFV26006 have no radiation qualification documentation.

JUSTIFICATION FOR INTERIM OPERATION

HV20003 is used for long-term Boron dilution. This function can be performed by equipment in the SIM System (P236 or P238A or P238B, SFV23810, FT23806 and HV23802).

HV26105, HV26106, SFV25003, SFV25004, SFV25005, and SFV26006 are located outside containment. They are aligned to the required post-accident position prior to being exposed to radiation which is due to recirculating fluids.

4.5.2.2 DECAY HEAT PUMP MOTORS

The Decay Heat Pump Motors are manufactured by Westinghouse and are listed below:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
P261A	DHR Pump 'A'	HSW1	001
P261B	DHR Pump 'B'	HSW1	002

The Decay Heat Pump motors have been qualified.⁴

4.5.2.3 FAN MOTORS

The fan motors in the DHS are manufactured by Allis-Chalmers. The fan motors only operate when the Decay Heat Removal Pump is running. They maintain the Decay Heat Pump Room at or below design temperature. Listed below are the plant identification number, function, model number, and location for each motor.

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
A529D	Decay Heat Room A Cooler	531	001
A529E	Decay Heat Room B Cooler	531	002

The Allis-Chalmers fan motors in the DHS are qualified.⁵

4.5.2.4 FLOW TRANSMITTERS

DHS flow is monitored by Bailey BY differential pressure transmitters and are listed below:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>TEST REPORT(6)</u>	<u>ROOM</u>
FT26003	Decay Heat Removal Flow A	BY8240XA	Unknown	052
FT26004	Decay Heat Removal Flow B	BY8240XA	Unknown	051
FT26048	Cross Tie A to B	BY3X30XA	BAW-10003	051
FT26049	Cross Tie B to A	BY8X30XA	BAW-10003	051

FT26048 and FT26049 are qualified. ⁶

OUTSTANDING ITEMS

This District has no qualification data for FT 26003 and FT 26004.

JUSTIFICATION FOR INTERIM OPERATION

FT26048 and FT26049 can be used to measure DHS flow.

4.5.2.5 LIMIT SWITCHES

Limit Switches for HV20001 and HV20002 are NAMCO Model EA180. These switches are located inside containment.

OUTSTANDING ITEM

These limit switches require a sealed connector to assure qualification.⁷

JUSTIFICATION FOR INTERIM OPERATION

The limit switch is used to trip the DHS pumps. The trip signal is automatically terminated in 3 minutes allowing the pump to operate. Also, safety features actuation overrides the trip signal.

4.5.2.6 FLOW TRANSMITTERS

The Foxboro flow transmitter measures long-term boron dilution flow. Listed below are the plant identification numbers, function, model number, and location of the transmitter.

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
FT20001	Long-term Boron Dilution	A2020LA-FD	Containment

OUTSTANDING ITEMS

The District has no qualification information on FT20001. Licensee Event Report 80-47 was written to document this finding.

1

JUSTIFICATION FOR INTERIM OPERATION

The flow path measured by FT20001 represents only one of two possible flow paths for boron dilution. The other path can be used.

4.5.3 REFERENCES

- (1) Limitorque Corporation letter, J. B. Drab (Special Projects Engineer) to D. G. Raasch (SMUD Manager of Generation Engineering Department), "Qualification Information, Rancho Seco, P/O 3293, O/N 3F0281," dated September 5, 1980.
- (2) Limitorque Corporation Test Report No. 600376A, September 1972.
- (3) NUS Corporation letter CD-PA0-80-418, R. D. Allen (Principal Engineer) to J. B. Drab, same subject as Reference 1, dated September 19, 1980.
- (4) Rodens, I and Delisle, R. H. "Environmental Qualification of Class 1E motors for Nuclear Out-of-Containment Use", WCAP 8754, Westinghouse Electric Corporation, June 1975.
- (5) "Equipment Qualification - Random Wound Motors (for Class 1E Safety-Related Services)" Seimens-Allis, Inc. Small Motor Division.
- (6) Babcock & Wilcox Memorandum for B&W Owners Group, "Environmental Qualification Subcommittee", L. McBee to F. J. Levandoski, dated February 11, 1980.
- (7) "Qualification of NAMCO Controls Limit Switch Model EA180 to IEEE Standards 344('75), 323('74) and 382('72).: Acme Cleveland Development Company, March 3, 1978.
- (8) Limitorque Corporation Test Report No. 600198, January 2, 1969.
- (9) Limitorque Corporation Test Reort No. B0003, June 7, 1976.
- (10) Limitorque Corporation Test Report No. 600456, December 9, 1975.
- (11) Franklin Institute Research Laboratories Test Report F-C3271, February 1972.

4.6 HEATING AND VENTILATION SYSTEM

4.6.1 SYSTEM DESCRIPTION

The heating and ventilation system (HVS) provides normal and emergency air circulation, room temperature control, and containment heat removal. The following electrical equipment in HVS requires review.

<u>ITEM</u>	<u>MANUFACTURER</u>
Emergency Air Circulators and Coolers	Joy Axivane

4.6.2 EQUIPMENT QUALIFICATION

4.6.2.1 EMERGENCY AIR CIRCULATOR AND COOLER UNITS

The air conditioning units provide heat removal and air circulation inside containment following a LOCA or MSLB. Listed below is the plant identification number, the location and the function:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>LOCATION</u>
A500A	R. B. Emergency Cooling Units	Containment
A500B	R. B. Emergency Cooling Units	Containment
A500C	R. B. Emergency Cooling Units	Containment
A500D	R. B. Emergency Cooling Units	Containment
A532A	R. B. Upper Dome Air Circulating Unit	Containment
A532B	R. B. Upper Dome Air Circulating Unit	Containment
A532C	R. B. Upper Dome Air Circulating Unit	Containment
A532D	R. B. Upper Dome Air Circulating Unit	Containment

Joy Axivane Fan Cooler Units are qualified.(1)

4.6.3 REFERENCES

- (1) "Summary and Discussion of Design Considerations and Simulated Environmental Testing," Joy Axivane Fan/Motor for Nuclear Containments.

4.7 MAIN FEEDWATER SYSTEM

4.7.1 SYSTEM DESCRIPTION

The main feedwater system (MFWS) supplies water to the steam generators. The following electrical equipment requires review:

<u>ITEM</u>	<u>MANUFACTURER</u>
Level Transmitters	Bailey

4.7.2 EQUIPMENT QUALIFICATION

4.7.2.1 LEVEL TRANSMITTERS

The level transmitters measure steam generator water level. Listed below are the plant identification numbers, the model number and the function:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL NUMBER</u>	<u>TEST REPORT(1)</u>	<u>ROOM</u>
LT20503A	E205A Operating Range	BY 8B41XA	BAW-10003	Containment
LT20503B	E205A Operating Range	BY 8B41XA	BAW-10003	Containment
LT20503C	E205A Startup Range	BY 8B41XA	BAW-10003	Containment
LT20503D	E205A Startup Range	BY 8B41XA	BAW-10003	Containment
LT20504A	E205B Operating Range	BY 8B41XA	BAW-10003	Containment
LT20504B	E205B Operating Range	BY 8B41XA	BAW-10003	Containment
LT20504C	E205B Startup Range	BY 8B41XA	BAW-10003	Containment
LT20504D	E205A Startup Range	BY 8B41XA	BAW-10003	Containment

OUTSTANDING ITEM

The level transmitters are located below the maximum postulated flood level.

JUSTIFICATION FOR INTERIM OPERATION

These transmitters are located within an explosion proof enclosure which is environmentally qualified. This enclosure was pressure tested to 60 psig with a pressure drop of less than .1 psi after 5 minutes. The transmitters will function submerged.

4.7.3 REFERENCES

- (1) Babcock and Wilcox Memorandum for B&W Owners Group,
"Environmental Qualification Subcommittee" L. McBee to F. J.
Levandoski, February 11, 1980

4.8 MAIN STEAM SYSTEM

4.8.1 SYSTEM DESCRIPTION

The Main Steam System (MSS) transfers energy from the steam generators to the turbines. The following electrical equipment requires review:

ITEM

MANUFACTURER

Pressure Switches

Meletron Corporation

4.8.2 EQUIPMENT QUALIFICATION

4.8.2.1 PRESSURE SWITCHES

The pressure switches initiate isolation of the steam generator from the main feedwater following a low pressure indication. Listed below are the plant identification number, function, model number, and room:

<u>LANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
PSL20601	E205A Main Steam Pressure	312-49A	Containment
PSL20602	E205B Main Steam Pressure	312-49A	Containment
PSL20603	E205A Main Steam Pressure	312-49A	Containment
PSL20604	E205B Main Steam Pressure	312-49A	Containment
PSL20605	E205A Main Steam Pressure	312-49A	Containment
PSL20606	E205B Main Steam Pressure	312-49A	Containment
PSL20607	E205A Main Steam Pressure	312-49A	Containment
PSL20608	E205B Main Steam Pressure	312-49A	Containment

OUTSTANDING ITEMS

The District has been unable to obtain any qualification documentation for the Meletron Pressure Switches.

JUSTIFICATION FOR INTERIM OPERATION

District engineers have reviewed the design of the circuit associated with the Meletron switches. The design review concluded that the two credible failure modes for the switch, either a short or a ground, would not prevent the circuit from performing its intended function. A third failure mode, specifically an open circuit, is not considered a credible failure mode. Since no credible failure mode, induced by a harsh environment, will prevent the circuit from performing its intended function, continued interim operation is justified. License Event Report, LER 80-44, documents this conclusion.

4.8.3 REFERENCES

- (1) SMUD Letter RJR 80-568, R. J. Rodriguez to R. H. Engelken,
November 5, 1980.

1

4.9 NUCLEAR SERVICE COOLING WATER (NSCW) SYSTEM

4.9.1 SYSTEM DESCRIPTION

The Nuclear Service Cooling Water (NSCW) System supplies cooling water to the Reactor Building Emergency Air Coolers and to the Decay Heat Removal Coolers.

The following electrical equipment requires review:

<u>ITEM</u>	<u>MANUFACTURER</u>
Motor-Operated Valves	Limatorque

4.9.2 EQUIPMENT QUALIFICATION

4.9.2.1 MOTOR-OPERATED VALVES (MOV's)

All the valve operators are Limatorque Type SMB and are listed below:

<u>PLANT ID</u>	<u>COOLED COMPONENTS</u>	<u>TEST REPORT(3)</u>	<u>ROOM</u>
SFV26016	Decay Heat Cooler E260B	B0003(1)	051
SFV26017	Decay Heat Cooler E260A	B0003	052
SFV26018	Decay Heat Cooler E260B	B0003	051
SFV26019	Decay Heat Cooler E260A	B0003	052
SFV50005	Reactor Building Emergency Cooler E500A	600198(2)	052
SFV50006	Reactor Building Emergency Cooler E500B	600198	051
SFV50007	Reactor Building Emergency Cooler A500C	600198	051
SFV50008	Reactor Building Emergency Cooler A500D	600198	052
SFV50009	Reactor Building Emergency Cooler A500A	600198	052
SFV50010	Reactor Building Emergency Cooler A500B	600198	051
SFV50011	Reactor Building Emergency Cooler A500C	600198	052
SFV50012	Reactor Building Emergency Cooler A500D	600198	051

SFV26016, SFV26017, SFV26018, and SFV26019 are qualified.

OUTSTANDING ITEMS

The valves used for the reactor building emergency coolers have been qualified to all service conditions except radiation.

JUSTIFICATION FOR INTERIM OPERATION

The valves are aligned to their post-accident position prior to being exposed to radiation due to recirculating fluids.

REFERENCES

- (1) "Qualification Type Test Report, Limitorque Valve Actuators for Class 1E Service Outside Primary Containment in Nuclear Power Station Service," Limitorque Test Report No. B0003, Project No. 500451, June 7, 1976.
- (2) "Test of a Limitorque Valve Operator to meet General Requirements of and Electric Valve Actuator in Nuclear Reactor Containment Environment," Limitorque Test Report No. 500198, January 2, 1969.
- (3) Limitorque Corporation letter, J. B. Drah (Special Projects Engineer) to D. G. Raasch (SMUD Manager of Generation Engineering Department), "Qualification Information, Rancho Seco, P/O 3293, O/N 3F0281," dated September 5, 1980.

4.10 REACTOR BUILDING SPRAY SYSTEM (RBS)

4.10.1 SYSTEM DESCRIPTION

The reactor building spray system sprays borated water and sodium hydroxide into the reactor building. The spray reduces the containment building temperature, pressure, and the content of fission products in the containment atmosphere.

The following electrical equipment in the RBS requires review.

<u>ITEM</u>	<u>MANUFACTURER</u>
Motor Operated Valves	Limiterque
Pump Motors	Westinghouse

4.10.2 EQUIPMENT QUALIFICATION

4.10.2.1 MOTOR OPERATED VALVES

Listed below are the operators, plant identification numbers, locations, and the functions of the operators.

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>TEST REPORT(1)</u>	<u>ROOM</u>
SFV29015	Spray Additive Tank to P291A	B0003(2)	001
SFV29016	Spray Additive Tank to P291B	B0003	002
SFV29107	Pump P291 A to "A" Nozzles	Unknown	032
SFV29108	Pump P291 B to "B" Nozzles	Unknown	051

OUTSTANDING ITEMS

SFV29015 and SFV29016 have been qualified to radiation levels less than the maximum service conditions.

The District has no radiation qualification documentation on SFV29107 and SFV29108.

JUSTIFICATION FOR INTERIM OPERATION

All the valves will be aligned to their post-accident position prior to being exposed to radiation due to recirculating fluids.

4.10.2.2 REACTOR BUILDING SPRAY PUMP MOTORS

The Reactor Building Spray Pumps are required to supply spray to the reactor building following large LOCA or MSLB. The Reactor Building Spray Pump Motors are manufactured by Westinghouse. Listed below are the plant identification number, function, model number and location:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
P291A	RB Spray 'A'	ABW1	001
P291B	RB Spray 'B'	ABW1	002

The Reactor Building Spray Pump Motors are qualified.(3)

4.10.3 REFERENCES

- (1) Limitorque Corporation letter, J. B. Drab (Special Projects Engineer) to D. G. Raasch (SMUD Manager of Generation Engineering Department), "Qualification Information, Rancho Seco, P/O 3293, O/N 3F0281." dated September 5, 1980.
- (2) "Qualification Type Test Report, Limitorque Valve Actuators for Class 1E Service Outside Primary Containment in Nuclear Power Station Service,; Limitorque Test Report No. B0003, Project No. 600461, June 7, 1976.
- (3) Romans, I. and Delisle, R.H. "Environmental Qualification of Class 1E Motors for Out-of-Containment Use", WCAP 8754, Westinghouse Electric Corporation, June 1976.

1

4.11 REACTOR COOLANT SYSTEM

4.11.1 SYSTEM DESCRIPTION

The Reactor Coolant System (RCS) is used to transfer heat from the reactor vessel to the steam generators. The following electrical equipment in the RCS requires review:

<u>ITEM</u>	<u>MANUFACTURER</u>
Motor Operated Valves	Limatorque
Temperature Elements	Rosemount
Level Transmitter	Bailey Meter Co.
Valve Position Indicator	Technology for Energy Corp.

4.11.2 EQUIPMENT QUALIFICATION

4.11.2.1 MOTOR OPERATED VALVES

The function of the MOVs in the RCS is to open or close to provide coolant pressure and volume control. Listed below is the plant identification number, function, and test report for each valve:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>TEST REPORT(1)</u>
HV21505	Pressurizer Relief Stop Valve	600198(2), 600376A(4)
HV21515	Pressurizer Vent Valve "A"	Unknown
HV21517	Pressurizer Vent Valve "B"	600198, 600375A
SFV22005	Letdown to Cooler E220A	600198, 600375A
SFV22006	Letdown to Cooler E220B	600198, 600375A
SFV22025	Letdown to Coolers	Unknown

OUTSTANDING ITEMS

The District has no qualification documentation for HV21515 and SFV22025.

SFV22005, SFV22006 and SFV22025 will be submerged during maximum in-containment flooding conditions. All other RCS motor operated valves are qualified.

JUSTIFICATION FOR INTERIM OPERATION

Field verification has positively identified that HV21515 has a Class HR insulated motor manufactured by Reliance. Limatorque has performed tests on Class HR (Radiation Chass H) insulated motors. The tests have shown operability at 2×10^8 rads. Since the HV21515 has a Class HR motor, it is reasonable to assume that the motor can withstand the maximum radiation service conditions.

Valves SFV 22005, SFV 22006, and SFV 22025 provide for reactor primary pressure boundary isolation in the event of a letdown cooler rupture. The function performed by SFV22025 is redundantly performed by SFV22005 and SFV22006, both of which valves are fully qualified except for submergence. These valves perform their function prior to being submerged and will not mislead the operator after being submerged.

4.11.2.2 TEMPERATURE ELEMENTS

The temperature elements in the RCS are used to measure reactor coolant temperature in both the hot and cold legs.

The elements are Rosemount Resistance Temperature Detectors Model 177GY and are qualified.⁽³⁾ They are listed below:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>ROOM</u>
TE21023A	RCS Cold Leg "A"	Containment
TE21023B	RCS Cold Leg "B"	Containment
TE21024A	RCS Cold Leg "C"	Containment
TE21024B	RCS Cold Leg "D"	Containment
TE21031A	RCS Hot Leg E205A	Containment
TE21031B	RCS Hot Leg E205A	Containment
TE21032A	RCS Hot Leg E205B	Containment
TE21032B	RCS Hot Leg E205B	Containment

OUTSTANDING ITEMS

The 40 year in-service radiation exposure plus the accident dose exceeds that to which the elements were tested.

JUSTIFICATION FOR INTERIM OPERATION

Preliminary analysis shows the transmitters to be qualified to at least a 10 year in-service plus accident radiation dose exposure. The transmitters will be replaced as necessary to ensure qualifications.

4.11.2.3 LEVEL TRANSMITTERS

The level transmitters in the RCS provide the operator with indication of the fluid level in the pressurizer.

Level transmitters are Bailey BY Type.

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL NUMBER</u>	<u>ROOM</u>
LT21503A	Pressurizer	BY 3B40XA	Containment
LT21503B	Pressurizer	BY 3B40XA	Containment
LT21503C	Pressurizer Level Water	BY 3B40XA	Containment

The level transmitters are qualified.³

4.11.2.4 VALVE POSITION INDICATOR

Sonic detection devices installed on the PORV monitor flow through the PORV to determine valve positions. The devices are listed below.

<u>PLANT ID</u>	<u>FUNCTION</u>
XE21520	Accelerometer for PSV21506
XE21521	Accelerometer for PSV21506
XE21522	Accelerometer for PSV21507
XE21523	Accelerometer for PSV21507
XE21524	Accelerometer for PSV21511
XE21525	Accelerometer for PSV21511
XY21520	Charge Amplifier for PSV21506
XY21521	Charge Amplifier for PSV21506
XY21522	Charge Amplifier for PSV21507
XY21523	Charge Amplifier for PSV21517
XY21524	Charge Amplifier for PSV21511
XY21525	Charge Amplifier for PSV21511

Included with these devices is the qualification of the inter-connecting cable and BNC.

OUTSTANDING ITEMS

The District has obtained test information documenting the qualification. The District will review this test to determine its adequacy.

JUSTIFICATION FOR INTERIM OPERATION

The units were installed during the 1980 refueling outage as part of an TMI-2 modification. This monitoring system was found acceptable by the staff⁵ until further testing or documentation can be obtained and analyzed.

4.11.3 REFERENCES

- (1) Limitorque Corporation letter, J. B. Drab (Special Projects Engineer) to D. G. Raasch (SMUD Manager of Generation Engineering Department), "Qualification Information, Rancho Seco, P/O 3293, O/N 3F0281," dated September 5, 1980.
- (2) "Test of a Limitorque Valve Operator to meet General Requirements of and Electric Valve Actuator in Nuclear Reactor Containment Environment," Limitorque Test Report No. 500198, January 2, 1969.
- (3) Babcock and Wilcox Memorandum for B&W Owners Group "Environmental Qualification Subcommittee" L. McBee to F. J. Levandoski, February 11, 1980.
- (4) Limitorque Corporation Test Report No. 500376A, September 1972.
- (5) Letter from Robert W. Reid, Chief, Operating Reactors Branch #4 (NRC) to J. J. Mattimoe, Assistant General Manager (SMUD), Dated May 1, 1980.

4.12 REACTOR PROTECTION SYSTEM

4.12.1 SYSTEM DESCRIPTION

The Reactor Protection System (RPS) monitors the 1) reactor coolant temperature, 2) reactor coolant pressure, 3) reactor coolant flow, and 4) the reactor building pressure.

The following electrical equipment requires review:

<u>ITEM</u>	<u>MANUFACTURER</u>
Flow Transmitters	Bailey Meter Co.
Pressure Switch	Mercoïd
Pressure Transmitters	Westinghouse Electric
Temperature Transmitters	Rosemount

4.12.2 EQUIPMENT QUALIFICATION

4.12.2.1 FLOW TRANSMITTERS

The flow transmitters in the RPS are Bailey BY. Their function is to monitor the reactor coolant flow and to initiate a reactor trip.

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL NUMBER</u>	<u>ROOM</u>
FT21027A	RC Flow Loop A	BY 3X41XA	Containment
FT21027B	RC Flow Loop A	BY 3X41XA	Containment
FT21027C	RC Flow Loop A	BY 3X41XA	Containment
FT21027D	RC Flow Loop A	BY 3X41XA	Containment
FT21029A	RC Flow Loop B	BY 3X41XA	Containment
FT21028B	RC Flow Loop B	BY 3X41XA	Containment
FT21028C	RC Flow Loop B	BY 3X41XA	Containment
FT21028D	RC Flow Loop B	BY 3X41XA	Containment

OUTSTANDING ITEMS

The flow transmitters have not been tested for submergence effects.

JUSTIFICATION FOR INTERIM OPERATION

The transmitters will have performed their function prior to being submerged and no failure will occur after submergence which will mislead the operator.

4.12.2.2 PRESSURE SWITCHES

The pressure switches in the RPS are manufactured by Mercoïd. Their function is to monitor reactor building pressure and to initiate a reactor trip signal when building pressure exceeds 4 psig. Listed below is the plant identification number, model number, and location of the switches.

<u>PLANT ID</u>	<u>MODEL</u>	<u>ROOM</u>
PSH53606	APW-7041-153	052
PSH53617	APW-7041-153	051
PSH53619	APW-7041-153	052
PSH53620	APW-7041-153	051

The pressure switches are qualified.

4.12.2.3 PRESSURE TRANSMITTERS

The pressure transmitters in the RPS are Westinghouse Model 59PH. Their function is to monitor reactor coolant pressure and to trip the reactor.

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>ROOM</u>
PT21037	RCS Pressure	Containment
PT21038	RCS Pressure	Containment
PT21039	RCS Pressure	Containment
PT21040	RCS Pressure	Containment

OUTSTANDING ITEMS

The qualification testing duration for the RPS pressure transmitters is insufficient. PT 21038 and PT 21039 are not qualified for submergence.

JUSTIFICATION FOR INTERIM OPERATION

The Westinghouse 59PH transmitters have been qualified to initiate reactor trip.⁽²⁾ The transmitters will operate prior to flooding.

4.12.2.4 TEMPERATURE TRANSMITTERS

The temperature elements in the RPS are Rosemount Model 177GY. They initiate a reactor trip on high RCS temperature.

The temperature elements are listed below:

<u>PLANT ID</u>	<u>ROOM</u>	<u>MODEL</u>	<u>FUNCTION</u>
TE21029	Containment	177GY	RC to Steam Gen. E205A
TE21030	Containment	177GY	RC to Steam Gen. E205B
TE21033	Containment	177GY	RC to Steam Gen. E205A
TE21034	Containment	177GY	RC to Steam Gen. E205B

OUTSTANDING ITEM

The 40 year in-service radiation dose plus the accident dose seen by the elements is greater than the dose the element was qualified.

JUSTIFICATION FOR INTERIM OPERATION

Preliminary analysis has shown the transmitters to be qualified to at least a 10 year in-service plus accident radiation dose. The transmitters will be replaced as necessary to ensure qualification.

1

4.12.3 REFERENCES

- (1) Babcock & Wilcox Memorandum for B&W Owners Group, "Environmental Qualification Subcommittee", L. McBee to F. J. Levandoski, dated February 11, 1980.
- (2) Record of Telephone Conversation, date December 12, 1980, between H. Knieriem (SMUD) and L. McBee (B&W).

4.13 SAFETY FEATURES ACTUATION SYSTEM

4.13.1 SYSTEM DESCRIPTION

The Safety Features Actuation System (SFAS) monitors the Reactor Coolant System pressure and the reactor building pressure to detect a LOCA. Upon detection of a low RCS pressure or a high building pressure, the system automatically initiates.

The following electrical equipment requires review:

<u>ITEM</u>	<u>MANUFACTURER</u>
Pressure Transmitter (RCS)	Foxboro
Pressure Transmitter (RCS)	Rosemount
Pressure Transmitter (Containment)	Foxboro

4.13.2 EQUIPMENT QUALIFICATION

4.13.2.1 RCS PRESSURE TRANSMITTERS

The RCS pressure transmitters monitor the Reactor Coolant pressure and are listed below:

<u>PLANT ID</u>	<u>MODEL</u>	<u>MANUFACTURER</u>
PT21042	E11GH	Foxboro
PT21043	E11GH	Foxboro
PT21092	E11GH	Foxboro
PT21099	1152GP	Rosemount

The pressure transmitters except for PT21092 are qualified for accident conditions. (1),(2),(3)

OUTSTANDING ITEMS

PT21092 has not been tested for submergence.

JUSTIFICATION FOR INTERIM OPERATION

The same function is accomplished by PT21042 and PT21043 which are above flood level. Since these transmitters are qualified, the submergence-induced failure of PT21099 will not adversely affect any safety-related function nor mislead the operator after submergence.

4.13.2.2 BUILDING PRESSURE TRANSMITTERS

Listed below are the reactor building pressure transmitters which initiate a SFAS signal at building pressure of 4 psig.

<u>PLANT ID</u>	<u>MANUFACTURER</u>	<u>MODEL</u>	<u>ROOM</u>
PT53606B	Foxboro	E11GM	052
PT53607	Foxboro	E11GM	051
PT53608	Foxboro	E11GM	051

The containment building pressure transmitters are qualified.(2)

4.13.3 REFERENCES

- (1) Sears, John A., "Maximum Credible Accident (MCA) Test on Differential and Gauge Pressure Transmitters", The Foxboro Company, Test Report Q9-5005, April, 1971.
- (2) Sears, John A. and Ramsel, Richard, "Radiation Test of E10 Series Differential Pressure Transmitter of the Standard Construction Type...", the Foxboro Company, Test Report No. T2-1075, August, 1973.
- (3) Kinne, Linda, "Qualification Tests for Rosemount Pressure Transmitter Model 1152", Rosemount, Inc., RMT Test Report No. 117415, Rev. B, September 9, 1975.

4.14 SEAL INJECTION AND MAKEUP (SIM) SYSTEM

4.14.1 SYSTEM DESCRIPTION

The Seal Injection and Makeup (SIM) System supplies high pressure borated water into the Reactor Core.

The following electrical equipment requires review:

<u>ITEM</u>	<u>MANUFACTURER</u>
Motor-Operated Valves	Limiterque
Pump Motors	Westinghouse
Flow and Level Transmitters	Bailey Meter Company
Fan Motors	Allis-Chalmers
5KV Transfer Switch	ITE Imperial Corporation
480V Transfer Switches	General Electric

4.14.2 EQUIPMENT QUALIFICATION

4.14.2.1 MOTOR-OPERATED VALVES (MOV's)

All of the SIM MOV's have Limitorque operators, type SMB and are listed below:

<u>PLANT ID</u>	<u>ROOM</u>	<u>FUNCTION</u>	<u>TEST REPORT⁽¹⁾</u>
HV23801	Containment	Long Term Cooldown	Unknown
HV23802	Containment	Long Term Cooldown	Unknown
SFV23508	043	Makeup Tank Isolation	Unknown
SFV23504	052	Makeup to Reactor Coolant System	B0009(?)
SFV23616	051	Seal Return to RC Pumps	B0003(4)
SFV23545	043	Makeup Pump Recirculation	B0003
SFV23546	043	Makeup Pump Recirculation	B0003
SFV23809	052	HPI to Loop A	B0009
SFV23810	051	HPI to Loop B	B0009
SFV23811	052	HPI to Loop A	B0009
SFV23812	051	HPI to Loop B	B0009

OUTSTANDING ITEMS

The District has no documentation for HV23801, HV23802 and SFV23508.

Radiation service conditions exceed radiation qualification for valves SFV23504, SFV23809, SFV23810, SFV23811 and SFV23812.

JUSTIFICATION FOR INTERIM OPERATION

Field surveillance has confirmed that HV23801, HV23802 and SFV23508 have Class HR (Radiation Class H) motors and nuclear grade switches.

Limatorque has tested valve actuators with such components for all required service conditions.

Valves SFV23809, SFV23810, SFV23811, and SFV23812 are shut during normal operation to isolate the high pressure injection flowpath from the normal makeup flowpath. On receipt of an SFAS signal, these valves open within 35 seconds following an accident, and remain open for the duration of the accident.

Valves SFV23809, SFV23810, SFV23811, and SFV23812 have been tested to 1×10^7 Rads and the maximum calculated dosage is 2×10^7 Rads at the valve operator. The calculated maximum dosage occurs after 200 days; the total integrated dose at the time of valve operation is significantly less than 1×10^7 Rads.

4.14.2.2 PUMP MOTORS

All SIM pump motors are manufactured by Westinghouse(3) and are listed below:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
P236	Makeup Pump	HSW1	044
P238A	HPI Pump 'A'	HSW1	053
P238B	HPI Pump 'B'	HSW1	043

OUTSTANDING ITEMS

The motors are not qualified to function when subjected to temperatures which result from a postulated break of the auxiliary steamline.

JUSTIFICATION FOR INTERIM OPERATION

A single break location cannot disable more than one pump. Proper accident mitigation can be accomplished by a redundant HPI pump.

1

4.14.2.3 FLOW TRANSMITTERS

The flow transmitters in the SIM system are Bailey type BY and are listed below:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
FT23606	RCP Seal Supply	BY3240XA	052
FT23805	HPI Loop A	BY3240XA	052
FT23806	HPI Loop B	BY3240XA	051
FT23807	HPI Loop A	BY3240XA	052
FT23808	HPI Loop B	BY3240XA	051

OUTSTANDING ITEMS

No qualification information for the SIM flow transmitters has been received from Bailey Meter Company.

JUSTIFICATION FOR INTERIM OPERATION

These flow transmitters will perform prior to being exposed to recirculation radiation levels. The operator will be able to verify system flow by other means such as valve lineup and pump motor operation.

4.14.2.4 FAN MOTORS

The fan motors in the SIM system are manufactured by Allis-Chalmers⁽⁵⁾ and are listed below:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
A529A	HPI Pump 'A' Room Cooler	531	053
A529B	Makeup Pump Room Cooler	531	044
A529C	HPI Pump 'B' Room Cooler	531	043

OUTSTANDING ITEMS

The fan motors are not qualified to function when subjected to temperatures which result from a postulated break in the auxiliary steamline.

JUSTIFICATION FOR INTERIM OPERATION

A single break location cannot disable more than one fan motor. Proper accident mitigation can be accomplished with the redundant HPI pump and its associated room cooler.

4.14.2.5 5 KV TRANSFER SWITCH

The 5 kV transfer switch was manufactured by ITE Imperial and is listed below.

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
H8DP236	Transfer Switch for P236	Z1193	052

OUTSTANDING ITEMS

No data is available on the qualification of this switch for HELB temperatures or radiation due to recirculating fluids.

JUSTIFICATION FOR INTERIM OPERATION

The transfer switch allows the make-up pump to be supplied by either the A or B channel. This permits the make-up pump to be lined up as either HPI pump A or B when one of the HPI pumps is down for maintenance. During normal HPI operation the switch is not used. The District will not operate in this mode for any extended periods of time prior to resolving the problem.

4.14.2.6 480 V TRANSFER SWITCHES

The 480 V transfer switches are manufactured by General Electric. Listed below are the plant identification numbers, function, model, and location of the switches:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>MODEL</u>	<u>ROOM</u>
H8P23508	Transfer Switch for SFV23508	Unknown	044
H8PA529B	Transfer Switch for A529B	Unknown	044

OUTSTANDING ITEMS

No data is available on the qualification of these switches for HELB temperatures or radiation due to recirculating fluids.

JUSTIFICATION FOR INTERIM OPERATION

SFV23508 can be manually operated following an HELB accident. Following a LOCA the valve will close to isolate the make-up tank prior to receiving a damaging radiation dose. The District will not operate in this mode (one HPI pump out of service) for extended periods of time prior to resolving the problem.

4.14.3 REFERENCES

- (1) Limitorque Corporation Letter, J. B. Drah (Special Projects Engineer) to D. G. Raasch (SMUD Manager of Generation Engineering Department), "Qualification Information, Rancho Seco, P/O 3293, O/N 3F0281" dated September 5, 1980.
- (2) "Qualification Type Test Report, Limitorque D-C Powered Valve Actuators for Class 1E Service Inside or Outside Primary Containment in Nuclear Power Station Service," Limitorque Test Report No. B0009, October 31, 1975 (completed test date).
- (3) Rodens, I and R. H. De Lisle, "Environmental Qualification of Class 1E Motors for Nuclear Out-of-Containment Use," WCAP-8754, Westinghouse Electric Corporation, June, 1975.
- (4) "Qualification Type Test Report, Limitorque Valve Actuators For Class 1E Service Outside Primary Containment", Limitorque Test Report No. B0003, June 7, 1976.
- (5) "Equipment Qualification - Random Wound Motors (for Class 1E Safety-Related Services)," Siemens-Allis, Inc., Small Motor Division.

4.15 INTERFACES

4.15.1 SYSTEM DESCRIPTION

4.15.2 EQUIPMENT QUALIFICATION

4.15.2.1 CONTAINMENT ELECTRICAL PENETRATIONS

All containment electrical penetrations are manufactured by Conax Corporation and are modular type with polysulfone seals and Kapton insulated conductors. The Conax penetrations are qualified.(1)

4.15.2.2 600 V POWER, CONTROL INSTRUMENTATION CABLE

The 600 volt power, control and instrumentation cable required for accident mitigation is manufactured by Cerro (Rockbestos) Company and Continental Wire and Cable Company.

The cable is qualified.(2),(3),(4)

The District has reviewed the possibility of moisture intrusion into a sealed device (IE Circular 79-05) via the interstices of stranded cable and has found this not to be a problem at Rancho Seco.

4.15.2.3 5KV POWER CABLE

The 5KV power cable used for the high pressure injection, makeup, and decay heat pump motors is manufactured by the Okonite Company.

OUTSTANDING ITEM

The District does not have environmental qualification documentation for the cable.

JUSTIFICATION FOR INTERIM OPERATION

The cable was purchased to Insulated Power Cable Engineering Association (IPCEA) Publication 5-61-402 (second edition). This standard requires the cable to pass tests which exceed all of our service conditions except radiation.

The cable is constructed of moisture resistant crosslinked, unfilled polyethylene. Appendix C, Table C-1 of DOR Guidelines indicates a threshold of 10^8 Rads. This exceeds any expected service condition.

4.15.2.4 TERMINATION LUGS

The termination use lugs manufactured by AMP.

OUTSTANDING ITEMS

The District does not have any environmental qualification documentation for AMP lugs.

JUSTIFICATION FOR INTERIM OPERATION

The lugs are contained in metallic enclosures which reduce the effect of the accident environments.

The lugs were installed using calibrated tools. The installation technique insures that the lug and the wire become crimped as a unit.

4.15.2.5 INSULATING TAPE

Scotch tape is used to insulate connections to required instruments, 480 volt and 5KV motors. The types used are listed below:

<u>Type</u>	<u>600 Volt Motor Terminations</u>	<u>Function 5KV Motor Termination</u>	<u>Instrument Termination</u>
Scotch 13		X	
Scotch 23	X	X	
Scotch 33	X	X	X
Scotch 35		X	
Scotch 70	X		
Scotch 88	X		X
Scotch 110	X		

Scotch 13 is only used outside containment. All the other tapes are used inside and outside containment.

OUTSTANDING ITEMS

The District has no environmental qualification documentation on the tapes.

JUSTIFICATION FOR INTERIM OPERATION

The tapes used inside containment are installed in metal enclosures and not exposed directly to the chemical spray.

All of the tapes are designed to operate in a 100 percent humidity environment.⁽⁵⁾

The District does not have any radiation resistance information on the tapes. However, reviewing the radiation resistance of materials that are used in insulation tape and the margin in the amount of tape used, the District has concluded that the tape will not fail to ground at the voltages it is being used at.

The following equipment has submerged connections:

<u>PLANT ID</u>	<u>FUNCTION</u>	<u>SYSTEM</u>
FT21027A	RCS Loop Flow	RPS
FT21027B	RCS Loop Flow	RPS
FT21027C	RCS Loop Flow	RPS
FT21027D	RCS Loop Flow	RPS
FT21028A	RCS Loop Flow	RPS
FT21028B	RCS Loop Flow	RPS
FT21028C	RCS Loop Flow	RPS
FT21028D	RCS Loop Flow	RPS
PT21028	RCS Pressure	RPS
PT21039	RCS Pressure	RPS
LT20503A	E205 A Water Level	MFWS
LT20503B	E205 A Water Level	MFWS
LT20503C	E205 A Water Level	MFWS
LT20503D	E205 A Water Level	MFWS
LT20504A	E205 A Water Level	MFWS
LT20504B	E205 A Water Level	MFWS
LT20504C	E205 A Water Level	MFWS
LT20504D	E205 A Water Level	MFWS
PT21092	RCS Pressure	SFAS

The multiple layers used, the elasticity, adhesion characteristics, and 7 mil thickness of the tape, normally provides a moisture tight electrical connection, therefore, the circuits should function submerged.

Also the flow transmitters and pressure transmitters will perform their function prior to being flooded.

1

4.15.2.6 TERMINAL BLOCKS

The terminal blocks used by the District are Square D for general plant use and Kulka for use at containment penetrations. Both types are phenolic-type terminal blocks. The Kulka terminal blocks are qualified.⁽⁶⁾

OUTSTANDING ITEMS

The District does not have any environmental qualification data for the Square D blocks.

JUSTIFICATION FOR INTERIM OPERATION

The Square D and Kulka terminal blocks are phenolic and both should perform similarly. Additional analysis will be performed to ensure integrity of the terminal blocks during service conditions.

1

4.15.3 REFERENCES

- (1) Conax Test Report Nos. IPS-26, IPS-27, IPS-49, and IPS-30.
- (2) "Qualification of Firewall III Class 1E Electric Cables", Rockbestos Company, July 7, 1977.
- (3) FIRL Report F-C2857.
- (4) CWC Company Test Report FIRL Report No. F-C2935, dated 10/70.
- (5) Scotch Catalog E-MPT-3 Section A (Tapes) dated December 31, 1978.
- (6) "Quick=Look Report for a Steam and Chemical-Spray Exposure Test of Electrical Terminal Blocks", Report No. QL-C4927, Franklin Institute Research Laboratories, February 1978.

1

APPENDIX A
MASTER LIST

TABLE OF CONTENTS

<u>SYSTEM</u>	<u>PAGE</u>	
CONTAINMENT ISOLATION SYSTEM	A-1	
CORE FLOOD SYSTEM	A-6	
CONTROL ROD DRIVE	A-7	
DECAY HEAT	A-8	
HEATING AND VENTILATING SYSTEM	A-11	1
MAIN FEEDWATER SYSTEM	A-12	
MAIN STEAM SYSTEM	A-13	
NUCLEAR SERVICE COOLING WATER SYSTEM	A-14	
REACTOR BUILDING SPRAY SYSTEM	A-15	
REACTOR COOLANT SYSTEM	A-16	
REACTOR PROTECTION SYSTEM	A-19	
SAFETY FEATURE ACTUATION SYSTEM	A-21	
SEAL INJECTION AND MAKEUP SYSTEM	A-22	1
INTERFACES	A-25	

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: CIS - CONTAINMENT ISOLATION

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	h/N ²			
HV20609	Motor Operated Valve	Steam Generator "A" Drain	X			M-532 E-11	B- 1	4
HV20610	Motor Operated Valve	Steam Generator "B" Drain	X			M-532 J-11	B- 2	4
HV20611	Motor Operated Valve	Steam Generator Drain Isolation		052	H	M-532 J-6	B- 3	4
SFV22009	Limit Switch	Letdown Isolation		051	H	M-521 B-6	B- 4	1,4,8
SFV22023	Motor Operated Valve	Letdown Isolation	X			M-521 B-5	B- 5	1,4,8
SFV24004	Motor Operated Valve	Seal Return from RC Pumps	X			M-521 D-5	B- 6	1,4,8
SFV24013	Limit Switch	Seal Return from RC Pumps		051	H	M-521 D-6	B- 7	1,4,8
SFV46014	Limit Switch	CCW Supply Isolation		051	H	M-543 F-9	B- 8	4
SFV46203	Motor Operated Valve	CCW Return Isolation	X			M-543 F-10	B- 9	4
SFV46204	Limit Switch	CCW Supply Isolation		051	H	M-543 G-10	B-10	4
SFV46906	Limit Switch	CRD CW Supply Isolation		052	H	M-543 C-14	B-11	4
SFV46907	Motor Operated Valve	CRD CW Return Isolation	X			M-543 B-13	B-12	4

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: CIS - CONTAINMENT ISOLATION

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
SFV46908	Limit Switch	CRD CW Return Isolation		052	H	M-543 C-14	B-13	4
SFV53504	Motor Operated Valve	R.B. Purge Inlet Isolation	X			M-551 E-10	B-14	1,4
SFV53603	Motor Operated Valve	R.B. Purge to Exhaust Fan	X			M-551 H-10	B-15	1,4
SFV53605	Motor Operated Valve	R.B. Purge Equalizing Isolation	X			M-551 F-10	B-16	1,4
SFV53610	Limit Switch	R.B. Purge Equalizing Isolation		052	H	M-551 H-11	B-17	1,4
SFV60001	Motor Operated Valve	R.C. System Vent Header Isolation	X			M-560 H-1	B-18	1,4
SFV60002	Limit Switch	RCS Vent Header Isolation		051	H	M-560 H-2	B-19	1,4
SFV60003	Motor Operated Valve	RCS Drain Header Isolation		002	H	M-560 I-1	B-20	1,4
SFV60004	Limit Switch	RCS Drain Header Isolation		002	H	M-560 I-2	B-21	1,4
SFV66308	Motor Operated Valve	R.B. Normal Sump Isolation		002	H	M-561 B-1	B-22	1,4
SFV66309	Limit Switch	R.B. Normal Sump Isolation		002	H	M-561 C-1	B-23	1,4
SFV70001	Motor Operated Valve	Pressurizer Liquid Sample Isolation	X			M-570 C-2	B-24	1,4

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: CIS - CONTAINMENT ISOLATION

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
SFV70002	Limit Switch	Pressurizer Liquid Sample Isolation		051	H	M-570 C-3	B-25	1,4
SFV70003	Motor Operated Valve	Pressurizer Gas Sample Isolation	X			M-570 D-2	B-26	1,4
SFV72501	Motor Operated Valve	Press. Relief Tank Gas Sample Isolation	X			M-570 D-2	B-27	1,4
SFV72502	Limit Switch	Press. Relief Tank Gas Sample Isolation		051	H	M-570 E-2	B-28	1,4
SFV92520	Limit Switch	N ₂ to Pressurizer Relief Tank Isol.		051	H	M-591 G-11	B-29	1,4
SFY22009	Solenoid Valve	Pilot to SFV22009		051	H	M-521 B-6	B-30	4
SFY24013	Solenoid Valve	Pilot to SFV24013		051	H	M-521 D-6	B-31	4
SFY46014A	Solenoid Valve	Pilot to SFV46014		051	H	M-543 F-8	B-32	4
SFY46014B	Solenoid Valve	Pilot to SFV46014		051	H	M-543 F-9	B-33	4
SFY46026	Solenoid Valve	Pilot to SFV46014		051	H	M-543 F-7	B-34	4
SFY46027	Solenoid Valve	Pilot to SFV46014		051	H	M-543 F-9	B-35	4
SFY46028	Solenoid Valve	Pilot to SFV46014		051	H	M-543 F-8	B-36	4

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: CIS - CONTAINMENT ISOLATION

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
SFY46029	Solenoid Valve	Pilot to SFV46014		051	H	M-543 F-8	B-37	4
SFY46204	Solenoid Valve	Pilot to SFV46204		051	H	M-543 G-10	B-38	4
SFY46225	Solenoid Valve	Pilot to SFV46204		051	H	M-543 G-10	B-39	4
SFY46906A	Solenoid Valve	Pilot to SFV46906		052	H	M-543 D-14	B-40	4
SFY46906B	Solenoid Valve	Pilot to SFV46906		052	H	M-543 C-14	B-41	4
SFY46908	Solenoid Valve	Pilot to SFV46908		052	H	M-543 C-14	B-42	4
SFY46919	Solenoid Valve	Pilot to SFV46908		052	H	M-543 C-14	B-43	4
SFY46920	Solenoid Valve	Pilot to SFV46906		052	H	M-543 D-14	B-44	4
SFY46921	Solenoid Valve	Pilot to SFV46906		052	H	M-543 C-14	B-45	4
SFY46922	Solenoid Valve	Pilot to SFV46906		052	H	M-543 C-14	B-46	4
SFY46923	Solenoid Valve	Pilot to SFV46906		052	H	M-543 D-14	B-47	4
SFY53610	Solenoid Valve	Pilot to SFV53610		052	H	M-551 H-11	B-48	4

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: CIS - CONTAINMENT ISOLATION

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
SFY60002	Solenoid Valve	Pilot to SFV60002		051	H	M-560 H-2	B-49	4
SFY60004	Solenoid Valve	Pilot to SFV60004		002	H	M-560 I-2	B-50	4
SFY66309	Solenoid Valve	Pilot to SFV66309		002	H	M-561 C-1	B-51	4
SFY70002	Solenoid Valve	Pilot to SFV70002		051	H	M-570 C-3	B-52	4
SFY72502	Solenoid Valve	Pilot to SFV72502		051	H	M-570 E-2	B-53	4
SFY92520A	Solenoid Valve	Pilot to SFV92520		051	H	M-591 F-11	B-54	4
SFY92520B	Solenoid Valve	Pilot to SFV92520		051	H	M-591 F-11	B-55	4

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: CFS - CORE FLOOD SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
LT26505	Level Transmitter	Core Flood Tank "A"	X			M-522 B-6	B-56	8
LT26506	Level Transmitter	Core Flood Tank "B"	X			M-522 B-9	B-57	8
LT26507	Level Transmitter	Core Flood Tank "A"	X			M-522 B-7	B-58	8
LT26508	Level Transmitter	Core Flood Tank "B"	X			M-522 B-10	B-59	8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: CRD - CONTROL ROD DRIVE

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
CRDM	Control Rod Drive Motors	Operate Control Rods	X				need	6

