NORTHERN STATES POWER COMPANY
MONTICELLO NUCLEAR GENERATING PLANT

RESPONSE TO THE EQUIPMENT QUALIFICATION SAFETY EVALUATION REPORT

Prepared For:

NORTHERN STATES POWER COMPANY

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The work described in this report was performed in accordance with the EDS Nuclear Quality Assurance Program. The signatures below verify the accuracy of this Report and its compliance with applicable quality assurance requirements.

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REVISION RECORD

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1.0 INTRODUCTION

This report has been prepared in response to the Nuclear Regulatory Commission (NRC) Safety Evaluation Report (SER) [1], concerning environmental qualification of safety related equipment for the Monticello Nuclear Generating Plant. This report addresses all concerns identified by the NRC in the Monticello SER.

The Equipment Qualification Branch of the Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission (NRC), has required all licensees of operating reactors to submit a re-evaluation of the qualification of safety related electrical equipment which may be exposed to a harsh environment. This requirement was implemented primarily by the issuance, on January 14,1980, of IE Bulletin No 79-01B [10] with subsequent clarifying supplements in February, September, and October, 1980.

The Bulletin required that a master list of safety related systems and equipment be generated, all accident service conditions be defined, and the equipment be evaluated in accordance with guidelines in the Bulletin.

Northern States Power Company has provided three responses to the Bulletin in May 1980, August 1980 and November 1980. The May 27, 1980 response included identification and evaluation of safety related electrical equipment. In particular, the environments for equipment outside containment were identified and a general plan was developed to complete the qualification of equipment.

The August 27, 1980 response incorporated newly acquired qualification data. Additionally the normal and accident environments for equipment both inside and outside containment were finalized. The November 1, 1980 response [2] summarized additional evaluations that had been performed. This response completely superceded all previous responses. Also, plans were described, which had been developed to assure the qualification of equipment identified as having "outstanding items."

On June 3, 1981, the NRC issued the Monticello Nuclear Generating Plant Safety Evaluation Report (SER) [1], which summarized their assessment of the November 1, 1980 response and also requested additional information. A summary of all Monticello Nuclear Generating Plant environmental qualification activities is provided in this report.

This response incorporates newly acquired equipment qualification data. All remaining outstanding items have also been identified and plans developed for their resolution. Plans are described to establish necessary maintenance and surveillance programs to identifiy age degraded equipment. Also, justification for continued operation of the Monticello Plant is provided.

All work concerning the evaluation and response to evaluation deficiencies of environmental qualification have been fully documented in accordance with the procedures and requirements of the EDS Quality Assurance Program, so as to provide an auditable package. This program complies with 10CFR50, Appendix B, ANSI N45.2 and applicable daughter standards.

2.0 SUMMARY

This document summarizes the evaluation of environmental qualification of safety related electrical equipment performed in response to IE Bulletin No 79-01B. It provides documentation of the Environmental Qualification Program that is being undertaken by Northern States Power Company. The program ensures that all safety related equipment is capable of performing its safety related function during postulated accident conditions.

The present status of the evaluation is as follows:

- All safety related plant systems have been identified.
- The safety related electrical equipment in these systems has been identified.
- Equipment qualification service conditions have been developed for all areas of the plant.
- Information sources have been contacted in order to obtain qualification documentation.
- Type-test reports have been received for most safety related components. This data has been evaluated for compliance with the required qualification standards.
- A summary of the current evaluation status of all equipment for which qualification documentation has been obtained is presented.
- Responses to all deficiencies identified in the SER are presented.
- Corrective action plans to resolve any remaining outstanding qualification items are presented. These plans are currently being implemented by Northern States Power.

This report is submitted as a final response to the NRC Safety Evaluation Report concerning environmental qualifications to safety related electrical equipment at Monticello.

3.0 GENERAL CONCERNS

Section 3.0 of the Safety Evaluation Report [1] identified various general concerns. The following present our responses to these concerns.

3.1 Safety Related Equipment List

The NRC staff's review of the Safety Related Equipment List determined that the equipment list provided by Northern States Power was acceptable with one exception. The exception was that a complete list of all display instrumentation mentioned in the LOCA and HELB Emergency Procedures was not provided. Display instrumentation is discussed in Section 3.1.1.