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: DHS - DECAY HEAT SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
A529D	Motor	Decay Heat Room A Air Cooler		001	H	M-522 F-11	B-60	3
A529E	Motor	Decay Heat Room B Air Cooler		002	H	M-522 F-12	B-61	3
FT20001	Flow Transmitter	Long Term Boron Dilution	X			M-522	B-62	8
FT26003	Flow Transmitter	Decay Heat Removal Flow A		052	H	M-522 F-7	B-63	8
FT26004	Flow Transmitter	Decay Heat Removal Flow B		051	H	M-522 F-9	B-64	8
FT26048	Flow Transmitter	Decay Heat Cross Tie A to B		051	H	M-522 F-7	B-65	8
FT26049	Flow Transmitter	Decay Heat Cross Tie B to A		051	H	M-522 F-7	B-66	8
HV20001	Motor Operated Valve	Reactor Coolant to Decay Heat System	X			M-522 D-11	B-67	2,4,8
HV20002	Motor Operated Valve	Reactor Coolant to Decay Heat System	X			M-522 D-12	B-68	2,4,8
HV200J3	Motor Operated Valve	ECCS Long Term Cool Boron Dilution	X			M-522 C-13	B-69	8
HV26007	Motor Operated Valve	DHS to HPI Pump A		052	H	M-522 F-7	B-70	8
HV26008	Motor Operated Valve	DHS to HPI Pump B		051	H	M-522 F-10	B-71	8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: DHS - DECAY HEAT SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
HV26037	Motor Operated Valve	Decay Heat Cooler A By-Pass.		052	H	M-522 G-7	B-72	8
HV26038	Motor Operated Valve	Decay Heat Cooler B By-Pass.		051	H	M-522 H-9	B-73	8
HV26046	Motor Operated Valve	Decay Heat Cross-tie		051	H	M-522 F-8	B-74	8
HV26047	Motor Operated Valve	Decay Heat Cross-tie		052	H	M-522 F-8	B-75	8
HV26105	Motor Operated Valve	RB emergency sump to Decay Heat P261A		001	H	M-522 E-13	B-76	4
HV26106	Motor Operated Valve	RB emergency sump to Decay Heat P261B		002	H	M-522 E-13	B-77	4
P261A	Motor	Decay Heat Removal Pump A		001	H	M-522 H-8	B-78	1,3
P261B	Motor	Decay Heat Removal Pump B		002	H	M-522 H-10	B-79	1,3
SFV25003	Motor Operated Valve	DHR Pump "A" Suction from BWST		052	H	M-522 J-6	B-82	1
SFV25004	Motor Operated Valve	DHR Pump "B" Suction from BWST		046	H	M-522 J-6	B-83	1
SFV26005	Motor Operated Valve	Low Pressure Injection to Loop "B"		052	H	M-522 E-7	B-84	1,4,5
SFV26006	Motor Operated Valve	Low Pressure Injection to Loop "A"		051	H	M-522 E-9	B-85	1,4,5

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: DHS - DECAY HEAT SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/V ²			
SFV26039	Motor Operated Valve	Decay Heat Cool Down		052	H	M-522 G-7	B-86	1
SFV26040	Motor Operated Valve	Decay Heat Cool Down		051	H	M-522 G-9	B-87	1
HV20002 -330-2	Limit Switch	DHS Pump Trip	X			M-522 D-11	B-67A	2,4,8
HV20001 -330-1	Limit Switch	DHS Pump Trip	X			M-522 D-12	B-68A	2,4,8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: HVS - HEATING VENTILATING SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
A500A	Motor	RB Emergency Cooling Unit	X			M-545 E-8	B-90	1,2,6
A500B	Motor	RB Emergency Cooling Unit	X			M-545 H-8	B-91	1,2,6
A500C	Motor	RB Emergency Cooling Unit	X			M-545 F-8	B-92	1,2,6
A500D	Motor	RB Emergency Cooling Unit	X			M-545 I-8	B-93	1,2,6
A532A	Motor	RB Upper Dome Emergency Air Circ.	X			M-551 B-2	B-94	1,2,6
A532B	Motor	RB Upper Dome Emergency Air Circ.	X			M-551 B-3	B-95	1,2,6
A532C	Motor	RB Upper Dome Emergency Air Circ.	X			M-551 B-10	B-96	1,2,6
A532D	Motor	RB Upper Dome Emergency Air Circ.	X			M-551 B-10	B-97	1,2,6

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: MFWS - MAIN FEEDWATER SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
LT20503A	Level Transmitter	E205A Operating Range	X			M-532 C-10	B-100	8
LT20503B	Level Transmitter	E205A Operating Range	X			M-532 C-11	B-101	8
LT20503C	Level Transmitter	E205A Startup Range	X			M-532 D-10	B-102	8
LT20503D	Level Transmitter	E205A Startup Range	X			M-532 D-11	B-103	8
LT20504A	Level Transmitter	E205B Operating Range	X			M-532 H-10	B-104	8
LT20504B	Level Transmitter	E205B Operating Range	X			M-532 H-11	B-105	8
LT20504C	Level Transmitter	E205B Startup Range	X			M-532 H-10	B-106	3,8
LT20504D	Level Transmitter	E205B Startup Range	X			M-532 H-11	B-107	3,8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: MSS - MAIN STEAM SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
PSL20601	Pressure Switch	Main Steam Pressure E205A	X			M-532 B-12	B-108	8
PSL20602	Pressure Switch	Main Steam Pressure E205B	X			M-532 G-12	B-109	8
PSL20603	Pressure Switch	Main Steam Pressure E205A	X			M-532 B-12	B-110	8
PSL20604	Pressure Switch	Main Steam Pressure E205B	X			M-532 G-13	B-111	8
PSL20605	Pressure Switch	Main Steam Pressure E205A	X			M-532 B-12	B-112	8
PSL20606	Pressure Switch	Main Steam Pressure E205B	X			M-532 G-12	B-113	8
PSL20607	Pressure Switch	Main Steam Pressure E205A	X			M-532 B-13	B-114	8
PSL20608	Pressure Switch	Main Steam Pressure E205B	X			M-532 G-13	B-115	8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: NSCW - NUCLEAR SERVICE COOLING WATER

Plant ID. Number	Generic Name	Function	Location		P&ID	Data Sheet Number	Source ³	
			R.B. ¹	Outside Containment				
				Room				H/N ²
SFV26016	Motor Operated Valve	Cooling Water to DH Cooler E260B		051	H	M-545 H-4	B-116	1
SFV26017	Motor Operated Valve	Cooling Water to DH Cooler E260A		052	H	M-545 F-4	B-117	1
SFV26018	Motor Operated Valve	Cooling Water to DH Cooler E260B		051	H	M-545 I-4	B-118	1
SFV26019	Motor Operated Valve	Cooling Water to DH Cooler E260A		052	H	M-545 F-4	B-119	1
SFV50005	Motor Operated Valve	Cooling Water to A500A		052	H	M-545 E-6	B-120	1,4
SFV50006	Motor Operated Valve	Cooling Water to A500B		051	H	M-545 H-6	B-121	1,4
SFV50007	Motor Operated Valve	Cooling Water to A500C		052	H	M-545 G-6	B-122	1,4
SFV50008	Motor Operated Valve	Cooling Water to A500D		051	H	M-545 I-6	B-123	1,4
SFV50009	Motor Operated Valve	Cooling Water to A500A		052	H	M-545 E-6	B-124	1,4
SFV50010	Motor Operated Valve	Cooling Water to A500B		051	H	M-545 H-6	B-125	1,4
SFV50011	Motor Operated Valve	Cooling Water to A500C		052	H	M-545 F-6	B-126	1,4
SFV50012	Motor Operated Valve	Cooling Water to A500D		051	H	M-545 J-6	B-127	1,4

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: RBS - REACTOR BUILDING SPRAY SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
P291A	Motor	Reactor Building Spray Pump A		001	H	M-524 G-6	B-128	1
P291B	Motor	Reactor Building Spray Pump B		002	H	M-524 G-10	B-129	1
SFV29015	Motor Operated Valve	RB Spray Additive Tank to P291A		001	H	M-524 H-7	B-130	1
SFV29016	Motor Operated Valve	RB Spray Additive Tank to P291B		002	H	M-524 H-9	B-131	1
SFV29107	Motor Operated Valve	RB Spray Pump P291A Discharge		052	H	M-524 E-7	B-132	1,4
SFV29108	Motor Operated Valve	RB Spray Pump P291B Discharge		051	H	M-524 E-8	B-133	1,4

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: RCS - REACTOR COOLANT SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
HV21505	Motor Operated Valve	Pressurizer Relief Stop Valve	X			M-520 B-11	B-135	2
HV21515	Motor Operated Valve	Pressurizer Vent Valve "A"	X			M-520 B-11	B-136	2
HV21517	Motor Operated Valve	Pressurizer Vent Valve "B"	X			M-520 A-11	B-137	2
LT21503A	Level Transmitter	Pressurizer Water Level	X			M-520 C-11	B-138	3,8
LT21503B	Level Transmitter	Pressurizer Water Level	X			M-520 C-11	B-139	3,8
LT21503C	Level Transmitter	Pressurizer Water Level	X			M-520 C-11	B-140	3,8
SFV22005	Motor Operated Valve	Letdown Cooler E220A	X			M-521 B-3	B-141	1,5
SFV22006	Motor Operated Valve	Letdown Cooler E220B	X			M-521 C-3	B-142	1,5
SFV22025	Motor Operated Valve	Letdown To Cooler	X			M-521 B-1	B-143	1,5
TE21023A	Temperature Element	Cold Leg "A"	X			M-520 J-3	B-144	3
TE21023B	Temperature Element	Cold Leg "B"	X			M-520 G-3	B-145	3
TE21024A	Temperature Element	Cold Leg "C"	X			M-520 G-12	B-146	3

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: RCS - REACTOR COOLANT SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
TE21024B	Temperature Element	Cold Leg "D"	X			M-520 I-12	B-147	3
TE21031A	Temperature Element	Hot Leg E205A	X			M-520 F-4	B-148	3
TE21031B	Temperature Element	Hot Leg E205A	X			M-520 E-3	B-149	3
TE21032A	Temperature Element	Hot Leg E205B	X			M-520 E-11	B-150	3
TE21032B	Temperature Element	Hot Leg E205B	X			M-520 E-12	B-151	3
XE21520	Position Indicator	PORV PSL21506	X			M-520 B-10	B-152	
XE21521	Position Indicator	PORV PSL21506	X			M-520 B-10	B-153	
XE21522	Position Indicator	PORV PSL21507	X			M-520 B-10	B-154	
XE21523	Position Indicator	PORV PSL21507	X			M-520 B-10	B-155	
XE21524	Position Indicator	PORV PSL21511	X			M-520 B-10	B-156	
XE21525	Position Indicator	PORV PSL21511	X			M-520 B-10	B-157	
XY21520	Charge Amplifier	XE21520	X			M-520 B-10	B-158	

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

Amendment 1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: RCS - REACTOR COOLANT SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
XY21521	Charge Amplifier	XE21521	X			M-520 B-10	B-159	
XY21522	Charge Amplifier	XE21522	X			M-520 B-10	B-160	
XY21523	Charge Amplifier	XE21523	X			M-520 B-10	B-161	
XY21524	Charge Amplifier	XE21524	X			M-520 B-10	B-162	
XY21525	Charge Amplifier	XE21525	X			M-520 B-10	B-163	

¹/Ins - Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

Amendment 1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: RPS - REACTOR PROTECTION SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R. B. ¹	Outside Containment				
				Room	H/N ²			
FT21027A	Flow Transmitter	RC Flow Loop A	X			M-520 E-5	B-164	2,8
FT21027B	Flow Transmitter	RC Flow Loop A	X			M-520 E-5	B-165	2,8
FT21027C	Flow Transmitter	RC Flow Loop A	X			M-520 E-5	B-166	2,8
FT21027D	Flow Transmitter	RC Flow Loop A	X			M-520 E-6	B-167	2,8
FT21028A	Flow Transmitter	RC Flow Loop B	X			M-520 F-10	B-168	2,8
FT21028B	Flow Transmitter	RC Flow Loop B	X			M-520 E-10	B-169	2,8
FT21028C	Flow Transmitter	RC Flow Loop B	X			M-520 E-10	B-170	2,8
FT21028D	Flow Transmitter	RC Flow Loop B	X			M-520 E-10	B-171	2,8
PSH53606	Pressure Switch	Containment Bldg		052	H	M-551 E-11	B-172	8
PSH53617	Pressure Switch	Containment Bldg		051	H	M-551 D-11	B-173	8
PSH53619	Pressure Switch	Containment Bldg		052	H	M-551 E-11	B-174	8
PSH53520	Pressure Switch	Containment Bldg		051	H	M-551 E-12	B-175	8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulate Accident Conditions

SYSTEM: RPS - REACTOR PROTECTION SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
PT21037	Pressure Transmitter	RCS Pressure	X			M-520 E-4	B-176	2,3,8
PT21038	Pressure Transmitter	RCS Pressure	X			M-520 E-11	B-177	2,3,8
PT21039	Pressure Transmitter	RCS Pressure	X			M-520 D-4	B-178	2,3,8
PT21040	Pressure Transmitter	RCS Pressure	X			M-520 E-11	B-179	2,3,8
TE21029	Temperature Element	RC to Steam Generator E205A	X			M-520 E-5	B-180	2
TE21030	Temperature Element	RC to Steam Generator E205B	X			M-520 E-11	B-181	2
TE21033	Temperature Element	RC to Steam Generator E205A	X			M-520 E-3	B-182	2
TE21034	Temperature Element	RC to Steam Generator E205B	X			M-520 E-12	B-183	2

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: SFAS - SAFETY FEATURES ACTUATION SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
PT21042	Pressure Transmitter	RCS Pressure	X			M-520 E-12	B-184	2,3,8
PT21043	Pressure Transmitter	RCS Pressure	X			M-520 D-3	B-185	2,3,8
PT21092	Pressure Transmitter	RCS Pressure	X			M-520 E-12	B-186	2,3,8
PT21099	Pressure Transmitter	RCS Pressure	X			M-520 E-12	B-187	8
PT53606B	Pressure Transmitter	Containment Bldg		052	H	M-551 E-11	B-188	1
PT53607	Pressure Transmitter	Containment Bldg		051	H	M-551 E-11	B-189	1
PT53608	Pressure Transmitter	Containment Bldg		051	H	M-551 E-11	B-190	1

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: SIM - SEAL INJECTION AND MAKEUP SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
A529A	Motor	P238A Room Cooler		053	H	M-552 E-13	B-191	3
A529B	Motor	P238B Room Cooler		044	H	M-552 E-13	B-192	3
A529C	Motor	P236 Room Cooler		043	H	M-552 E-13	B-193	3
FT23606	Flow Transmitter	Reactor Coolant Pump Seal Supply		052	H	M-521 G-6	B-194	8
FT23805	Flow Transmitter	HPI Loop A		052	H	M-521 E-7	B-195	8
FT23806	Flow Transmitter	HPI Loop B		051	H	M-521 J-6	B-196	8
FT23807	Flow Transmitter	HPI Loop A		052	H	M-521 F-6	B-197	8
FT23808	Flow Transmitter	HPI Loop B		051	H	M-521 J-6	B-198	8
H8DP236	Switch	Transfer Switch for P236		052	H		B-199	1,3
H8P23508	Switch	Transfer Switch for SFV23508		044	H		B-200	1
H8PA529B	Switch	Transfer Switch for A529B		044	H		B-201	3
HV23801	Motor Operated Valve	Long Term Cooldown	X			M-521 J-5	B-202	8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: SIM - SEAL INJECTION AND MAKEUP SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
HV23802	Motor Operated Valve	ECCS Long Term Cooldown	X			M-521 J-4	B-203	8
P236	Motor	Makeup Pump		044	H	M-521 H-9	B-204	1,3
P238A	Motor	HPI Pump A		053	H	M-521 F-9	B-205	1,3
P238B	Motor	HPI Pump B		043	H	M-521 J-9	B-206	1,3
SFV23508	Motor Operated Valve	Makeup Tank Isolation		043	H	M-521 I-11	B-207	1
SFV23604	Motor Operated Valve	Makeup to Reactor Coolant System		052	H	M-521 F-6	B-208	1,4,5,8
SFV23616	Motor Operated Valve	Seal to RC Pumps		051	H	M-521 H-6	B-209	1,4,5
SFV23645	Motor Operated Valve	Makeup Pump Recirculation		043	H	M-521 D-7	B-210	1
SFV23646	Motor Operated Valve	Makeup Pump Recirculation		043	H	M-521 E-7	B-211	1
SFV23809	Motor Operated Valve	HPI to Loop A		052	H	M-521 E-6	B-212	1,4,5,8
SFV23810	Motor Operated Valve	HPI to Loop B		051	H	M-521 J-5	B-213	1,4,5,8
SFV23811	Motor Operated Valve	HPI to Loop A		052	H	M-521 F-6	B-214	1,4,5,8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

SYSTEM: SIM - SEAL INJECTION AND MAKEUP SYSTEM

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number	Source ³
			R.B. ¹	Outside Containment				
				Room	H/N ²			
SFV23812	Motor Operated Valve	HPI to Loop B		051	H	M-521 J-5	B-215	1,4,5,8

¹/Inside Reactor Building (Containment)

²/Harsh/Nonharsh Environment

³/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Condition.

Interfaces

Plant ID. Number	Generic Name	Function	Location			P&ID	Data Sheet Number
			R.B. 1	Outside Containment			
				Room	H/N ²		
H7RP	Conax Penetration	R.B. Electrical Penetrations	X		H	N/A	B-216
Cable	Firewall III Pyrotrol III	480 V Power Control Instrumentation	X	A11	H	N/A	B-217
Cable	Continental Cable	Miscellaneous	X	A11	H	N/A	B-218
Terminal Blocks	Kulka	Termination Point	X	A11	H	N/A	B-219
Terminal Blocks	Square D	Termination Point	X	A11	H	N/A	B-220
Tape	Scotch #35	Insulation Tape		A11	H	N/A	B-221
Tape	Scotch #33	Insulation Tape	X	A11	H	N/A	B-221
Tape	Scotch #23	Insulation Tape		A11	H	N/A	B-221
Tape	Scotchfil	Moisture Seal		A11	H	N/A	B-221
Tape	Scotch #13	Semi-Conducting Tape		A11	H	N/A	B-221
Tape	Scotch #88	Insulation Tape	X			N/A	B-221
Tape	Scotch #110	Insulation Tape	X			N/A	B-221

1/Inside Reactor Building (Containment)

2/Harsh/Nonharsh Environment

3/See Table 3-1

MASTER LIST

Electrical Equipment Required to Function Under Postulated Accident Conditions

[illegible]

1/Inside Reactor Building (Containment)

2/Harsh/Nonharsh Environment

3/See Table 3-1

APPENDIX B

SYSTEM COMPONENT EVALUATION WORK SHEET

TABLE OF CONTENTS

<u>SYSTEM</u>	<u>PAGE</u>
CONTAINMENT ISOLATION SYSTEM	B-1
CORE FLOOD SYSTEM	B-56
CONTROL ROD DRIVE	
DECAY HEAT	B-60
HEATING AND VENTILATING SYSTEM	B-90
MAIN FEEDWATER SYSTEM	B-100
MAIN STEAM SYSTEM	B-108
NUCLEAR SERVICE COOLING WATER SYSTEM	B-116
REACTOR BUILDING SPRAY SYSTEM	B-128
REACTOR COOLANT SYSTEM	B-135
REACTOR PROTECTION SYSTEM	B-164
SAFETY FEATURE SYSTEM	B-165
SEAL INJECTION AND MAKEUP SYSTEM	B-172
INTERFACES	B-197

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/ISS Plant ID No. HV20509	Operating Time	1 day	7 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-000-5 Serial Number: 148026	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 3598470	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: Steam Generator "A" Drain	Radiation (R)	1 x 10 ⁸	2.04 x 10 ⁸	5, 6	10	Effects Separate	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

Notes:

- SIUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
- FSAR Figure 14.4-3.
- FSAR Figure 14.4-9.
- FSAR Figure 7.1-1.
- FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
- Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
- SIUD Operating License, DPR-54, page 4, paragraph E.
- Limatorque test report 600198 (FIRL F-C2232-01), pages 24-27.
- Op. Cit., Report 600198, page 5.
- Limatorque Report 600376A, Appendix D.

- See Master List, Page A-1
- See Report Section 4.2.2.1

POOR ORIGINAL

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/MSS Plant ID No. HV20610	Operating Time	1 day	7 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-000-5 Serial Number: 148027	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 359847C	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: Steam Generator "B" Drain	Radiation (R)	1 x 10 ⁸	2.04 x 10 ⁸	5, 6	10	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque test report 600198 (FIRL F-C2232-01), pages 24-27.
9. Op. Cit., Report 600198, page 5.
10. Limitorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS Plant ID No. HV20611	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Limatorque	Pressure (PSIG)			2			B
Model Number:	Relative Humidity (%)	100%		2			B
Shop Order No.: 386004C	Chemical Spray		N/A	N/A	N/A	N/A	
Function: Steam Generator Drain Isolation	Radiation	1.8×10^7		3			B
Location: Room 052	Aging	40 years					B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF *		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/SIM Plant ID No. SFV22009	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 9.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: M-8	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Letdown Isolation	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 Years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/SIM Plant ID No. SFV22023	Operating Time	1 day	16 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.10 and 2.10		2	8	Simultaneous Test	B
Manufacturer: Limatorque	Pressure (PSIG)			3	8	Simultaneous Test	B
Model Number: SMB-00 Serial Number: 141526	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Shop Order No.: 350000F	Chemical Spray	H ₃ BO ₃ -NaOH		4			B
Function: Letdown Isolation	Radiation (R)	1 x 10 ⁸	2x10 ⁷	5, 6	10	Sequential Test	B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limatorque Qualification Type Test Report B0003, page 10, fig. 1.
9. Op. Cit., page 5, paragraph 2.5.2.
10. Op. Cit., page 8, paragraph 4.3.1.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/SIM Plant ID No. SFV24004	Operating Time	1 day	7 days	1	9	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	9	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: SMB-00-15 Serial Number: 145476	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Shop Order No.: 354430E	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	9	Simultaneous Test	
Function: Seal Return from RC Pump	Radiation (R)	1 x 10 ⁸	2.04x10 ⁸	5, 6	8	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	10	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque Report 600376A, Appendix D.
9. Limitorque Report 600198; (FIRL Report #F-C2232-01) Pages 24-27.
10. Op. Cit., Page 5.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF *		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/SIM Plant ID No. SFV24013	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 9.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: M8-300	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Seal Return From RC Pumps	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 Years		4			B

*Documentation References:

Notes:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFV46014	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 9.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G-T	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: CCW Supply Isolation	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFV46203	Operating Time	1 day	7 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-0-H2BC Serial Number: 131686	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 352364A	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: CCW Return Isolation	Radiation (R)	1 x 10 ⁸	2.04x10 ⁸	5, 6	10	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3
3. FSAR Figure 14.4-9
4. FSAR Figure 7.1-1
5. FSAR page 14.3-11 paragraph 2
3.39 x 10⁶ rads (Gamma)
6. Bechtel Calculation 2211-1-0 dated 10/11/80
9.62 x 10⁷ rads (Beta)
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limatorque Report 600198; (FIRL Report #F-C2232-01) Pages 24-27
9. Op. Cit page 5
10. Limatorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/CCW Plant ID No. SFV46204	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 9.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demo:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: CCW Supply Isolation	Radiation (R)	1 x 10 ⁷		3			B
Location: 051	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/CCW Plant ID No. SFV46906	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 10.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: CRD CW Supply Isolation	Radiation (R)	1.8×10^7		3			B
Location: Room 052	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFV46907	Operating Time	1 day	7 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-00 Serial Number: 145660	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 356152A	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: CRD CW Return Isolation	Radiation (R)	1 x 10 ⁸		5, 6	10	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque test report 600198 (FIRL F-C2232-01) pages 24-27
9. Op. Cit., Page 5
10. Limitorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-1
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFV46908	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 10.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: CRD CW Return Isolation	Radiation (R)	1.8×10^7		3			B
Location: Room 052	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CTS/HVS Plant ID No. SFV53504	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Limitorque	Pressure (PSIG)			3			B
Model Number: HMB-4T/150 Serial Number: 184675	Relative Humidity (%)	100%	100%	4			B
Shop Order No.: 375955B	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4			B
Function: RB Purge Inlet Isolation	Radiation (R)	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years	40 Years	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/HVS Plant ID No. SFV53603	Operating Time	1 day	7 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-2-H2BC Serial Number: 141424	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 354008A	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: RB Purge to Exhaust Fan	Radiation (R)	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limatorque Report 600198 (FIRL Report #F-C2232-01), Pages 24-27.
9. Op. Cit., Page 5.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/HVS Plant ID No. SFV53605	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2			B
Manufacturer: Limatorque	Pressure (PSIG)			3			B
Model Number: SMB- Serial Number: 184676	Relative Humidity (%)	100%		4			B
Shop Order No.: 375955B	Chemical Spray	H ₃ BO ₃ -NaOH		4			B
Function: RB Purge Equalizing Isolation	Radiation (R)	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF *		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/HVS Plant ID No. SFV53610	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 10.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G-2	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Purge Equalizing Isolation	Radiation (R)	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 Years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RCS Plant ID No. SFV60001	Operating Time	1 day	7 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-00-5 Serial Number: 145662	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 356152C	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous	
Function: RCS Vent Header Isolation	Radiation (R)	1 x 10 ⁸	2.04 x 10 ⁸	5, 6	10	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque Report 600198 (FIRL Report #F-C2232-01), Pages 24-27
9. Op. Cit., Page 5.
10. Limitorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RCS Plant ID No. SFV60002	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 9.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RCS Vent Header Isolation	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RCD Plant ID No. SFV60003	Operating Time	1 day	36 Hours	1	5	Simultaneous Testing	
Name: Valve Operator Motor	Temperature (F)	See Profile 6.2		2	5	Simultaneous Testing	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Testing	
Model Number: SMB-00 Serial Number: 141520	Relative Humidity (%)	100%	100%	2	5	Simultaneous Testing	
Shop Order No.: 350000B	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RCS Drain Header Isolation	Radiation (R)	5.5 x 10 ⁷		3			B
Location: Room 002	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Franklin Institute Research Laboratories Report No. F-C3271, Page 3-6, Fig. 3.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RCD Plant ID No. SFV60004	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 6.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RCS Drain Header Isolation	Radiation (R)	5.5 x 10 ⁷		3			B
Location: Room 002	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/RWS Plant ID No. SFV66308	Operating Time	1 Day	7 Days	1	5	Simultaneous Testing	
Name: Motor Operated Value	Temperature (F)	See Profile 6.3		2	5	Simultaneous Testing	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Testing	
Model Number: SMB-00-5	Relative Humidity (%)	100%	100%	2	5	Simultaneous Testing	
Shop Order No.: 356152B	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Normal Sump Isolation	Radiation (R)	5.5×10^7	2.04×10^8	3	7	Separate Effects	
Location: Room 002	Aging	40 years	40 years	4	6	Sequentially Tested	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Report 600198 (FIRL f-C2232-01), pages 24-27.
6. Op. Cit., Page 5.
7. Limitorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/RWS Plant ID No. SFV66309	Operating Time	1 Day		1			B
Name: Limit Switch	Temperature (F)	See Profile 6.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G-2	Relative Humidity (%)	100%		2			B
Acuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: R.B. Normal Sump Isolation	Radiation (R)	5.5 x 10 ⁷		3			B
Location: Room 002	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/RSS Plant ID No. SFV70001	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Limatorque	Pressure (PSIG)			3			B
Model Number: SMB-00-5 Serial Number: 184069	Relative Humidity (%)	100%		4			B
Shop Order No.: 374254A	Chemical Spray	H ₃ BO ₃ -NaOH		4			B
Function: Pressurizer Liquid Sample Isolation	Radiation (R)	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-2
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/RSS Plant ID No. SFV70002	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 9.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pressurizer Liquid Sample Isolation	Radiation	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- 3) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/RSS Plant ID No. SFV70003	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Limatorque	Pressure (PSIG)			3			B
Model Number: SMB-00-5 Serial Number: 184068	Relative Humidity (%)	100%		4			B
Shop Order No.: 374254A	Chemical Spray	H ₃ BO ₃ -NaOH		4			B
Function: Pressurizer Gas Sample Isolation	Radiation (R)	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RSS Plant ID No. SFV72501	Operating Time	1 day	7 days	1	8	Simultaneous	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous	
Model Number: SMB-00-5 Serial Number: 148025	Relative Humidity (%)	100%	100%	4	8	Simultaneous	
Shop Order No.: 356152I	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous	
Function: Pres. Relief Tank Gas Sample Isol.	Radiation (R)	1 x 10 ⁸		5, 6	10	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque Report 600198 (FIRL Report #7-C2232-01)
Pages 24-27.
9. OP. Cit., Page 5.
10. Limitorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RSS Plant ID No. SFV72502	Operating Time	1 Day		1			B
Name: Limit Switch	Temperature (F)	See Profile 9.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G-2	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Press. Relief Tank Gas Sample Isol.	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RSS Plant ID No. SFV92520	Operating Time	1 day		1			B
Name: Limit Switch	Temperature (F)	See Profile 9.0		2			B
Manufacturer: NAMCO	Pressure (PSIG)			2			B
Model Number: D1200G-T	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: N ₂ to Pressurizer Relief Tank Isolation	Radiation (R)	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 Years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/SIM Plant ID No. SFY22009	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIG)			2			B
Model Number: LB8344A1	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV22009	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SESCO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/SIM Plant ID No. SFY24013	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: 8344B27	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Devon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV24013	Radiation	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46014A	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: HT80173	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46014	Radiation	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46014B	Operating Time	1 Day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: HT80173	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46014	Radiation	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46026	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT80033	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46014	Radiation	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46027	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT80033	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46014	Radiation	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/CCW Plant ID No. SFY46028	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT80143	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46014	Radiation	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-3
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/CCW Plant ID No. SFY46029	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT80143	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46014	Radiation	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46204	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT80033	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46204	Radiation	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/CCW Plant ID No. SFY46225	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT-8211-D1	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46204	Radiation	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Matimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46906A	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: 8302C29RG	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46906	Radiation	1.8×10^7		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46906B	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: 8302C29RG	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46906	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46908	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: 8302C29RG	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46908	Radiation	1.8×10^7		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: CIS/CCW Plant ID No. SFY46919	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT-8211-D1	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46908	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46920	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT-8211-D1	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46906	Radiation	1.8×10^7		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/CCW Plant ID No. SFY46921	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT-8211-D1	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46906	Radiation	1.8×10^7		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46922	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT-8211-B33	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46906	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/CCW Plant ID No. SFY46923	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: FT-8211-B33	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV46906	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/HVS Plant ID No. SFY53610	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: ASCO	Pressure (PSIA)			2			B
Model Number: HT-8316-B17	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV53610	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-4
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/HVS Plant ID No. SFY60002	Operating Time	1 day		1			B
Name: Solenoid Value	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIG)			2			B
Model Number: HT8316-B17	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV53610	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-5
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RWS Plant ID No. SFY60004	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 6.0		2			B
Manufacturer: ASCO	Pressure (PSIG)			2			B
Model Number: HT8316B17	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV60004	Radiation (R)	5.5×10^7		3			B
Location: Room 002	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-52
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/RWS Plant ID No. SFY66309	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 6.0		2			B
Manufacturer: ASCO	Pressure (PSIG)			2			B
Model Number: HT8316B17	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV66309	Radiation (R)	5.5 x 10 ⁷		3			B
Location: Room 002	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-52
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/NGS Plant ID No. SFY70002	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIG)			2			B
Model Number: 8302C25RG	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV70002	Radiation (R)	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-5
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/NGS Plant ID No. SFY72502	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIG)			2			B
Model Number: 8302C25RG	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV72502	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-5
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CIS/NGS Plant ID No. SFY92520A	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIG)			2			B
Model Number: 8302C25RG	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV92520	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-5
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CIS/NGS Plant ID No. SFY92520B	Operating Time	1 day		1			B
Name: Solenoid Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: ASCO	Pressure (PSIG)			2			B
Model Number: 8302C25RG	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Pilot to SFV92520	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-5
- B) See Report Section 4.2.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: CFS Plant ID No. LT26505	Operating Time	7 Min		1			B
Name: Level Transmitter	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			3			B
Model Number: BY8231X-A	Relative Humidity (%)	100%		4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Core Flood Tank 'A'	Radiation	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-6
- B) See Report Section 4.3.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CFS Plant ID No. LT26506	Operating Time	7 Min		1			B
Name: Level Transmitter	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			3			B
Model Number: BY8231X-A	Relative Humidity (%)	100%		4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Core Flood Tank 'B'	Radiation	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years					B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-6
- B) See Report Section 4.3.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CFS Plant ID No. LT26507	Operating Time	7 Min		1			B
Name: Level Transmitter	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			3			B
Model Number: BY8231X-A	Relative Humidity (%)	100%		4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Core Flood Tank 'A'	Radiation	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-6
- B) See Report Section 4.3.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket. 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF ^A		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: CFS Plant ID No. LT26508	Operating Time	7 Min		1			B
Name: Level Transmitter	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			3			B
Model Number: BY8231X-A	Relative Humidity (%)	100%		4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Core Flood Tank 'B'	Radiation	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-6
- B) See Report Section 4.3.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. 1529D	Operating Time	200 days	200 days	1	5	Engineering Analysis	
Name: Motor	Temperature (F)	Profile 5.0		2	5	Engineering Analysis	
Manufacturer: Allis Chalmers	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: 531	Relative Humidity (%)	100%	95%	2	5	Engineering Analysis	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Room A Cooler	Radiation	5.5×10^7	2×10^8	3	6	Engineering Analysis	
Location: Room 001	Aging	40 years	40 years	4	7	Engineering Analysis	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Siemens-Allis Equipment Qualification, Page 2.
6. OP. Cit., Page 4.
7. OP. Cit., Page 12.

Notes:

- A) See Master List, Page A-8

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. A529E	Operating Time	200 days	200 days	1	5	Engineering Analysis	
Name: Motor	Temperature (F)	Profile 6.0		2	5	Engineering Analysis	
Manufacturer: Allis Chalmers	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: 531	Relative Humidity (%)	100%	95%	2	5	Engineering Analysis	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Room B Cooler	Radiation	5.5×10^7	2×10^8	3	6	Engineering Analysis	
Location: Room 002	Aging	40 years	40 years	4	7	Engineering Analysis	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Siemens-Allis Equipment Qualification, Page 2.
6. OP. Cit., Page 4.
7. OP. Cit., Page 12.

Notes:

- A) See Master List, Page A-8

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. FT20001	Operating Time	7 Days		1			B
Name: Flow Transmitter	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Foxboro	Pressure (PSIG)			3			B
Model Number: A2020LA-FD	Relative Humidity (%)	100%		4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Long Term Boron Dilution	Radiation	1.0 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. FT26003	Operating Time	200 days		1			B
Name: Flow Transmitter	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			2			B
Model Number: BY8240XA	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Removal Flow A	Radiation	1.8×10^7		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. FT26004	Operating Time	200 days		1			B
Name: Flow Transmitter	Temperature (F)	See Profile 9.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			2			B
Model Number: BY8240XA	Relative Humidity (%)	100%	100%	2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Removal Flow B	Radiation	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. FT26048	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Flow Transmitter	Temperature (F)	See Profile 9.3		2	6	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			2	6	Simultaneous Test	
Model Number: BY8X30XA	Relative Humidity (%)	100%	100%	2	6	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Cross Tie "A" to "B"	Radiation	2×10^7	4×10^7	3	6	Separate Effects	
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Topical Report BAW-10003, Rev. 4, Page 5-2.
6. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. FT26049	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Flow Transmitter	Temperature (F)	See Profile 9.3		2	6	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			2	6	Simultaneous Test	
Model Number: BY8X30XA	Relative Humidity (%)	100%	100%	2	6	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Cross Tie "B" to "A"	Radiation	2×10^7	4×10^7	3	6	Separate Effects	
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Topical Report BAW-10003, Rev. 4, Page 5-2.
6. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. HV20001	Operating Time	1 Day	7 Days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-3-80	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 351110E	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: Reactor Coolant to Decay Heat System	Radiation (R)	1 x 10 ⁸	2.4x10 ⁸	5, 6	10	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque Report 600198 (FIRL Report #F-C2232-01), Pages 24-27
9. Op. Cit., Page 5.
10. Limitorque Test Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-8

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. HV20001-330	Operating Time	1 Day	30 Days	1	8	Simultaneous Test	
Name: Limit Switch	Temperature (F)	See Profiles 1.4 and 2.4		2	8	Simultaneous Test	B
Manufacturer: NAMCO	Pressure (PSIG)			3	9	Simultaneous Test	B
Model Number: EA 180	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	B
Function: DHS Pump Trip (HV20001)	Radiation	1 x 10 ⁹	2.x10 ⁸	5, 6	8	Sequential Test	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DFR-54, page 4, paragraph E.
8. Namco EA 180 Test Report, dated 3-1-78.

Notes:

- A) See Master List, Page A-10
- B) See Report Section 4.1.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. HV20002	Operating Time	1 day	7 Days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-3-80	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 351110E	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: Reactor Coolant to Decay Heat System	Radiation (R)	1 x 10 ⁸	2.04x10 ⁸	5, 6	10	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque Report 600198 (FIRL Report #F-C2232-01), Pages 24-27.
9. Op. Cit., Page 5.
10. Limitorque Test Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-8

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
Svstem: DHS Plant ID No. HV20002-330	Operating Time	1 Day	30 Days	1	8	Simultaneous Test	
Name: Limit Switch	Temperature (F)	See Profiles 1.4 and 2.4		2	8	Simultaneous Test	B
Manufacturer: NAMCO	Pressure (PSIG)			3	8	Simultaneous Test	B
Model Number: EA 180	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	B
Function: DHS Pump Trip (HV20002)	Radiation	1.4x10 ⁸	2.0x10 ⁸	5, 6	9	Sequential Test	
Location: Containment	Aging	40 Years		7			9
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Namco EA 180 Test Report, dated 3-1-78

Notes:

- A) See Master List, Page A-10
- B) See Report Section 4.1.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. HV20003	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	Profile 1.0 and 2.0		2			B
Manufacturer: Limitorque	Pressure (PSIG)			3			B
Model Number: SMB-000	Relative Humidity (%)	100%		4			B
Shop Order No.: 360208A	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: ECCS Long-Term Boron Dilution	Radiation	1 x 10 ⁸		5,5			B
Location: Containment	Aging	40 years		7			B
Flood Level Elev: 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-9
- B) See Report Section 4.5.3.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. HV20003	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	Profile 1.0/2.0		2			B
Manufacturer: Limatorque	Pressure (PSIG)			3			B
Model Number: SMB-000	Relative Humidity (%)	100%		4			B
Shop Order No.: 360208A	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: ECCS Long-Term Boron Dilution	Radiation	1 x 10 ⁸		5.6			B
Location: Containment	Aging	40 years		7			B
Flood Level Elev: 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Figure 7.1-1.
5. FSAR page 14.3-11, paragraph 2:
3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80:
9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.3.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: DHS Plant ID No. HV26007	Operating Time	200 day	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 10.1		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-000-5	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 354430A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: DHS to HPI Pump A	Radiation	1.8×10^7	2×10^7	3	6	Sequential Test	
Location: Room 052	Aging	40 Years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. HV26008	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.1		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-000-5	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 354430A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: DHS to HPI Pump B	Radiation	2×10^7	2×10^7	3	6	Sequential Test	
Location: Room 051	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. HV26037	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 10.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-000-5	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 362898A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Cooler A By-Pass	Radiation	1.8×10^7	2×10^7	3	6	Sequential Test	
Location: Room 052	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-9
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. HV26038	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.1		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-000-5	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 352898A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Cooler B By-Pass	Radiation	2×10^7	2×10^7	3	6	Sequential Test	
Location: Room 051	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-9
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: DHS Plant ID No. HV26046	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.4		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00	Relative Humidity (%)	100%	100%	2	5	Simultaneous Test	
Shop Order No: 375941A	Chemical Spray	N/A	H ₃ BO ₃ - NaOH	N/A	6	Simultaneous Test	
Function: DH Cross-Tie	Radiation	2 x 10 ⁷	2.04 x 10 ⁸	3	7	Sequential Test	
Location: Room 051	Aging	40 Years	40 Years	4	8	Sequential Test	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Test Report 600456, page 10,
6. Op. Cit., Page 17.
7. Op. Cit., Appendix C, pages 37-38.
8. Op. Cit., page 1.

Notes:

- A) See Master List, Page A-9

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: DHS Plant ID No. HV26047	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.4		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00	Relative Humidity (%)	100%	100%	2	5	Simultaneous Test	
Shop Order No: 375941A	Chemical Spray	N/A	H ₃ BO ₃ - NaOH	N/A	6	Simultaneous Test	
Function: DH Cross-Tie	Radiation	1.8 x 10 ⁷	2.04 x 10 ⁸	3	7	Sequential Test	
Location: Room 051	Aging	40 Years	40 Years	4	8	Sequential Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Test Report 600456 Page 10.
6. Op. Cit., Page 17.
7. Op. Cit., Appendix C, pages 37-38.
8. OP. Cit., page 1.

Notes:

- A) See Master List, Page A-^o

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: DHS Plant ID No. HV26105	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	Sec Profile 5.1		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 354364A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: DH Cross-Tie	Radiation	5.5×10^7	2×10^7	3	6	Sequential Test	B
Location: Room 001	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0003, page 10, Figure 1.
6. Op. Cit., page 8, paragraph 4.3.1.
7. Op. Cit., page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-9
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. HV26106	Operating Time	200 days	200 Days	1	5	Simultaneous Test	
Name: Motor Operated Value	Temperature (F)	See Profile 6.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-0	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No.: 354364A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Emergency Sump to Decay Heat P261B	Radiation (R)	5.5×10^7	2×10^7	3	6	Sequential Test	B
Location: Room 002	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-8
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. P261A	Operating Time	200 days	200 days	1	5	Engineering Analysis	
Name: Motor	Temperature (F)	See Profile 5.0		2	5	Engineering Analysis	
Manufacturer: Westinghouse	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: HWSI	Relative Humidity (%)	100%	100%	2	6	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Removal Pump A	Radiation (R)	5.5×10^7	2×10^8	3	5	Separate Effects	
Location: Room 001	Aging	40 years	40 Years	4	5	Engineering Analysis	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Westinghouse Qualification Report, WCAP-8754 Page 5-1.
6. Op. Cit., Page 4-3.

Notes:

- A) See Master List, Page A-9

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. P261B	Operating Time	200 days	200 days	1	5	Engineering Analysis	
Name: Motor	Temperature (F)	See Profile 6.0		2	5	Engineering Analysis	
Manufacturer: Westinghouse	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: HWSI	Relative Humidity (%)	100%	100%	2	6	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Removal Pump B	Radiation (R)	5.5×10^7	2×10^8	3	5	Separate Effects	
Location: Room 002	Aging	40 years	40 Years	4	5	Engineering Analysis	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Westinghouse Qualification Report, Page 5-1
6. Op. Cit., Page 4-3

Notes:

- A) See Master List, Page A-9

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: DHS Plant ID No. SFV25003	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	Profile 10.2		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-2	Relative Humidity (%)	100%	100%	2	5	Simultaneous Test	
Shop Order No.: 352252C	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: DHR 'A' Suction from BWST	Radiation (R)	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph 5.
5. Franklin Institute Research Laboratories Report No. F-C3271, Page 3-6, Fig. 3.

Notes:

- A) See Master List, Page A-9
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: DHS Plant ID No. SFV25004	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	Profile 12.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-2	Relative Humidity (%)	100%	100%	2	5	Simultaneous Test	
Shop Order No : 352252C	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: DHR 'B' Suction from BWST	Radiation (R)	2 x 10 ⁶		3			B
Location: Room 046	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Franklin Institute Research Laboratories Report No. F-C3271, Page 3-6, Fig. 3.

Notes:

- A) See Master List, Page A-9
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. SFV26005	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	Profile 10.2		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-3-100	Relative Humidity (%)	100%	100%	2	5	Simultaneous Test	
Shop Order No.: 351110F	Chemical Spray		N/A	N/A	N/A	N/A	
Function: LPI to Loop 'B'	Radiation (R)	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Franklin Institute Research Laboratories Report No. F-C3271, Page 3-6, Fig. 3.

Notes:

- A) See Master List, Page A-9
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: DHS Plant ID No. SFV26006	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	Profile 9.2		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-3-100	Relative Humidity (%)	100%	100%	2	5	Simultaneous Test	
Shop Order No.: 351110F	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: LPI to Loop 'A'	Radiation (R)	2×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Franklin Institute Research Laboratories Report No. F-C3271, Page 3-6, Fig. 3.

Notes:

- A) See Master List, Page A-9
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: DHS Plant ID No. SFV26039	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 10.1		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-O-H2BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 362926A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Cool Down	Radiation	1.8×10^7	2×10^7	3	6	Sequential Test	
Location: Room 052	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-10
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: DHS Plant ID No. SFV26040	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-O-H2BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 362926A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Decay Heat Cool Down	Radiation	2×10^7	2×10^7	3	5	Sequential Test	
Location: Room 051	Aging	40 Years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-10
- B) See Report Section 4.5.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: HVS Plant ID No. A500A	Operating Time	30 Days	30 Days	1	9	Simultaneous Test	
Name: Motor	Temperature (F)	See Profiles 1.5 and 2.5		2	8	Simultaneous Test	
Manufacturer: Joy Manufacturing Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 45-26-1170	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: RB Emergency Cooling Unit	Radiation	1 x 10 ⁸	1 x 10 ⁹	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Joy Manufacturing Company, Summary and Discussion of Design Considerations and Simulated Environmental Testing, Figure ET-5.
9. Op. Cit., Page B-1.

Notes:

- A) See Master List, Page A-11

SYSTEM COMPONENT EVALUATION WORK SHEET

RAUCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: HVS Plant ID No. A500B	Operating Time	30 Days	30 Days	1	9	Simultaneous Test	
Name: Motor	Temperature (F)	See Profiles 1.5 and 2.5		2	8	Simultaneous Test	
Manufacturer: Joy Manufacturing Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 45-26-1170	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: N/A Demon:	Chemical Spray	H3BO3 NaOH	H3BO3 NaOH	4	8	Simultaneous Test	
Function: RB Emergency Cooling Unit	Radiation	1 x 10 ⁸	1 x 10 ⁹	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: -16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Joy Manufacturing Company, Summary and Discussion of Design Considerations and Simulated Environmental Testing, Figure ET-5.
9. Op. Cit., Page B-1.

Notes:

- A) See Master List, Page A-11

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: HVS Plant ID No. A500C	Operating Time	30 Days	30 Days	1	9	Simultaneous Test	
Name: Motor	Temperature (F)	See Profiles 1.5 and 2.5		2	8	Simultaneous Test	
Manufacturer: Joy Manufacturing Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 45-26-1170	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: RB Emergency Cooling Unit	Radiation	1 x 10 ⁸	1 x 10 ⁹	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Joy Manufacturing Company, Summary and Discussion of Design Considerations and Simulated Environmental Testing, Figure ET-5.
9. Op. Cit., Page B-1.

Notes:

- A) See Master List, Page A-11

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: HVS Plant ID No. A500D	Operating Time	30 Days	30 Days	1	9	Simultaneous Test	
Name: Motor	Temperature (F)	See Profiles 1.5 and 2.5		2	8	Simultaneous Test	
Manufacturer: Joy Manufacturing Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 45-26-1170	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: RB Emergency Cooling Unit	Radiation	1 x 10 ⁸	1 x 10 ⁹	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Joy Manufacturing Company, Summary and Discussion of Design Considerations and Simulated Environmental Testing, Figure ET-5.
9. Op. Cit., Page B-1.

Notes:

- A) See Master List, Page A-11

SYSTEM COMPONENT EVALUATION WORK SHEET

SAATCHI SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: HVS Plant ID No. A532A	Operating Time	30 Days	30 Days	1	9	Simultaneous Test	
Name: Motor	Temperature (F)	See Profiles 1.5 and 2.5		2	8	Simultaneous Test	
Manufacturer: Joy Manufacturing Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 45.25-26.5-80	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: RB Upper Dome Emergency Air Circulator	Radiation	1 x 10 ⁸	1 x 10 ⁹	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Joy Manufacturing Company, Summary and Discussion of Design Considerations and Simulated Environmental Testing, Figure ET-5.
9. Op. Cit., Page B-1.

Notes:

- A) See Master List, Page A-11

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: HVS Plant ID No. A532B	Operating Time	30 Days	30 Days	1	9	Simultaneous Test	
Name: Motor	Temperature (F)	See Profiles 1.5 and 2.5		2	8	Simultaneous Test	
Manufacturer: Joy Manufacturing Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 45.25-26.5-80	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: RB Upper Dome Emergency Air Circulator	Radiation	1 x 10 ⁸	1 x 10 ⁹	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Joy Manufacturing Company, Summary and Discussion of Design Considerations and Simulated Environmental Testing, Figure ET-5.
9. Op. Cit., Page B-1.

Notes:

- A) See Master List, Page A-11

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: HVS Plant ID No. A532C	Operating Time	30 Days	30 Days	1	9	Simultaneous Test	
Name: Motor	Temperature (F)	See Profiles 1.5 and 2.5		2	8	Simultaneous Test	
Manufacturer: Joy Manufacturing Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 45.25-26.5-80	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: RB Upper Dome Emergency Air Circulator	Radiation	1 x 10 ⁸	1 x 10 ⁹	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Joy Manufacturing Company, Summary and Discussion of Design Considerations and Simulated Environmental Testing, Figure ET-5.
9. Op. Cit., Page B-1.

Notes:

- A) See Master List, Page A-11

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: HVS Plant ID No. A532D	Operating Time	30 Days	30 Days	1	9	Simultaneous Test	
Name: Motor	Temperature (F)	See Profiles 1.5 and 2.5		2	8	Simultaneous Test	
Manufacturer: Joy Manufacturing Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 45.25-26.5-80	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: RB Upper Dome Emergency Air Circulator	Radiation	1 x 10 ⁸	1 x 10 ⁹	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Joy Manufacturing Company, Summary and Discussion of Design Considerations and Simulated Environmental Testing, Figure ET-5.
9. Op. Cit., Page B-1.

Notes:

- A) See Master List, Page A-11

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: MFWS Plant ID No. LT20503A	Operating Time	1 Day	1 Day	1	8	Simultaneous Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY8B41XA	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 12% Demon: 8%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: E205A, Operating Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-12
- B) See Report Section 4.7.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: MFWS Plant ID No. LT20503B	Operating Time	1 Day	1 Day	1	8	Simultaneous Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY8B41XA	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 12% Demon: 8%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: E205A, Operating Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-12
- B) See Report Section 4.7.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MFWS Plant ID No. LT20503C	Operating Time	1 Day	1 Day	1	8	Simultaneous Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY8B41XA	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 12% Demon: 8%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: E205A, Operating Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 15' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-12
- B) See Report Section 4.7.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MFWS Plant ID No. LT20503D	Operating Time	1 Day	1 Day	1	8	Simultaneous Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY8B41XA	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 12% Demon: 8%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: E205A, Operating Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 15' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page 4-12
- B) See Report Section 4.7.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MFWS Plant ID No. LT20504A	Operating Time	1 Day	1 Day	1	8	Simultaneous Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY8B41XA	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 12% Demon: 8%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: E205B Operating Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-12
- B) See Report Section 4.7.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MFWS Plant ID No. LT20504B	Operating Time	1 Day	1 Day	1	8	Simultaneous Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY8B41XA	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 12% Demon: 8%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: E205B Operating Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-12
- B) See Report Section 4.7.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MFWS Plant ID No. LT20504C	Operating Time	1 Day	1 Day	1	8	Simultaneous Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY8B41XA	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 12% Demon: 8%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: E205B Start-Up Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-12
- B) See Report Section 4.7.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: MFWS Plant ID No. LT20504D	Operating Time	1 Day	1 Day	1	9	Simultaneous Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY8B41XA	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 12% Demon: 8%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: E205B Start-Up Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-12
- B) See Report Section 4.7.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MSS Plant ID No. PSL20601	Operating Time	1 hour	--	1			B
Name: Pressure Switch	Temperature (F)	See profile 1.0 and 2.0		2			B
Manufacturer: Meletron Corp.	Pressure (PSIG)			3			B
Model Number: 312-49A	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Steam Gen E 205 A, Main Steam Line	Radiation	1.0 x 10 ⁸	--	5,6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-13
- B) See Report Section 4.8.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: MSS Plant ID No. PSL20602	Operating Time	1 hour	--	1			B
Name: Pressure Switch	Temperature (F)	See profile 1.0 and 2.0		2			B
Manufacturer: Meletron Corp.	Pressure (PSIG)			3			B
Model Number: 312-49A	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Steam Gen E 205 B, Main Steam Line	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7		B	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-13
- B) See Report Section 4.8.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: MSS Plant ID No. PSL20603	Operating Time	1 hour	--	1			B
Name: Pressure Switch	Temperature (F)	See profile 1.0 and 2.0		2			B
Manufacturer: Meletron Corp.	Pressure (PSIG)			3			B
Model Number: 312-49A	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Steam Gen E 205 A, Main Steam Line	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-13
- B) See Report Section 4.9.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: MSS Plant ID No. PSL20604	Operating Time	1 hour	--	1			B
Name: Pressure Switch	Temperature (F)	See profile 1.0 and 2.0		2			B
Manufacturer: Meletron Corp.	Pressure (PSIG)			3			B
Model Number: 312-49A	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Steam Gen E 205 B, Main Steam Line	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-13
- B) See Report Section 4.8.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MSS Plant ID No. PSL20605	Operating Time	1 hour	--	1			B
Name: Pressure Switch	Temperature (F)	See Profile 1.0 and 2.0		2			B
Manufacturer: Meletron Corp.	Pressure (PSIG)			3			B
Model Number: 312-49A	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Steam Gen E 205 A, Main Steam Line	Radiation	1.0 x 10 ⁸	--	5,6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-13
- B) See Report Section 4.8.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MSS Plant ID No. PSL20606	Operating Time	1 hour		1			B
Name: Pressure Switch	Temperature (F)	See profile 1.0 and 2.0		2			B
Manufacturer: Meletron Corp.	Pressure (PSIG)			3			B
Model Number: 312-49A	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Steam Gen E 205 B, Main Steam Line	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-13
- B) See Report Section 4.8.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: MSG Plant ID No. PSL20607	Operating Time	1 hour		1			B
Name: Pressure Switch	Temperature (F)	See profile 1.0 and 2.0		2			B
Manufacturer: Meletron Corp.	Pressure (PSIG)			3			B
Model Number: 312-49A	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Steam Gen E 205 A, Main Steam Line	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-13
- B) See Report Section 4.8.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: MSS Plant ID No. PSL20608	Operating Time	1 hour		1			B
Name: Pressure Switch	Temperature (F)	See profile 1.0 and 2.0		2			B
Manufacturer: Meletron Corp.	Pressure (PSIG)			3			B
Model Number: 312-49A	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Steam Gen E205B, Main Steam Line	Radiation	1.0 x 10 ⁸	--	5,6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/11/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-13
- B) See Report Section 4.8.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV26016	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 353111A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Cooling Water to DH Cooler E260B	Radiation	2×10^7	2×10^7	3	6	Sequential Test	
Location: Room 051	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-14
- B) See Report Section 4.9.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV26017	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 10.1		2	5	Simultaneous Test	
Manufacturer: Limiterque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 353111A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Cooling Water to DH Cooler E260A	Radiation	1.8×10^7	2×10^7	3	6	Sequential Test	
Location: Room 052	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-14
- B) See Report Section 4.9.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi-cation	Qualifi-cation	Specifi-cation	Qualifi-cation		
System: NSCW Plant ID No. SFV26018	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00	Relative Humidity (%)	100%	100%	2	5	Simultaneous Test	
Shop Order No: 353111A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Cooling Water to DH Cooler E260B	Radiation	2×10^7	2×10^7	3	7	Sequential Test	
Location: Room 051	Aging	40 Years		4	6		B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-14
- B) See Report Section 4.9.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV26019	Operating Time	200 days	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 10.1		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 353111A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Cooling Water to DH Cooler E260A	Radiation	1.8×10^7	2×10^7	3	6	Sequential Test	
Location: Room 052	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-14
- B) See Report Section 4.9.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV50005	Operating Time	30 days	200 day	1	6	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 10.6		2	7	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	7	Simultaneous Test	
Model Number: SMB-00-H1BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No.: 352363A	Chemical Spray	N/A	H ₃ BO ₃ NaOH	N/A	6	Simultaneous Test	
Function: Cooling Water to RB Emergency Cooler A600A	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years	40 years	4	5	Simultaneous Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Report 600198, page 5.
6. Op. Cit., pages 24-27 (FIRL F-C2232-01).
7. Op. Cit., page 11.

Notes:

- A) See Master List, Page A-14
- B) See Report Section 4.9.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV50006	Operating Time	30 days	200 day	1	6	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 9.5		2	7	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	7	Simultaneous Test	
Model Number: SMB-00-H1BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No.: 352363A	Chemical Spray	N/A	H ₃ BO ₃ NaOH	N/A	6	Simultaneous Test	
Function: Cooling Water to RB Emergency Cooler A500B	Radiation	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years	40 years	4	5	Simultaneous Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, D2R-54, page 4, paragraph E.
5. Limatorque Report 600198, page 5.
6. Op. Cit., pages 24-27 (FIRL F-C2232-01).
7. Op. Cit., page 11.

Notes:

- A) See Master List, Page A-14

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV50007	Operating Time	30 days	200 days	1	6	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 10.6		2	Simultaneous 7	Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	7	Simultaneous Test	
Model Number: SMB-00-H1BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No.: 352363A	Chemical Spray	N/A	H ₃ BO ₃ NaOH	N/A	7	Simultaneous Test	
Function: Cooling Water to RB Emergency Cooler A500C	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years	40 years	4	5	Simultaneous Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Report 600198, page 5.
6. Op. Cit., pages 24-27 (FIRL F-C2232-01).
7. Op. Cit., page 11.

Notes:

A) See Master List, Page A-14

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV50008	Operating Time	200 days	200 day	1	6	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 9.5		2	7	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	7	Simultaneous Test	
Model Number: SMB-00-H1BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No.: 352363A	Chemical Spray	N/A	H ₃ BO ₃ NaOH	N/A	6	Simultaneous Test	
Function: Cooling Water to RB Emergency Cooler A500D	Radiation	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years	40 years	4	5	Simultaneous Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Report 600198, page 5.
6. Op. Cit., pages 24-27 (FIRL F-C2232-01).
7. Op. Cit., page 11.

Notes:

- A) See Master List, Page A-14

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: NSCW Plant ID No. SFV50009	Operating Time	30 days	200 days		4	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 10.6			5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)				5	Simultaneous Test	
Model Number: SMB-00-H1BC	Relative Humidity (%)	100%	100%	6	5	Simultaneous Test	
Shop Order No.: 352363A	Chemical Spray	N/A	H ₃ BO ₃ NaOH		4	Simultaneous Test	
Function: Cooling Water to RB Emergency Cooler A500C	Radiation	1.8 x 10 ⁷		1			B
Location: Room 052	Aging	40 years	40 years	7	3	Simultaneous Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Report 600198, page 5.
6. Op. Cit., pages 24-27 (FIRL F-C2232-01).
7. Op. Cit., page 11.

Notes:

- A) See Master List, Page A-14

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV50010	Operating Time	200 days	200 day	1	6	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 9.5		2	7	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	7	Simultaneous Test	
Model Number: SMB-00-H1BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No.: 352363A	Chemical Spray	N/A	H ₃ BO ₃ NaOH	N/A	6	Simultaneous Test	
Function: Cooling Water to RB Emergency Cooler A500D	Radiation	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years	40 years	4	5	Simultaneous Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Report 600198, page 5.
6. Op. Cit., pages 24-27 (FIRL F-C2232-01).
7. Op. Cit., page 11.

Notes:

- A) See Master List, Page A-14

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: NSCW Plant ID No. SFV50011	Operating Time	30 days	200 days	1	6	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 10.6		2	7	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	7	Simultaneous Test	
Model Number: SMB-00-H1BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No.: 352363A	Chemical Spray	N/A	H ₃ BO ₃ NaOH	N/A	7	Simultaneous Test	
Function: Cooling Water to RB Emergency Cooler A500C	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years	40 years	4	5	Simultaneous Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to P. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-7-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Report 600198, page 5.
6. Op. Cit., pages 24-27 (FIRL F-C2232-01).
7. Op. Cit., page 11.

Notes:

- A) See Master List, Page A-14

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: NSCW Plant ID No. SFV50012	Operating Time	200 days	200 day	1	6	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 9.5		2	7	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	7	Simultaneous Test	
Model Number: SMB-00-H1BC	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No.: 352363A	Chemical Spray	N/A	H ₃ BO ₃ NaOH	N/A	6	Simultaneous Test	
Function: Cooling Water to RB Emergency Cooler A500D	Radiation	2 x 10 ⁷		3			B
Location: Room 051	Aging	40 years	40 years	4	5	Simultaneous Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Report 600198, page 5.
6. Op. Cit., pages 24-27 (FIRL F-C2232-01).
7. Op. Cit., page 11.

Notes:

- A) See Master List, Page A-14

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RBS Plant ID No. P291A	Operating Time	1 day	200 days	1	5	Engineering Analysis	
Name: Motor	Temperature (F)	See profile 5.0		2	5	Engineering Analysis	
Manufacturer: Westinghouse	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: ABW1	Relative Humidity (%)	100%	100%	2	6	Sequential Test	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Spray Pump A	Radiation	5.5×10^7	2×10^8	3	5	Separate Effects	
Location: Room 001	Aging	40 Years	40 Years	4	5	Engineering Analysis	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Westinghouse Qualification Report WCAP-8754, Page 5-1.
6. Op. Cit., page 4-3.

Notes:

- A) See Master List, Page A-15

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RBS Plant ID No. P291B	Operating Time	1 day	200 days	1	5	Engineering Analysis	
Name: Motor	Temperature (F)	See profile 5.0		2	5	Engineering Analysis	
Manufacturer: Westinghouse	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: ABW1	Relative Humidity (%)	100%	100%	2	6	Sequential Test	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Spray Pump B	Radiation	5.5×10^7	2×10^8	3	5	Separate Effects	
Location: Room 002	Aging	40 Years	40 Years	4	5	Engineering Analysis	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Westinghouse Qualification Report WCAP-8754, page 5-1.
6. Op. Cit., page 4-3.

Notes:

- A) See Master List, Page A-15

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RBS Plant ID No. SFV29015	Operating Time	1 day	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 5.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-5	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 359847B	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Spray Additive Tank to P291A	Radiation	5.5×10^7	2×10^7	3	6	Sequential Test	B
Location: Room 001	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-15
- B) See Report Section 4.10.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RBS Plant ID No. SFV29016	Operating Time	1 day	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 6.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-5	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 359847B	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Spray Additive Tank to P291A	Radiation	5.5×10^7	2×10^7	3	6	Sequential Test	B
Location: Room 002	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-15
- B) See Report Section 4.10.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RBS Plant ID No. SFV29107	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Limatorque	Pressure (PSIG)			2			B
Model Number: SMB-00-25	Relative Humidity (%)	100%		2			B
Shop Order No: 360208B	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Spray Pump P291A Discharge	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-15
- B) See Report Section 4.10.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RBS Plant ID No. SFV29108	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profile 9.0		2			B
Manufacturer: Limatorque	Pressure (PSIG)			2			B
Model Number: SMB-00-25	Relative Humidity (%)	100%		2			B
Shop Order No: 360208B	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: RB Spray Pump P291B Discharge	Radiation	2×10^7		3			B
Location: Room 051	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 991-1-C, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-15
- B) See Report Section 4.10.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. HV21505	Operating Time	200 days	200 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-00-10	Relative Humidity (%)	100%		4	8	Simultaneous Test	
Shop Order No: 351110B	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: Pressurizer Vent	Radiation	1 x 10 ⁸	2.04x10 ⁸	5,6	10	Separate Effects	
Location: Room 051	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: -16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limatorque Report 600198 (FIRL Report FC2332-01), pages 24-27.
9. Op Cit., page 5.
10. Limatorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RCS Plant ID No. HV21515	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Limatorque	Pressure (PSIG)			3			B
Model Number: SMB-000-5	Relative Humidity (%)	100%		4			B
Shop Order No: 359847A	Chemical Spray	H ₃ BO ₃ -NaOH		4			B
Function: Pressurizer Vent Valve "A"	Radiation (R)	1 x 10 ⁸		5,6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: -16' Above Flood Level: Yes	Submergence	N/A					

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0 dated, 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RCS Plant ID No. HV21517	Operating Time	1 day	200 days	1	8	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-000-5	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No: 359847A	Chemical Spray	H ₃ BO ₃ -NaOH	H ₃ BO ₃ -NaOH	4	8	Simultaneous Test	
Function: Pressurizer Vent Valve "B"	Radiation (R)	1 x 10 ⁸	2.04 x 10 ⁸	5,6	10	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	9	Sequential Test	
Flood Level Elev: -16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque Report 600198 (FIRL Report FC2332-01), pages 24-27.
9. Op Cit., page 5.
10. Limitorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. LT21503A	Operating Time	1 Day	1 Day	1	9	Sequential Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	8	Simultaneous Test	
Manufacturer: Bailey Meter Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: BY 3B40X-AX	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			
Function: Pressurizer Water Level	Radiation	1.0 x 10 ⁸	4 x 10 ⁷	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4 page 5-2.
9. Op.Cit., page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket. 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. LT21503B	Operating Time	1 Day	1 Day	1	9	Sequential Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	8	Simultaneous Test	
Manufacturer: Bailey Meter Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: BY 3B40X-AX	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			
Function: Pressurizer Water Level	Radiation	1.0 x 10 ⁸	4 x 10 ⁷	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4 page 5-2.
9. Op.Cit., page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. LT21503C	Operating Time	1 Day	1 Day	1	9	Sequential Test	
Name: Level Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	8	Simultaneous Test	
Manufacturer: Bailey Meter Co.	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: BY 3B40X-AX	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			
Function: Pressurizer Water Level	Radiation	1.0 x 10 ⁸	4 x 10 ⁷	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4 page 5-2.
9. Op.Cit., page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. SFV22005	Operating Time	1 day	200 days	1	8	Simultaneous Test	
Name: Valve Operator Motor	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-00-10	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 351110G	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: Letdown to Cooler E220A	Radiation (R)	1.4 x 10 ⁸	2.04x10 ⁸	5,6	10	Separate Effects	
Location: Containment	Aging	40 years	40 years	7	9	Sequential Test	
Flood Level Elev: -16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque Report 600198 (FIRL Report FC2332-01), pages 24-27.
9. Op Cit., page 5.
10. Limitorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF ^a		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. SFV22006	Operating Time	1 day	200 days	1	8	Simultaneous Test	
Name: Valve Operator Motor	Temperature (F)	See Profiles 1.1 and 2.1		2	8	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: SMB-00-10	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Shop Order No.: 351110G	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: Letdown to Cooler E220B	Radiation (R)	1.0 x 10 ⁸	2.04x10 ⁸	5,6	10	Separate Effects	
Location: Containment	Aging	40 years	40 years	7	9	Sequential Test	
Flood Level Elev: -16' Above Flood Level: No	Submergence						B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Limitorque Report 600198 (FIRL Report FC2332-01), pages 24-27.
9. Op Cit., page 5.
10. Limitorque Report 600376A, Appendix D.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. SFV22025	Operating Time	1 day		1			B
Name: Valve Operator Motor	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Limatorque	Pressure (PSIG)			3			B
Model Number: SMB-00	Relative Humidity (%)	100%		4			B
Shop Order No.: 364772A	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Letdown to Coolers	Radiation (R)	1.0 x 10 ⁸		5,6			B
Location: Containment	Aging	40 years		7			B
Flood Level Elev: -16' Above Flood Level: No	Submergence						B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0 dated, 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. TE21023A	Operating Time	200 days	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177 GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Cold Leg "A", Wide Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. TE21023B	Operating Time	200 days	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177 GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Cold Leg "B", Wide Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. TE21024A	Operating Time	200 days	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177 GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Cold Leg "C", Wide Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-16
- B) See Report Section 4.11.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RCS Plant ID No. TE21024B	Operating Time	200 days	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177 GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Cold Leg "D", Wide Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80:
 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4,
Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. TE21031A	Operating Time	1 day	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177 GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Hot Leg E 205 A Wide Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. TE21031B	Operating Time	1 day	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177 GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Hot Leg E 205 A Wide Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. TE21032A	Operating Time	1 day	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177 GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Hot Leg E 205 B Wide Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. TE21032B	Operating Time	1 day	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177 GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Hot Leg E 205 B Wide Range	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80:
 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4,
Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XE21520	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Position Indicator	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XE21521	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Position Indicator	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XE21522	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Position Indicator	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Karsch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XE21523	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Position Indicator	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XE21524	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Position Indicator	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RCS Plant ID No. XE21525	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Position Indicator	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XY21520	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Charge Amp for XE21520	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-17
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XY21521	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Charge Amp for XE21521	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-18
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XY21522	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Charge Amp for XE21522	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-18
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XY21523	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Charge Amp for XE21523	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-18
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XY21524	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Charge Amp for XE21524	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-18
- B) See Report Section 4.11.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

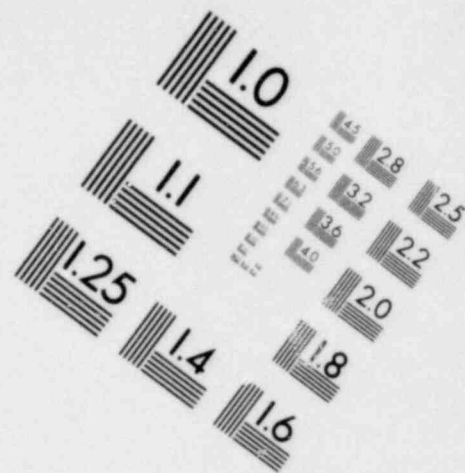
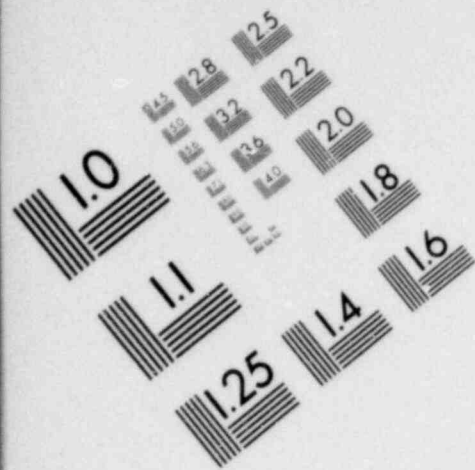
EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RCS Plant ID No. XY21525	Operating Time	200 days		1			B
Name: Position Indicator	Temperature (F)	See Profiles 1.0 and 2.0		2			B
Manufacturer: Technology for Energy Corp.	Pressure (PSIG)			3			B
Model Number:	Relative Humidity (%)	100%	--	4			B
Accuracy: Spec: N/A Demon:	Chemical Spray	H ₃ BO ₃ NaOH	--	4			B
Function: Charge Amp for XE21525	Radiation	1.0 x 10 ⁸	--	5, 6			B
Location: Containment	Aging	40 Years	--	7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

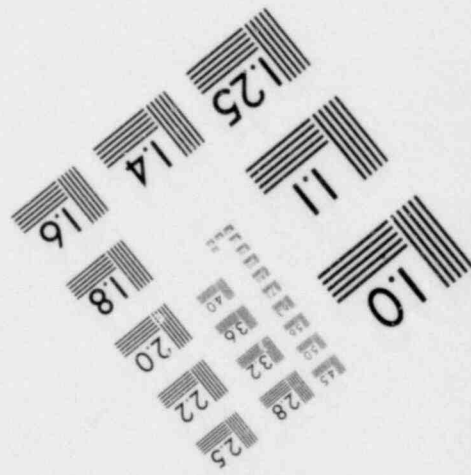
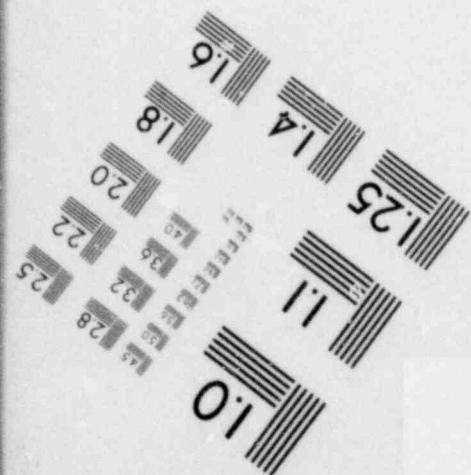
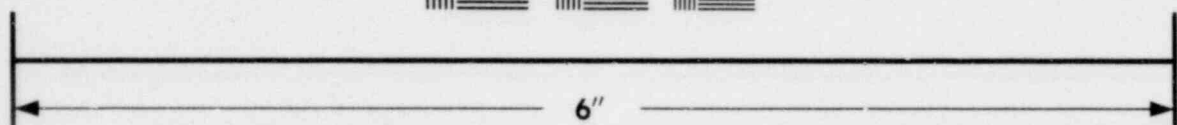
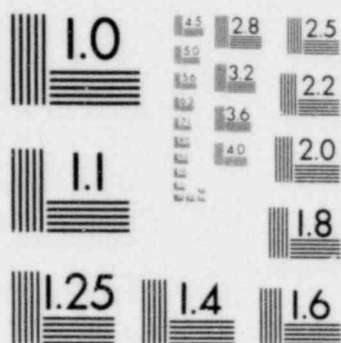
1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph 2: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-18
- B) See Report Section 4.11.2.4



**IMAGE EVALUATION
TEST TARGET (MT-3)**



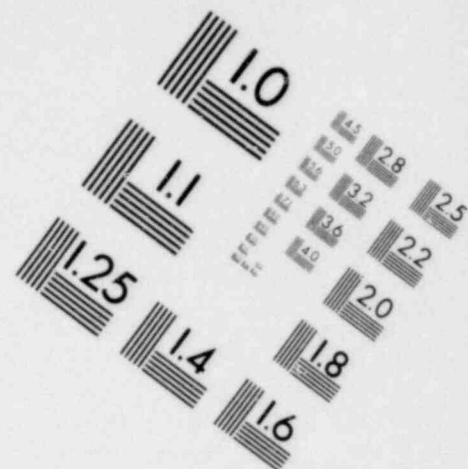
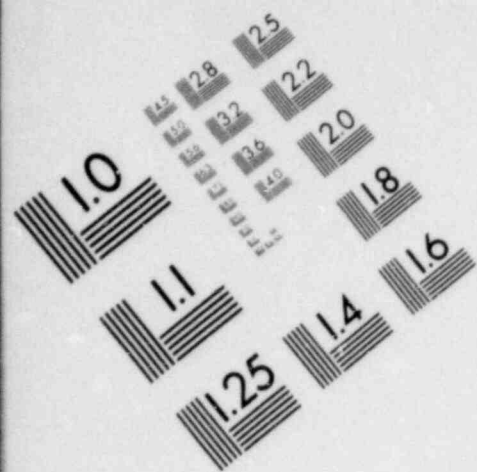
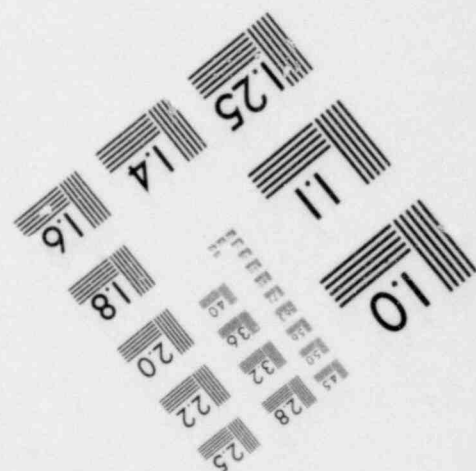
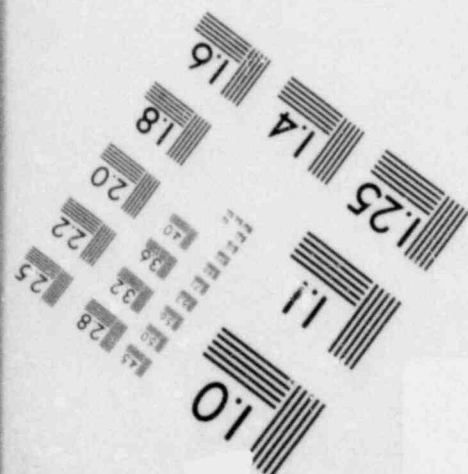
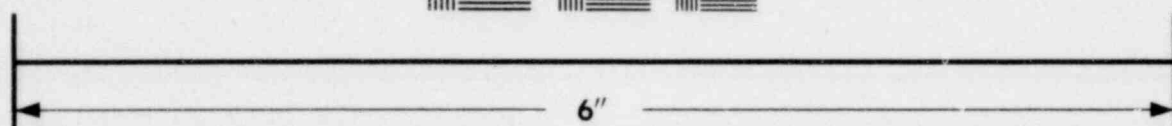
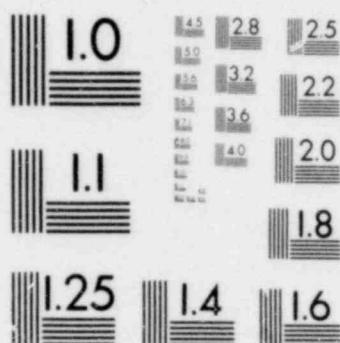


IMAGE EVALUATION TEST TARGET (MT-3)



SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. FT21027A	Operating Time	1 hour	24 Hours	1	8	Sequential Test	
Name: Flow Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY 3X41X-A	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 3.0% Demon: 0.06%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC Flow Loop A	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. FT21027B	Operating Time	1 hour	24 Hours	1	8	Sequential Test	
Name: Flow Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY 3X41X-A	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 3.0% Demon: 0.06%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC Flow Loop A	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RPS Plant ID No. FT21027D	Operating Time	1 hour	24 Hours	1	8	Sequential Test	
Name: Flow Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY 3X41X-A	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 3.0% Demon: 0.06%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC Flow Loop A	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RPS Plant ID No. FT21028A	Operating Time	1 hour	24 Hours	1	8	Sequential Test	
Name: Flow Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY 3X41X-A	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 3.0% Demon: 0.06%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC Flow Loop B	Radiation	1.0 x 10 ⁹	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 15' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RPS Plant ID No. FT21028B	Operating Time	1 hour	24 Hours	1	8	Sequential Test	
Name: Flow Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY 3X41X-A	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 3.0% Demon: 0.06%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC Flow Loop B	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.1-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. FT21028C	Operating Time	1 hour	24 Hours	1	8	Sequential Test	
Name: Flow Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY 3X41X-A	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 3.0% Demon: 0.06%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC Flow Loop B	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RPS Plant ID No. FT21028D	Operating Time	1 hour	24 Hours	1	8	Sequential Test	
Name: Flow Transmitter	Temperature (F)	See Profiles 1.3 and 2.3		2	9	Simultaneous Test	
Manufacturer: Bailey Meter	Pressure (PSIG)			3	9	Simultaneous Test	
Model Number: BY 3X41X-A	Relative Humidity (%)	100%	100%	4	9	Simultaneous Test	
Accuracy: Spec: 3.0% Demon: 0.06%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC Flow Loop B	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Page 5-2.
9. Op. Cit., Page 5-7, Table 5-2.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RPS Plant ID No. PSH53606	Operating Time	1 Hour		1			B
Name: Pressure Switch	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Mercoind Corp.	Pressure (PSIG)			2			B
Model Number: APW-7041-153	Relative Humidity (%)	100%		2			B
Accuracy: Spec: +1.0, -50 Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Containment Building	Radiation (R)	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. PSH53617	Operating Time	1 Hour		1			B
Name: Pressure Switch	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Mercoid Corp.	Pressure (PSIG)			2			B
Model Number: APW-7041-153	Relative Humidity (%)	100%		2			B
Accuracy: Spec: +1.0, -50 Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Containment Building	Radiation (R)	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RPS Plant ID No. PSH53619	Operating Time	1 Hour		1			B
Name: Pressure Switch	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Mercoid Corp.	Pressure (PSIG)			2			B
Model Number: APW-7041-153	Relative Humidity (%)	100%		2			B
Accuracy: Spec: +1.0, -50 Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Containment Building	Radiation (R)	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. PSH53620	Operating Time	1 Hour		1			B
Name: Pressure Switch	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Mercoid Corp.	Pressure (PSIG)			2			B
Model Number: APW-7041-153	Relative Humidity (%)	100%		2			B
Accuracy: Spec: +1.0, -50 Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Containment Building	Radiation (R)	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident".
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-19
- B) See Report Section 4.12.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RPS Plant ID No. PT21037	Operating Time	7 Sec.		1			B
Name: Pressure Transmitter	Temperature (F)	Profile 1.0 and 2.0		2			B
Manufacturer: Westinghouse	Pressure (PSIG)			3			B
Model Number: 59PH	Relative Humidity (%)	100%		4			B
Accuracy: Spec: +10% Demon: —	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Pressure	Radiation	1.0 x 10 ⁸		5,6			B
Location: Containment	Aging	40 years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11 paragraph 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-20
- B) See Report Section 4.12.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: RPS Plant ID No. PT21038	Operating Time	7 Sec.		1			B
Name: Pressure Transmitter	Temperature (F)	Profile 1.0 and 2.0		2			B
Manufacturer: Westinghouse	Pressure (PSIG)			3			B
Model Number: 59PH	Relative Humidity (%)	100%		4			B
Accuracy: Spec: +10% Demon: —	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Pressure	Radiation	1.0 x 10 ⁸		5,6			B
Location: Containment	Aging	40 years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11 paragraph 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-F4, page 4, paragraph E.

Notes:

- A) See Master List, Page A-20
- B) See Report Section 4.12.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. PT21039	Operating Time	7 Sec.		1			B
Name: Pressure Transmitter	Temperature (F)	Profile 1.0 and 2.0		2			B
Manufacturer: Westinghouse	Pressure (PSIG)			3			B
Model Number: 59PH	Relative Humidity (%)	100%		4			B
Accuracy: Spec: +10% Demon: -	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Pressure	Radiation	1.0 x 10 ⁸		5,6			B
Location: Containment	Aging	40 years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAk page 14.3-11 paragraph 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-20
- B) See Report Section 4.12.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. PT21040	Operating Time	7 Sec.		1			B
Name: Pressure Transmitter	Temperature (F)	Profile 1.0 and 2.0		2			B
Manufacturer: Westinghouse	Pressure (PSIG)			3			B
Model Number: 59PH	Relative Humidity (%)	100%		4			B
Accuracy: Spec: +10% Demon: —	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Pressure	Radiation	1.0 x 10 ⁸		5,6			B
Location: Containment	Aging	40 years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11 paragraph 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, SPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-20
- B) See Report Section 4.12.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. TE21029	Operating Time	200 days	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount Engr. Co.	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: 1.0% Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC to Steam Generator E205A	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80:
 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4,
Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-20
- B) See Report Section 4.12.2.5

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. TE21030	Operating Time	200 days	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount Engr. Co.	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: 1.0% Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC Steam Generator E205B	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-20
- B) See Report Section 4.12.2.5

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. TE21033	Operating Time	200 days	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount Engr. Co.	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: 1.0% Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC to Steam Generator E205A	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-20
- B) See Report Section 4.12.2.5

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: RPS Plant ID No. TE21034	Operating Time	200 days	200 days	1	8	Separate Effects	
Name: Temperature Element	Temperature (F)	See profiles 1.0 and 2.0		2	8	Separate Effects	
Manufacturer: Rosemount Engr. Co.	Pressure (PSIG)			3	8	Separate Effects	
Model Number: 177GY	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: 1.0% Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RC to Steam Generator E205B	Radiation	1.0 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report BAW-10003, Rev. 4, Table 5-2, page 5-7.

Notes:

- A) See Master List, Page A-20
- B) See Report Section 4.12.2.5

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SFAS Plant ID No. PT21042	Operating Time	1 day	1 day	1	8	Separate Effects	
Name: Pressure Transmitter	Temperature (F)	Profiles 1.6 and 2.6		2	8, 9	Separate Effects	
Manufacturer: Foxboro Company	Pressure (PSIG)			3	8, 9	Separate Effects	
Model Number: E11GH	Relative Humidity (%)	100%	100%	4	9	Separate Effects	
Accuracy: Spec: 1.85% Demon: .06%	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	10	Separate Effects	
Function: RCS Pressure	Radiation	1 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report, BAW-10003, Rev. 4, page 5-2.
9. Op. Cit., page 5-7, Table 5-2.
10. June 12, 1980 Letter to B&W Owners Group from F. J. Levandoski.

Notes:

- A) See Master List, Page A-21
- B) See Report Section 4.13.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SFAS Plant ID No. PT21043	Operating Time	1 day	1 day	1	8	Separate Effects	
Name: Pressure Transmitter	Temperature (F)	Profiles 1.6 and 2.6		2	8, 9	Separate Effects	
Manufacturer: Foxboro Company	Pressure (PSIG)			3	8, 9	Separate Effects	
Model Number: E11GH	Relative Humidity (%)	100%	100%	4	9	Separate Effects	
Accuracy: Spec: 1.85% Demon: .06%	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	10	Separate Effects	
Function: RCS Pressure	Radiation	1 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figur 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80:
 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Topical Report, BAW-10003, Rev. 4, page 5-2.
9. Op. Cit., page 5-7, Table 5-2.
10. June 12, 1980 Letter to B&W Owners
Group from F. J. Levandoski.

Notes:

- A) See Master List, Page A-21
- B) See Report Section 4.13.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SFAS Plant ID No. PT21092	Operating Time	1 day	1 day	1	8	Separate Effects	
Name: Pressure Transmitter	Temperature (F)	Profiles 1.6 and 2.6		2	8, 9	Separate Effects	
Manufacturer: Foxboro Company	Pressure (PSIG)			3	8, 9	Separate Effects	
Model Number: E11GH	Relative Humidity (%)	100%	100%	4	9	Separate Effects	
Accuracy: Spec: 1.85% Demon: .06%	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	10	Separate Effects	
Function: RCS Pressure	Radiation	1 x 10 ⁸	1 x 10 ⁸	5, 6	9	Engineering Analysis	
Location: Containment	Aging	40 years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

- SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
- FSAR Figure 14.4-3.
- FSAR Figure 14.4-9.
- FSAR Table 7.1-1.
- FSAR page 14.3-11, paragraph: 3.39 x 10⁶ rads (Gamma).
- Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62 x 10⁷ rads (Beta).
- SMUD Operating License, DPR-54, page 4, paragraph E.
- Topical Report, BAW-10003, Rev. 4, page 5-2.
- Op. Cit., page 5-7, Table 5-2.
- June 12, 1980 Letter to B&W Owners Group from F. J. Levandoski.

Notes:

- See Master List, Page A-21
- See Report Section 4.13.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	qualifi- cation	Specifi- cation	Qualifi- cation		
System: SFAS Plant ID No. PT21099	Operating Time	1 day	1 day	1	9	Separate Effects	
Name: Pressure Transmitter	Temperature (F)	Profiles 1.0 and 2.0		2	9	Separate Effects	
Manufacturer: Rosemount	Pressure (PSIG)			3	9	Separate Effects	
Model Number: 1152GP	Relative Humidity (%)	100%	100%	4	8	Separate Effects	
Accuracy: Spec: 1.85% Demon: 0.9%	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: RCS Pressure	Radiation	1 x 10 ⁸	1 x 10 ⁸	5, 6	8	Engineering Analysis	
Location: Containment	Aging	40 years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Rosemount Report 117415, pages 2-11.
9. Op. Cit., Appendix I, Figures 7 and 8.

Notes:

- A) See Master List, Page A-21
- B) See Report Section 4.13.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SFAS Plant ID No. PT53606B	Operating Time	12 hours	12 hours	1	6	Sequential Test	
Name: Pressure Transmitter	Temperature (F)	See Profile 10.3		2	5	Sequential Test	
Manufacturer: Foxboro Co.	Pressure (PSIG)			2	5	Sequential Test	
Model Number: E11GM	Relative Humidity (%)	100%	100%	2	5	Sequential Test	
Accuracy: Spec: 1.85% Demon: 6%	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Containment Building	Radiation	1.8×10^7	2.4×10^4	3	5	Engineering Analysis	B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Topical Report BAW-10003, Rev. 4, Page 5-7, Table 5-2.
6. Op. Cit., Page 5-2.

Notes:

- A) See Master List, Page A-21
- B) See Report Section 4.13.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SFAS Plant ID No. PT53607	Operating Time	12 hours	12 hours	1	6	Sequential Test	
Name: Pressure Transmitter	Temperature (F)	See Profile 9.3		2	5	Sequential Test	
Manufacturer: Foxboro Co.	Pressure (PSIG)			2	5	Sequential Test	
Model Number: E11GM	Relative Humidity (%)	100%	100%	2	5	Sequential Test	
Accuracy: Spec: 1.85% Demon: 6%	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Containment Building	Radiation	2×10^7	2.4×10^4	3	5	Engineering Analysis	B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattinoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Topical Report BAW-10003, Rev. 4, Page 5-7, Table 5-2.
6. Op. Cit., Page 5-2.

Notes:

- A) See Master List, Page A-21
- B) See Report Section 4.13.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SFAS Plant ID No. PT53608	Operating Time	12 hours	12 hours	1	6	Sequential Test	
Name: Pressure Transmitter	Temperature (F)	See Profile 9.3		2	5	Sequential Test	
Manufacturer: Foxboro Co.	Pressure (PSIG)			2	5	Sequential Test	
Model Number: E11GM	Relative Humidity (%)	100%	100%	2	5	Sequential Test	
Accuracy: Spec: 1.85% Demon: 6%	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Containment Building	Radiation	2×10^7	2.4×10^4	3	5	Engineering Analysis	B
Location: Room 051	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Topical Report BAW-10003, Rev. 4, Page 5-7, Table 5-2.
6. Op. Cit., Page 5-2.

Notes:

- A) See Master List, Page A-21
- B) See Report Section 4.13.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. A529A	Operating Time	200 days	200 days	1			
Name: Motor	Temperature (F)	Profile 11.0		2			B
Manufacturer: Allis Chalmers	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: 531	Relative Humidity (%)	100%	95%	2	5	Engineering Analysis	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: P238A Room Cooler	Radiation	3×10^6	2×10^8	5	6	Engineering Analysis	
Location: Room 053	Aging	40 years	40 years	4	7	Engineering Analysis	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Siemens-Allis Equipment Qualification, Page 2.
6. Op. Cit., Page 4.
7. Op. Cit., Page 12.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. A529B	Operating Time	200 days	200 days	1			
Name: Motor	Temperature (F)	Profile 8.0		2			B
Manufacturer: Allis Chalmers	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: 531	Relative Humidity (%)	100%	95%	2	5	Engineering Analysis	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: P2364 Room Cooler	Radiation	3×10^6	2×10^8	3	6	Engineering Analysis	
Location: Room 044	Aging	40 years	40 years	4	7	Engineering Analysis	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Siemens-Allis Equipment Qualification, Page 2.
6. Op. Cit., Page 4.
7. Op. Cit., Page 12.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. A529C	Operating Time	200 days	200 days	1			
Name: Motor	Temperature (F)	Profile 11.0		2			B
Manufacturer: Allis Chalmers	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: 531	Relative Humidity (%)	100%	95%	2	5	Engineering Analysis	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: P238B Room Cooler	Radiation	2 x 10 ⁶	2 x 10 ⁸	3	6	Engineering Analysis	
Location: Room 043	Aging	40 years	40 years	4	7	Engineering Analysis	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 001-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Siemens-Allis Equipment Qualification, Page 2.
6. Op. Cit., Page 4.
7. Op. Cit., Page 12.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.4

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. FT23606	Operating Time	1 day		1			B
Name: Flow Transmitter	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			2			B
Model Number: BY3241X-A	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Reactor Coolant Pumps Seal Supply	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. FT23805	Operating Time	1 day		1			B
Name: Flow Transmitter	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			2			B
Model Number: BY3241X-A	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: HP Injection to Loop A	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. FT23806	Operating Time	200 days		1			B
Name: Flow Transmitter	Temperature (F)	See Profile 9.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			2			B
Model Number: BY3240X-A	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: HP Injection to Loop B	Radiation	2×10^7		3			B
Location. Room 051	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. FT23807	Operating Time	1 day		1			B
Name: Flow Transmitter	Temperature (F)	See Profile 10.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			2			B
Model Number: BY3240XA	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: HP Injection to Loop A	Radiation	1.8 x 10 ⁷		3			B
Location: Room 052	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. FT23808	Operating Time	1 day		1			B
Name: Flow Transmitter	Temperature (F)	See Profile 9.0		2			B
Manufacturer: Bailey Meter	Pressure (PSIG)			2			B
Model Number: BY3240XA	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: HP Injection to Loop B	Radiation	2.7×10^7		3			B
Location: Room 051	Aging	40 years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.3

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. H8DP236	Operating Time	200 days		1			B
Name: Switch	Temperature (F)	See Profile 10.0		2			B
Manufacturer: I.T.E Imperial Corp.	Pressure (PSIG)			2			B
Model Number: Z1193	Relative Humidity (%)	100%	-	2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Transfer Switch for P236	Radiation (R)	1.8×10^7	-	3			B
Location: Room 052	Aging	40 Years	-	4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.5

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. H8P23508	Operating Time	1 day		1			B
Name: Switch	Temperature (F)	See Profile 8.0		2			B
Manufacturer: General Electric	Pressure (PSIG)			2			B
Model Number:	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Transfer Switch for SFV23508	Radiation (R)	2×10^7		3			B
Location: Room 044	Aging	40 Years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.6

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. H8PA529B	Operating Time	200 days		1			B
Name: Switch	Temperature (F)	See Profile 8.0		2			B
Manufacturer: General Electric	Pressure (PSIG)			2			B
Model Number:	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Transfer Switch for A529B	Radiation (R)	3 x 10 ⁶		3			B
Location: Room 044	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.6

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. HV23801	Operating Time	1 day	1 day	1			B
Name: Motor Operated Valve	Temperature (F)	Profile 1.0 and 2.0		2			B
Manufacturer: Limitorque	Pressure (PSIG)			2			B
Model Number: SMB-00	Relative Humidity (%)	100%		4			B
Shop Order No: 395525	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Long Term Cooldown	Radiation	1.0 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-22
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. HV23802	Operating Time	1 day	1 day	1			B
Name: Motor Operated Valve	Temperature (F)	Profile 1.0 and 2.0		2			B
Manufacturer: Limitorque	Pressure (PSIG)			2			B
Model Number: SMB-00	Relative Humidity (%)	100%		4			B
Shop Order No: 395525	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Long Term Cooldown	Radiation	1.0 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. P236	Operating Time	200 days	200 days	1	5	Engineering Analysis	
Name: Motor	Temperature (F)	See Profile 8.0		2			
Manufacturer: Westinghouse	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number:	Relative Humidity (%)	100%	100%	2	6	Sequential Test	
Accuracy: Sp. : Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Make Pump	Radiation (R)	3×10^6	2×10^8	3	5	Sequential Test	
Location: Room 044	Aging	40 Years	40 years	4	5	Sequential Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Westinghouse Qualification Report, WCAP-8754, Page 5-1.
6. GP. Cit., Page 4-3.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. P238A	Operating Time	200 days	200 days	1	5	Engineeing Analysis	
Name: Motor	Temperature (F)	See Profile 11.0		2			B
Manufacturer: Westinghouse	Pressure (PSIG)			2	5	Engineering Analysis	
Model Number: HWSI	Relative Humidity (%)	100%	100%	2	6	Sequential Test	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: High Pressure Injection Pump A	Radiation (R)	3 x 10 ⁶	2 x 10 ⁸	3	5	Sequential Test	
Location: Room 053	Aging	40 years	40 Years	4	5	Sequential Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Westinghouse Qualification Report, WCAP-8754, Page 5-1.
6. OP. Cit., Page 4-3.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. P238B	Operating Time	200 days	200 days	1	5	Engineering Analysis	
Name: Motor	Temperature (F)	See Profile 7.0		2			B
Manufacturer: Westinghouse	Pressure (PSIG)			2	7	Engineering Analysis	
Model Number: HWSI	Relative Humidity (%)	100%	100%	2	E	Sequential Test	
Accuracy: Spec: Demon:	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: High Pressure Injection Pump B	Radiation (R)	2×10^6	2×10^8	3	5	Sequential Test	
Location: Room 043	Aging	40 years	40 Years	4	5	Sequential Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Westinghouse Qualification Report, WCAP-8754, Page 5-1.
6. OP. Cit., Page 4-3.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. SFV23508	Operating Time	1 day		1			B
Name: Motor Operated Valve	Temperature (F)	See Profile 7.0		2			B
Manufacturer: Limitorque	Pressure (PSIG)			2			B
Model Number: SMB-00	Relative Humidity (%)	100%		2			B
Shop Order No.: 364772B	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Makeup Tank Isolation	Radiation (R)	2 x 10 ⁶		3			B
Location: Room 043	Aging	40 years		4			B

***Documentation References:**

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. SFV23604	Operating Time	1 day	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 10.7		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-10	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 364772B	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Make-up to Reactor Coolant System	Radiation (R)	1.8×10^7	1×10^7	3	6	Sequential test	B
Location: Room 052	Aging	40 Years	40 Years	4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0009
6. Op. Cit., Page 7.
7. Op. Cit., Page 9.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. SFV23616	Operating Time	1 day	20% days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.1		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SM 25	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Serial Number: R	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Seal to Reactor Coolant Pumps	Radiation	2×10^7	2×10^7	3	6	Sequential Test	
Location: Room 051	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. SFV23645	Operating Time	1 day	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 7.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-5	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 354430D	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: Make-up Pump Recirculation	Radiation	2×10^6	2×10^7	3	6	Sequential Test	
Location: Room 043	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Socket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. SFV23646	Operating Time	1 day	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 7.1		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-5	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 354430D	Chemical Spray	* N/A	N/A	N/A	N/A	N/A	
Function: Make-up Pump Recirculation	Radiation	2×10^6	2×10^7	3	6	Sequential Test	
Location: Room 043	Aging	40 Years		4			B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0003, Page 10, Figure 1.
6. Op. Cit., Page 8, paragraph 4.3.1.
7. Op. Cit., Page 5, paragraph 2.5.2.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. SFV23809	Operating Time	1 day	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 10.7		2	5	Simultaneous Test	
Manufacturer: Limatorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-25	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 3E0098A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: HPI to Loop A	Radiation	1.8×10^7	1×10^7	3	6	Sequential Test	B
Location: Room 052	Aging	40 Years	40 Years	4	7	Sequential Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limatorque Qualification Type Test Report No. B0009
6. Op. Cit., Page 7.
7. Op. Cit., Page 9.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: SIM Plant ID No. SFV23810	Operating Time	200 day	200 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.6		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-25	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 3E0098A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: HPI to Loop B	Radiation	2×10^7	1×10^7	3	6	Sequential Test	B
Location: Room 051	Aging	40 Years	40 Years	4	7	Sequential Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0009
6. Op. Cit., Page 7.
7. Op. Cit., Page 9.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. SFV23811	Operating Time	1 day	16 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 10.7		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-25	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 3E0098A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: HPI to Loop A	Radiation	1.8×10^7	1×10^7	3	6	Sequential Test	B
Location: Room 052	Aging	40 Years	40 Years	4	7	Sequential Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0009
6. Op. Cit., Page 7.
7. Op. Cit., Page 9.