Subsequent to the previous IE Bulletin 79-01B submittal for Monticello [2], the Safety Related Equipment List was reevaluated. The review determined that some components could be deleted from the list of equipment required to function in harsh environments. Deleted equipment is discussed in Section 3.1.2.

3.1.1 Display Instrumentation

Display instrumentation mentioned in the Monticello LOCA and HELB emergency procedures and subject to harsh environmental conditions was included in our November 1, 1980 submittal [2]. Each item was listed with its appropriate system. For clarity, these items are listed in Table 3-1 by system, plant ID number, and function. For consistency, the component evaluation worksheets for these instruments are included in their appropriate system.

3.1.2 Deleted Equipment

A review of the safety related equipment list for Monticello indicated that various components in three systems could be deleted from the list of equipment requiring qualification to harsh environmental service conditions. It was determined that various components in the following systems could be deleted.

1. Reactor Core Isolation Cooling System (RCIC)

2. Containment System

3. Nuclear Boiler Vessel Instrumentation System

Equipment deleted from these systems is discussed below.

3.1.2.1 Reactor Core Isolation Cooling System

In our previous submittal [2] the limiting accident in the RCIC Room was assumed to be a RCIC steamline break. A review of FSAR [6] Section 7.2.3.2 determined that a RCIC steamline break would disable the RCIC system due to initiation of the RCIC steamline isolation by the RCIC system temperature sensors in either the RCIC room or the torus compartment. The other HELB that could possibly affect the RCIC room is a HPCI steamline break in the torus compartment. However, this break will also disable the RCIC system due to steamline isolation by the RCIC system temperature sensors in the torus area. Therefore, qualification of the equipment listed in Table 3-2 for the environment resulting from a HELB is not required.

Also, in the FSAR analysis, the equipment in Table 3-2 was not assumed to operate to mitigate the consequences of a LOCA. Therefore, qualification to LOCA induced environmental conditions such as radiation is not required.

The previous discussion indicates that the equipment listed in Table 3-2 is not required to be qualified to harsh environmental conditions. This equipment is now considered to be located in a mild environment and will be included in the mild environment equipment qualification evaluation.

Level transmitters LT 1358 and LT 1359 provide indication of condensate storage tank level. Operator use of these non-safety related instruments has been reviewed. It was determined by Northern States Power that post-accident failure would not mislead the operator. Therefore, qualification of these instruments is not required. This position is consistant with the requirements of Reg. Guide 1.97, Revision 2 [9], in which these instruments are identified as Category 3.

3.1.2.2 Containment System

Level transmitter LT 2996 provides indication of Torus water level. As dictated by TMI lessons learned requirements, qualified wide range Torus level transmitters (LT 7338A,B) have been installed. Because these new instruments provide the same indication function as LT 2996, they will supercede this instrument on the safety related equipment master list. Therefore, qualification of LT 2996 is not required and it has been deleted from the response.

3.1.2.3 Nuclear Boiler Vessel Instrumentation

Level transmitters LT 6-52A,B provide indication of reactor water level. Operator use of the information provided by these level transmitters has been reevaluated. It was determined that the same information provided by LT 6-52A,B is provided by redundant level transmitters LITS 2-3-59A,B. Therefore, qualification of LT 6-52A,B is not required and they have been deleted from the response.

TABLE 3-1

DISPLAY INSTRUMENTATION
SUBJECT TO HARSH ENVIRONMENTS

SYSTEM	PLANT ID	INDICATION FUNCTION
NBVI	LITS 2-3-59A,B	Reactor Vessel Level
NBVI	LT 2-3-61	Reactor Vessel Level
NBVI	LITS 2-3-73A,B	Reactor Vessel Level
NBVI	PT 6-53A,B	Reactor Vessel Pressure
RHR	FT 10-109A,B	LPCI Flow
RHR	FT 10-111A,B	Containment Cooling Flow
RHR	DPT 10-91A,B	RHR Heat Exchanger Shell to Tube Diff. Pressure
Core Spray	FT 14-40A,B	Core Spray Loop Flow
HPCI	FT 23-82	HPCI Pump Flow
Containment	PT 2994B	Torus Narrow Range Pressure
Containment	PT 7348	Drywell Wide Range Pressure