Notes:

- A) See Master List, Page A-23
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: SIM Plant ID No. SFV23812	Operating Time	1 day	16 days	1	5	Simultaneous Test	
Name: Motor Operated Valve	Temperature (F)	See Profile 9.6		2	5	Simultaneous Test	
Manufacturer: Limitorque	Pressure (PSIG)			2	5	Simultaneous Test	
Model Number: SMB-00-25	Relative Humidity (%)	100%	100%	2	7	Simultaneous Test	
Shop Order No: 3E0098A	Chemical Spray	N/A	N/A	N/A	N/A	N/A	
Function: HP ¹ to Loop B	Radiation	2×10^7	1×10^7	3	6	Sequential Test	B
Location: Room 051	Aging	40 Years	40 Years	4	7	Sequential Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Limitorque Qualification Type Test Report No. B0009
6. Op. Cit., Page 7.
7. Op. Cit., Page 9.

Notes:

- A) See Master List, Page A-24
- B) See Report Section 4.14.2.1

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Interface Plant ID No. H7RP	Operating Time	200 days	200 days	1	8	Simultaneous Test	
Name: Electrical Penetrations	Temperature (F)	Profile 1.7 and 2.7		2	8	Simultaneous Test	
Manufacturer: Conax	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: N/A	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: R.B. Electrical Penetration	Radiation	1 x 10 ⁸	1 x 10 ⁸	5, 6	9	Separate Effects	
Location: Containment	Aging	40 Years	40 Years	7	10,11	Separate Effects/Analysis	
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80:
 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Conax IPS-49, 1/17/72.
9. Conax IPS-27, 1/4/71.
10. Conax IPS-30.
11. Conax IPS-375.

Notes:

- A) See Master List, Page A-25
- B) Aging performed on Pigtail Conductors and analysis for other materials

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Interfaces Plant ID No.	Operating Time	200 days	7.5 Days	1		Engineering Analysis	
Name: 600V power Control and Instrumentation Cable	Temperature (F)	See Profile 10.5		2	5,6	Simultaneous Test	
Manufacturer: Cerro	Pressure (PSIG)			2	5,6	Simultaneous Test	
Model Number: Firewall III Pyrotrol III	Relative Humidity (%)	100%	100%	2	5,6	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	N/A	H ₃ BO ₃	N/A	5,6	Simultaneous Test	
Function: Control & Instrumentation	Radiation (R)	1 x 10 ⁸	2 x 10 ⁸	3	5,6	Sequential Test	
Location: Aux. Building	Aging	40 Years	40 Years	4	5	Separate Effects	
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

Notes:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUE Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.
5. Test of Electrical Cables under Simulated Post-Accident Reactor Containment Service, Franklin Institute Research Laboratories (FIRL), Report No. F-C2857, 9/70.
6. Qualification of Firewall III Class 1E Electric Cables 7/77.

- A) See Master List, Page A-25
- B) See Report Section 4.15

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: Interfaces Plant ID No.	Operating Time	200 days	30 days	1	8	Engineering Analysis	
Name: Cable	Temperature (F)	See Profile 2.9		2	8	Simultaneous Test	
Manufacturer: Cerro	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: Firewall SR	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	B
Function: Miscellaneous	Radiation (R)	1 x 10 ⁸	2 x 10 ⁸	5, 6	8	Sequential Test	
Location: Containment	Aging	40 Years	40 Years	7	8	Sequential Test/ Engineering Analysis	
Flood Level Elev: - 16' Above Flood Level: No	Submergence				8	Immersion Test	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. Qualification of Firewall SR Class 1E Electric Cables 3/78, 6/78.

Notes:

- A) See Master List, Page A-25
- B) See Report Section 4.15.2

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specifi- cation	Qualifi- cation	Specifi- cation	Qualifi- cation		
System: Interface Plant ID No.	Operating Time	200 days	1 Day	1	8	Simultaneous Test	
Name: Terminal Blocks	Temperature (F)	See Profiles 1.8 and 2.8		2	8	Simultaneous Test	
Manufacturer: Kulka	Pressure (PSIG)			3	8	Simultaneous Test	
Model Number: 700	Relative Humidity (%)	100%	100%	4	8	Simultaneous Test	
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH	H ₃ BO ₃ NaOH	4	8	Simultaneous Test	
Function: Provide Connections	Radiation (R)	1 x 10 ⁸	1 x 10 ⁷	5,6	9	Separate Effects	B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: Yes	Submergence	N/A	N/A	N/A	N/A	N/A	

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.
8. FIRL Report No. F-C4927, 2/78.
9. International Nutronics Lab No. 5527, 2/16/78.

Notes:

- A) See Master List, Page A-25
- B) See Report Section 4.1.1, 4.15

SYSTEM COMPONENT EVALUATION WORK SHEET

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: Interface Plant ID No.	Operating Time	200 days		1			B
Name: Terminal Blocks	Temperature (F)			2			B
Manufacturer: Square D	Pressure (PSIG)			2			B
Model Number: Type G, K	Relative Humidity (%)	100%		2			B
Accuracy: Spec: Demon:	Chemical Spray			N/A			B
Function:	Radiation (R)	1×10^8		3			B
Location: Containment (Outside)	Aging	40 Years		4			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. Bechtel Calculation No. 991-1-0, dated 10/1/80.
3. SMUD Letter from J. J. Mattimoe (Assistant General Manager) to R. W. Reid (U.S. Nuclear Regulatory Commission), dated April 11, 1980, and attachments.
4. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-25
- B) See Report Section 4.15.2

RANCHO SECO UNIT 1

Docket: 50-312

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIFICATION METHOD	OUTSTANDING ITEMS
	Parameter	Specification	Qualification	Specification	Qualification		
System: All Systems Plant ID No.	Operating Time	200 Days		1			B
Name: Insulation Tape	Temperature (F)	Profiles 1.0 and 2.0		2			B
Manufacturer: Scotch	Pressure (PSIG)			3			B
Model Number: Scotch	Relative Humidity (%)	100%		4			B
Accuracy: Spec: Demon:	Chemical Spray	H ₃ BO ₃ NaOH		4			B
Function: Insulation Tape	Radiation (R)	1 x 10 ⁸		5, 6			B
Location: Containment	Aging	40 Years		7			B
Flood Level Elev: - 16' Above Flood Level: No	Submergence						B

*Documentation References:

1. SMUD Memo, D. G. Raasch to R. J. Rodriguez, "Operating Time for Electrical Equipment Following an Accident."
2. FSAR Figure 14.4-3.
3. FSAR Figure 14.4-9.
4. FSAR Table 7.1-1.
5. FSAR page 14.3-11, paragraph: 3.39×10^6 rads (Gamma).
6. Bechtel Calculation 2211-1-0, dated 10/1/80: 9.62×10^7 rads (Beta).
7. SMUD Operating License, DPR-54, page 4, paragraph E.

Notes:

- A) See Master List, Page A-25
- B) See Report Section 4.15.2.5

APPENDIX C
LIST OF PROFILES

GENERAL

<u>NUMBER</u>		<u>PAGE</u>	
1.0	LOCA REACTOR BUILDING TEMPERATURE VS. TIME	C- 1	
2.0	LOCA REACTOR BUILDING PRESSURE VS. TIME	C- 2	
5.0	HELB ROOM 001 TEMPERATURE VS. TIME	C- 3	
6.0	HELB ROOM 002 TEMPERATURE VS. TIME	C- 4	
7.0.1	HELB ROOM 043 TEMPERATURE VS. TIME (Break in 052)	C- 5	1
7.0.2	HELB ROOM 043 TEMPERATURE VS. TIME (Break in 020)	C- 7	
8.0	HELB ROOM 044 TEMPERATURE VS. TIME	C- 8	
9.0	HELB ROOM 051 TEMPERATURE VS. TIME	C- 9	
10.0	HELB ROOM 052 TEMPERATURE VS. TIME	C-10	
11.0	HELB ROOM 053 TEMPERATURE VS. TIME	C-11	1
12.0	HELB ROOM 046 TEMPERATURE VS. TIME	C-12	

TEST

1.1	LOCA TEMPERATURE AND LIMITORQUE TEST 600198	C-13	
1.2	LOCA TEMPERATURE AND LIMITORQUE TEST 600456	C-14	
1.3	LOCA TEMPERATURE AND BAILEY BY TEST BAW 10003	C-15	
1.4	LOCA TEMPERATURE AND NAMCO EA 180 TEST	C-16	
1.5	LOCA TEMPERATURE AND JOY AXIVANE TEST	C-17	
1.6	LOCA TEMPERATURE AND FOXBORO E11GH TEST	C-18	
1.7	LOCA TEMPERATURE AND CONAX PENETRATION TEST	C-19	
1.8	LOCA TEMPERATURE AND KULKA TERMINAL TEST	C-20	
1.9	LOCA TEMPERATURE AND ROCKBESTOS FIREWALL TEST	C-21	
1.10	LOCA TEMPERATURE AND LIMITORQUE TEST B0003	C-22	1

TITLE

<u>NUMBER</u>		<u>PAGE</u>
2.1	LOCA PRESSURE AND LIMITORQUE TEST 600198	C-23
2.2	LOCA PRESSURE AND LIMITORQUE TEST 600456	C-24
2.3	LOCA PRESSURE AND BAILEY BY TEST BAW 10003	C-25
2.4	LOCA PRESSURE AND NAMCO EA 180 TEST	C-26
2.5	LOCA PRESSURE AND JOY AXIVANE TEST	C-27
2.6	LOCA PRESSURE AND FOXBORO E11GH TEST	C-28
2.7	LOCA PRESSURE AND CONAX PENETRATION TEST	C-29
2.8	LOCA PRESSURE AND KULKA TERMINAL TEST	C-30
2.9	LOCA PRESSURE AND ROCKBESTOS FIREWALL TEST	C-31
2.10	LOCA PRESSURE AND LIMITORQUE TEST B0003	C-32
5.1	HELB ROOM 001 TEMPERATURE AND LIMITORQUE TEST B0003	C-33
6.1	HELB ROOM 002 TEMPERATURE AND LIMITORQUE TEST B0003	C-34
6.2	HELB ROOM 002 TEMPERATURE AND LIMITORQUE TEST F-C3271	C-35
6.3	HELB ROOM 002 TEMPERATURE AND LIMITORQUE TEST 600198	C-35A
7.1	HELB ROOM 043 TEMPERATURE AND LIMITORQUE TEST B0003	C-36
9.1	HELB ROOM 051 TEMPERATURE AND LIMITORQUE TEST B0003	C-37
9.2	HELB ROOM 051 TEMPERATURE AND LIMITORQUE TEST FC3271	C-38
9.3	HELB ROOM 051 TEMPERATURE AND BAILY BY B&W 10003	C-39
9.4	HELB ROOM 051 TEMPERATURE AND LIMITORQUE TEST 600456	C-40
9.5	HELB ROOM 051 TEMPERATURE AND LIMITORQUE TEST 600198	C-41
9.6	HELB ROOM 051 TEMPERATURE AND LIMITORQUE TEST B0009	C-42
10.1	HELB ROOM 052 TEMPERATURE AND LIMITORQUE TEST B0003	C-43
10.2	HELB ROOM 052 TEMPERATURE AND LIMITORQUE TEST FC3271	C-44
10.3	HELB ROOM 052 TEMPERATURE AND BAILEY BY B&W 10003	C-45

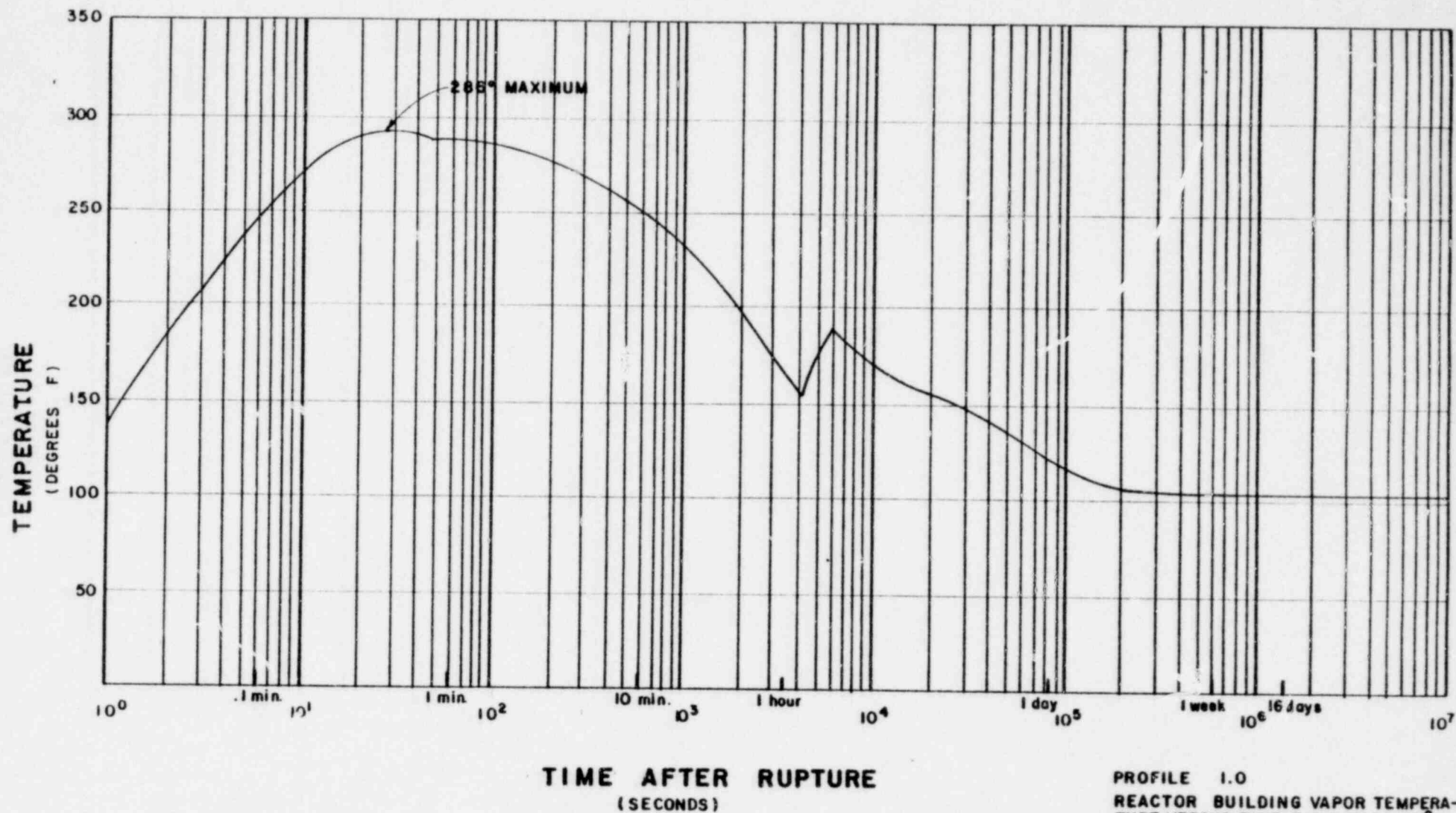
TITLE

NUMBER

PAGE

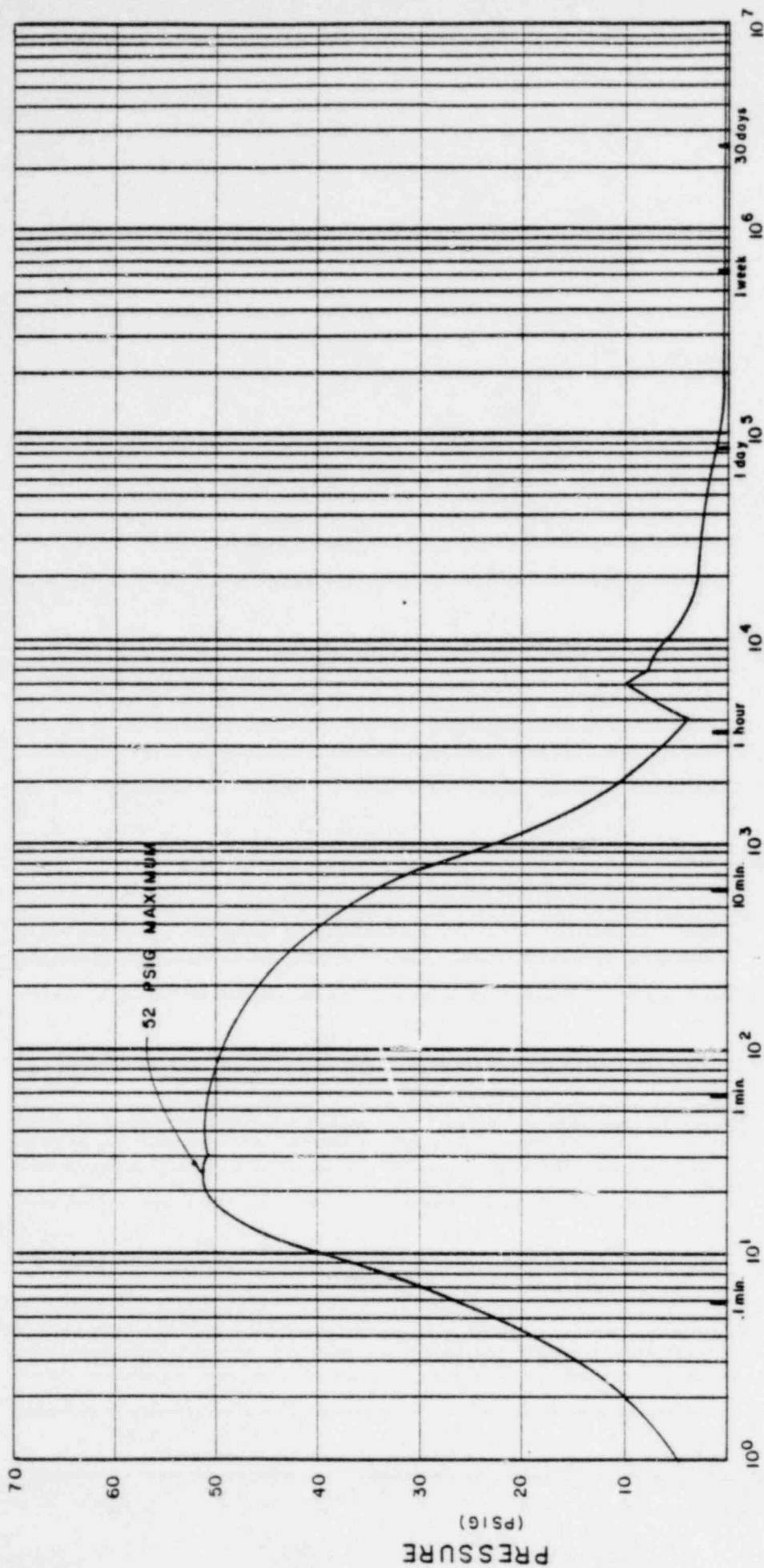
10.4	HELB ROOM 052 TEMPERATURE AND LIMITORQUE TEST 600456	C-46
10.5	HELB ROOM 052 TEMPERATURE AND ROCKBESTOS FIREWALL	C-47
10.6	HELB ROOM 052 TEMPERATURE AND LIMITORQUE TEST 600198	C-48
10.7	HELB ROOM 052 TEMPERATURE AND LIMITORQUE TEST B0009	C-49
12.1	HELB ROOM 046 TEMPERATURE AND LIMITORQUE TEST FC3271	C-50

1



PROFILE 1.0
 REACTOR BUILDING VAPOR TEMPERA-
 TURE VERSUS TIME FOR THE 5.0 FT²
 RUPTURE WITH 2 REACTOR BUILDING
 AIR COOLERS & 1 SPRAY OPERATING

SMUD 79-01B RESPONSE

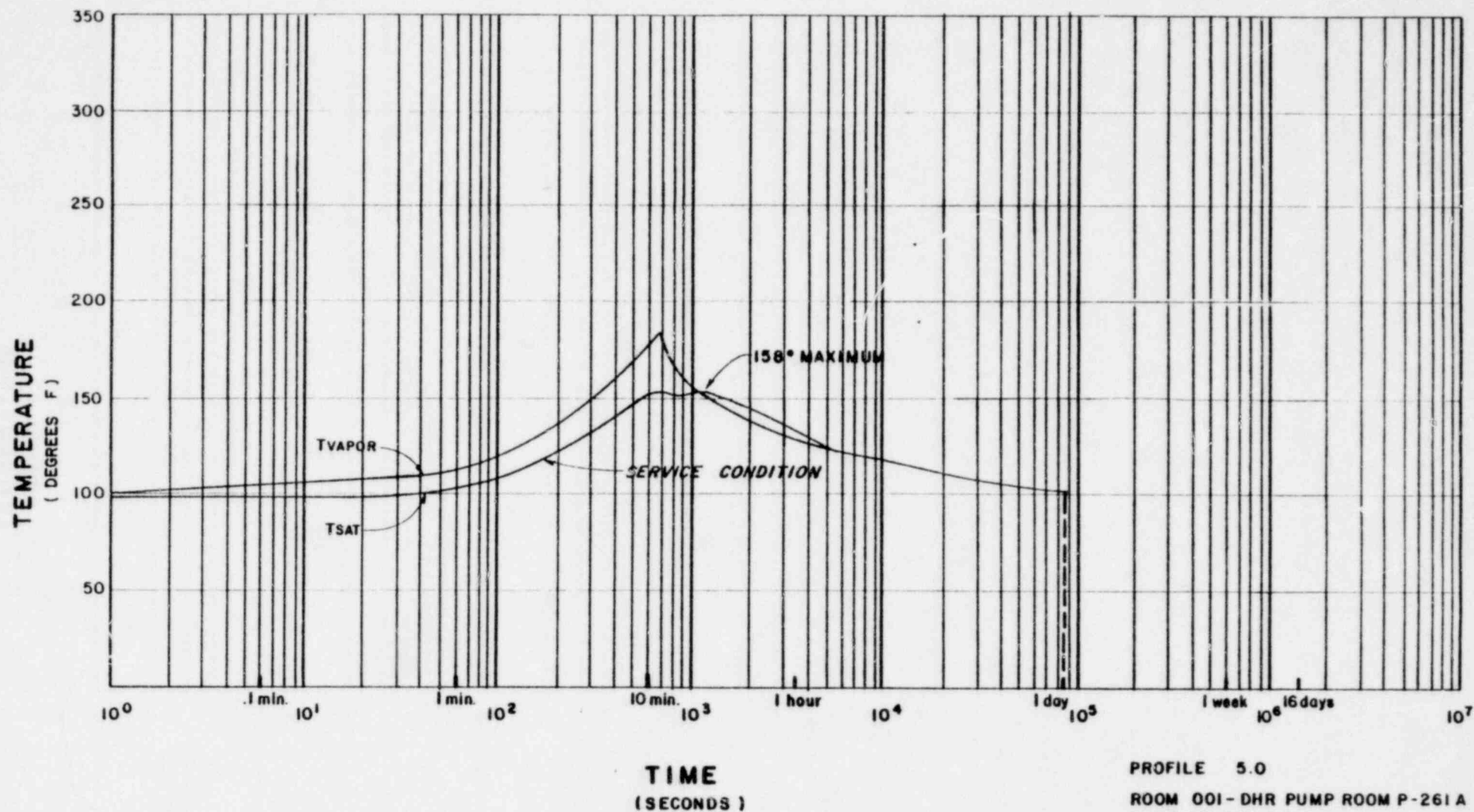


PROFILE 2.0

TIME AFTER RUPTURE
(SECONDS)

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT.² RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

SMUD 79-01B RESPONSE

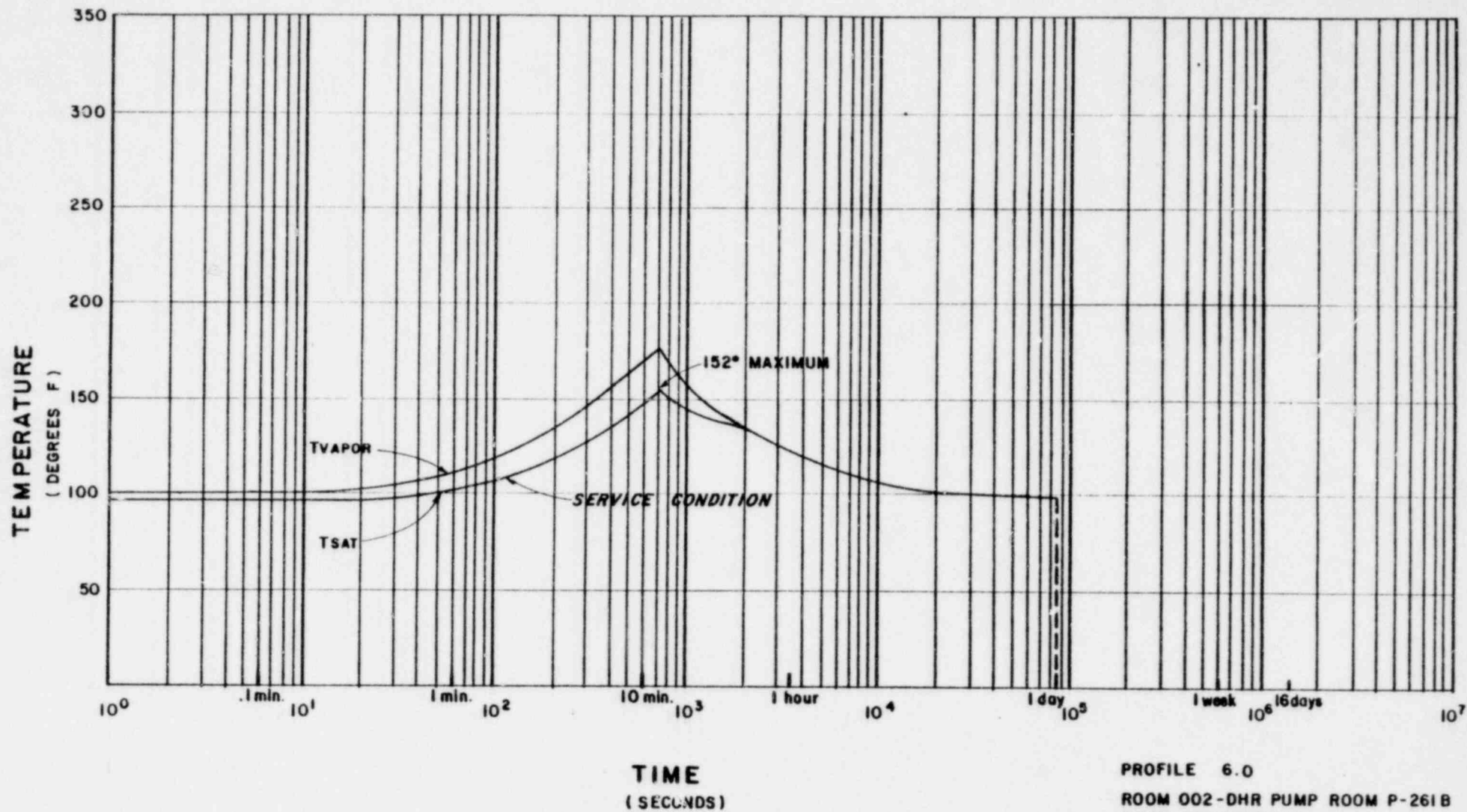


TSAT = SATURATION TEMPERATURE

SMUD 79-01B RESPONSE

PROFILE 5.0

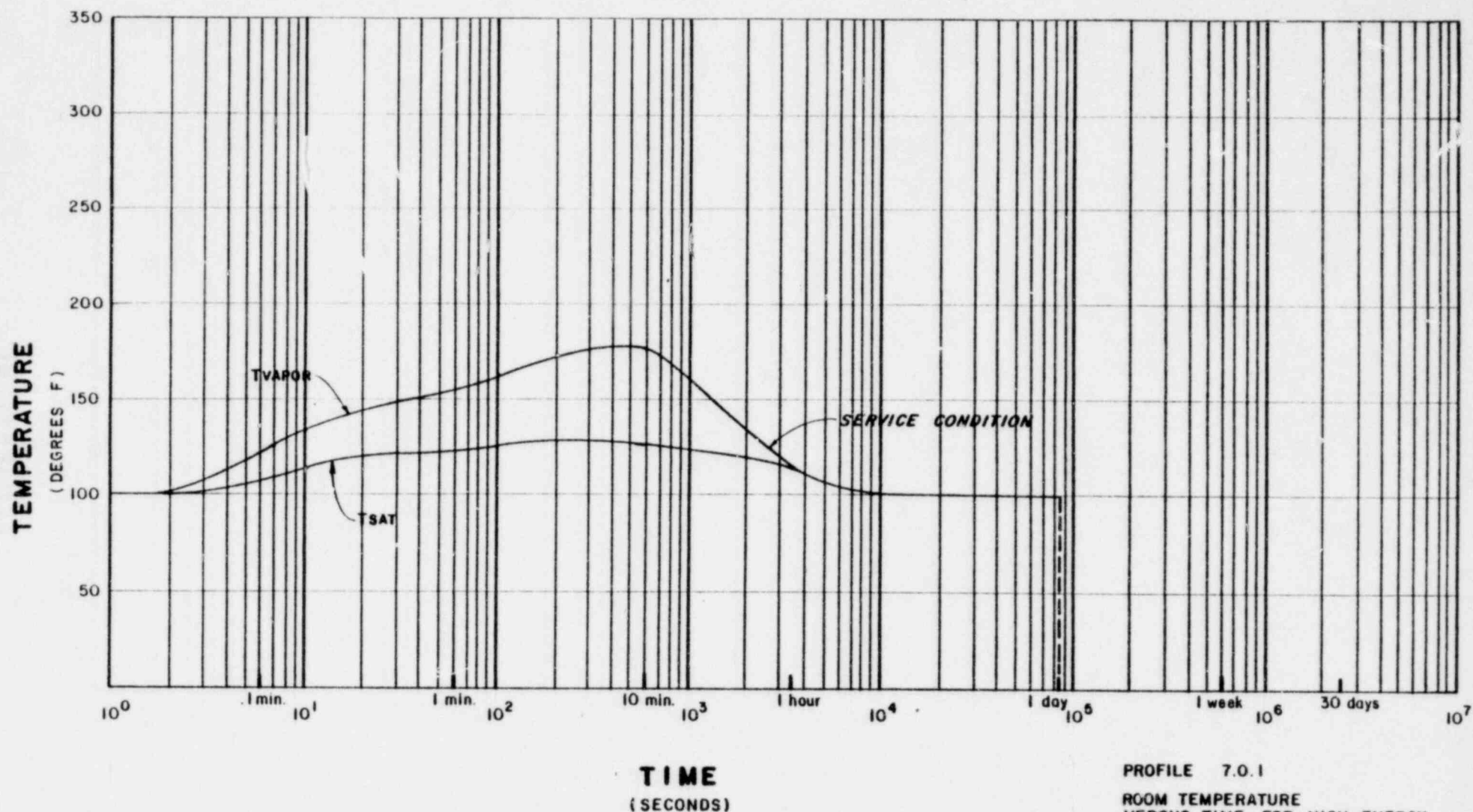
ROOM 001 - DHR PUMP ROOM P-261 A
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY LINE
BREAK



TSAT = SATURATION TEMPERATURE

SMUD 79-01B RESPONSE

PROFILE 6.0
ROOM 002-DHR PUMP ROOM P-261B
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK

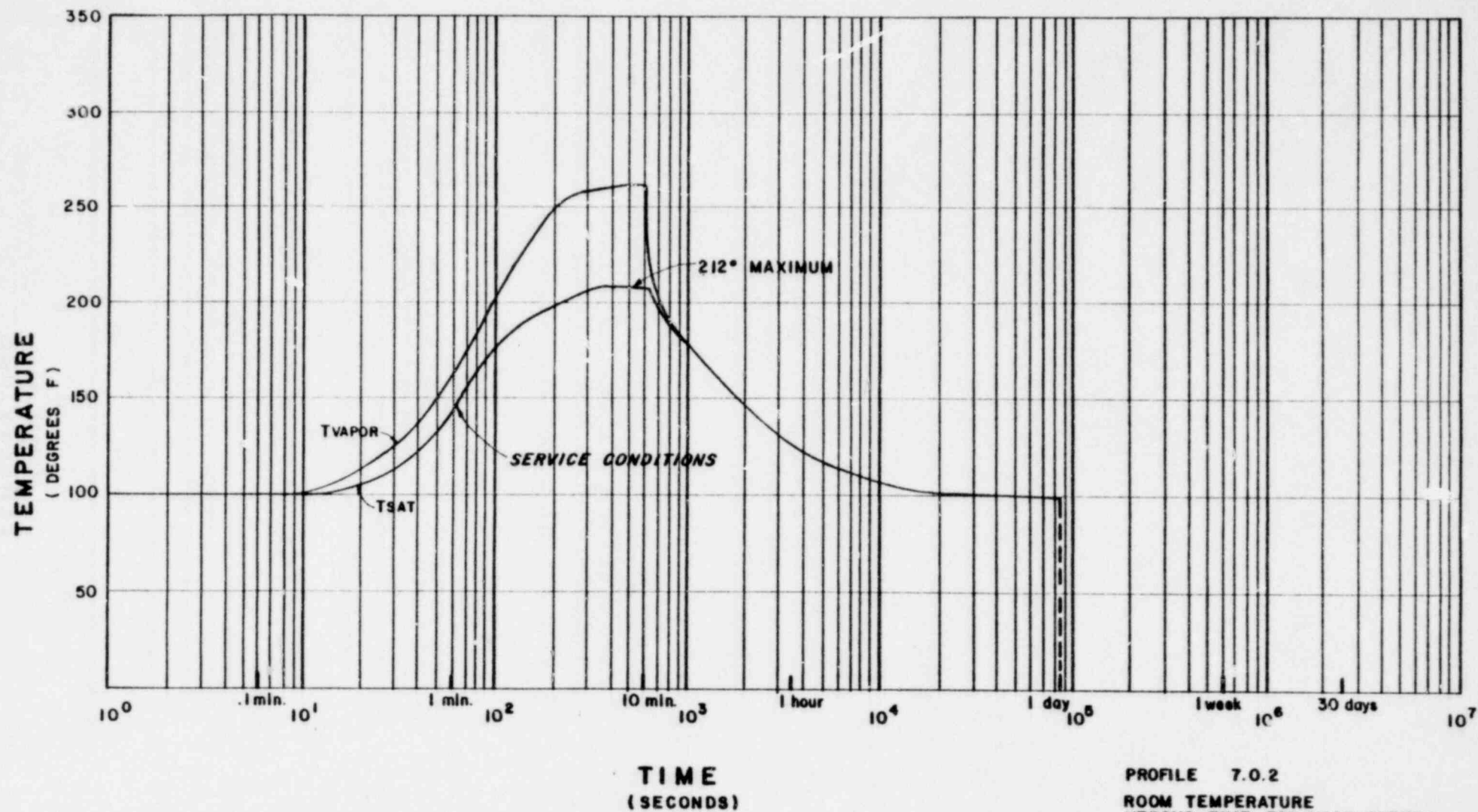


TSAT = SATURATION TEMPERATURE

SMUD 79-01B RESPONSE

PROFILE 7.0.1

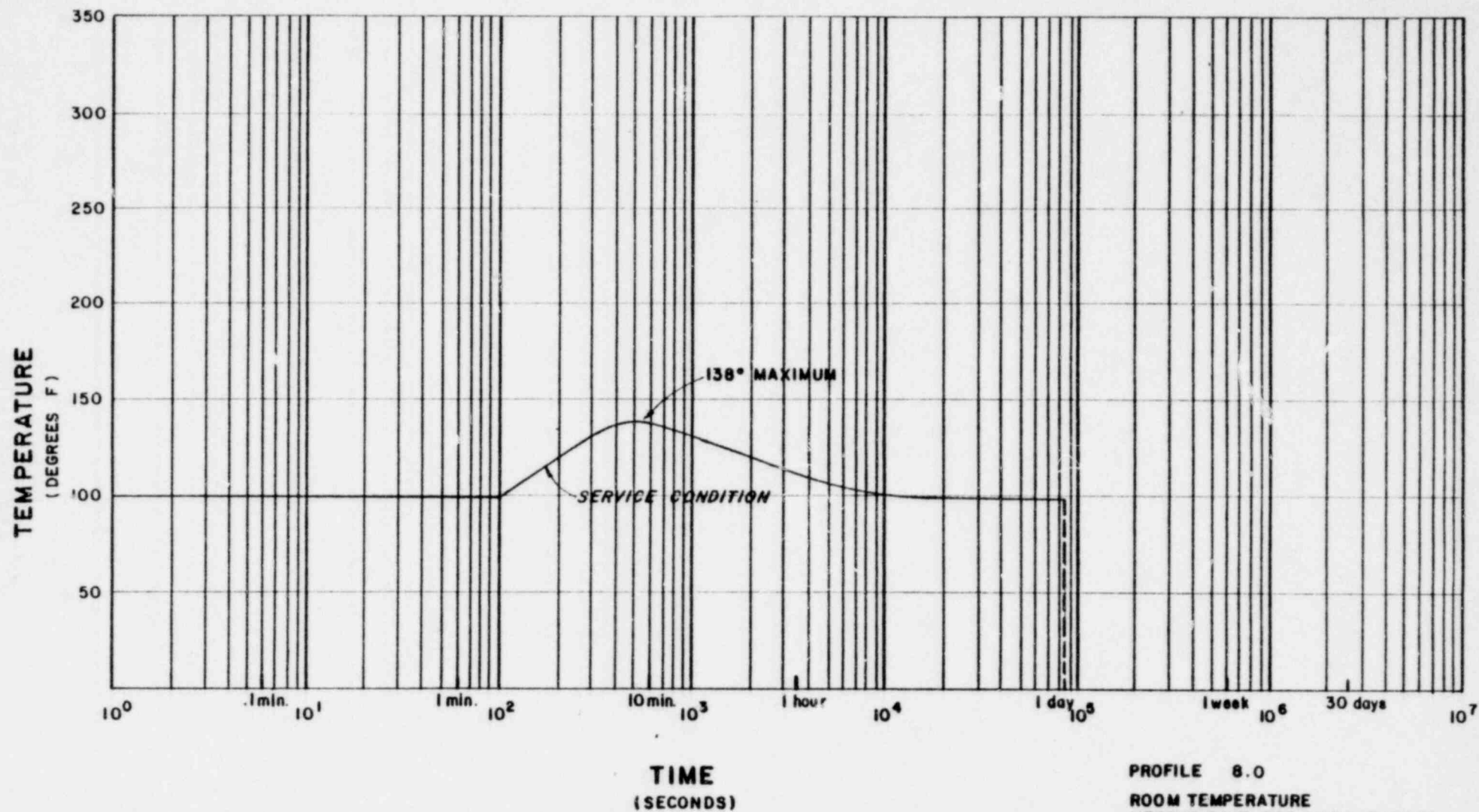
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK IN ROOM 052
ROOM 043 - PUMP ROOM P-238 B



TSAT = SATURATION TEMPERATURE

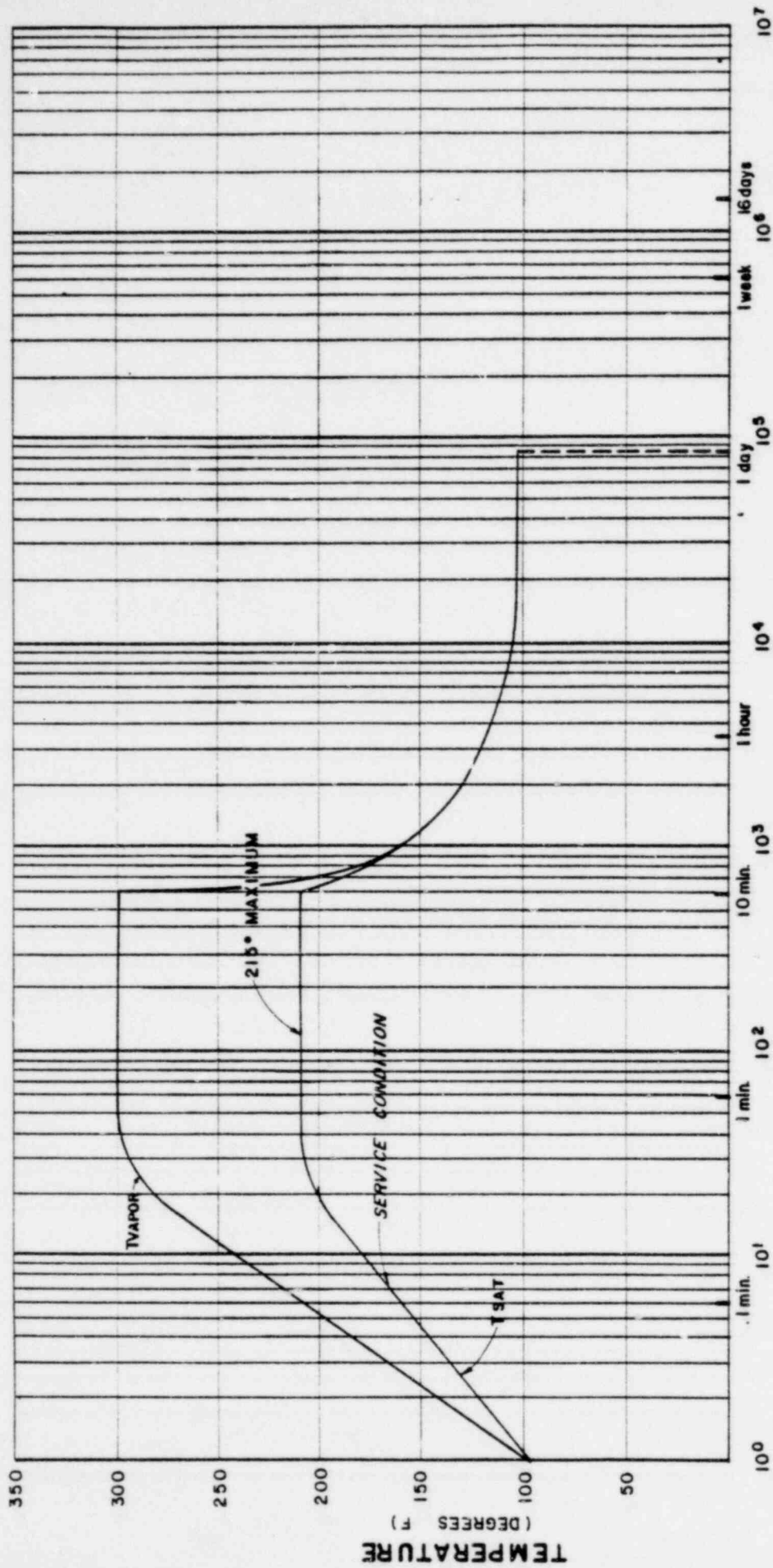
SMUD 79 - 018 RESPONSE

PROFILE 7.0.2
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK IN ROOM 020
ROOM 043 - PUMP ROOM P-238 B



PROFILE 8.0
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK IN ROOM 052 OR 020
ROOM 044 - PUMP ROOM 236

SMUD 79-01B RESPONSE



PROFILE 9.0

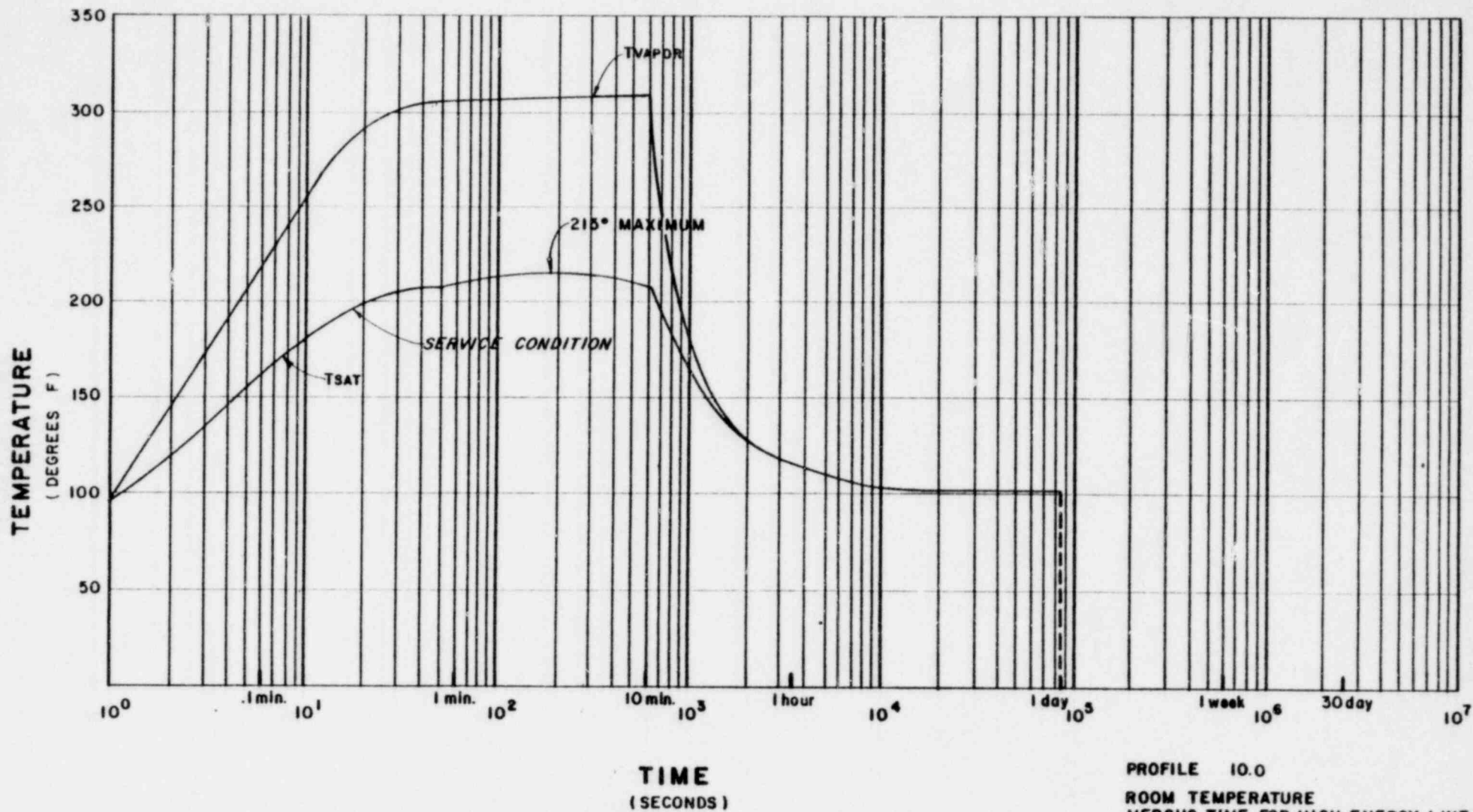
ROOM C51 - EAST PENETRATION AREA

ROOM TEMPERATURE

VERSUS TIME FOR HIGH ENERGY
LINE BREAK.

TSAT = SATURATION TEMPERATURE

SMUD 79-01B RESPONSE



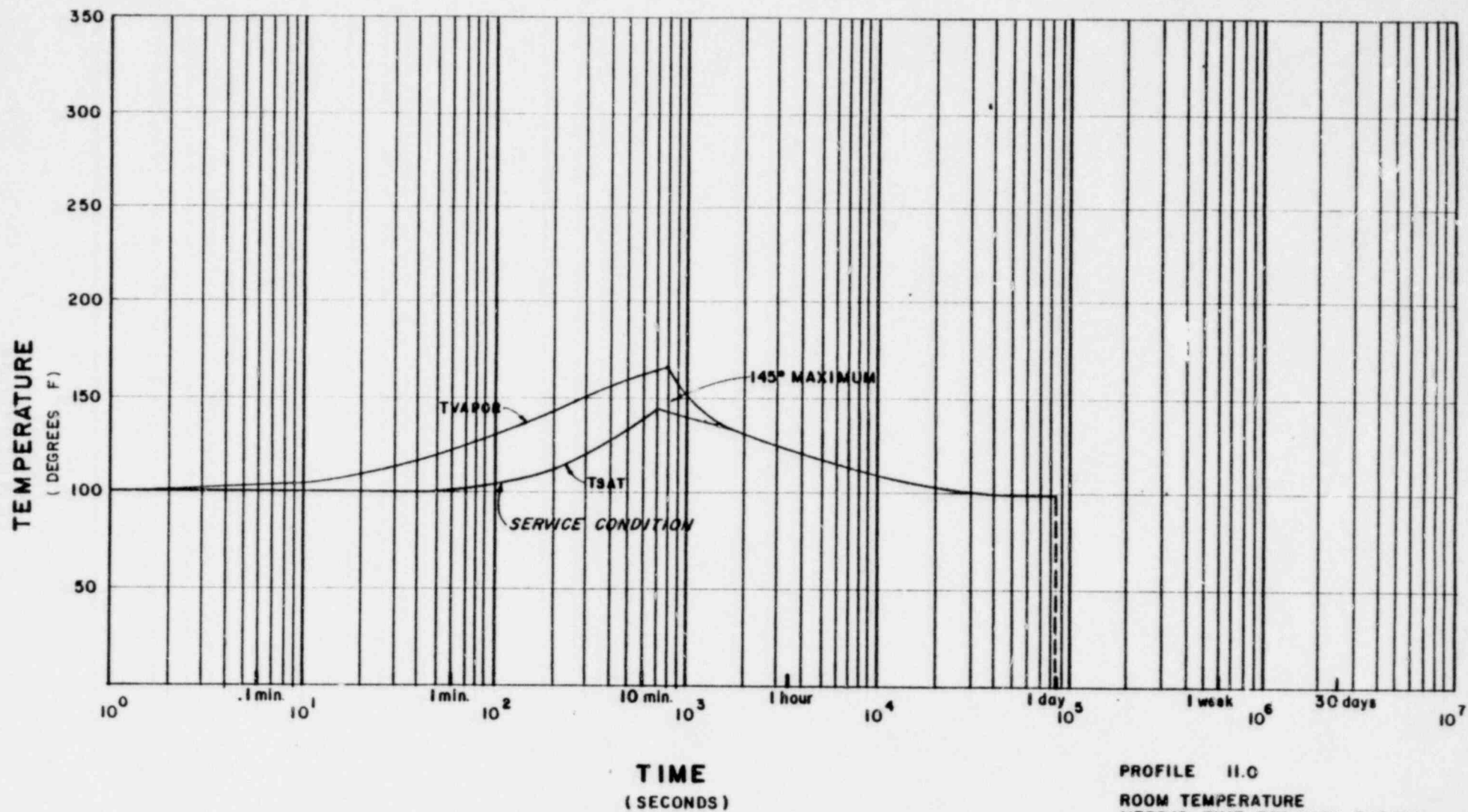
TSAT = SATURATION TEMPERATURE

SMUD 79-018 RESPONSE

PROFILE 10.0

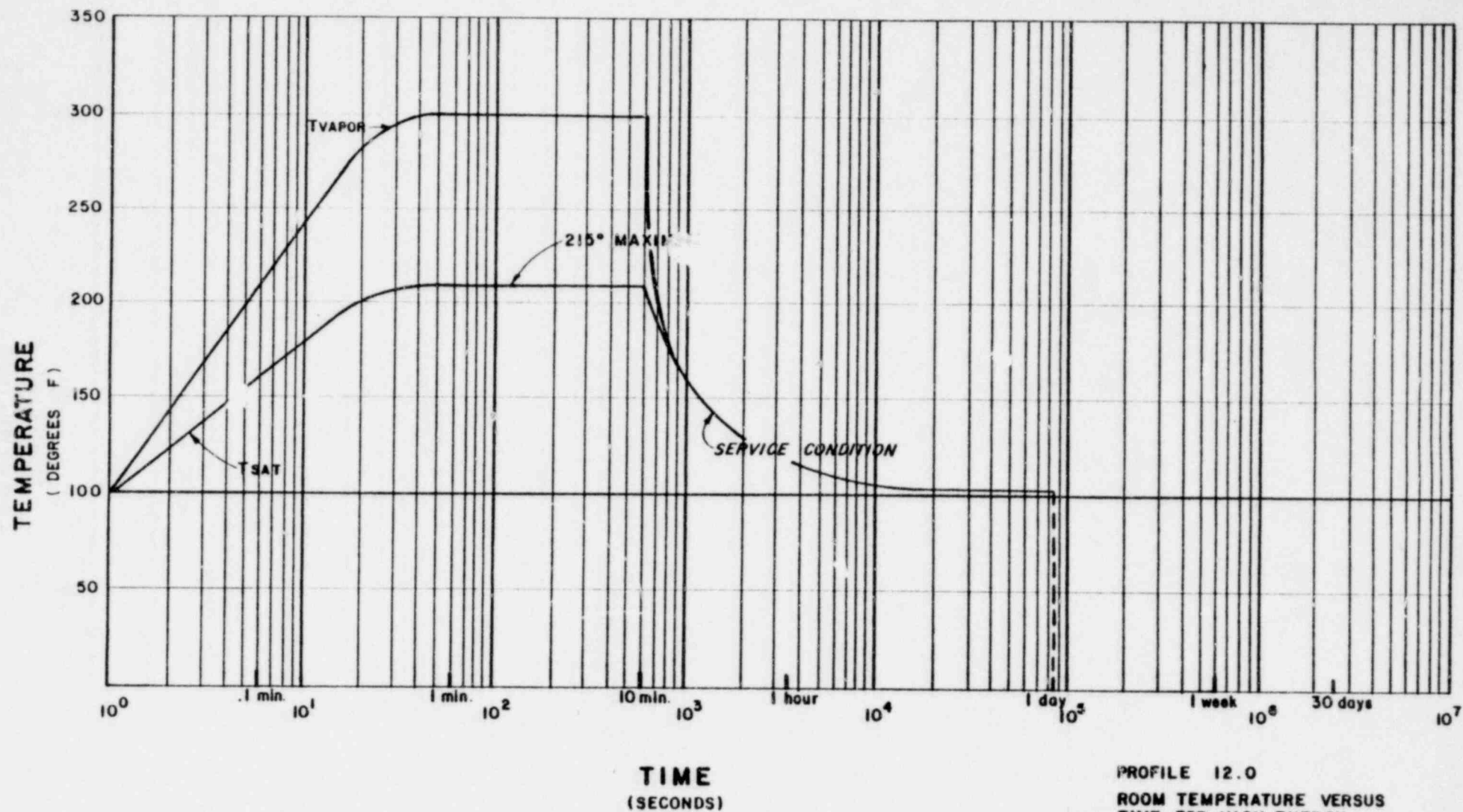
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY LINE
BREAK

ROOM 052 - WEST PENETRATION AREA



TSAT = SATURATED TEMPERATURE
SMUD 79-018 RESPONSE

PROFILE 11.0
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK
ROOM 053 - PUMP ROOM P-238A



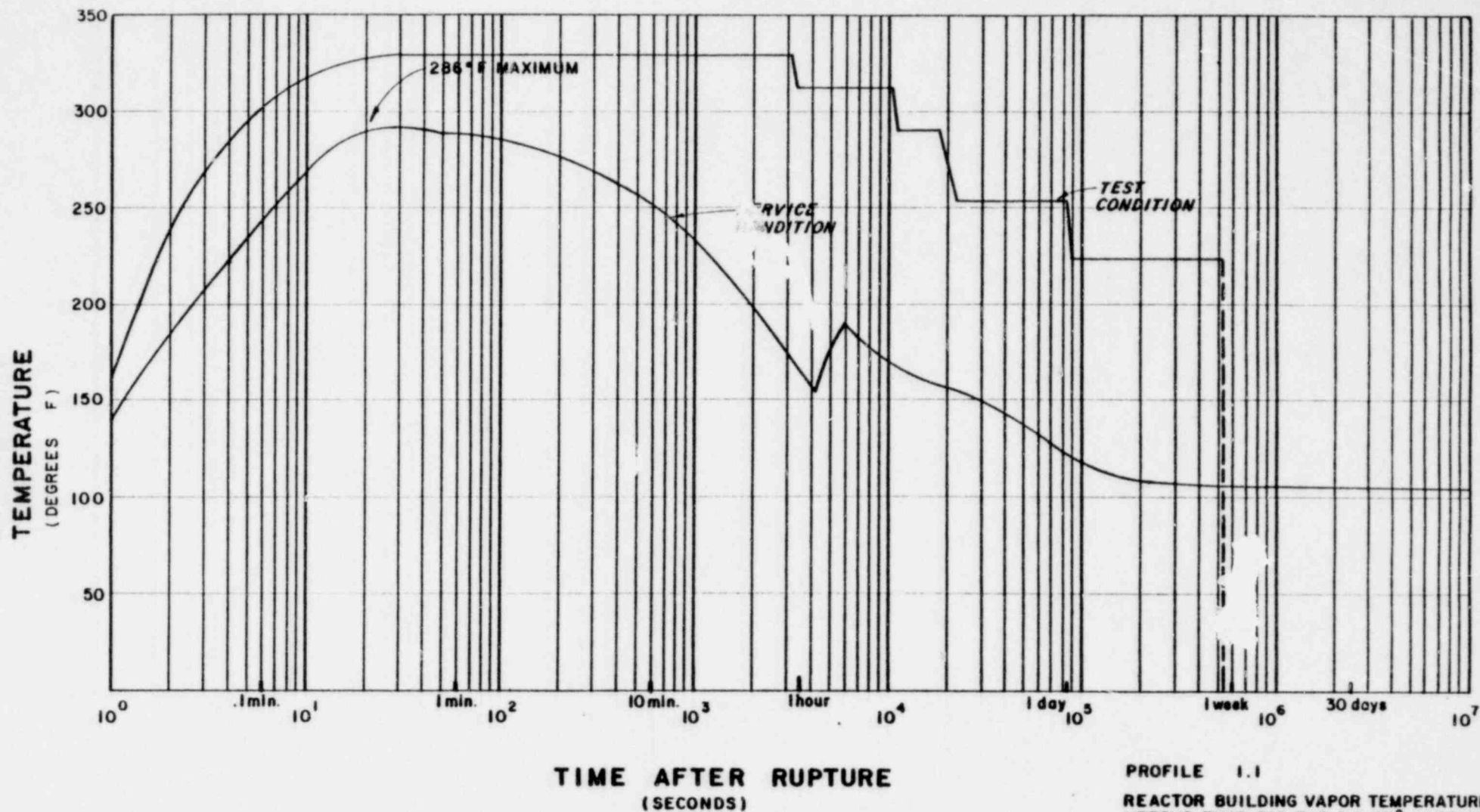
TSAT = SATURATION TEMPERATURE

SMUD 79-018 RESPONSE

PROFILE 12.0

ROOM TEMPERATURE VERSUS
TIME FOR HIGH ENERGY
LINE BREAK

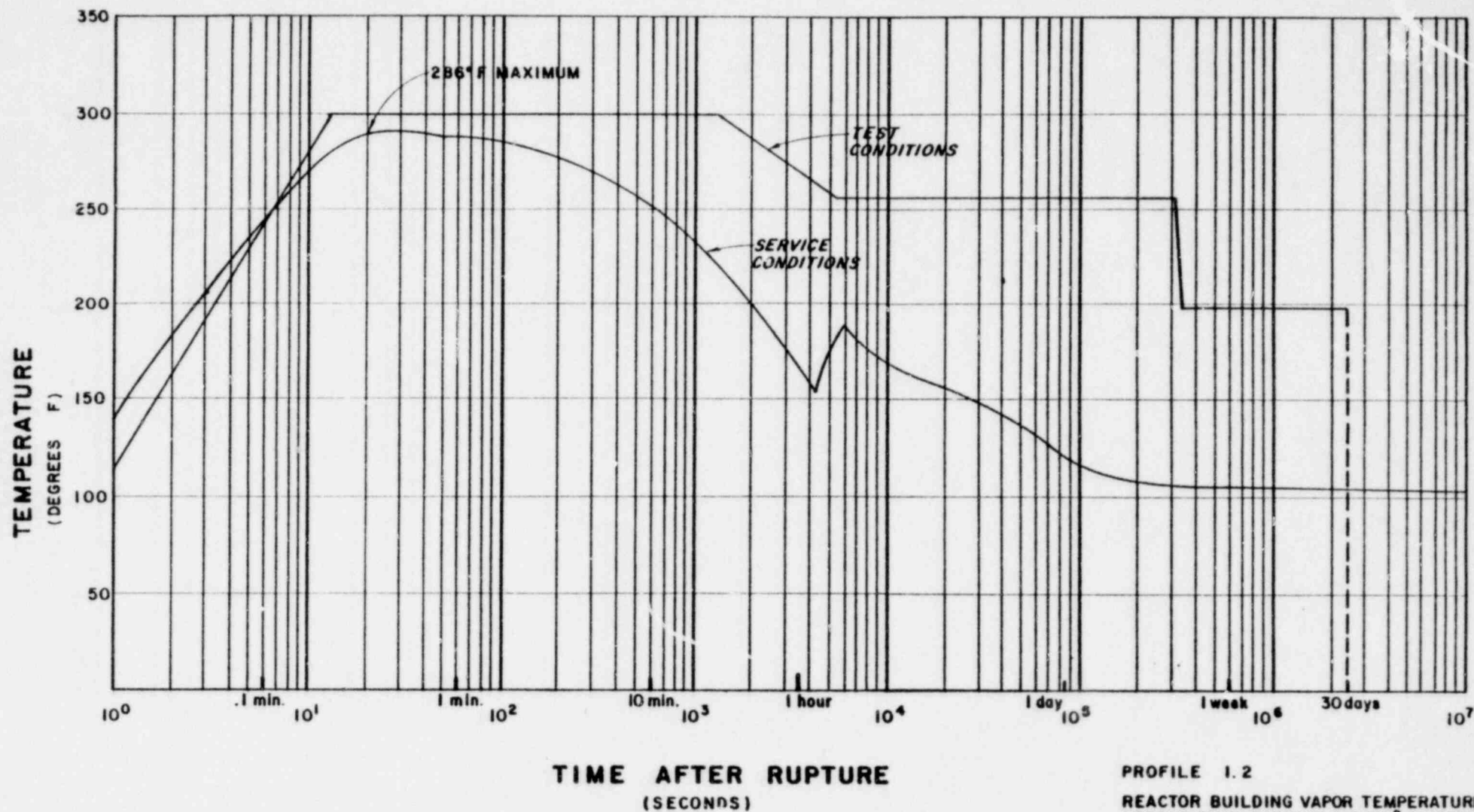
ROOM 046



PROFILE 1.1

REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5.0 FT.² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

LIMITORQUE QUALIFICATION TYPE
TEST REPORT #600198

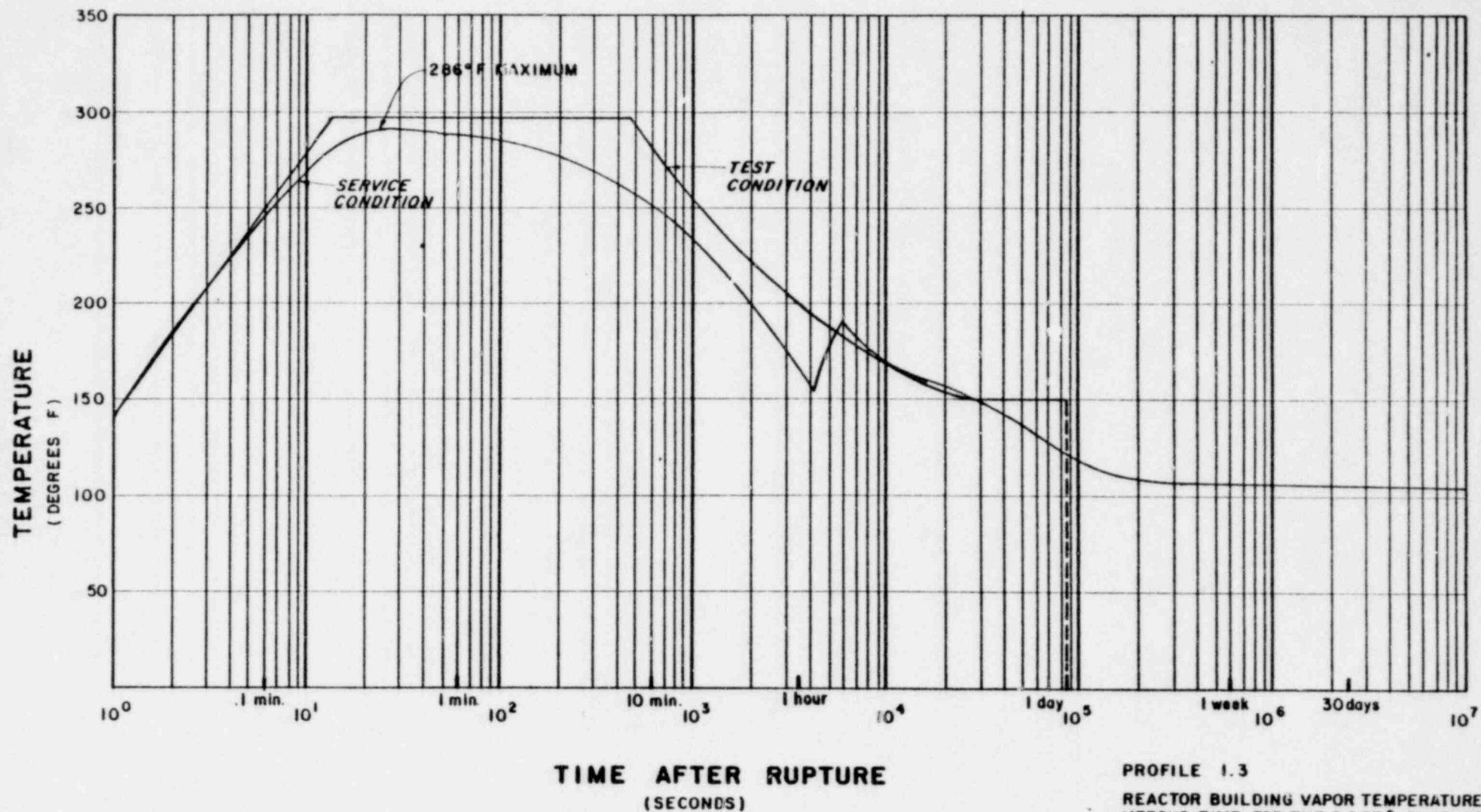


PROFILE 1.2

REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5.0 FT² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

LIMITORQUE QUALIFICATION TYPE
TEST REPORT 600456

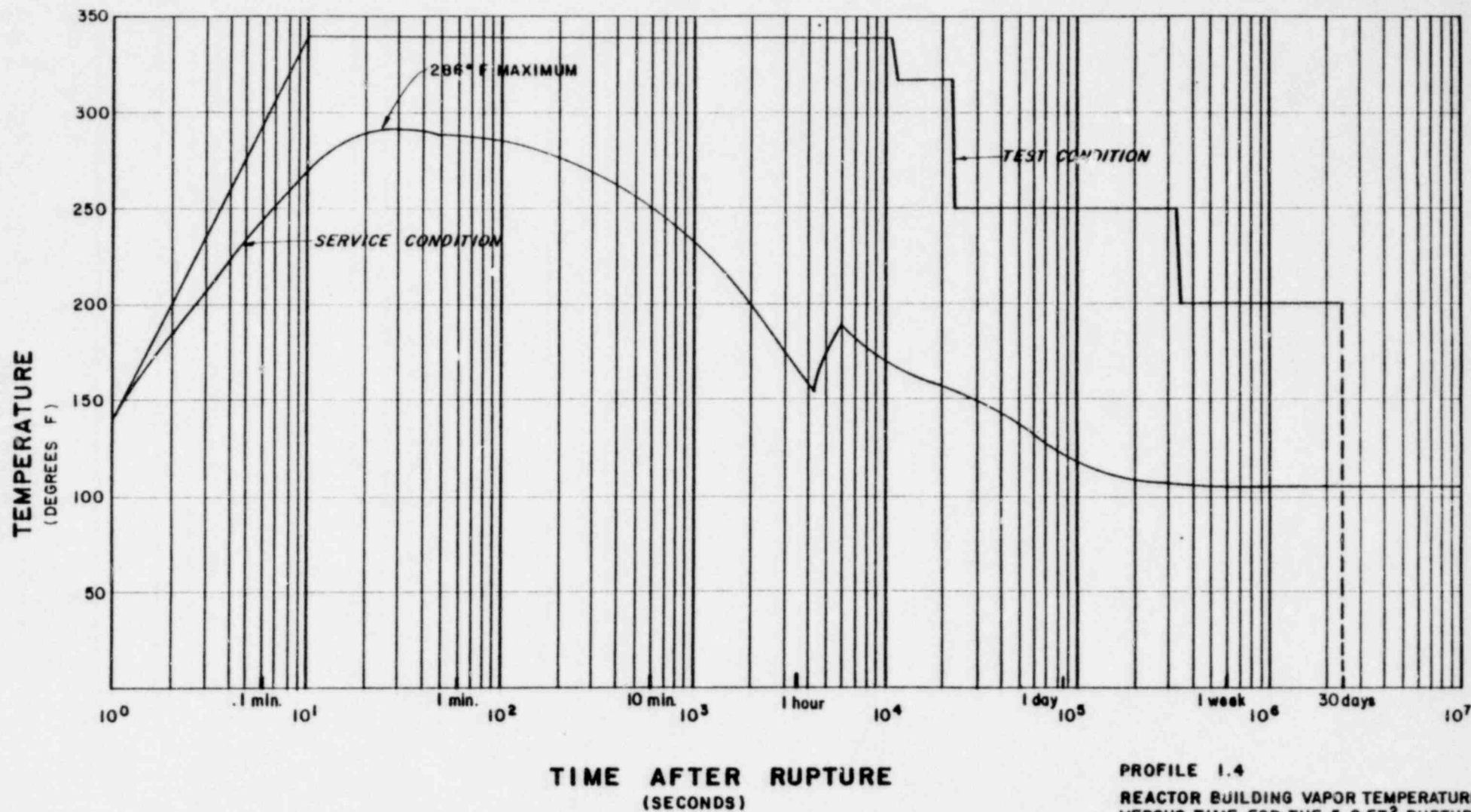
SMUD 79-018 RESPONSE



PROFILE 1.3

REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5.0 FT.² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

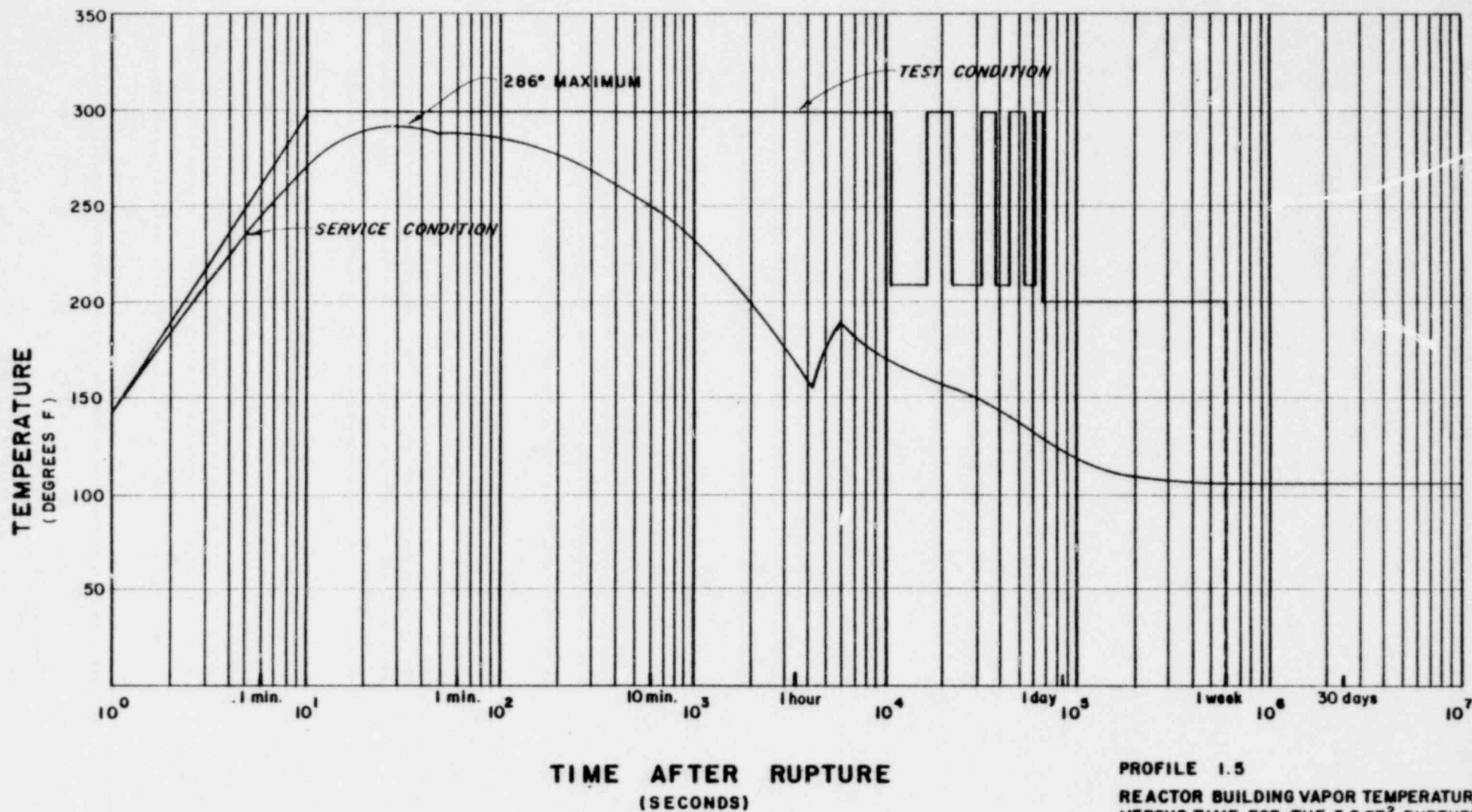
BAILEY "BY" TRANSMITTER FROM
BAW-10003 REV. 4



PROFILE 1.4

REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5.0 FT.² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

NAMCO SERIES EA-180
QUALIFICATION TYPE TEST REPORT
DATED 3-3-78

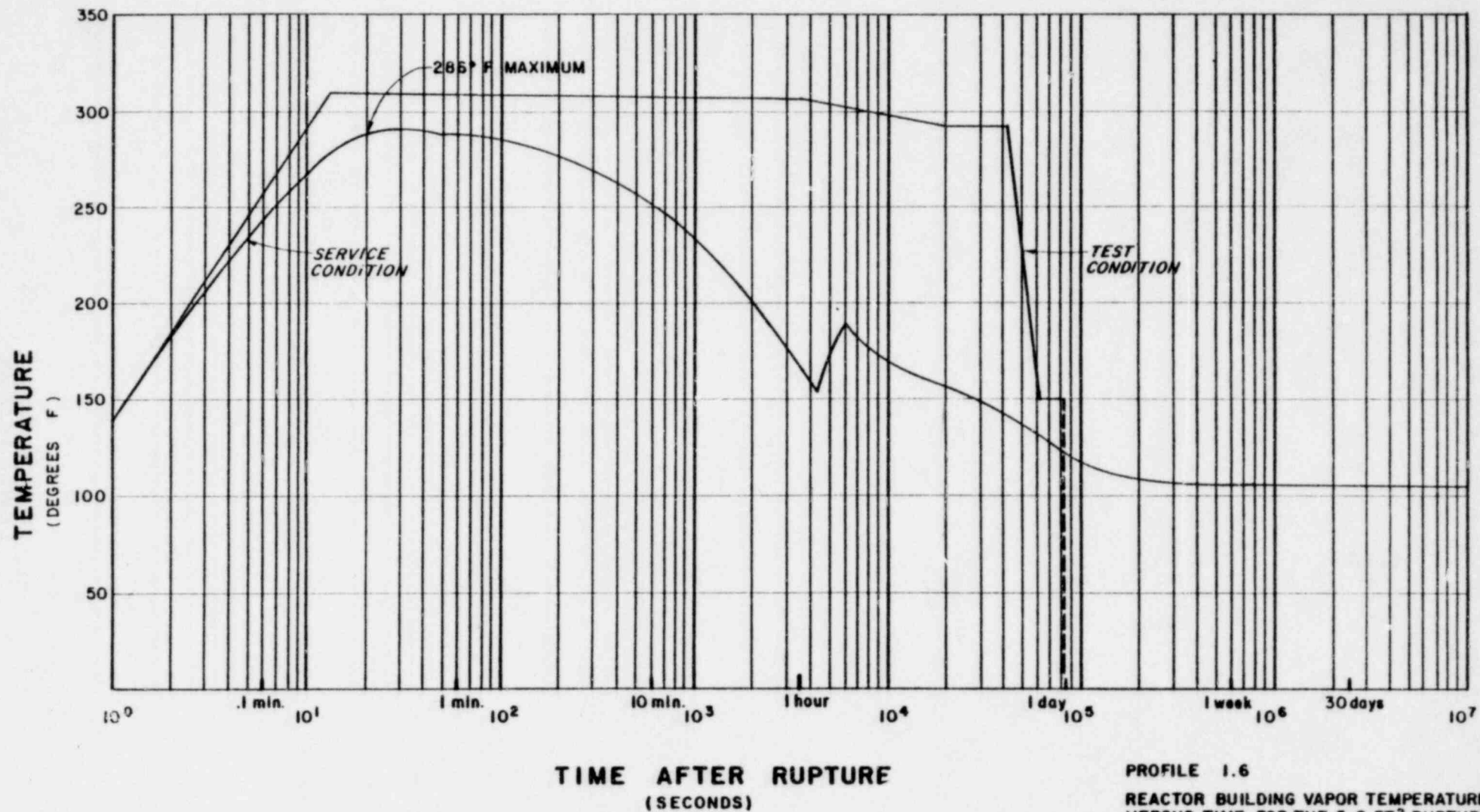


PROFILE 1.5

REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5.0 FT² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

JOY AXIVANE QUALIFICATION
TYPE TEST REPORT

SMUD 79-01B RESPONSE

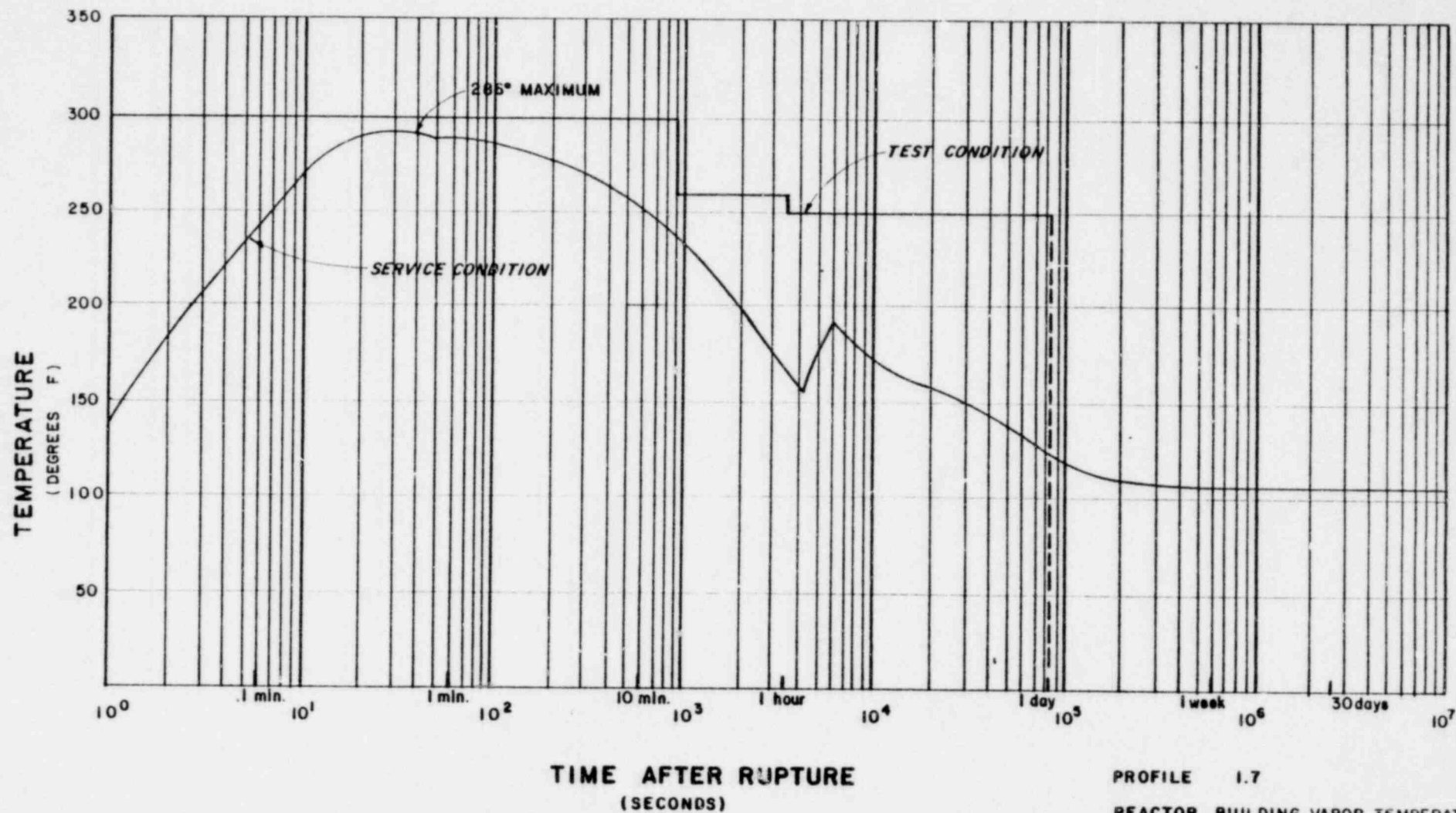


PROFILE 1.6

REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5.0 FT² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

FOXBORO HIGH PRESSURE TRANSMITTER
FROM BAW-10003, REV.4

SMUD 79-01B RESPONSE

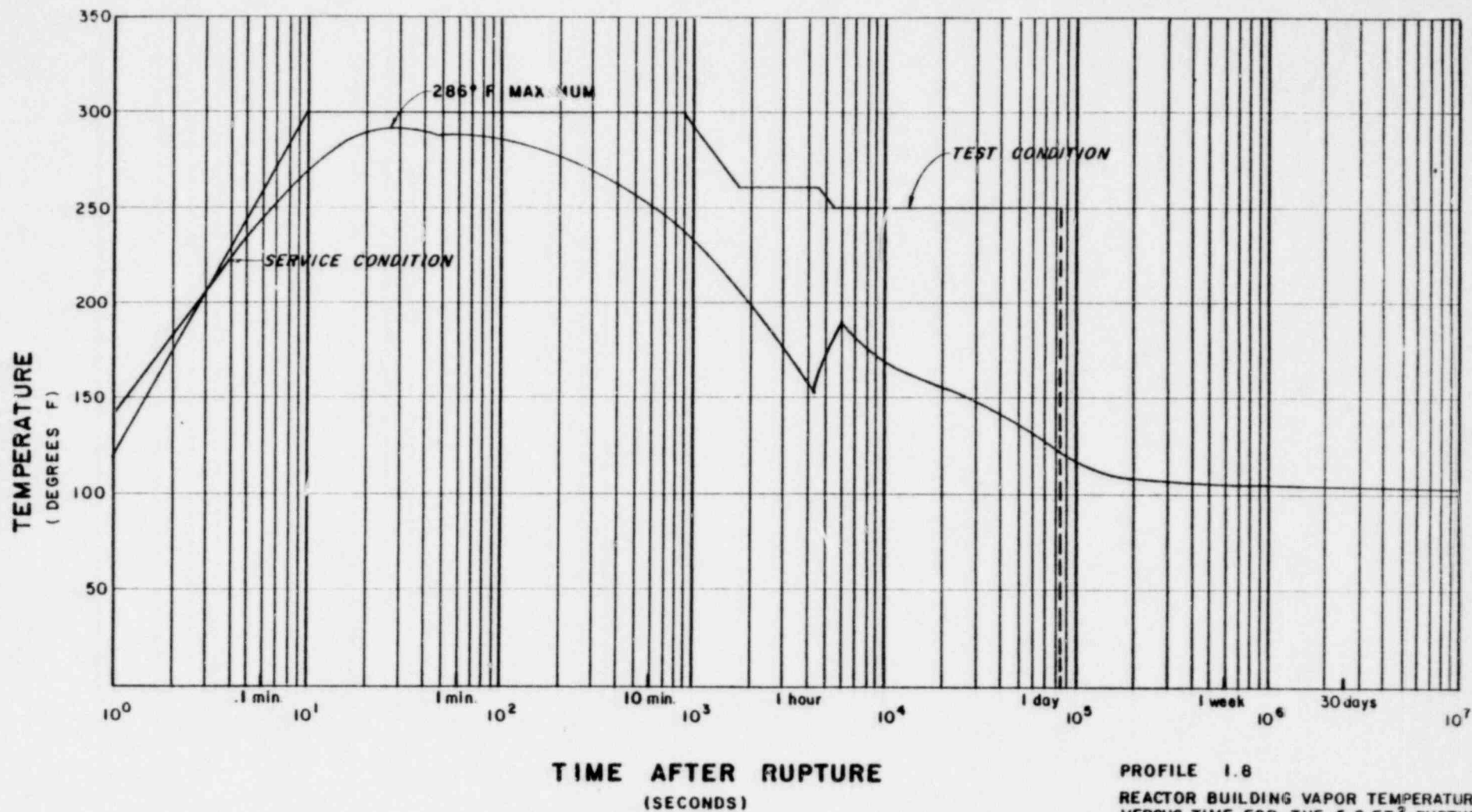


SMUD 79-01B RESPONSE

PROFILE 1.7

REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5 FT.² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

CONAX CORPORATION QUALIFICATION
OF PENETRATION ASSEMBLIES

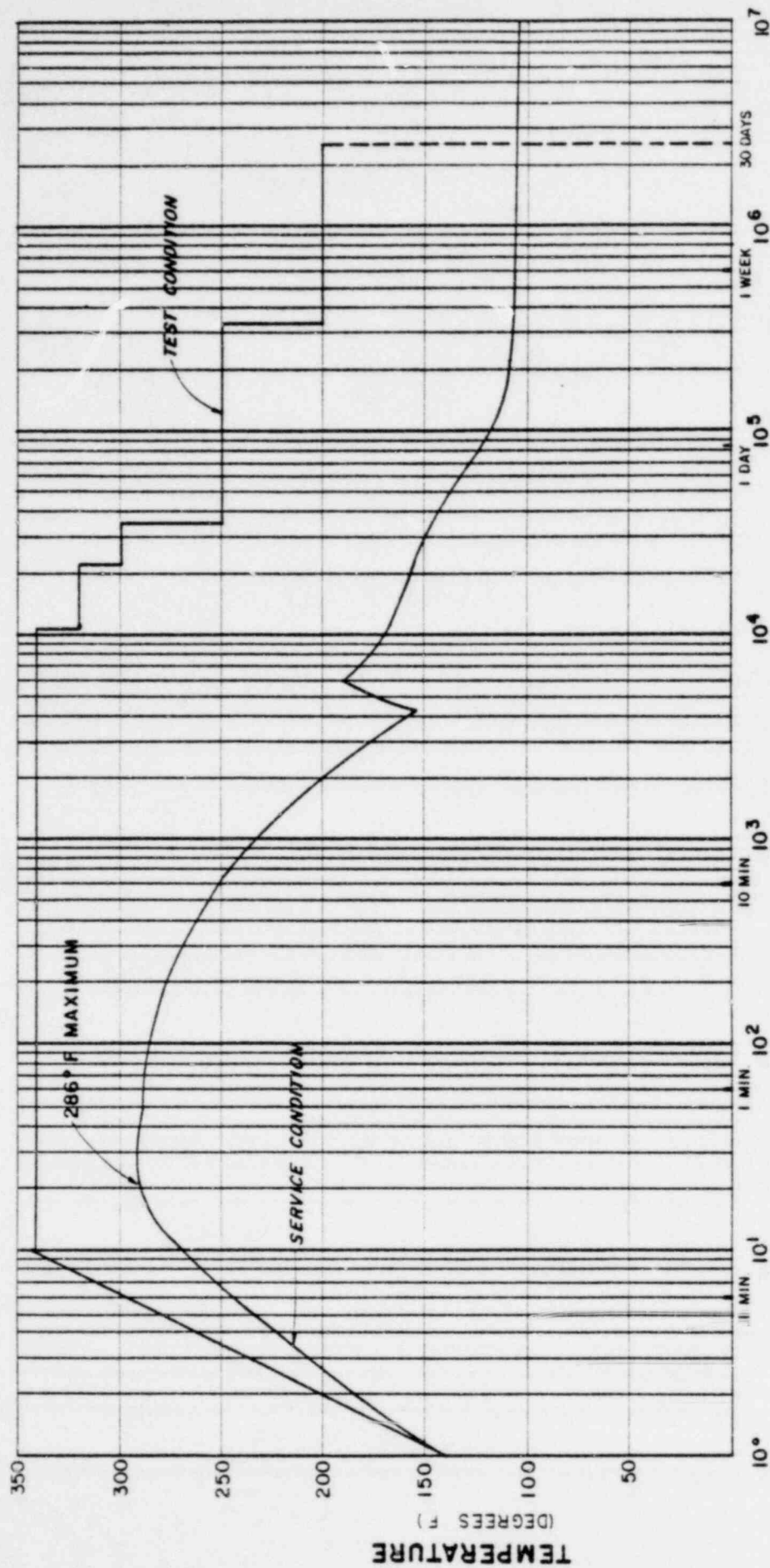


PROFILE 1.8

REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5.0 FT² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