TABLE 3-2

RCIC SYSTEM EQUIPMENT DELETED
DUE TO LOCATION

PLANT ID	MANUFACTURER/MODEL NUMBER
V-AC-6	U. S. Motors F-1088-01-268
MO-2078	Limitorque SMB-00
MO-2106	Limitorque SMB-00
MO-2110	Limitorque SMB-2
MO-3502	Limitorque SMB-0
PS 13-72 A, B	Barksdale D2H-M150SS
P210	GE 5CD10C10A
PT 13-60	General Electric 551
PT 13-65	General Electric 551
PT 13-68	General Electric 551
PT 13-70	General Electric 551
MO 2100	Rotork 12A/EC
MO 2101	Rotork 12A/EC
MO 2102	Rotork 12A/EC
SV 2104	ASCO T-HT-83212
FS 13-57	Barton 289
FT 13-58	General Electric 553
PS 13-67	Mercoid DAW-443-4132-R26E
--	Woodward Governor Turbine Controls

3.2 Service Conditions Inside Containment

The NRC staff identified four service conditions inside containment that were considered deficient or required further justification. These service conditions are as follows:

1. Pressure Conditions
2. Temperature Conditions
3. Chemical Spray
4. Radiation Conditions

The NRC staff identified the reported submergence condition inside containment as being acceptable. These five service conditions are discussed below.

3.2.1 Pressure Conditions

The containment pressure profile in the FSAR was confirmed in the Mark 1 Containment Program plant unique load definition report for Monticello [3]. Calculation techniques used in this analysis are described in the Mark 1 Containment Program Load Definition Report [4] and are equivalent to those used in GESSAR Appendix 3B. These techniques were accepted by the NRC in the Safety Evaluation Report, Mark 1 Containment Long-Term Program, NUREG 0661 [5].

For the Monticello plant, the plant unique Mark 1 containment load analysis of drywell pressure predicts a peak of 41.1 psig, which is consistent with the value of 41.5 psig used for equipment qualification. Additionally, the peak calculated drywell temperature during the LOCA is 282°F, which compares favorably with the 289°F reported to the NRC.

The previous discussion justifies our use of FSAR Figure 5-2-14, Containment Pressure Response, for equipment qualification. The pressure profile used

for equipment qualification inside containment is shown in Figure B.1, of Appendix B. Temperature conditions are discussed below.