FRANKLIN INST. QUALIFICATION OF
KULKA ELECTRICAL TERMINAL BLOCKS
F-C4927

SMUD 79-018 RESPONSE

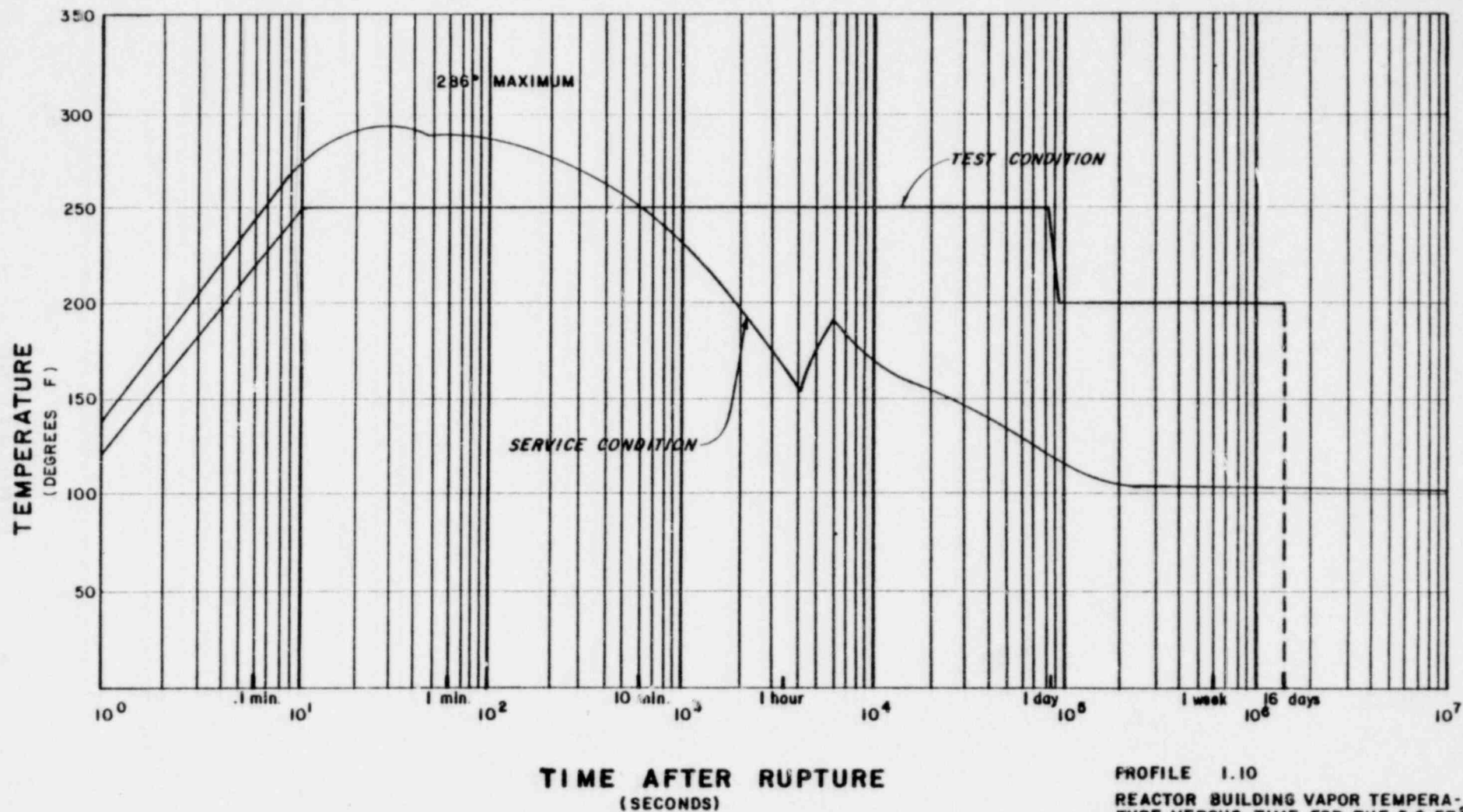


TIME AFTER RUPTURE (SECONDS)

PROFILE 1.9

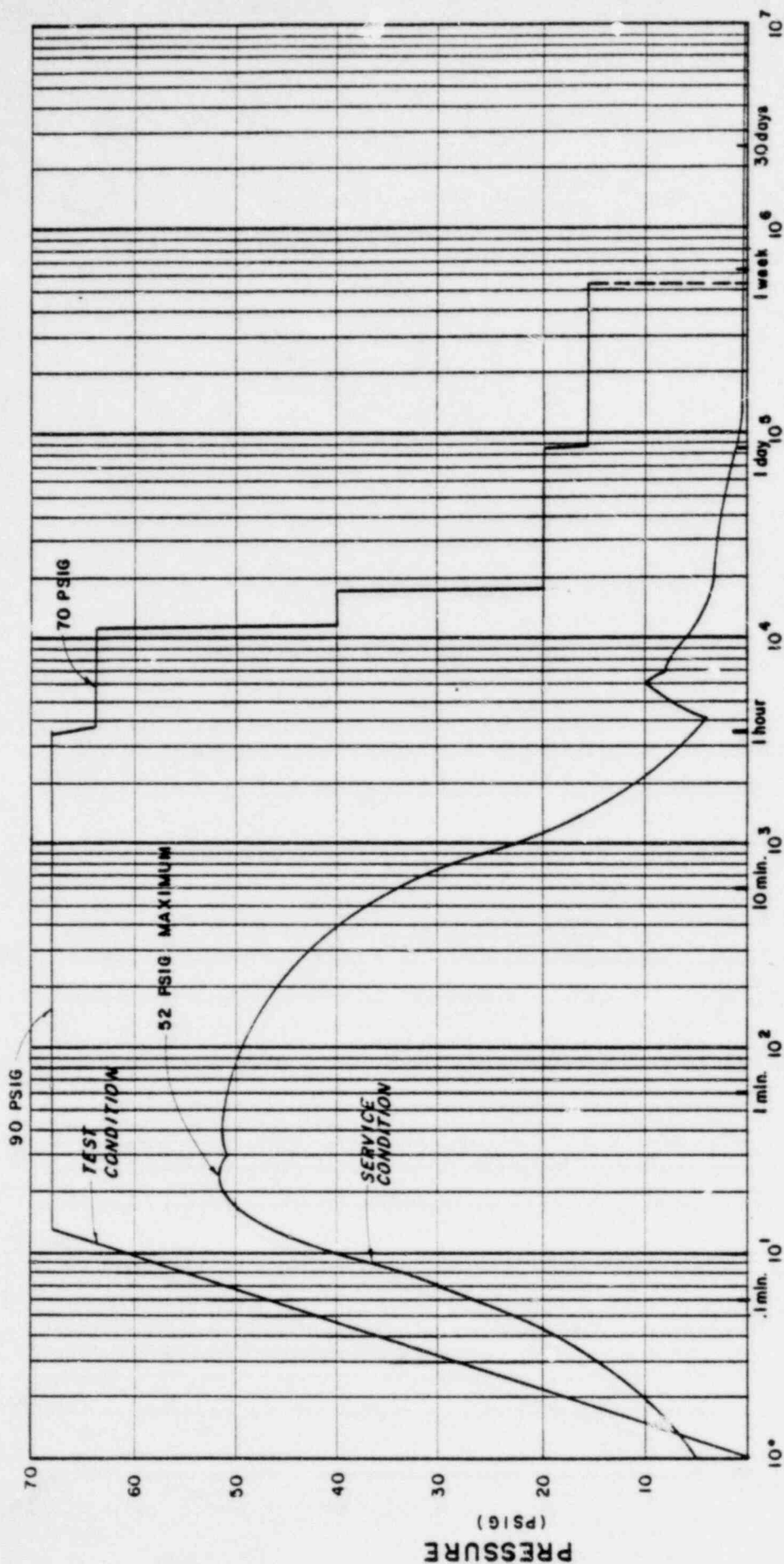
REACTOR BUILDING VAPOR TEMPERATURE
VERSUS TIME FOR THE 5.0 FT² RUPTURE
WITH 2 REACTOR BUILDING AIR COOLERS
AND 1 SPRAY OPERATING

ROCKBESTOS CO. QUALIFICATION OF
FIREWALL S3 CLASS 1E ELECTRICAL
CABLES



PROFILE 1.10
 REACTOR BUILDING VAPOR TEMPERATURE
 VERSUS TIME FOR THE 5.0 FT.²
 RUPTURE WITH 2 REACTOR BUILDING
 AIR COOLERS & 1 SPRAY OPERATING
 LIMITORQUE TEST REPORT #B0003

SMUD 79-01B RESPONSE

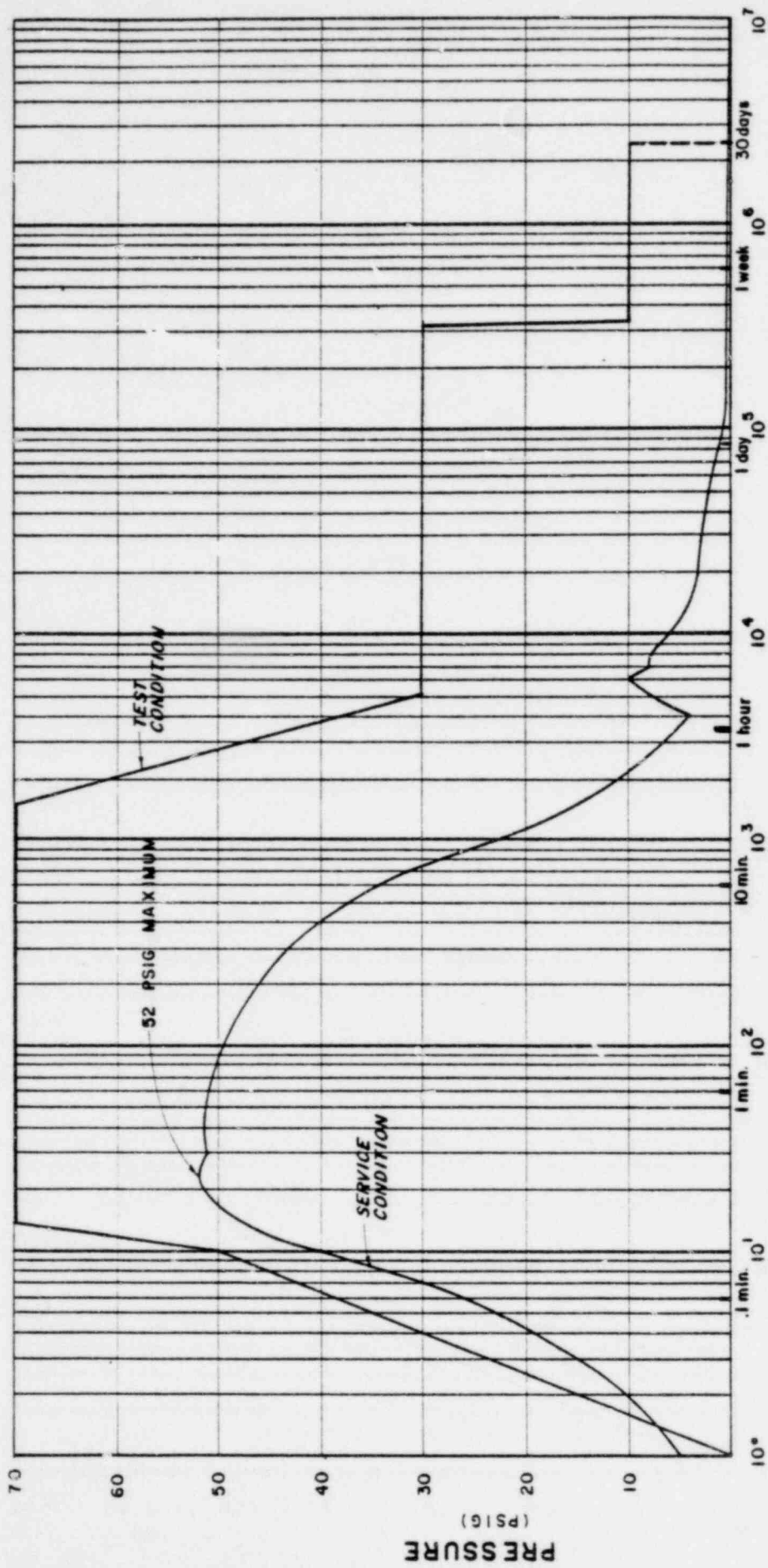


PROFILE 2.1

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT² RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

LIMITORQUE QUALIFICATION TYPE
TEST REPORT #600198

TIME AFTER RUPTURE (SECONDS)



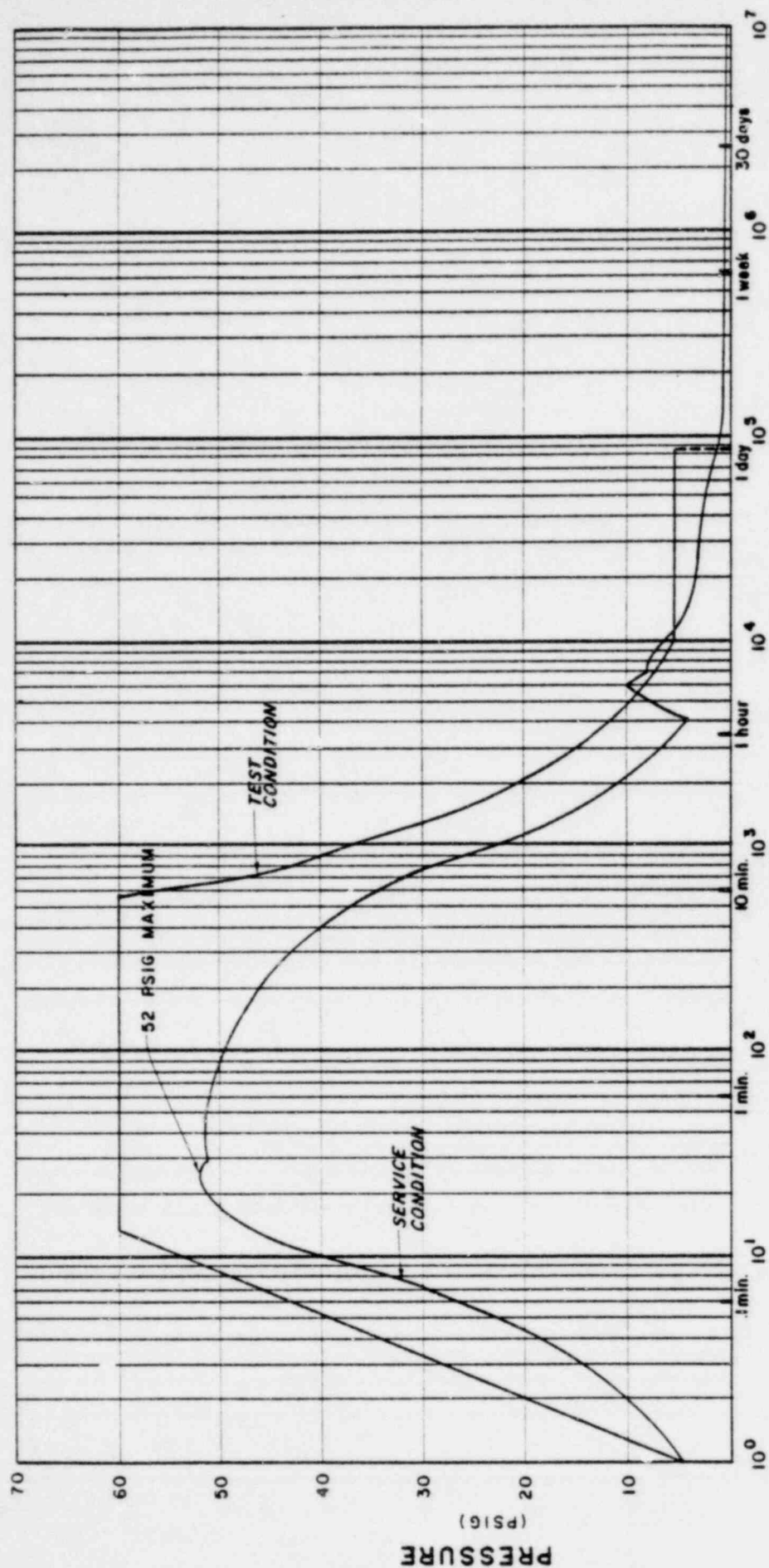
TIME AFTER RUPTURE (SECONDS)

PROFILE 2.2

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT² RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

LIMITORQUE QUALIFICATION TYPE
TEST REPORT #600456

SMUD 79-01B RESPONSE

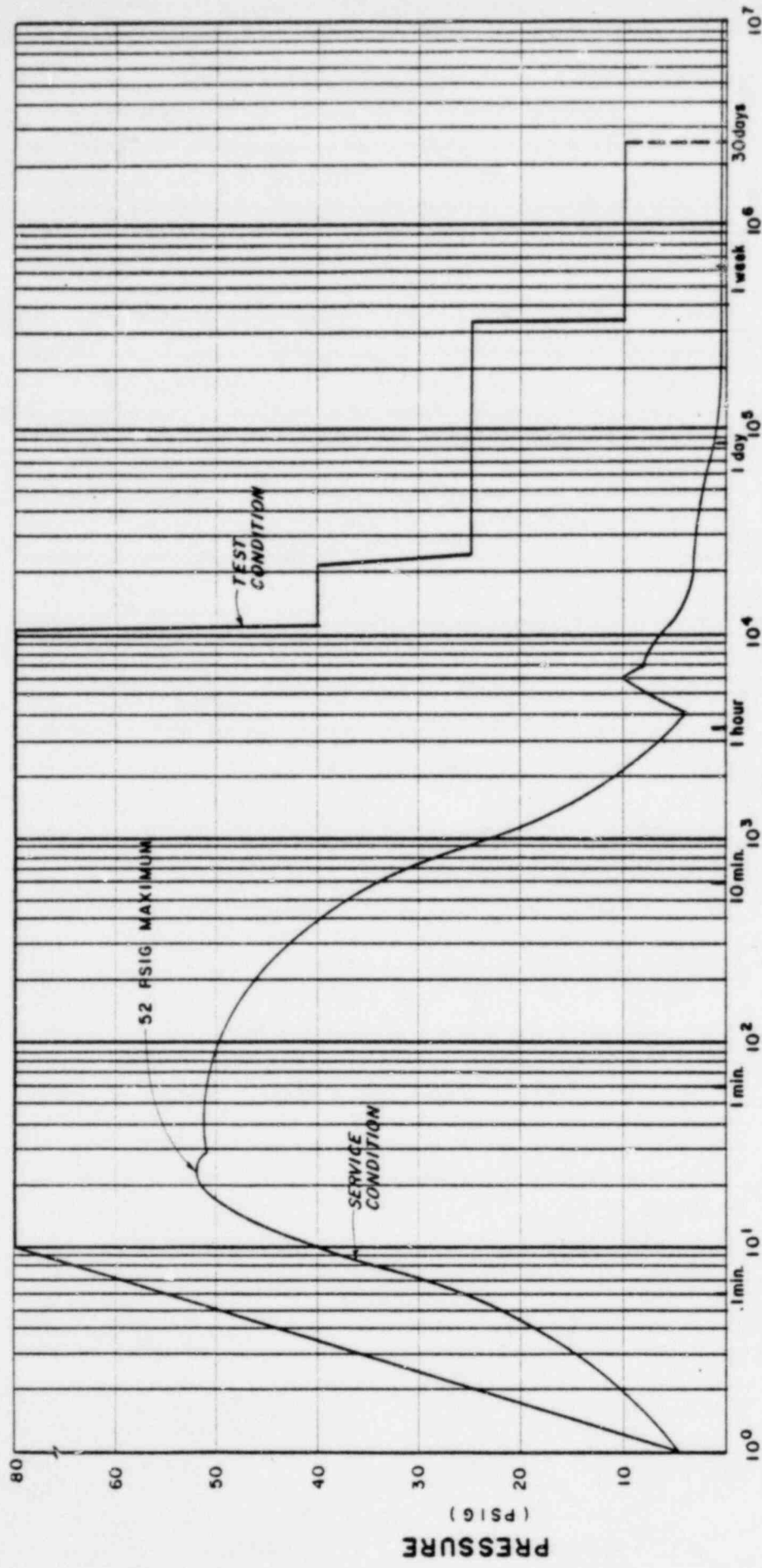


PROFILE 2.3

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT.2 RUPTURE
WITH 2 REACTOR BUILDING AIR
COOLERS AND 2 SPRAY OPERATING
BAILEY "BY" TRANSMITTER FROM
BAW-10003, REV. 4

TIME AFTER RUPTURE
(SECONDS)

SP-UD 79-01B RESPONSE



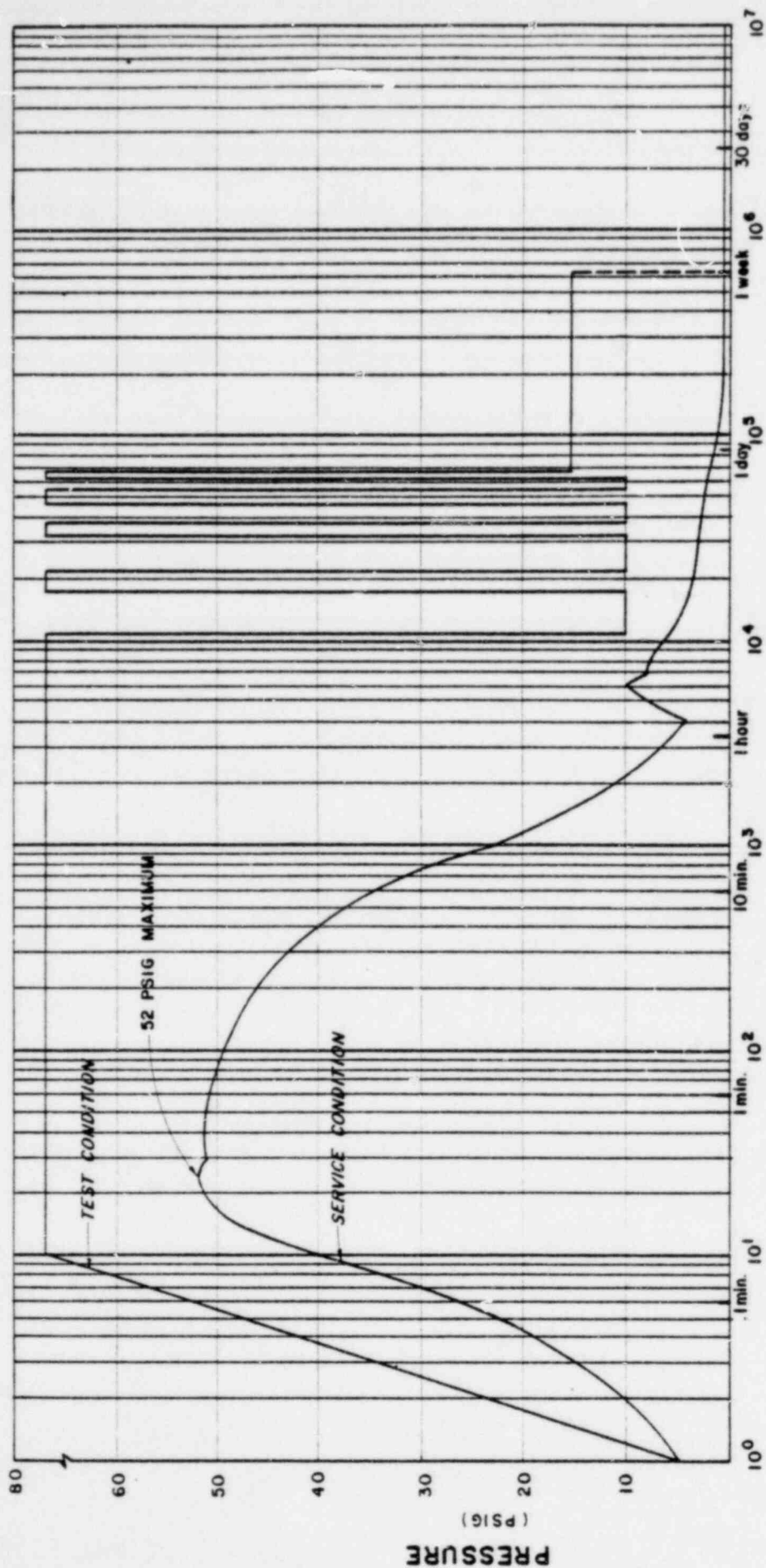
PROFILE 2.4

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT.² RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

NAMCO SERIES EA-180
QUALIFICATION TYPE TEST REPORT
DATED 3-3-78

TIME AFTER RUPTURE
(SECONDS)

SMUD 79-01B RESPONSE



PROFILE . 2.5

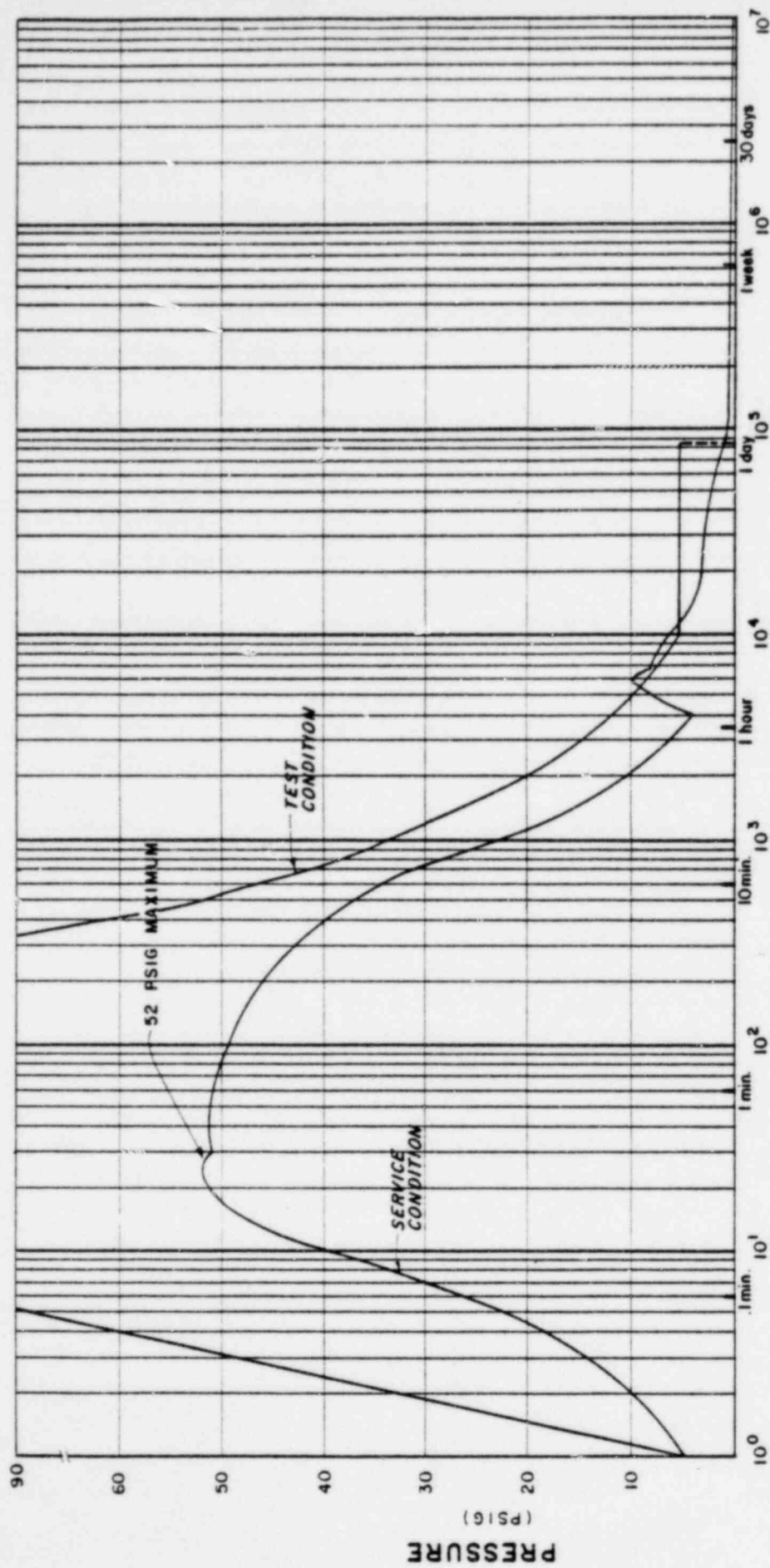
REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT² RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

JOY AXIVANE QUALIFICATION TYPE
TEST REPORT

TIME AFTER RUPTURE
(SECONDS)

SMUD 79-018 RESPONSE

027



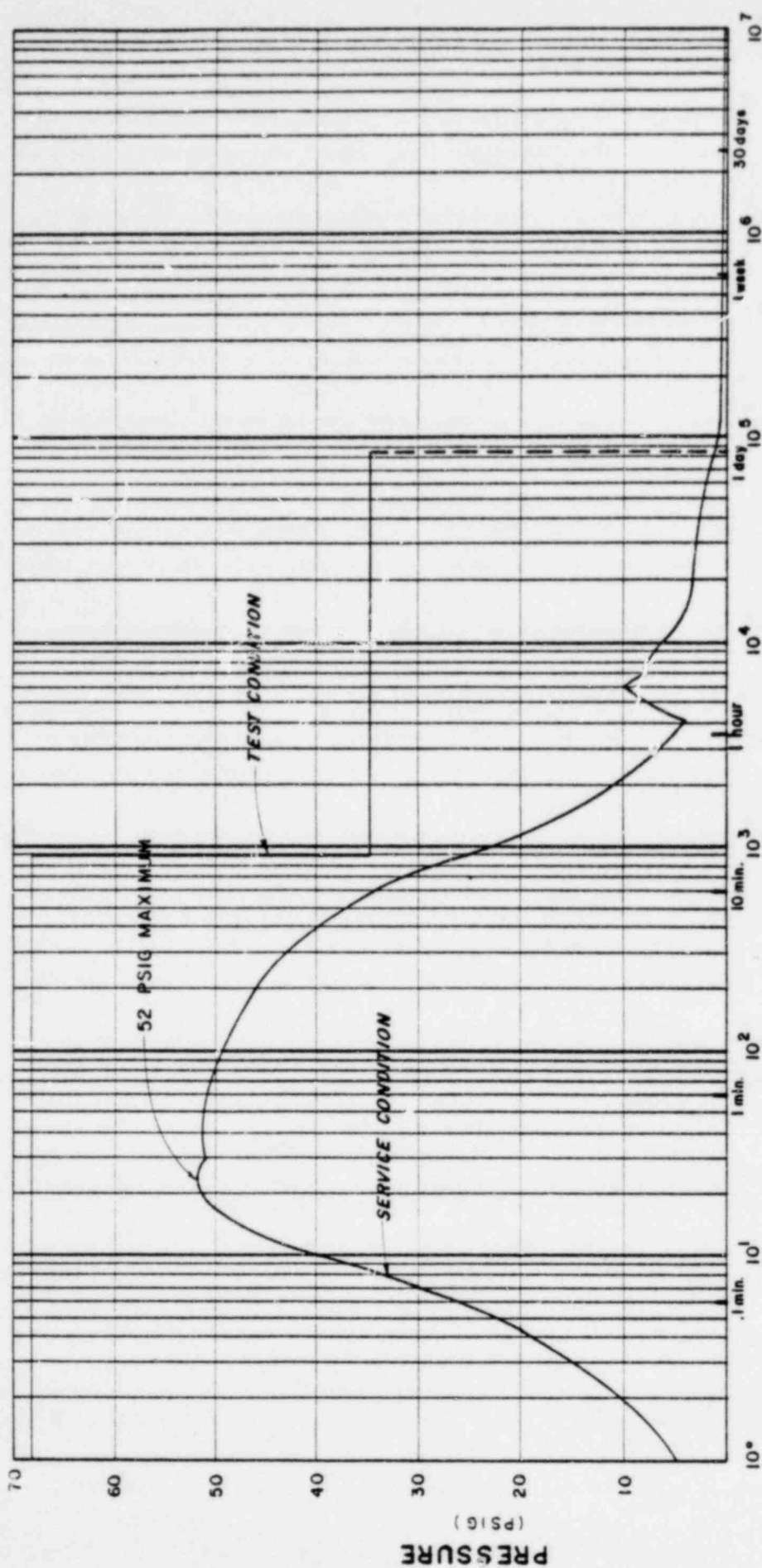
TIME AFTER RUPTURE (SECONDS)

PROFILE 2.6

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT.² RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

FOXBORO HIGH PRESSURE
TRANSMITTER FROM BAW-10003, REV. 4

SMUD 79-01B RESPONSE



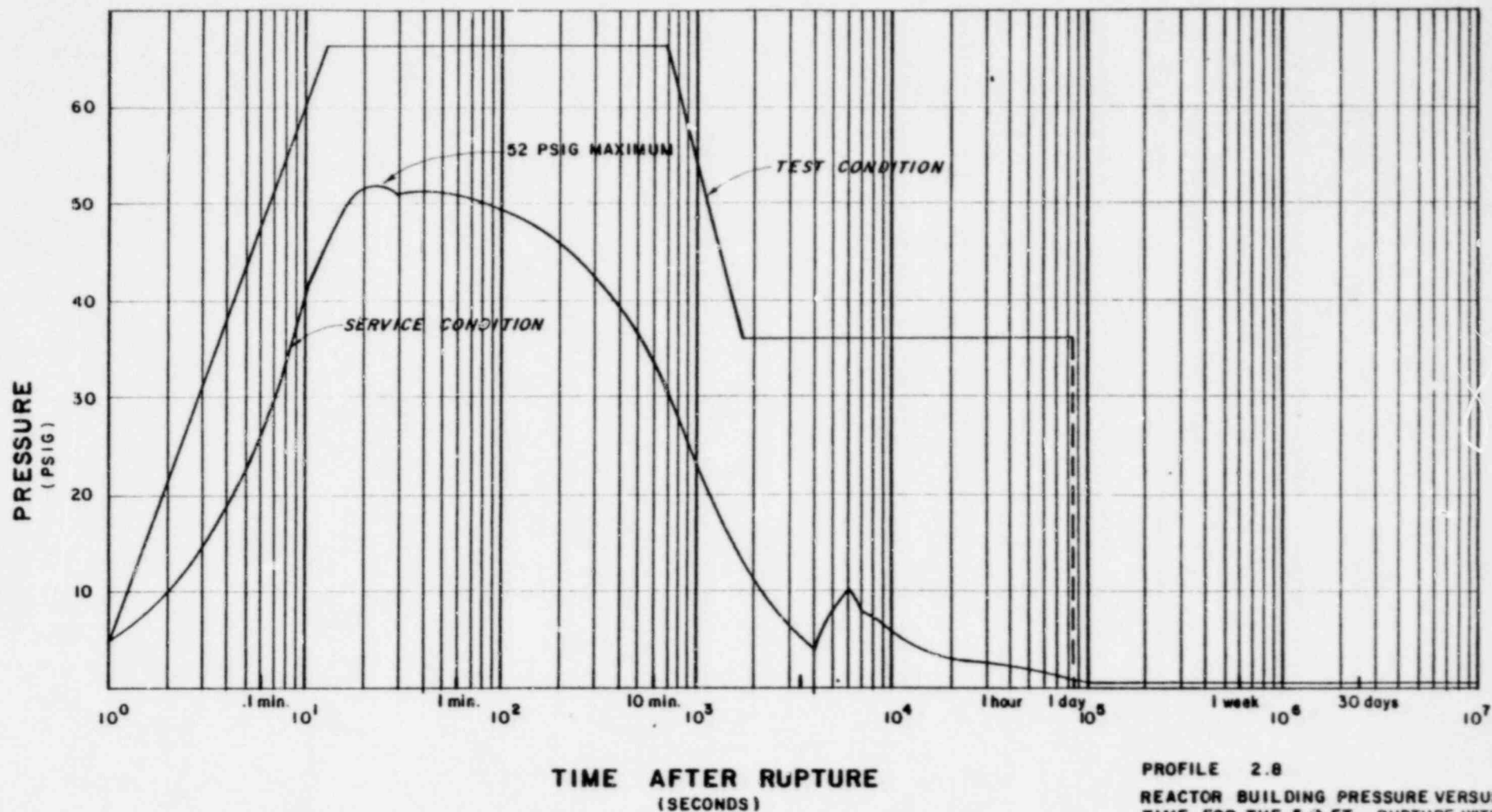
TIME AFTER RUPTURE (SECONDS)

PROFILE 2.7

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT. RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

CONAX CORPORATION QUALIFICATION
OF PENETRATION ASSEMBLIES

SMUD 79-01B RESPONSE

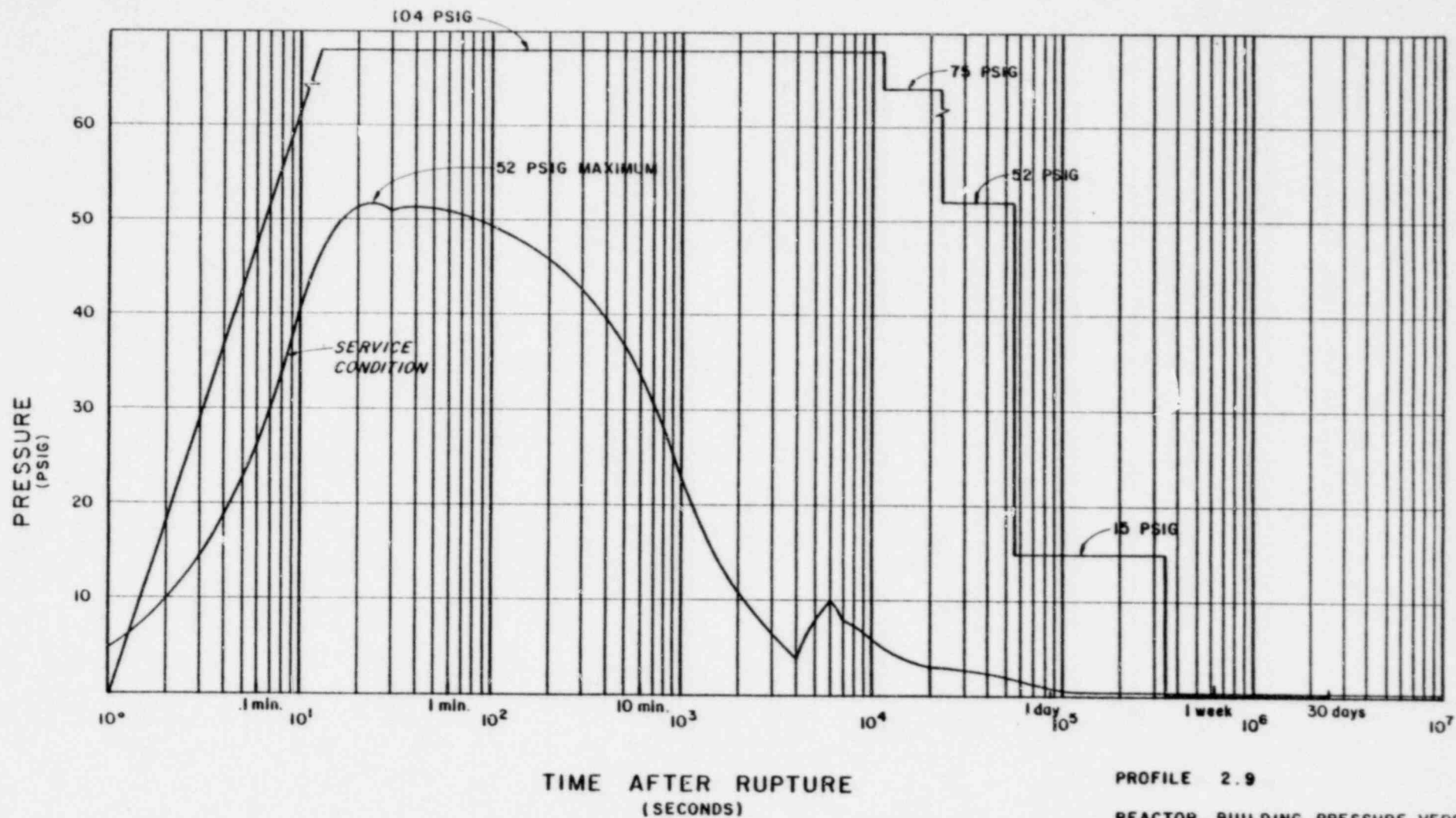


SMUD 79-01B RESPONSE

PROFILE 2.8

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT. RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

FRANKLIN INST. QUALIFICATION OF
KULKA ELECTRICAL TERMINAL
BLOCKS F-C4927

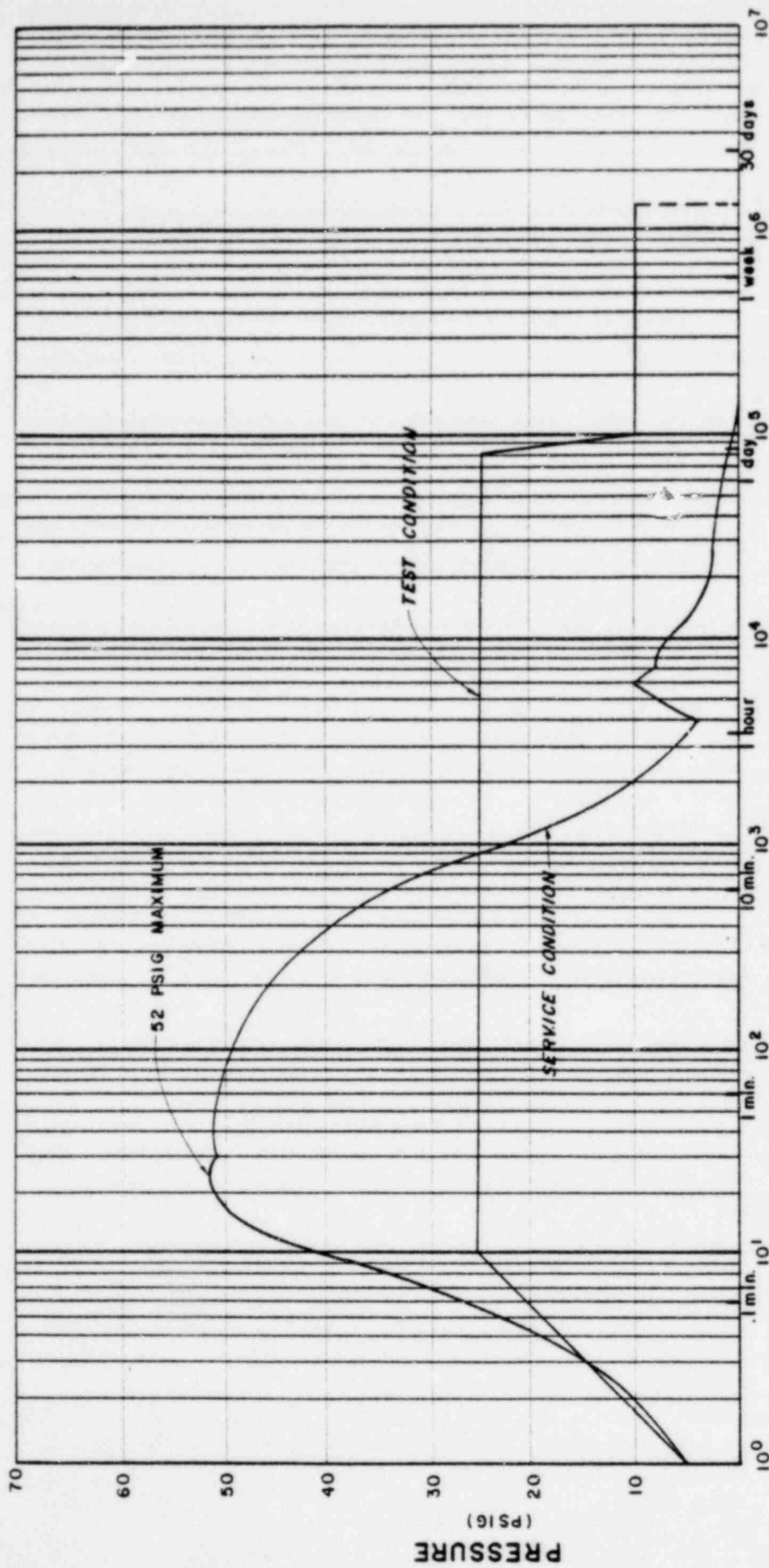


SMUD 79-01B RESPONSE

PROFILE 2.9

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT. RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING

ROCKBESTOS CO. QUALIFICATION
OF FIREWALL SR CLASS IE
ELECTRICAL CABLES

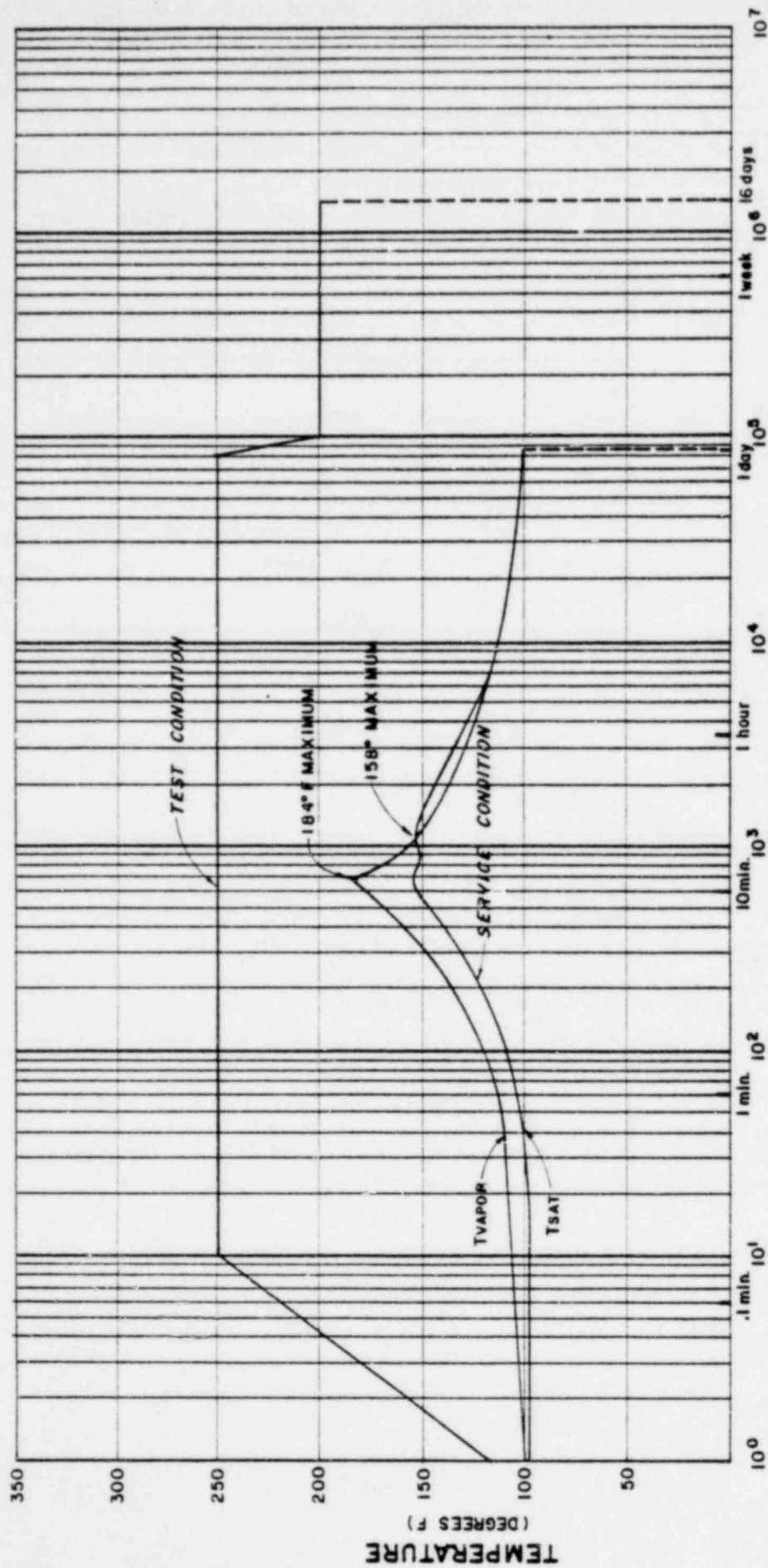


TIME AFTER RUPTURE (SECONDS)