3.2.2 Temperature Conditions

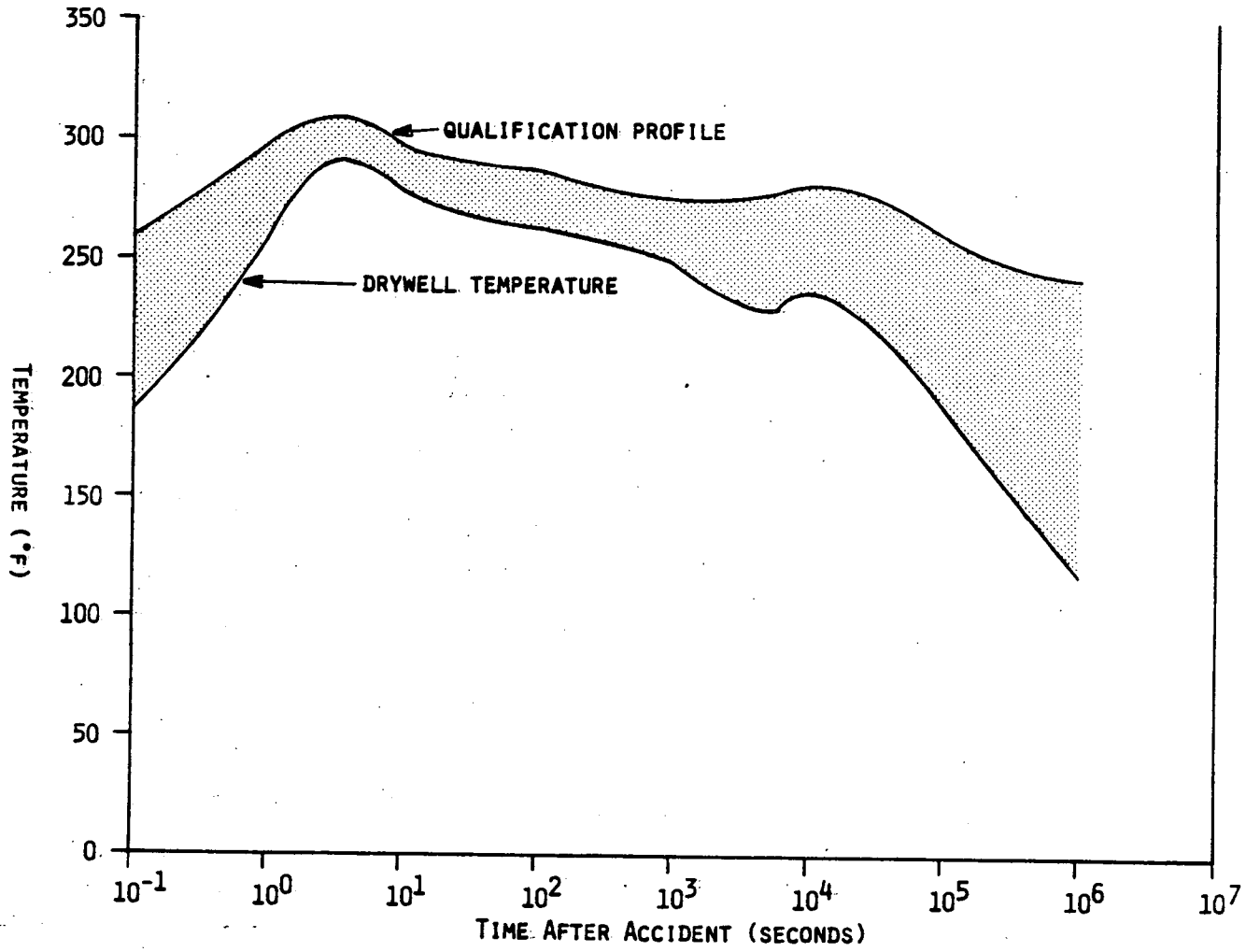
The NRC staff concluded that the minimum temperature profile for equipment qualification should include a margin to account for analytical uncertainties in the calculated temperature profiles for postulated accidents. A margin of 20°F above steam saturation temperature is considered to be appropriate for either a postulated LOCA or MSLB, whichever is controlling as to potential adverse environmental effects on equipment.

The limiting accident inside containment analyzed in the FSAR is a double ended recirculation line break. The pressure response for this accident is shown in FSAR 5-2-14 [6]. The calculated temperature response for this accident is shown in FSAR Figure 5-2-15 [6] and was used for equipment qualification. To satisfy the new NRC temperature margin requirement a new temperature profile was used. This new profile is the steam saturation temperature plus 20°F corresponding to the pressure curve shown in FSAR Figure 5-2-14 [6]. Figure 3-1 illustrates the temperature margin resulting from the new temperature profile. The temperature profile used for equipment qualification inside containment is shown in Figure B.1, of Appendix B.

3.2.3 Chemical Spray

In our previous submittal [2], the containment spray system was not considered safety-related and credit for its use was not taken in the analysis. The NRC staff concluded that because the system is available and could be used, any equipment upon which the spray impinges must be qualified for the spray parameter.

FIGURE 3-1


350
300
250
200
150
100
50
0
QUALIFICATION PROFILE
DRYWELL TEMPERATURE
TEMPERATURE (°F)
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
10^{4}
10^{5}
10^{6}
10^{7}
TIME AFTER ACCIDENT (SECONDS)

To satisfy the chemical spray requirement, all components located inside containment were reevaluated. All equipment potentially impinged by the spray solution of demineralized water were determined to be qualified for this condition.

3.2.4 Radiation Conditions

During the environmental equipment qualification meeting in Bethesda, July 7 through 10, 1981, the NRC staff presented their "screening value" for radiation service conditions inside containment. The staff's screening value was 4.0×10^7 Rads of gamma plus beta radiations. This new radiation requirement includes the 2.0×10^7 Rad accident gamma dose previously provided in the DOR Guidelines [10] plus an assumed 2.0×10^7 Rad normal gamma and accident beta dose.

The radiation condition used in our previous submittal [2] for equipment qualification inside containment was a maximum accident dose of 3.3×10^7 Rads Gamma. However, lower doses were specified for equipment with shorter operating time requirements. The radiation specification of 3.3×10^7 Rads used in our previous submittal was determined using the assumptions presented in TID 14844 and compares favorably with the new NRC screening value. Therefore, we feel this specification is adequate and the gamma radiation specifications inside containment have not been revised.