PROFILE 2.10

REACTOR BUILDING PRESSURE VERSUS
TIME FOR THE 5.0 FT. RUPTURE WITH
2 REACTOR BUILDING AIR COOLERS
AND 2 SPRAY OPERATING
LIMITORQUE TEST REPORT 80003

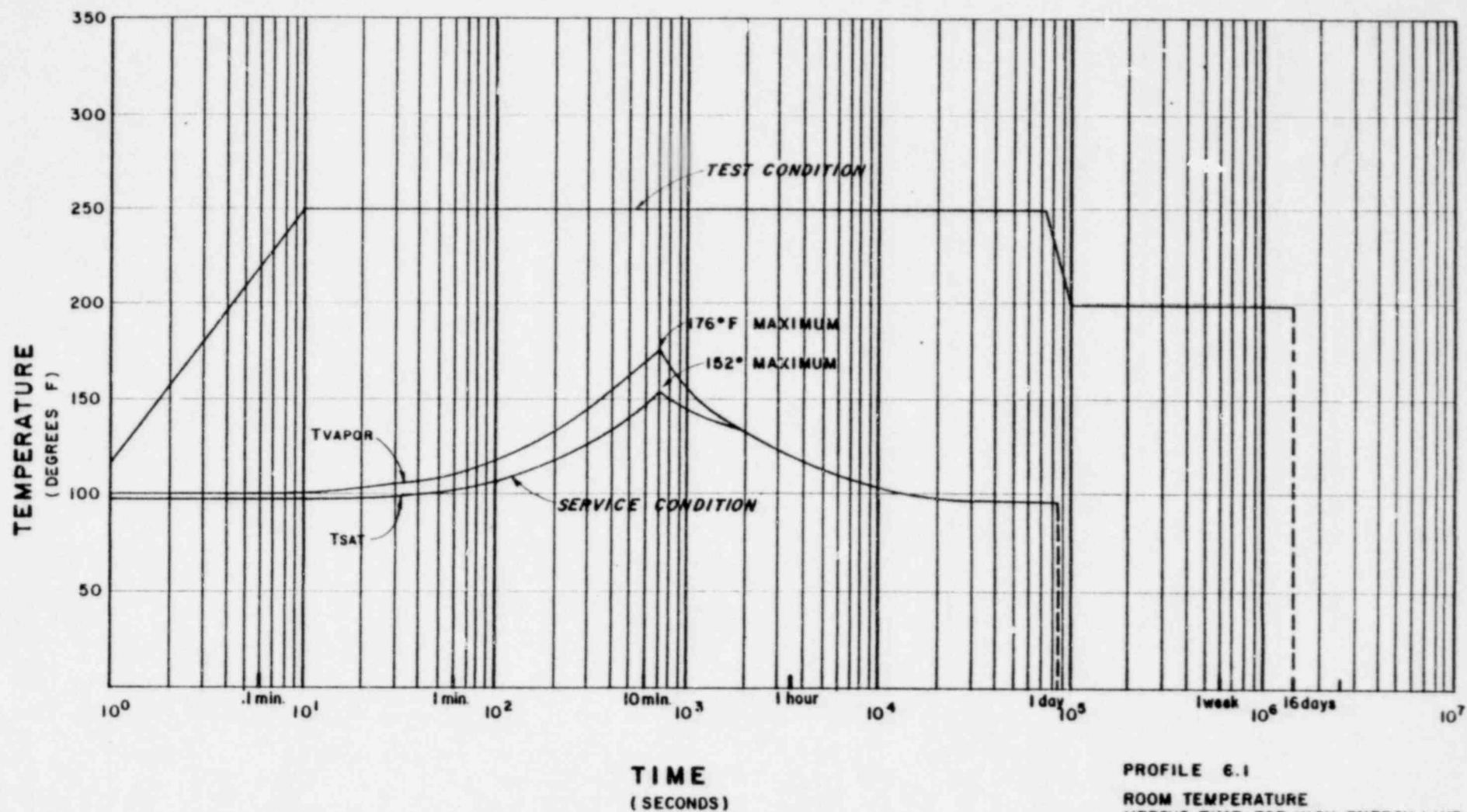
SMUD 79-01B RESPONSE



PROFILE 5.1
 ROOM TEMPERATURE
 VERSUS TIME FOR HIGH ENERGY
 LINE BREAK ROOM 001-DHR PUMP
 ROOM P-261A
 LIMITORQUE QUALIFICATION TYPE
 TEST REPORT 80003

TIME
 (SECONDS)

TSAT = SATURATED TEMPERATURE
 SMUD 79-018 RESPONSE



TSAT = SATURATION TEMPERATURE

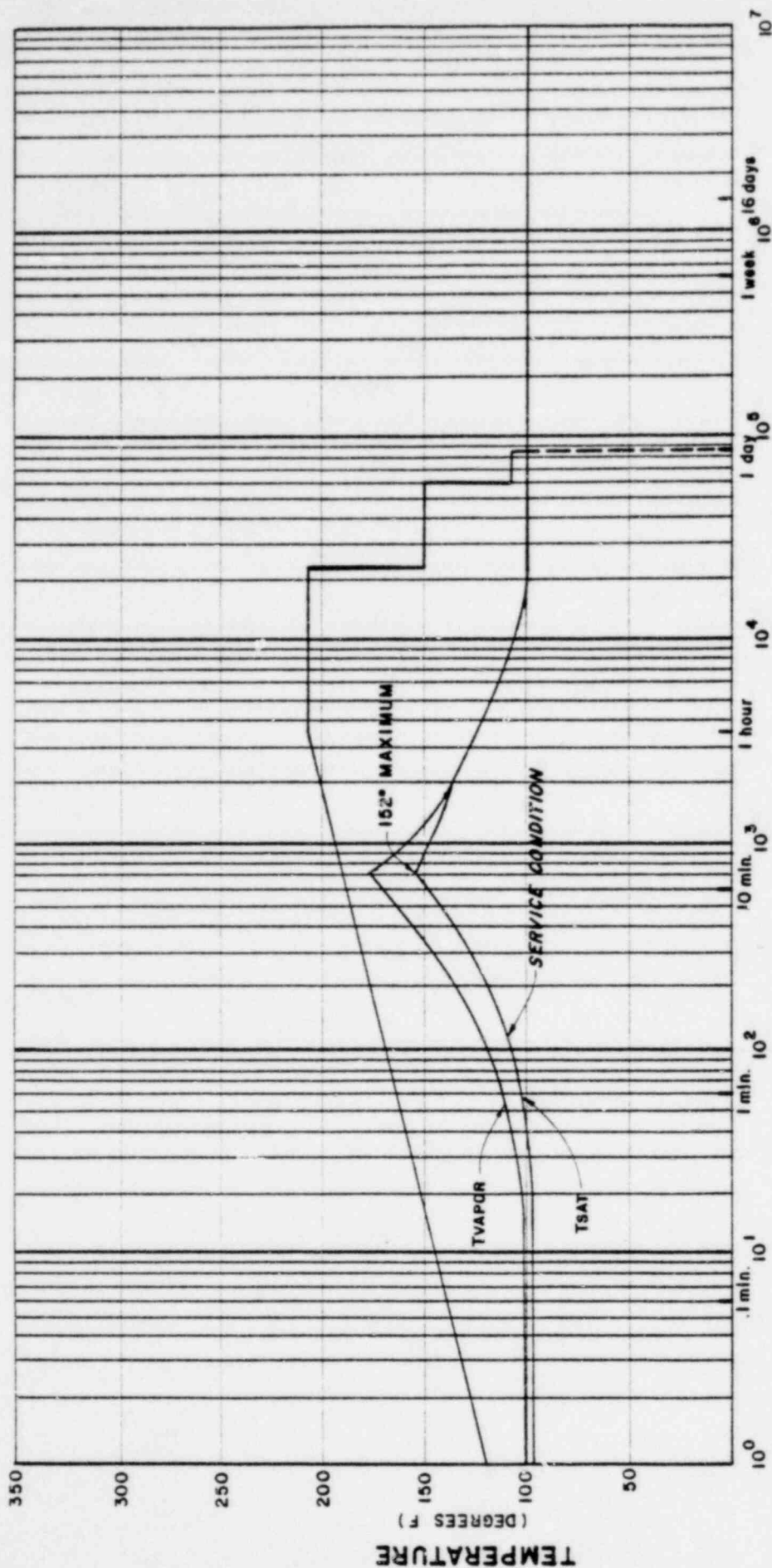
SMUD 79-01B RESPONSE

PROFILE 6.1

ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY LINE
BREAK

ROOM 002-DHR PUMP ROOM P-261B

LIMITORQUE QUALIFICATION TYPE
TEST B0003



PROFILE 6.2

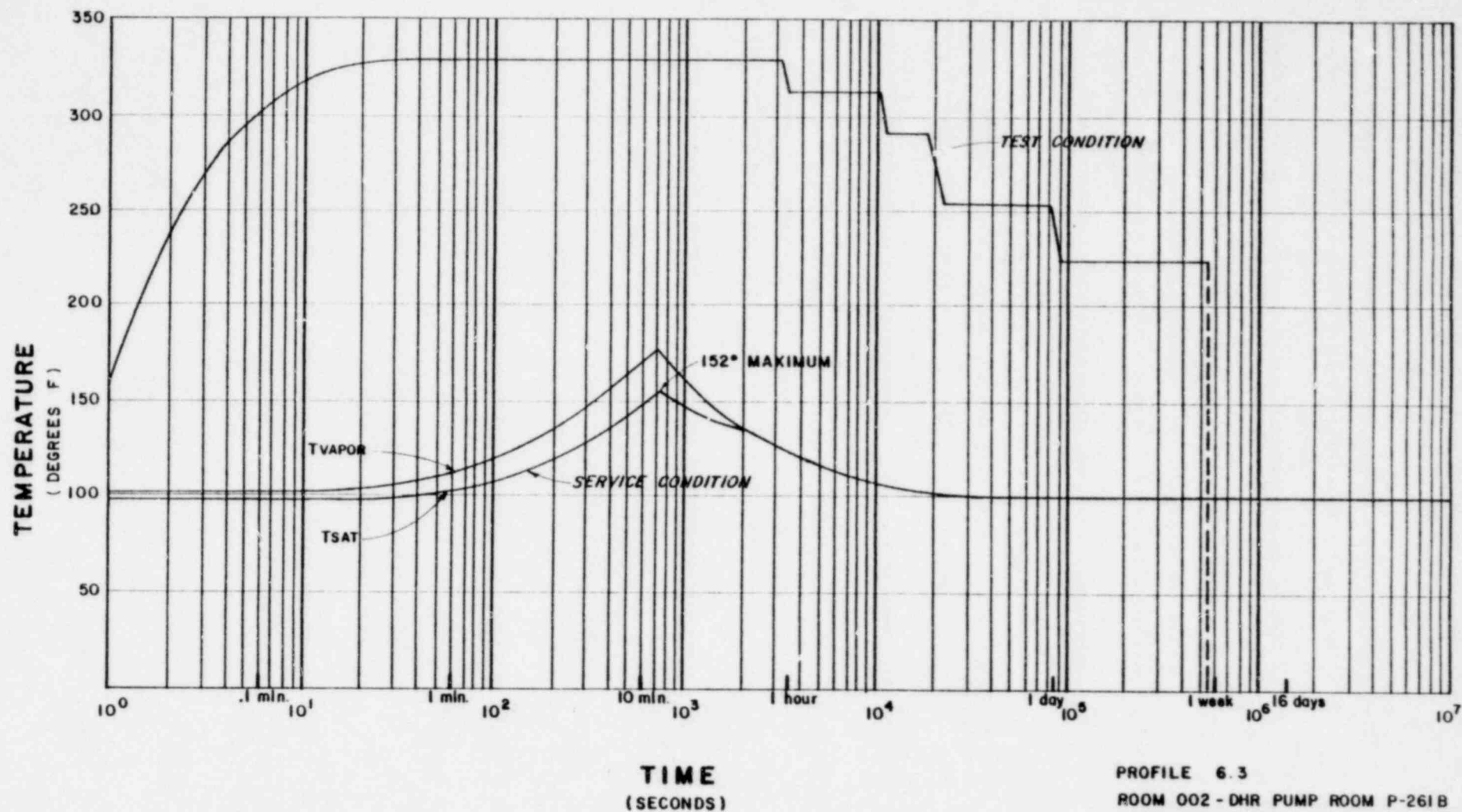
ROOM 002-DHR PUMP ROOM P-261B
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK

LIMITORQUE TEST REPORT
#F-C3271

TIME
(SECONDS)

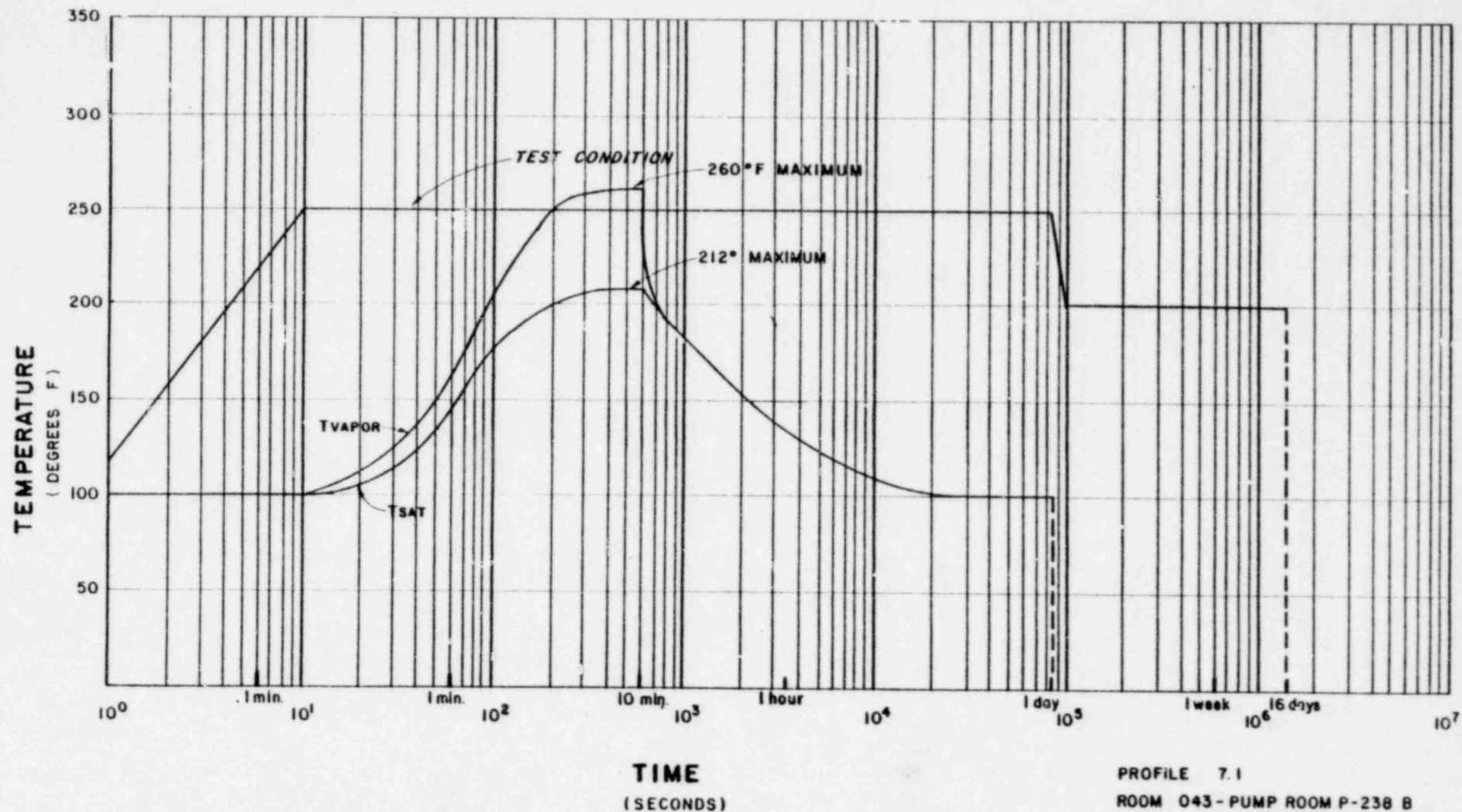
TSAT = SATURATION TEMPERATURE

SMUD 79-01B RESPONSE



TSAT = SATURATION TEMPERATURE
SMUD 79-01B RESPONSE

PROFILE 6.3
ROOM 002 - DHR PUMP ROOM P-261B
ROOM TEMPERATURE VERSUS
TIME FOR HELB
LIMITORQUE TEST 600198



TSAT = SATURATION TEMPERATURE

SMUD 79-018 RESPONSE

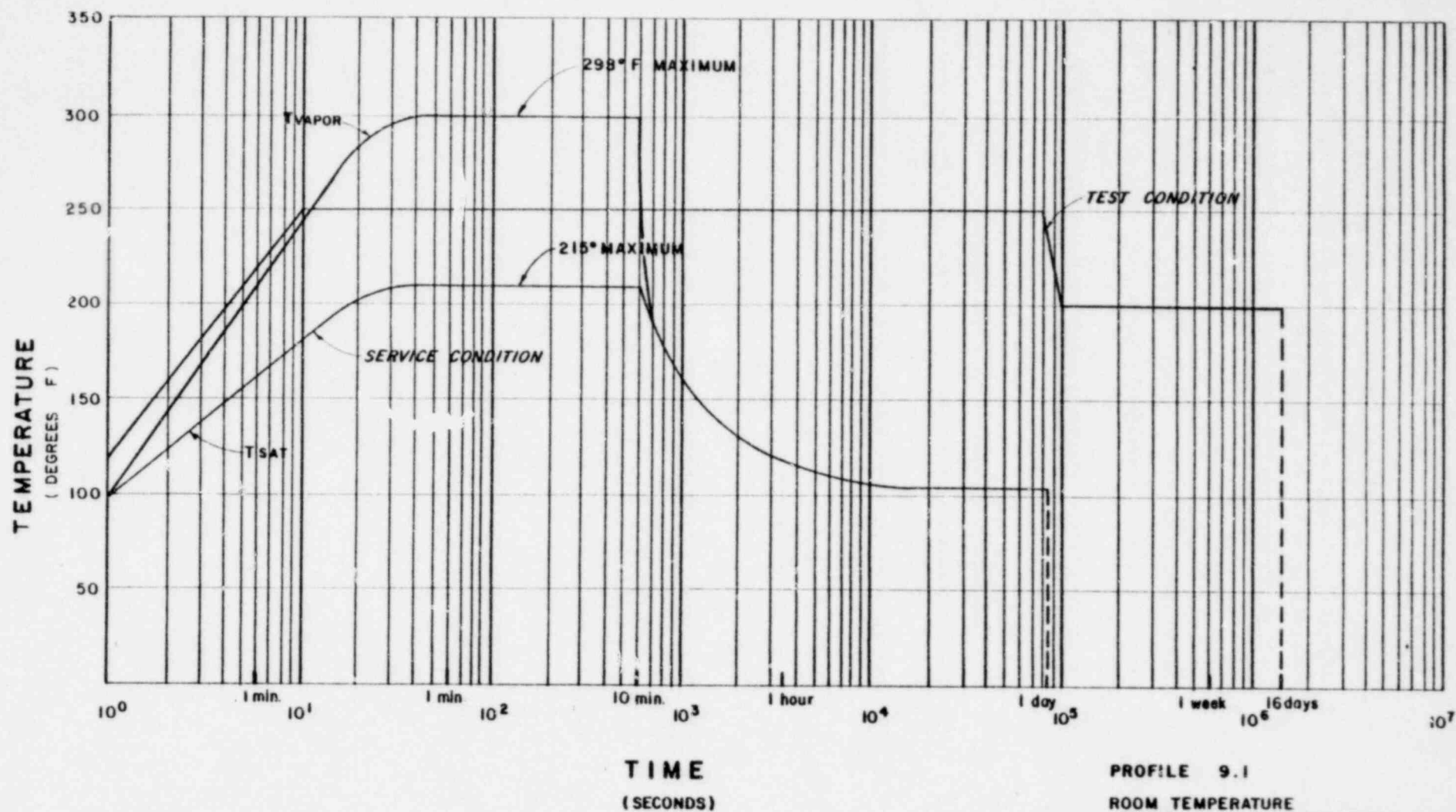
PROFILE 7.1

ROOM 043 - PUMP ROOM P-238 B

ROOM TEMPERATURE

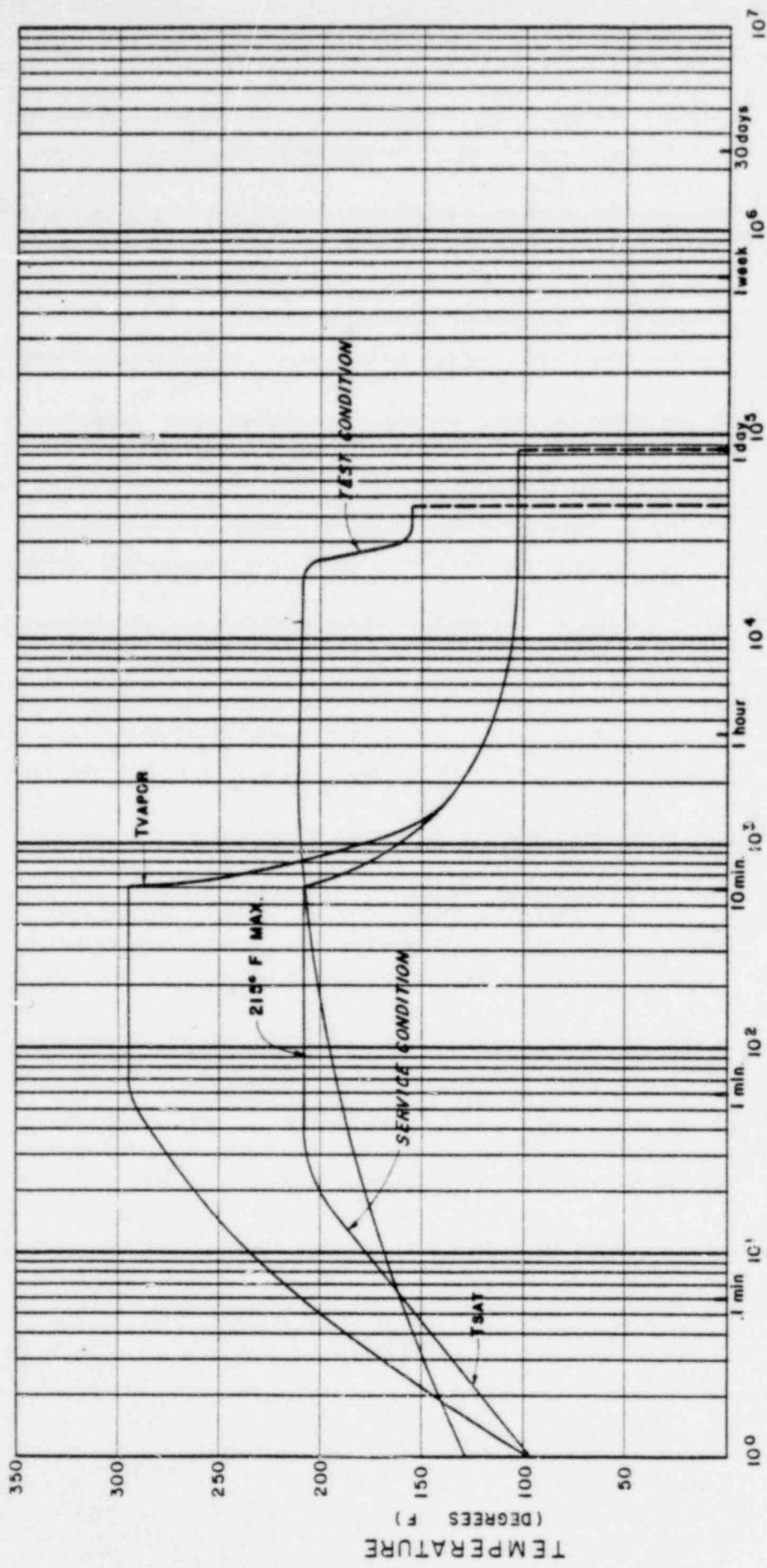
VERSUS TIME FOR HIGH ENERGY
LINE BREAK

LIMITORQUE QUALIFICATION TYPE
TEST 80003



TSAT = SATURATED TEMPERATURE
SMUD 79-01B RESPONSE

PROFILE 9.1
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK
ROOM 051 - EAST PENETRATION AREA
LIMITORQUE QUALIFICATION TYPE
TEST REPORT B0003



TIME
(SECONDS)

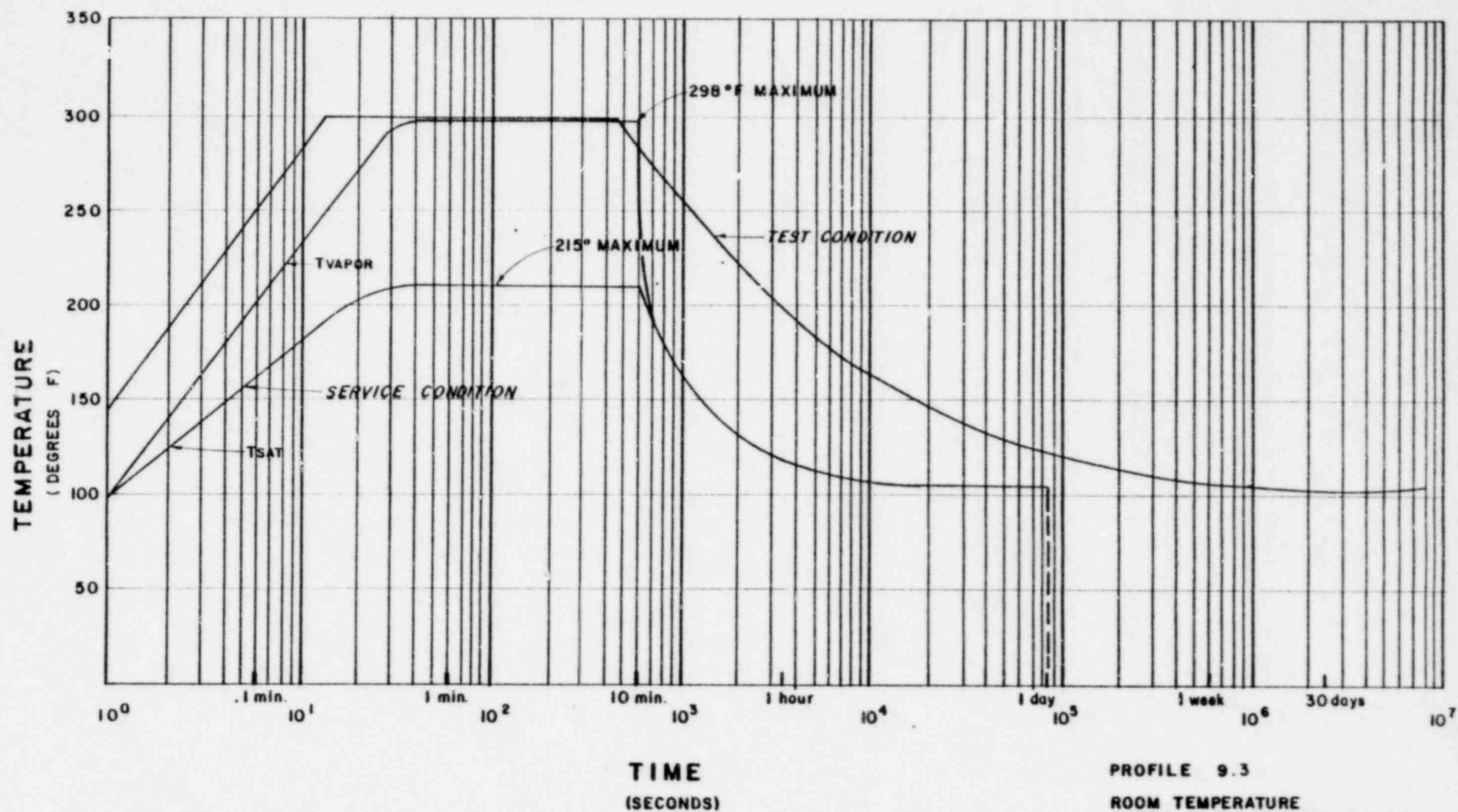
PROFILE 9.2

ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK

ROOM 051 - EAST PENETRATION AREA
LIMITORQUE QUALIFICATION
TEST REPORT F-C3271

TSAT - SATURATION TEMPERATURE

SMUD 79-01B RESPONSE



TSAT = SATURATION TEMPERATURE

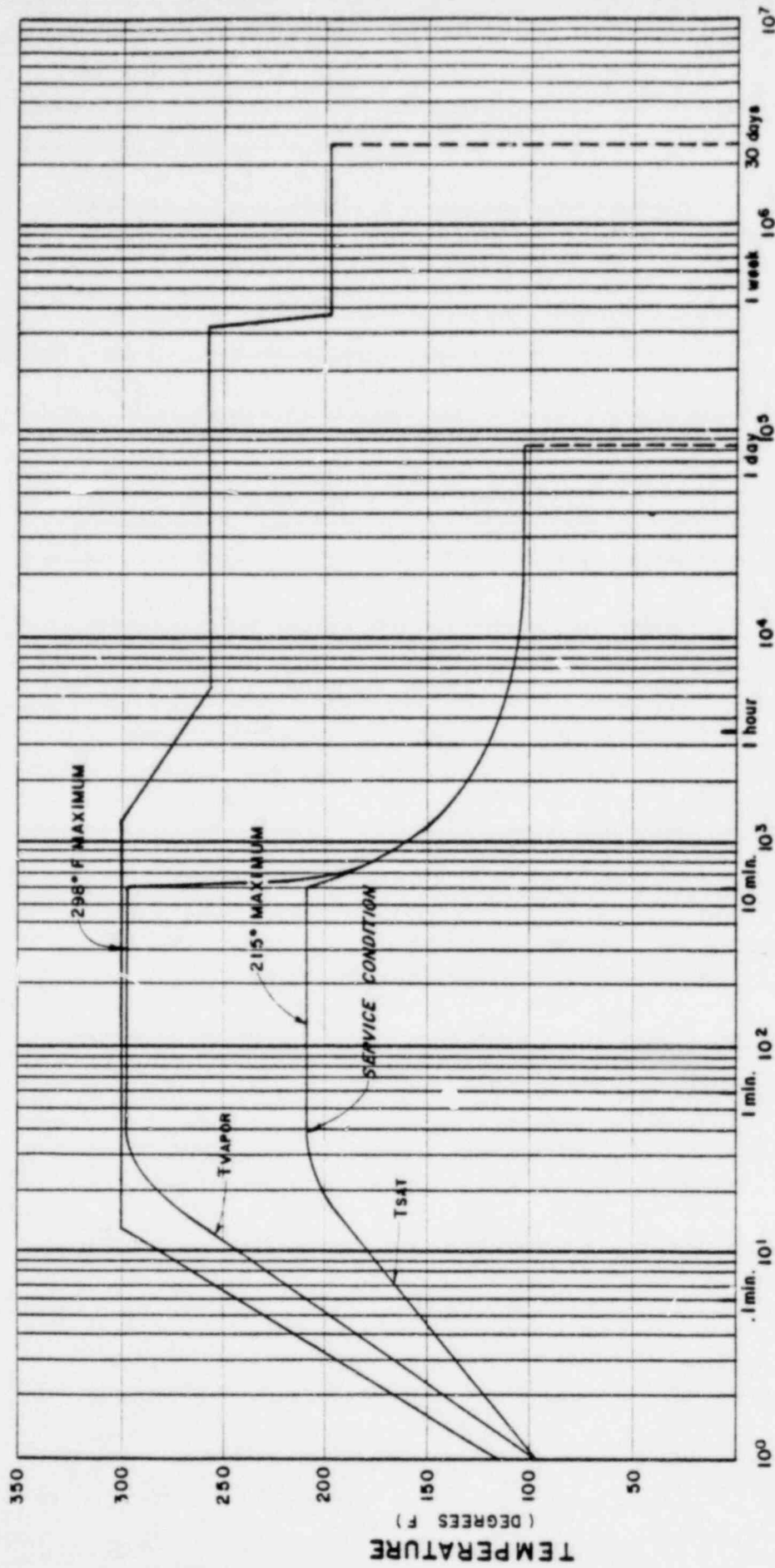
SMUD 79-01B RESPONSE

PROFILE 9.3

ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK

ROOM 051-EAST PENETRATION AREA

BAILEY"BY" TRANSMITTER FROM
BAW - 10003 REV. 4



PROFILE 9.4

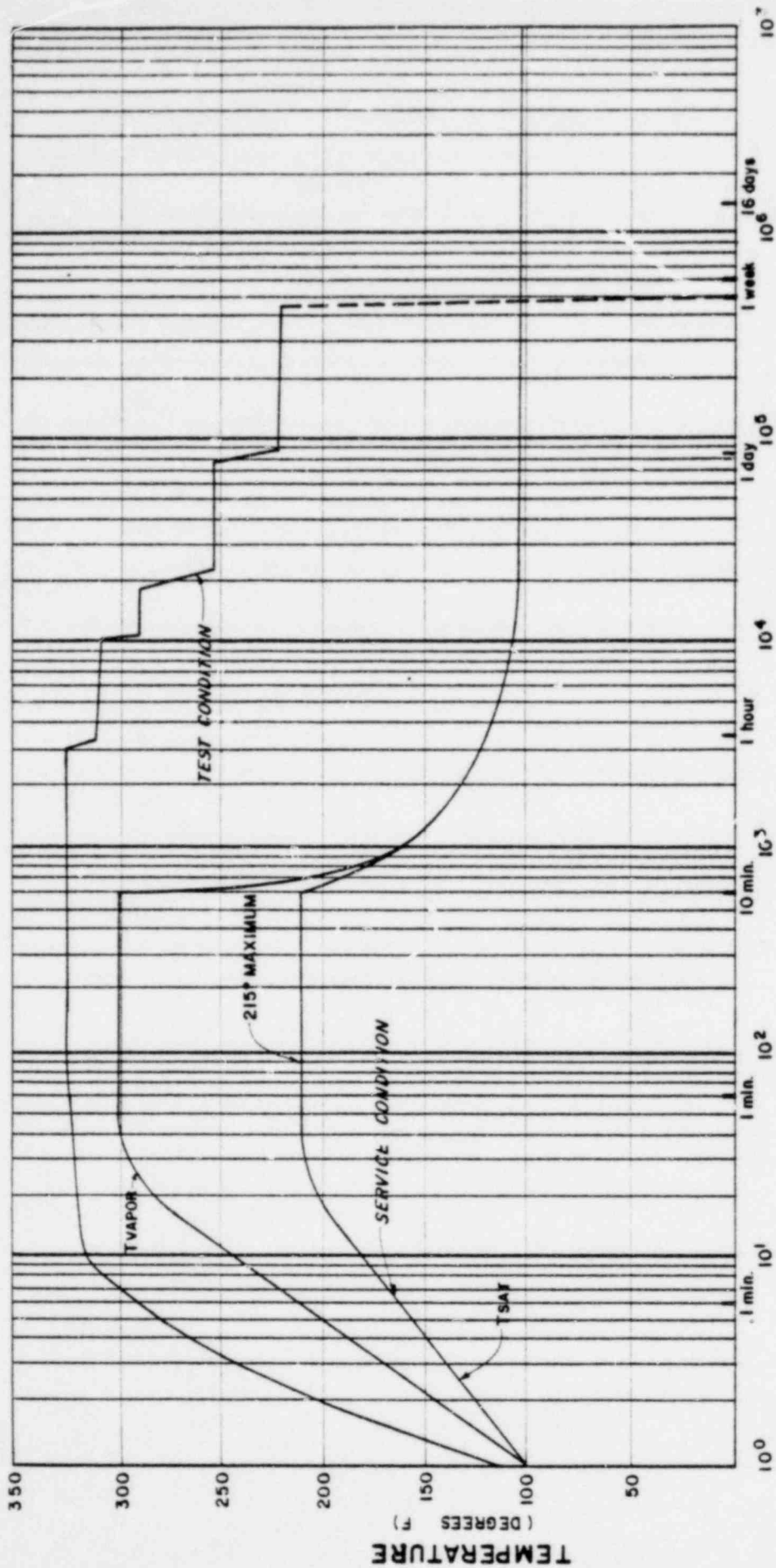
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK

ROOM 051 - EAST PENETRATION AREA

LIMITORQUE QUALIFICATION TYPE
TEST REPORT 600456

TSAT * SATURATION TEMPERATURE

SMUD 79-01B RESPONSE

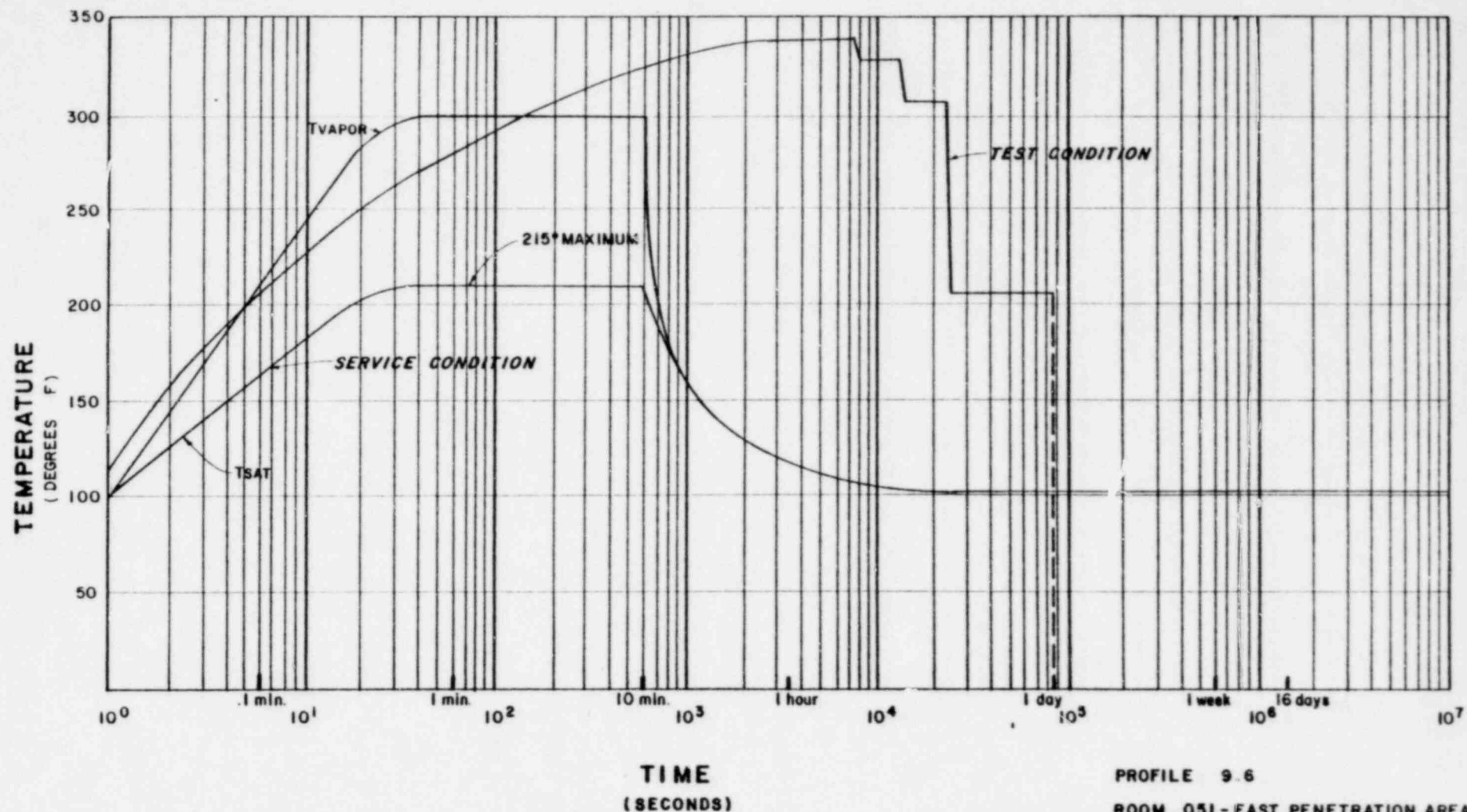


TIME
(SECONDS)

PROFILE 9.5

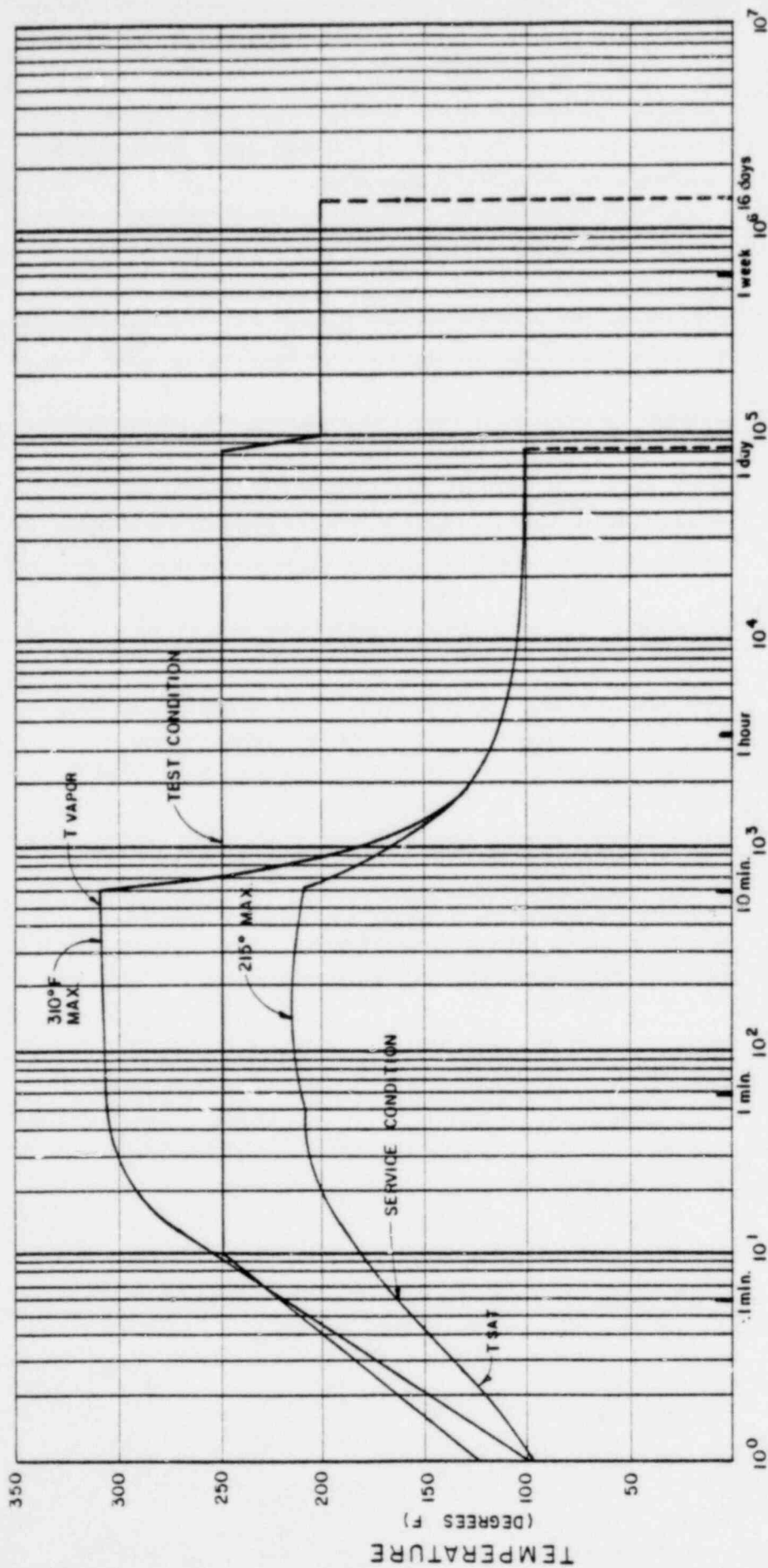
ROOM OSI - EAST PENETRATION AREA
ROOM TEMPERATURE VERSUS TIME
FOR HIGH ENERGY LINE BREAK
LIMITORQUE QUALIFICATION TYPE
TEST REPORT 300198

TSAT - SATURATION TEMPERATURE
SMUD 79-01B RESPONSE



TSAT = SATURATION TEMPERATURE
SMUD 79-01B RESPONSE

PROFILE 9.6
ROOM 051 - EAST PENETRATION AREA
ROOM TEMPERATURE VERSUS TIME
FOR HIGH ENERGY LINE BREAK
LIMITORQUE QUALIFICATION TYPE
TEST REPORT B0009

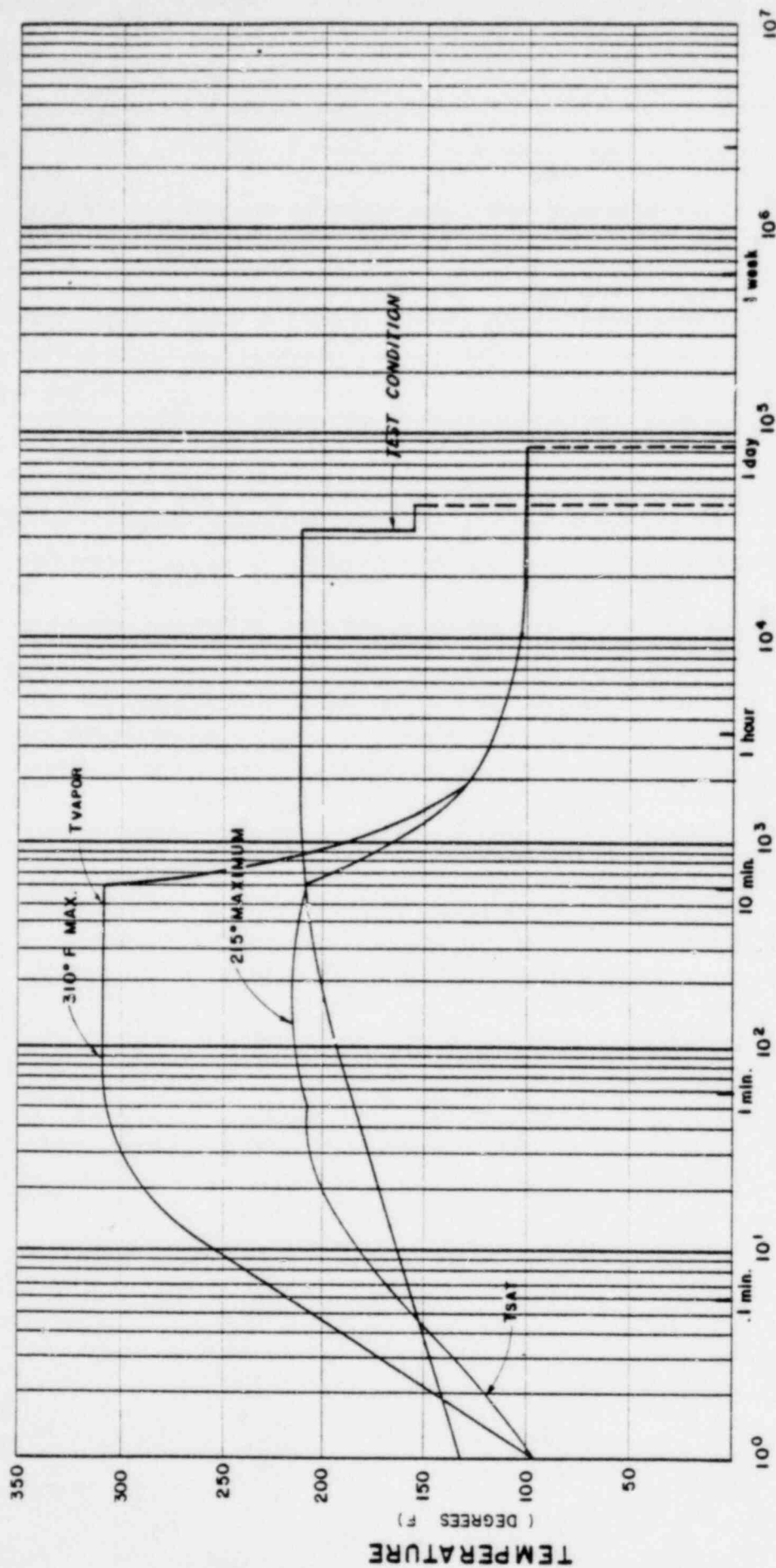


TIME
(SECONDS)