However, the radiation service conditions inside containment have been revised to account for beta radiation. As indicated in the DOR Guidelines [10], an unshielded surface beta radiation dose of 2.0×10^8 Rads was assumed. The beta radiation was considered simultaneously with the previously described gamma radiation. All equipment potentially exposed to the beta radiation has been reevaluated. The results of these reevaluations are included on the component evaluation worksheets in Appendix C of this report.

3.2.5 Submergence

Our previous submittal [2] identified a flood elevation of 922 ft. inside containment. No equipment inside containment was found to be subject to submergence. The NRC staff found this acceptable.

3.3 Service Conditions Outside Containment

3.3.1 Thermal Hydraulic Conditions

Temperature, pressure and relative humidity conditions as a result of a High Energy Line Break (HELB) outside containment were previously submitted for the following plant areas:

1. Steam Chase
2. Turbine Building
3. Torus Compartment
4. HPCI Room
5. RCIC Room
6. RHR Rooms
7. RWCU Pump Room
8. RWCU Heat Exchanger Room
9. Open Space at Elevations 935 ft. and 962 ft. 6 in.

The environmental service conditions provided for these areas were deemed acceptable by the NRC staff.

The thermal hydraulic service conditions have been reevaluated for many areas of the Monticello Plant. The open spaces at elevations 935 ft. and 962 ft. 6 in. were modeled in more detail. This effort was performed in order to more accurately

define the required accident service conditions for future equipment installation, relocation and replacement.

The results of the refined thermal hydraulic analyses are presented in Reference 7. Plant layout drawings depicting the layout of thermal-hydraulic control volumes for the environmental analyses are shown in Figures B.18 through B.21, of Appendix B.

In addition, the environmental conditions in the HPCI room due to a RCIC steamline break in the torus compartment were analyzed. The results of this analysis are presented in reference 8.

The temperature and pressure profiles used for equipment qualification outside containment are shown in Figure B.2 through B.17, of Appendix B. The post accident relative humidity condition for each of these locations is assumed to be 100% as indicated on the Component Evaluation Worksheet.

3.3.2 Submergence

Flooding analyses in support of our equipment qualification efforts identified the following flood elevations for areas outside containment:

1. HPCI Room: 4 feet above floor

2. Steam Chase: 4 feet above floor

No equipment outside containment required to operate during submerged conditions was identified. The NRC staff found this acceptable.

3.3.3 Radiation

The radiation conditions for equipment located outside containment were deemed acceptable by the NRC staff. Therefore, no changes were required in the radiation levels for equipment outside containment.

However, the radiation levels specified in our previous submittal [2] for the Standby Gas Treatment (SBGT) Room did not account for the distance from the radiation source to each component. This resulted in overly conservative radiation specifications for many components. The radiation conditions have been reevaluated for the SBGT room in Reference 11. This reevaluation resulted in more accurate radiation specifications for equipment in this room. The appropriate radiation specification from this analysis is given on the SBGT system Component Evaluation Worksheets.

3.4 Aging

When Northern States Power Company received their operating license for Monticello, aging was not required for equipment qualification. Therefore, aging was not addressed in the original equipment qualification efforts.

The DOR Guidelines presented in the IE Bulletin No. 79-01B [10] required that component aging be addressed in the evaluation of equipment qualification. While the DOR Guidelines do not require a qualified life be established for all safety related equipment, the following actions are required:

1. Make a detailed comparison of existing equipment and the materials identified in Appendix C of the DOR Guidelines. The first supplement to IEB 79-01B requires licencees to utilize the table in Appendix C and identify any additional materials as the result of their effort.

2. Establish an ongoing program to review surveillance and maintenance records to identify potential age related degradations.

3. Establish component maintenance and replacement schedules which include considerations of aging characteristics of the installed components.

At this time, efforts required by Action Item (1) have been completed. An extensive amount of manpower was spent in these efforts. Although primary emphasis was placed on evaluating the affects of thermal aging, other significant aging mechanisms were addressed. The following steps were involved in performing the aging evaluations:

1. Identify the potentially age susceptible subcomponents of an equipment item. This was done by listing all non-metallic parts. It was assumed that metallic components were not susceptible to significant age related degradation.

2. Identify the specific non-metallic component materials. In most cases, a bill of materials provided by the equipment vendor defined these materials. However, many components were of a vintage such that the vendor could not accurately identify the actual materials of construction. In these cases, typical materials used in similar applications were listed and the material most susceptible to aging was assumed.

3. Identify aging properties of the previously identified materials. This involved an extensive literature search. Data sources included:

   a. Appendix C of the DOR Guidelines
   b. Material Manufacturer Information
   c. EPRI Report No. NP-1558
   d. U.L. Temperature Ratings
   e. Test Lab Data
   f. Other Sources

The data was reviewed to determine whether it applied to the geometry (i.e., bulk, thin film, etc.) and material property of concern, such as retention of elongation for a cyclic diaphragm. The aging data utilized incorporated conservative definitions of material failure relative to retention of a critical property.

4. Determine susceptibility to age related degradation. The literature search indicated that certain materials, such as thermosetting plastics and silicons, were not susceptible to significant thermal degradation. This determination was made only when adequate basis was present in the literature. It should be noted that this conclusion was made for very few materials.

   The Arrhenius Model was used to evaluate the affects of thermal aging for materials that were determined to be potentially susceptible to significant thermal degradation. The Arrhenius evaluations extrapolated test conditions and published materials information to determine a qualified life for a material in a certain application. Conservatism was included in all Arrhenius calculations in the following manner:

   a. The lowest listed apparent activation energy for a material was used unless a specific justification for a higher value was provided.

   b. A conservatively high normal operating temperature was used to calculate a qualified life.

   c. A conservative activation energy of 0.5 eV was assumed for materials where adequate aging data was unavailable.

   d. A conservatively high material temperature was assumed when evaluating equipment that generate heat such as solenoids and motors.

5. Evaluate effect of material degradation. When a qualified life for a material was less than required, the affect of the material failure was evaluated. If it was determined that failure of this material or subcomponent would not affect the functionability of the component, this material was no longer considered the limiting material and the next most limiting material was used to establish the qualified life. An example of this situation would be a cover gasket on a component not subject to harsh temperature, pressure or relative humidity conditions. In this situation, failure of the cover gasket due to age related degradation would not have a deleterious affect on the component's functionability.

   Also, for equipment exposed to zero or small accident temperature transients, the normal age related degradation will not be significantly accelerated during post accident conditions. Therefore, catastrophic failure due to thermal aging under these circumstances is very unlikely.

4.0 COMPONENT DEFICIENCIES

Section 4.0 of the Safety Evaluation Report [1] separated the safety related equipment into three categories. These three categories are discussed below:

4.1 Equipment Requiring Immediate Action

No safety related equipment at Monticello was included in this category.

4.2 Equipment Requiring Additional Information

Appendix B of the Safety Evaluation Report [1] lists equipment requiring additional information and/or corrective action. Ninety six percent of the safety related equipment in the previous submittal [2] was included in this category. Various deficiencies were identified for these components.

Information obtained during the Environmental Equipment Qualification meeting in Bethesda, Maryland, through discussions with the NRC, and by reviewing the identified deficiencies against the Component Evaluation Worksheets indicates that only additional information is required. We have attempted to identify what additional information was necessary by a component by component comparison of the Component Evaluation Worksheets and the identified deficiency. This additional information is included on the revised worksheets included in Appendix C of this report.

4.3 Equipment Considered Conditionally Acceptable

Appendix C of the Safety Evaluation Report [1] lists equipment considered conditionally acceptable. All equipment listed in the category have aging identified as the only deficiency.

Because the number of components in this category is small and the aging deficiency is not significantly different than those discussed in Section 4.2, the revised Component Evaluation Worksheets for these components are included in Appendix C of this report. The additional information describing each aging evaluation is included on the worksheets.

5.0 CORRECTIVE ACTIONS

Corrective actions required to resolve outstanding items identified during the equipment qualification evaluations have been developed. These corrective actions are discussed below.

5.1 Component Specific Items

Component specific corrective action plans have been developed to resolve outstanding qualification items. The corrective action plans include the following:

1. Component Replacement
2. Component Relocation
3. Component Modification
4. Component Testing

The specific action plan for each component is indicated on the component evaluation worksheets included in Appendix C.