PROFILE 10.1
ROOM 052 - WEST PENETRATION AREA
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK
LIMITORQUE QUALIFICATION TYPE
TEST B0003

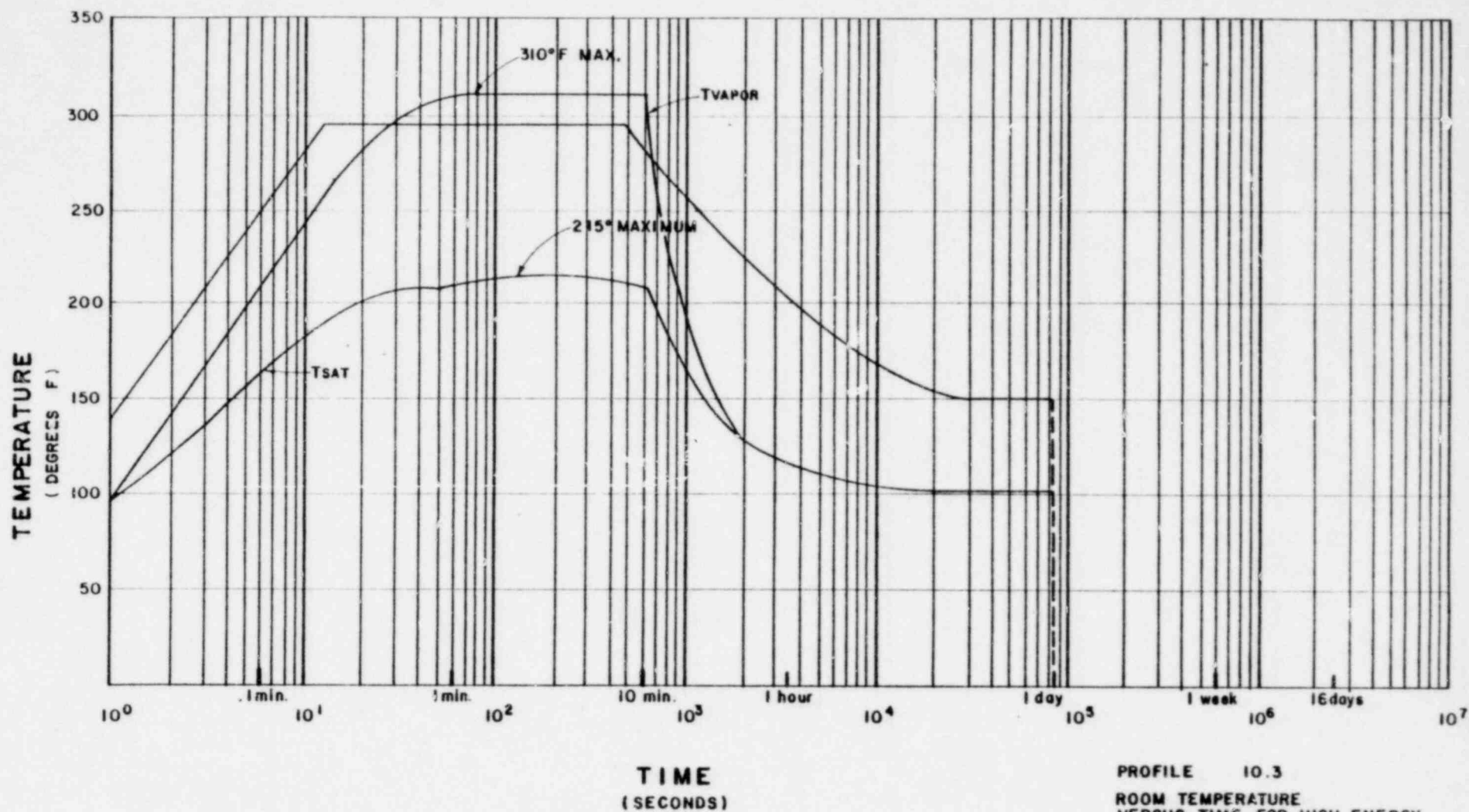
TSAT = SATURATION TEMPERATURE

SMUD 79-01B RESPONSE



PROFILE 10.2
 ROOM TEMPERATURE
 VERSUS TIME FOR HIGH ENERGY LINE
 BREAK
 ROOM 052 - WEST PENETRATION AREA
 LIMITORQUE QUALIFICATION TYPE
 TEST REPORT F - C3271

TSAT = SATURATION TEMPERATURE
 SMUD 79-018 RESPONSE



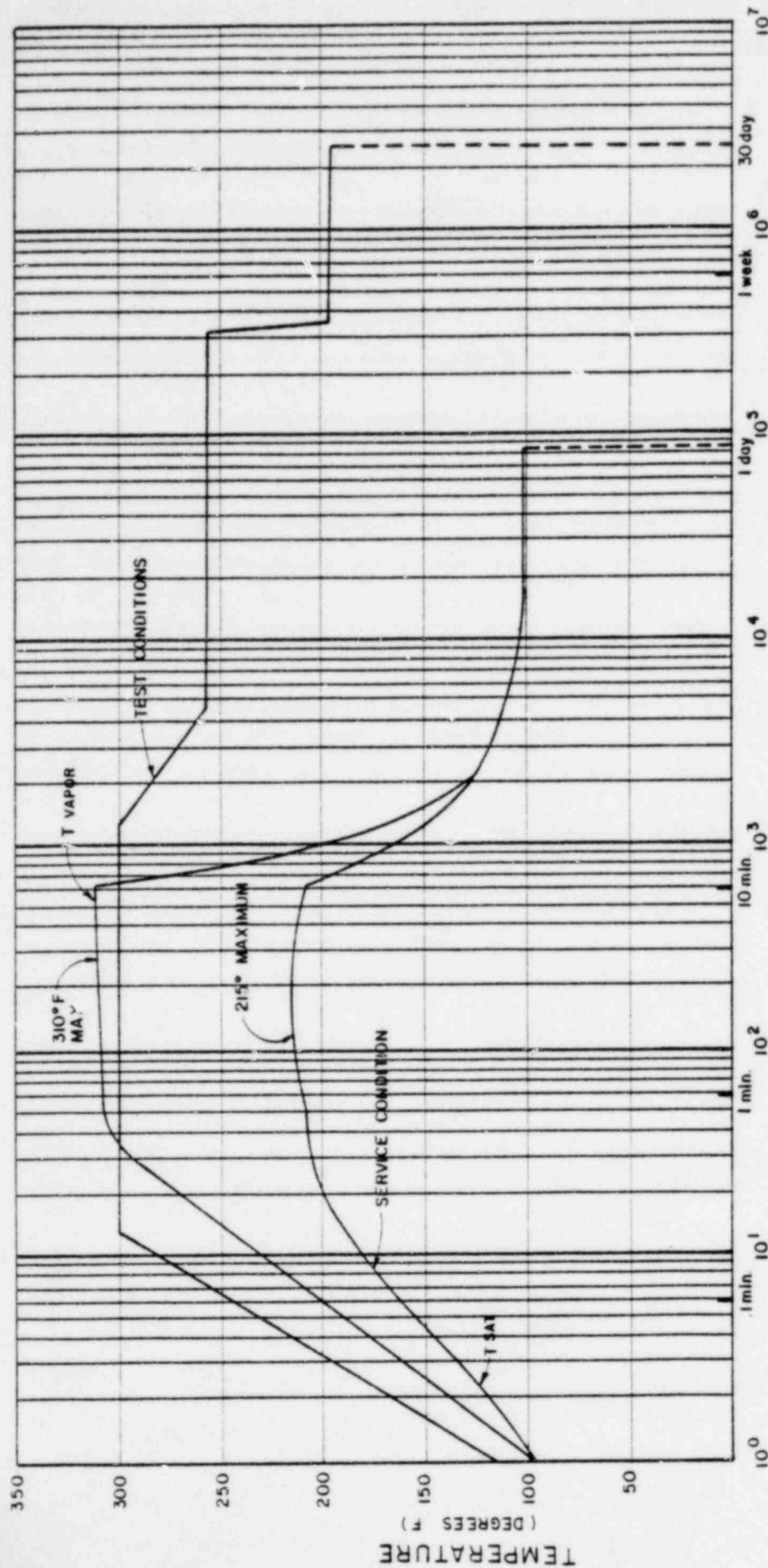
TSAT = SATURATION TEMPERATURE

SMUD 79-01B RESPONSE

PROFILE 10.3

ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK

ROOM 052 - WEST PENETRATION AREA
BAILEY "BY" TRANSMITTER FROM
BAW-10003 REV. 4



PROFILE 10.4

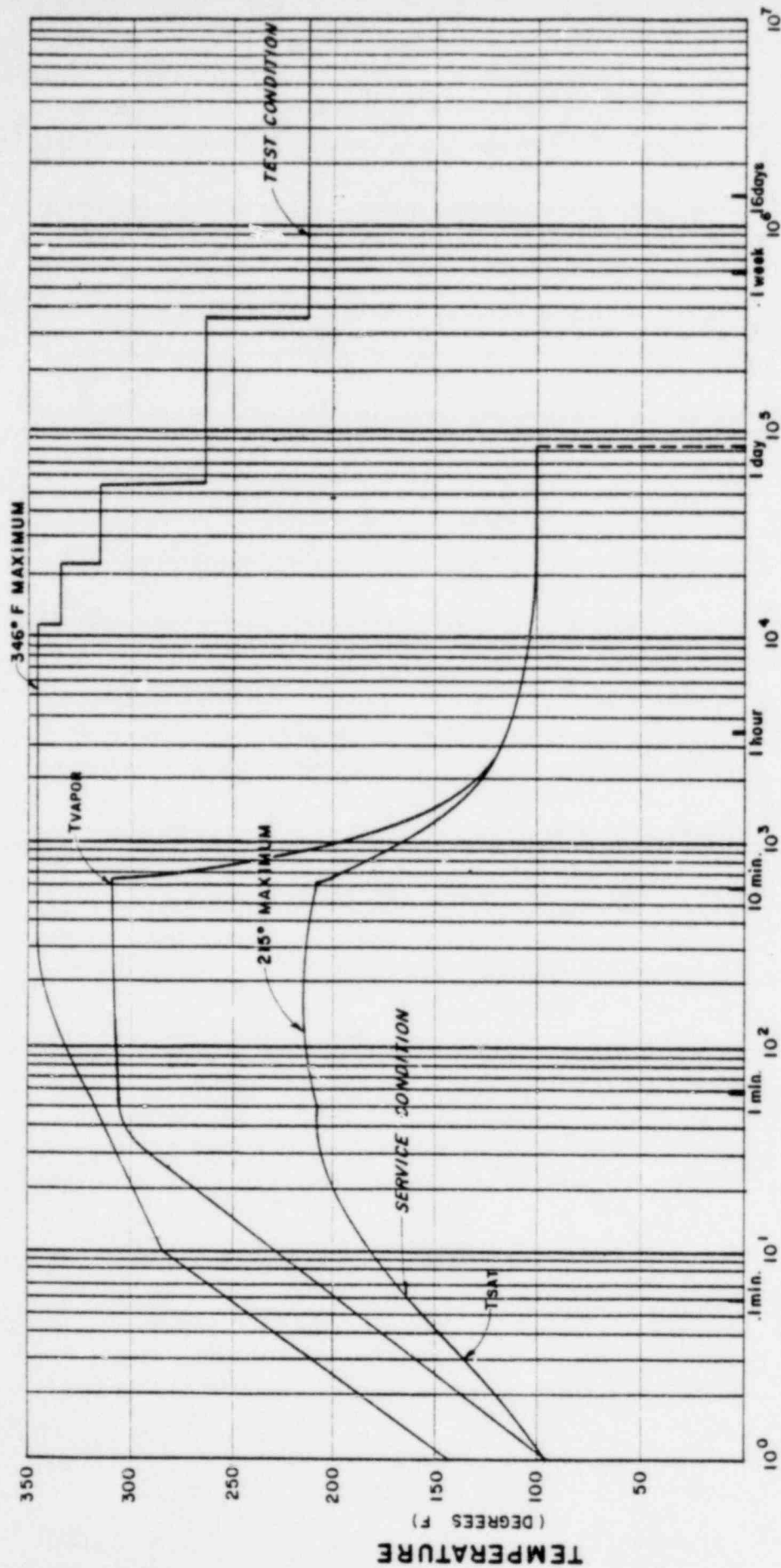
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY LINE
BREAK

ROOM 052 - WEST PENETRATION AREA

LIMITORQUE QUALIFICATION TYPE
TEST 600456

TSAT = SATURATION TEMPERATURE

SMUD 79 - 01B RESPONSE



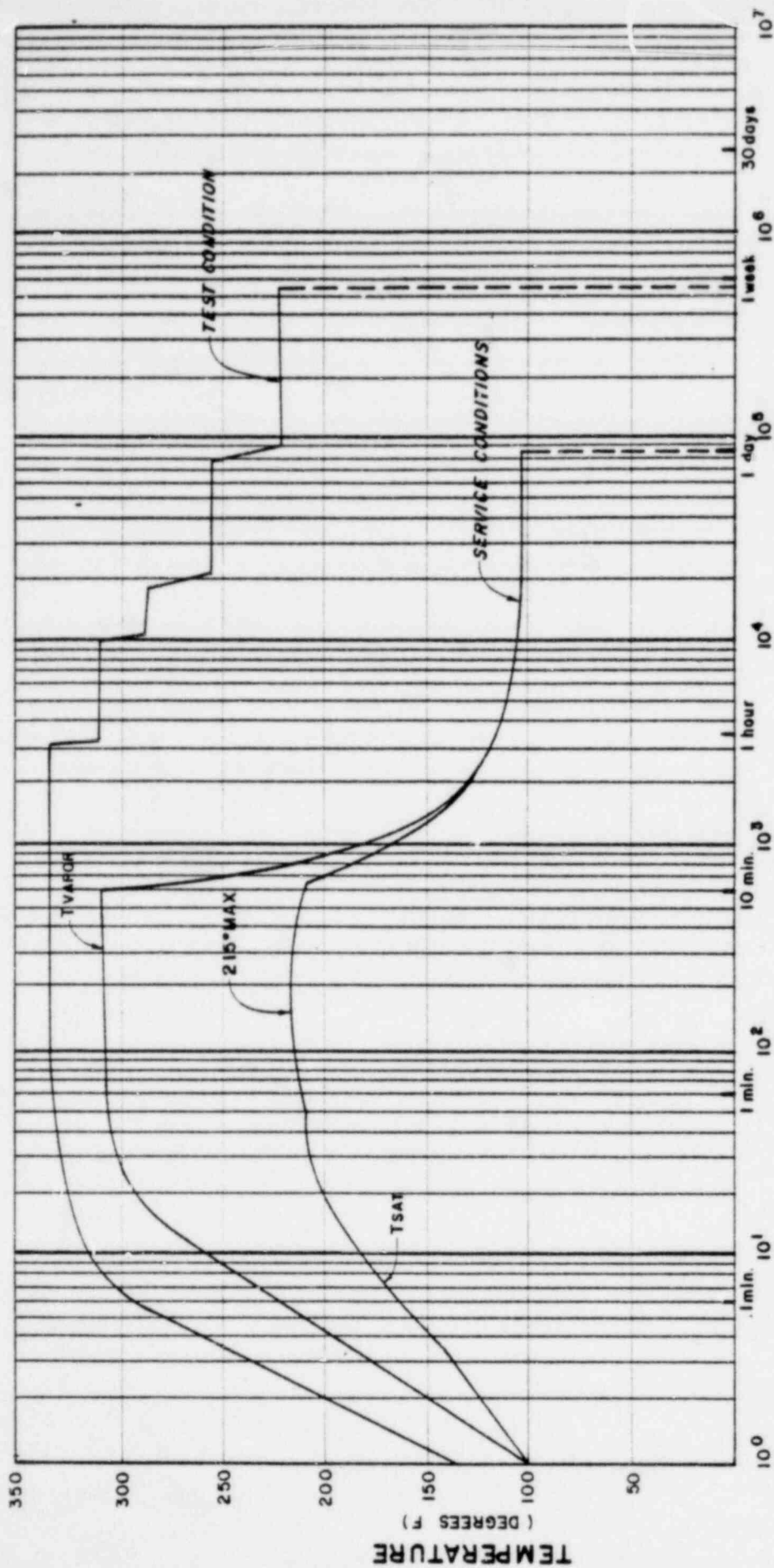
TIME
(SECONDS)

PROFILE 10.5
ROOM 052 - WEST PENETRATION AREA
ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY
LINE BREAK

TSAT = SATURATION TEMPERATURE

SMUD 79-018 RESPONSE

ROCKBESTOS CO. QUALIFICATION OF
FIREWALL III CLASS IE ELECTRIC
CABLES



TIME
(SECONDS)

PROFILE 10.6

ROOM TEMPERATURE

VERSUS TIME FOR HIGH ENERGY

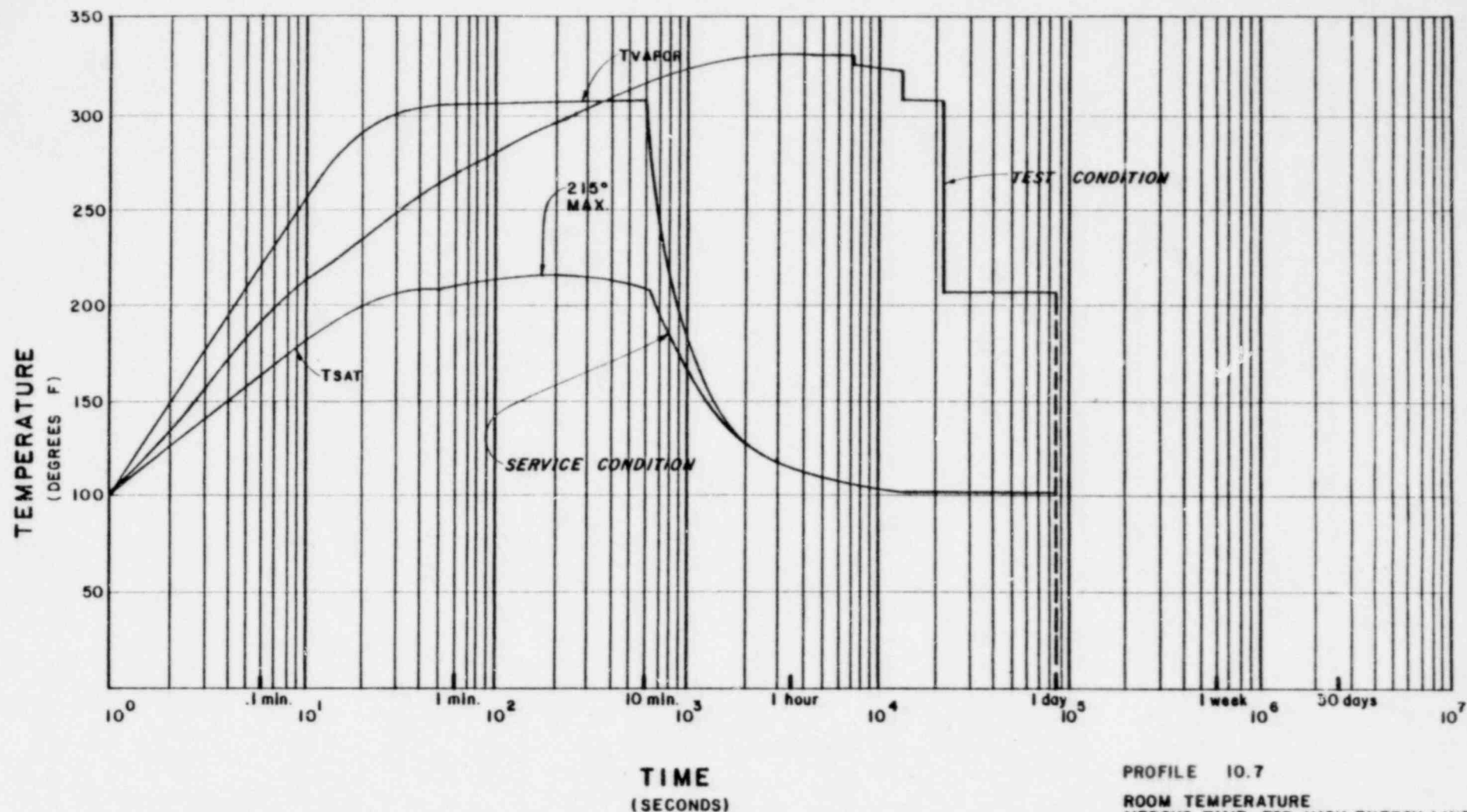
LINE BREAK

ROOM 052 - WEST PENETRATION AREA

LIMITORQUE TEST REPORT #600198

TSAT = SATURATION TEMPERATURE

SMUD 79 - 01B RESPONSE



TSAT = SATURATION TEMPERATURE

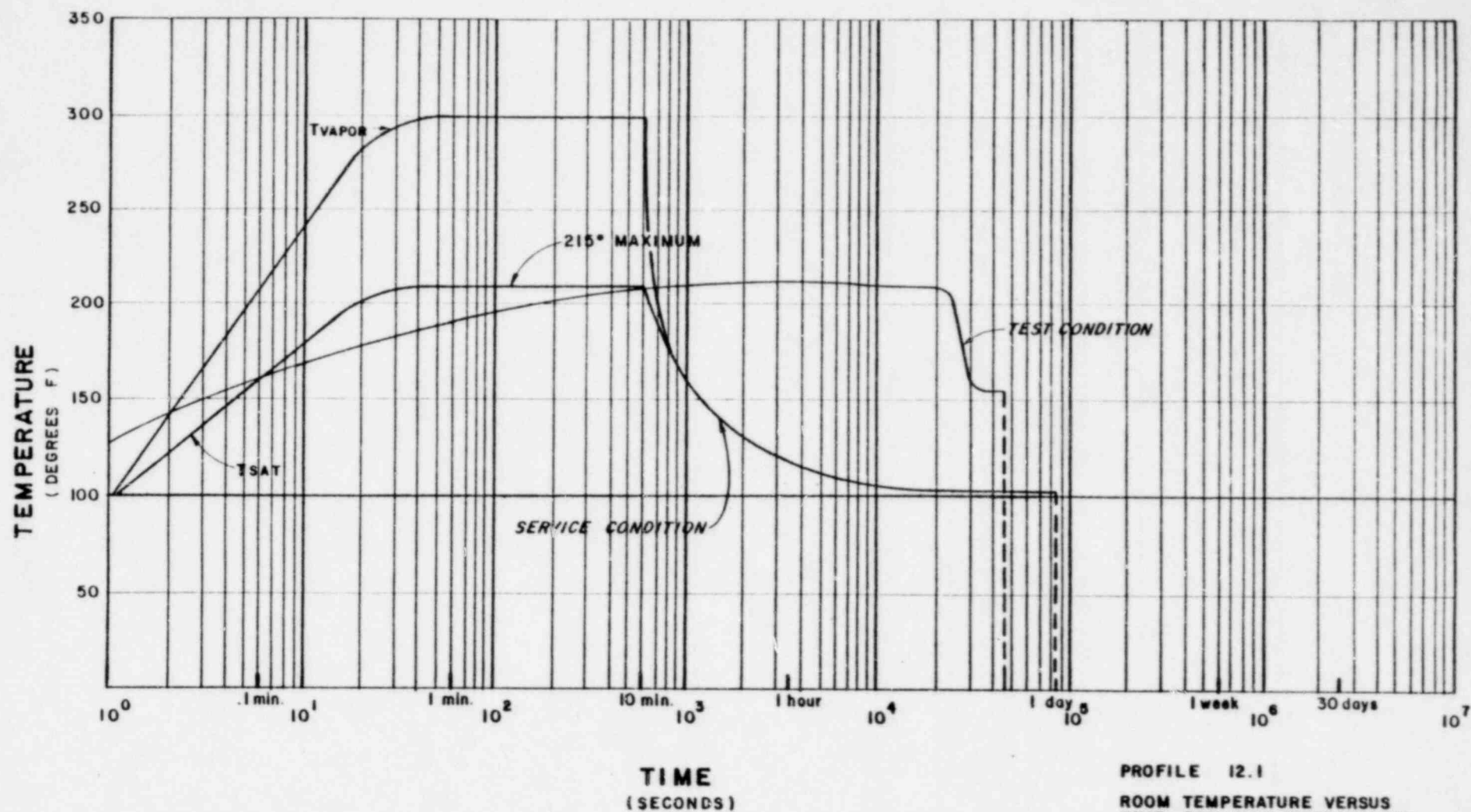
SMUD 79-01B RESPONSE

PROFILE 10.7

ROOM TEMPERATURE
VERSUS TIME FOR HIGH ENERGY LINE
BREAK

ROOM 052 - WEST PENETRATION AREA

LIMITORQUE TEST REPORT B0009



TSAT = SATURATION TEMPERATURE

SMUD 79-018 RESPONSE

PROFILE 12.1

ROOM TEMPERATURE VERSUS
TIME FOR HIGH ENERGY LINE
BREAK

ROOM 046-VALVE LIMITORQUE
TEST FC 3271

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
				A	B	
A500A	HVS	Motor	4-18	A-11	B-90	
A500B	HVS	Motor	4-18	A-11	B-91	
A500C	HVS	Motor	4-18	A-11	B-92	
A500D	HVS	Motor	4-18	A-11	B-93	
A529A	SIM	Motor	4-42	A-22	B-191	HELB Temperature
A529B	SIM	Motor	4-42	A-22	B-192	HELB Temperature
A529C	SIM	Motor	4-42	A-22	B-193	
A529D	DHS	Motor	4-14	A-8	B-60	
A529E	DHS	Motor	4-14	A-8	B-61	
A532A	HVS	Motor	4-18	A-11	B-94	
A532B	HVS	Motor	4-18	A-11	B-95	
A532C	HVS	Motor	4-18	A-11	B-96	
A532D	HVS	Motor	4-18	A-11	B-97	

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
				A	B	
CRDM	CRD	Control Rod Drive Motor	4-10	A-7		

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report				Open Items
			Text	Appendices			
				A	B		
FT20001	DHS	Flow Transmitter	4-16	A-8	B-62	Lack of Qualification Data	
FT21027A	RPS	Flow Transmitter	4-33	A-19	B-164	Submergence, Aging	
FT21027B	RPS	Flow Transmitter	4-33	A-19	B-165	Submergence, Aging	
FT21027C	RPS	Flow Transmitter	4-33	A-19	B-166	Submergence, Aging	
FT21027D	RPS	Flow Transmitter	4-33	A-19	B-167	Submergence, Aging	
FT21028A	RPS	Flow Transmitter	4-33	A-19	B-168	Submergence, Aging	
FT21028B	RPS	Flow Transmitter	4-33	A-19	B-169	Submergence, Aging	
FT21028C	RPS	Flow Transmitter	4-33	A-19	B-170	Submergence, Aging	
FT21028D	RPS	Flow Transmitter	4-33	A-19	B-171	Submergence, Aging	
FT23606	SIM	Flow Transmitter	4-42	A-22	B-194	Lack of Qualification Data	
FT23805	SIM	Flow Transmitter	4-42	A-22	B-195	Lack of Qualification Data	
FT23806	SIM	Flow Transmitter	4-42	A-22	B-196	Lack of Qualification Data	
FT23807	SIM	Flow Transmitter	4-42	A-22	B-197	Lack of Qualification Data	
FT23808	SIM	Flow Transmitter	4-42	A-22	B-198	Lack of Qualification Data	
FT26003	DHS	Flow Transmitter	4-15	A-8	B-63	Lack of Qualification Data	
FT26004	DHS	Flow Transmitter	4-15	A-8	B-64	Lack of Qualification Data	
FT26048	DHS	Flow Transmitter	4-15	A-8	B-65	Aging	
FT26049	DHS	Flow Transmitter	4-15	A-8	B-66	Aging	

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
				A	B	
H7RP	Interface	Electrical Penetrations	4-43	A-25	B-216	
H8DP236	SIM	Switch	4-40	A-22	B-199	Lack of Qualification Data
H8P23508	SIM	Switch	4-40	A-22	B-200	Lack of Qualification Data
H8PA529B	SIM	Switch	4-40	A-22	B-201	Lack of Qualification Data

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
				A	B	
HV20001	DHS	Motor Operated Valve	4-12	A-8	B-67	
HV20002	DHS	Motor Operated Valve	4-12	A-8	B-68	
HV20001	DHS	Limit Switch		A-10	B-67a	Connector for Qualified Switch
HV20002	DHS	Limit Switch		A-10	B-68b	Connector for Qualified Switch
HV20003	DHS	Motor Operated Valve	4-12	A-8	B-69	Lack of Qualification Data
HV20609	CIS	Motor Operated Valve	4-4	A-1	B-1	
HV20610	CIS	Motor Operated Valve	4-4	A-1	B-2	
HV20611	CIS	Motor Operated Valve	4-4	A-1	B-3	Lack of Qualification Data
HV21505	RCS	Motor Operated Valve	4-30	A-16	B-135	
HV21515	RCS	Motor Operated Valve	4-30	A-16	B-136	Lack of Qualification
HV21517	RCS	Motor Operated Valve		A-16	B-137	
HV23801	SIM	Motor Operated Valve	4-40	A-22	B-202	Lack of Qualification Data
HV23802	SIM	Motor Operated Valve	4-40	A-23	B-203	Lack of Qualification Data
HV26007	DHS	Motor Operated Valve	4-12	A-8	B-70	Aging
HV26008	DHS	Motor Operated Valve	4-12	A-8	B-71	Aging
HV26037	DHS	Motor Operated Valve	4-12	A-9	B-72	Aging
HV26038	DHS	Motor Operated Valve	4-12	A-9	B-73	Aging
HV26046	DHS	Motor Operated Valve	4-12	A-9	B-74	
HV26047	DHS	Motor Operated Valve	4-12	A-9	B-75	
HV26105	DHS	Motor Operated Valve	4-13	A-9	B-76	Aging, Lack of Radiation Data
HV26106	DHS	Motor Operated Valve	4-13	A-9	B-77	Aging, Lack of Radiation Data

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report				Open Items
			Text	Appendices			
				A	B		
LT20503A	MFWS	Level Transmitter	4-20	A-12	B-100	Aging, Submergence	
LT20503B	MFWS	Level Transmitter	4-20	A-12	B-101	Aging, Submergence	
LT20503C	MFWS	Level Transmitter	4-20	A-12	B-102	Aging, Submergence	
LT20503D	MFWS	Level Transmitter	4-20	A-12	B-103	Aging, Submergence	
LT20504A	MFWS	Level Transmitter	4-20	A-12	B-104	Aging, Submergence	
LT20504B	MFWS	Level Transmitter	4-20	A-12	B-105	Aging, Submergence	
LT20504C	MFWS	Level Transmitter	4-20	A-12	B-106	Aging, Submergence	
LT20504D	MFWS	Level Transmitter	4-20	A-12	B-107	Aging, Submergence	
LT21503A	RCS	Level Transmitter	4-31	A-16	B-138	Aging	
LT21503B	RCS	Level Transmitter	4-31	A-16	B-139	Aging	
LT21503C	RCS	Level Transmitter	4-31	A-16	B-140	Aging	
LT26505	CFS	Level Transmitter	4-8	A-6	B-56	Lack of Qualification Data	
LT26506	CFS	Level Transmitter	4-8	A-6	B-57	Lack of Qualification Data	
LT26507	CFS	Level Transmitter	4-8	A-6	B-58	Lack of Qualification Data	
LT26508	CFS	Level Transmitter	4-8	A-6	B-59	Lack of Qualification Data	

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
				A	B	
P236	SIM	Motor	4-41	A-23	B-204	
P238A	SIM	Motor	4-41	A-23	B-205	HELB Temperature
P238B	SIM	Motor	4-41	A-23	B-206	HELB Temperature
P261A	DHS	Motor	4-14	A-9	B-78	
P261B	DHS	Motor	4-14	A-9	B-79	
P291A	RBS	Motor	4-28	A-15	B-128	
P291B	RBS	Motor	4-28	A-15	B-129	

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
				A	B	
PSH53606	RPS	Pressure Switch	4-34	A-19	B-172	Lack of Qualification Data
PSH53617	RPS	Pressure Switch	4-34	A-19	B-173	Lack of Qualification Data
PSH53619	RPS	Pressure Switch	4-34	A-19	B-174	Lack of Qualification Data
PSH53620	RPS	Pressure Switch	4-34	A-19	B-175	Lack of Qualification Data

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Text	Where to Find in Report Appendices		Open Items
				A	B	
PSL20601	MSS	Pressure Switch	4-22	A-13	B-108	Lack of Qualification Data
PSL20602	MSS	Pressure Switch	4-22	A-13	B-109	Lack of Qualification Data
PSL20603	MSS	Pressure Switch	4-22	A-13	B-110	Lack of Qualification Data
PSL20604	MSS	Pressure Switch	4-22	A-13	B-111	Lack of Qualification Data
PSL20605	MSS	Pressure Switch	4-22	A-13	B-112	Lack of Qualification Data
PSL20606	MSS	Pressure Switch	4-22	A-13	B-113	Lack of Qualification Data
PSL20607	MSS	Pressure Switch	4-22	A-13	B-114	Lack of Qualification Data
PSL20608	MSS	Pressure Switch	4-22	A-13	B-115	Lack of Qualification Data

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Text	Where to Find in Report Appendices		Open Items
				A	B	
PT21037	RPS	Pressure Transmitter	4-34	A-20	B-176	Lack of Qualification Data
PT21038	RPS	Pressure Transmitter	4-34	A-20	B-177	Lack of Qualification Data
PT21039	RPS	Pressure Transmitter	4-34	A-20	B-178	Lack of Qualification Data
PT21040	RPS	Pressure Transmitter	4-34	A-20	B-179	Lack of Qualification Data
PT21042	SFAS	Pressure Transmitter	4-37	A-21	B-184	Aging
PT21043	SFAS	Pressure Transmitter	4-37	A-21	B-185	Aging
PT21092	SFAS	Pressure Transmitter	4-37	A-21	B-186	Aging, Submergence
PT21099	SFAS	Pressure Transmitter	4-37	A-21	B-187	Aging, Chem. Spray
PT53506B	SFAS	Pressure Transmitter	4-38	A-21	B-188	Aging, Lack of Radiation Data
PT53607	SFAS	Pressure Transmitter	4-38	A-21	B-189	Aging, Lack of Radiation Data
PT53608	SFAS	Pressure Transmitter	4-38	A-21	B-190	Aging, Lack of Radiation Data

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Text	Where to Find in Report		Open Items
				Appendices		
				A	B	
SFV22005	RCS	Motor Operated Valve	4-30	A-16	B-141	Submergence
SFV22006	RCS	Motor Operated Valve	4-30	A-16	B-142	Submergence
SFV22009	CIS	Limit Switch	4-6	A-1	B-4	Switch not Qualified
SFV22023	CIS	Motor Operated Valve	4-4	A-1	B-5	Radiation, Temp., Pres., Chem. Spray Aging
SFV22025	RCS	Motor Operated Valve	4-30	A-16	B-143	Lack of Qualification Data, Submergence
SFV23508	SIM	Motor Operated Valve	4-40	A-23	B-207	Lack of Qualification Data
SFV23604	SIM	Motor Operated Valve	4-40	A-23	B-208	Lack of Radiation Data, Aging
SFV23616	SIM	Motor Operated Valve	4-40	A-23	B-209	Aging
SFV23645	SIM	Motor Operated Valve	4-40	A-23	B-210	Aging
SFV23646	SIM	Motor Operated Valve	4-40	A-23	B-211	Aging
SFV23809	SIM	Motor Operated Valve	4-40	A-23	B-212	Lack of Radiation Data
SFV23810	SIM	Motor Operated Valve	4-40	A-23	B-213	Lack of Radiation Data
SFV23811	SIM	Motor Operated Valve	4-40	A-23	B-214	Lack of Radiation Data
SFV23812	SIM	Motor Operated Valve	4-40	A-24	B-215	Lack of Radiation Data
SFV24004	CIS	Motor Operated Valve	4-4	A-1	B-6	
SFV24013	CIS	Limit Switch	4-6	A-1	B-76	Switch not Qualified
SFV25003	DHS	Motor Operated Valve	4-13	A-9	B-82	Aging, Lack of Radiation Data
SFV25004	DHS	Motor Operated Valve	4-13	A-9	B-83	Aging, Lack of Radiation Data
SFV26005	DHS	Motor Operated Valve	4-13	A-9	B-84	Aging, Lack of Radiation Data
SFV26006	DHS	Motor Operated Valve	4-13	A-9	B-85	Aging, Lack of Radiation Data
SFV26016	NSCW	Motor Operated Valve	4-24	A-14	B-116	Aging
SFV26017	NSCW	Motor Operated Valve	4-24	A-14	B-117	Aging
SFV26018	NSCW	Motor Operated Valve	4-24	A-14	B-118	Aging
SFV26019	NSCW	Motor Operated Valve	4-24	A-14	B-119	Aging
SFV26039	DHS	Motor Operated Valve	4-13	A-10	B-86	Aging
SFV26040	DHS	Motor Operated Valve	4-13	A-10	B-87	Aging
SFV29015	RBS	Motor Operated Valve	4-27	A-15	B-130	Aging, Lack of Radiation Data
SFV29016	RBS	Motor Operated Valve	4-27	A-15	B-131	Aging, Lack of Radiation Data
SFV29107	RBS	Motor Operated Valve	4-27	A-15	B-132	Lack of Qualification Data
SFV29108	RBS	Motor Operated Valve	4-27	A-15	B-133	Lack of Qualification Data

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Text	Where to Find in Report		Open Items
				Appendices		
				A	B	
SFV46014	CIS	Limit Switch	4-6	A-1	B-8	Switch not Qualified
SFV46203	CIS	Motor Operated Valve	4-4	A-1	B-9	
SFV46204	CIS	Limit Switch	4-6	A-1	B-10	Switch not Qualified
SFV46906	CIS	Limit Switch	4-6	A-1	B-11	Switch not Qualified
SFV46907	CIS	Motor Operated Valve	4-4	A-1	B-12	
SFV46908	CIS	Limit Switch	4-6	A-1	B-13	Switch not Qualified
SFV50005	NSCW	Motor Operated Valve	4-24	A-14	B-120	Lack of Radiation Data
SFV50006	NSCW	Motor Operated Valve	4-24	A-14	B-121	Lack of Radiation Data
SFV50007	NSCW	Motor Operated Valve	4-24	A-14	B-122	Lack of Radiation Data
SFV50008	NSCW	Motor Operated Valve	4-24	A-14	B-123	Lack of Radiation Data
SFV50009	NSCW	Motor Operated Valve	4-24	A-14	B-124	Lack of Radiation Data
SFV50010	NSCW	Motor Operated Valve	4-24	A-14	B-125	Lack of Radiation Data
SFV50011	NSCW	Motor Operated Valve	4-24	A-14	B-126	Lack of Radiation Data
SFV50012	NSCW	Motor Operated Valve	4-24	A-14	B-127	Lack of Radiation Data
SFV53504	CIS	Motor Operated Valve	4-4	A-2	B-14	Lack of Qualification Data
SFV53603	CIS	Motor Operated Valve	4-4	A-2	B-15	Lack of Radiation Data
SFV53605	CIS	Motor Operated Valve	4-4	A-2	B-16	Lack of Qualification Data
SFV53610	CIS	Limit Switch	4-6	A-2	B-17	Switch not Qualified
SFV50001	CIS	Motor Operated Valve	4-4	A-2	B-18	
SFV60002	CIS	Limit Switch	4-6	A-2	B-19	Switch not Qualified
SFV60003	CIS	Motor Operated Valve	4-4	A-2	B-20	Aging, Lack of Radiation Data
SFV60004	CIS	Limit Switch	4-6	A-2	B-21	Switch not Qualified
SFV66308	CIS	Motor Operated Valve	4-4	A-2	B-22	
SFV66309	CIS	Limit Switch	4-6	A-2	B-23	Switch not Qualified
SFV70001	CIS	Motor Operated Valve	4-4	A-2	B-24	Lack of Qualification Data
SFV70002	CIS	Limit Switch	4-6	A-3	B-25	Switch not Qualified
SFV70003	CIS	Motor Operated Valve	4-4	A-3	B-26	Lack of Qualification Data
SFV72501	CIS	Motor Operated Valve	4-4	A-3	B-27	
SFV72502	CIS	Limit Switch	4-6	A-3	B-28	Switch not Qualified
SFV92520	CIS	Limit Switch	4-6	A-3	B-29	Switch not Qualified

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
A	B					
SFY22009	CIS	Solenoid Valve	4-5	A-3	B-30	Solenoid not Qualified
SFY24013	CIS	Solenoid Valve	4-5	A-3	B-31	Solenoid not Qualified
SFY46014A	CIS	Solenoid Valve	4-5	A-3	B-32	Solenoid not Qualified
SFY46014B	CIS	Solenoid Valve	4-5	A-3	B-33	Solenoid not Qualified
SFY46026	CIS	Solenoid Valve	4-5	A-3	B-34	Solenoid not Qualified
SFY46027	CIS	Solenoid Valve	4-5	A-3	B-35	Solenoid not Qualified
SFY46028	CIS	Solenoid Valve	4-5	A-3	B-36	Solenoid not Qualified
SFY46029	CIS	Solenoid Valve	4-5	A-4	B-37	Solenoid not Qualified
SFY46204	CIS	Solenoid Valve	4-5	A-4	B-38	Solenoid not Qualified
SFY46225	CIS	Solenoid Valve	4-5	A-4	B-39	Solenoid not Qualified
SFY46906A	CIS	Solenoid Valve	4-5	A-4	B-40	Solenoid not Qualified
SFY46906B	CIS	Solenoid Valve	4-5	A-4	B-41	Solenoid not Qualified
SFY46908	CIS	Solenoid Valve	4-5	A-4	B-42	Solenoid not Qualified
SFY46919	CIS	Solenoid Valve	4-5	A-4	B-43	Solenoid not Qualified
SFY46920	CIS	Solenoid Valve	4-5	A-4	B-44	Solenoid not Qualified
SFY46921	CIS	Solenoid Valve	4-5	A-4	B-45	Solenoid not Qualified
SFY46922	CIS	Solenoid Valve	4-5	A-4	B-46	Solenoid not Qualified
SFY46923	CIS	Solenoid Valve	4-5	A-4	B-47	Solenoid not Qualified
SFY53610	CIS	Solenoid Valve	4-5	A-4	B-48	Solenoid not Qualified
SFY60002	CIS	Solenoid Valve	4-5	A-5	B-49	Solenoid not Qualified
SFY60004	CIS	Solenoid Valve	4-5	A-5	B-50	Solenoid not Qualified
SFY66309	CIS	Solenoid Valve	4-5	A-5	B-51	Solenoid not Qualified
SFY70002	CIS	Solenoid Valve	4-5	A-5	B-52	Solenoid not Qualified
SFY72502	CIS	Solenoid Valve	4-5	A-5	B-53	Solenoid not Qualified
SFY92520A	CIS	Solenoid Valve	4-5	A-5	B-54	Solenoid not Qualified
SFY92520B	CIS	Solenoid Valve	4-5	A-5	B-55	Solenoid not Qualified

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
				A	B	
TE21023A	RCS	Temperature Element	4-31	A-16	B-144	Inservice Radiation
TE21023B	RCS	Temperature Element	4-31	A-16	B-145	Inservice Radiation
TE21024A	RCS	Temperature Element	4-31	A-16	B-146	Inservice Radiation
TE21024B	RCS	Temperature Element	4-31	A-16	B-147	Inservice Radiation
TE21029	RPS	Temperature Element	4-35	A-20	B-170	Inservice Radiation
TE21030	RPS	Temperature Element	4-35	A-20	B-171	Inservice Radiation
TE21031A	RCS	Temperature Element	4-31	A-17	B-148	Inservice Radiation
TE21031B	RCS	Temperature Element	4-31	A-17	B-149	Inservice Radiation
TE21032A	RCS	Temperature Element	4-31	A-17	B-150	Inservice Radiation
TE21032B	RCS	Temperature Element	4-31	A-17	B-151	Inservice Radiation
TE21033	RPS	Temperature Element	4-35	A-20	B-172	Inservice Radiation
TE21034	RPS	Temperature Element	4-35	A-20	B-173	Inservice Radiation

APPENDIX D
Index of Equipment/Open Items

Plant ID Number	System	Generic Name	Where to Find in Report			Open Items
			Text	Appendices		
				A	B	
XE21520	RCS	Accelerometer	4-31	A-17	B-152	Documentation to be Reviewed
XE21521	RCS	Accelerometer	4-31	A-17	B-153	Documentation to be Reviewed
XE21522	RCS	Accelerometer	4-31	A-17	B-154	Documentation to be Reviewed
XE21523	RCS	Accelerometer	4-31	A-17	B-155	Documentation to be Reviewed
XE21524	RCS	Accelerometer	4-31	A-17	B-156	Documentation to be Reviewed
XE21525	RCS	Accelerometer	4-31	A-17	B-157	Documentation to be Reviewed
XY21520	RCS	Charge Amplifier	4-31	A-17	B-158	Documentation to be Reviewed
XY21521	RCS	Charge Amplifier	4-31	A-18	B-159	Documentation to be Reviewed
XY21522	RCS	Charge Amplifier	4-31	A-18	B-160	Documentation to be Reviewed
XY21523	RCS	Charge Amplifier	4-31	A-18	B-161	Documentation to be Reviewed
XY21524	RCS	Charge Amplifier	4-31	A-18	B-162	Documentation to be Reviewed
XY21525	RCS	Charge Amplifier	4-31	A-18	B-163	Documentation to be Reviewed