5.2 Aging

The NRC staff requested additional information regarding aging of all safety related equipment. Section 3.4 of this report describes the analysis methods used to address the aging requirement.

As required by the NRC, a program is being established at Monticello to review component maintenance and surveillance records to identify potential age related degradations. Information obtained from this review program and the specific component aging analyses is being incorporated into existing component maintenance and replacement schedules.

Maintenance and surveillance procedures currently in effect track the degradation of many components. Also, replacement schedules exist for components with known aging problems. These procedures are being reviewed to determine the impact of the recently compiled and ongoing aging evaluations being performed by Northern States Power Company. Component specific maintenance and surveillance procedures will be modified or developed as required by our evaluations.

6.0 JUSTIFICATION FOR CONTINUED OPERATION

Justification for continued plant operation has been provided for all components for which complete qualification documentation could not be obtained. These justifications are found as notes to the applicable Component Evaluation Worksheets included in Appendix C.

For components where no environmental test data has been found, justification is based on discussions with the vendor, review of the materials of construction, design specifications, operating experience and similarity to qualified equipment. Additionally, when applicable, justification included consideration of the distance between the equipment and the location of the postulated HELB and the availability of redundant qualified equipment.

7.0 REFERENCES

1. Safety Evaluation Report by the Office of Nuclear Reactor Regulation Equipment Qualification Branch for Northern States Power Company Monticello Nuclear Generating Plant Document Number 80-263, June 3, 1981.

2. Northern States Power Company; "Monticello Nuclear Generating Plant - Response to IE Bulletin 79-01B", EDS Report No 01-0910-1087, Rev. 2, November 1, 1980.

3. General Electric Company NEDO 24576, "Mark I Containment Program, Plant Unique Load Definition, Monticello Nuclear Plant", March 1979.

4. General Electric Company NEDO 21888, "Mark I Containment Program, Load Definition, Task 7.6", December 1978.

5. NUREG 0661; "Mark I Containment Long Term Program Safety Evaluation Report, Resolution of Generic Technical Activity A-7." February 1977 to December 1979, July 1980.

6. Northern States Power Company; "Monticello Nuclear Generating Plant-Final Safety Analysis Report"; Docket No. 50-263, Oct. 1969, License No. DPR-22.

7. EDS Report No. 01-0910-1137; "Monticello Nuclear Generating Plant Environmental Effects Due to Pipe Rupture," Rev. 0; Dec. 1980.

8. Addendum to EDS Report No. 01-0910-1137; May 1981.

9. Regulatory Guide 1.97 - "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Rev. 2; Dec. 1980.

10. Environmental Qualification of Class 1E Equipment, NRC Office of Inspection and Enforcement Bulletin No. 79-01B, January 14, 1980.

11. Bechtel Job 10040-048, "Monticello Nuclear Generating Plant Unit 1, Northern States Power Company, Plant Shielding Design Review Continuation," June 1981.

APPENDIX A

SAFETY RELATED ELECTRICAL EQUIPMENT

MASTERLIST

SYSTEM: Main Steam (MSS)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
MO 2373	Valve Motor Operator	Limitorque	SMB-000	B.1
MO 2374	Valve Motor Operator	Limitorque	SMB-000	B.7
SV 2-71 (A-H)	Solenoid Valve	Automatic Valve Co.	C-5450	B.1
SV 2-80 (A-D)	Solenoid Valve	Automatic Valve Co.	C-4988-15	B.1
SV-2-86 (A-D)	Solenoid Valve	Automatic Valve Co.	C-4988-15	B.7
TS 2-121 (A-D)	Temperature Switch	Fenwal	17002-40	B.7
TS 2-122 (A-D)	Temperature Switch	Fenwal	17002-40	B.7
TS 2-123 (A-D)	Temperature Switch	Fenwal	17002-40	B.7
TS 2-124 (A-D)	Temperature Switch	Fenwal	17002-40	B.7
dPIS 2-116 (A-D)	Differential Pressure Indicating Switch	Barton	278	B.9
dPIS 2-117 (A-D)	Differential Pressure Indicating Switch	Barton	278	B.9
dPIS 2-118 (A-D)	Differential Pressure Indicating Switch	Barton	278	B.9
dPIS 2-119 (A-D)	Differential Pressure Indicating Switch	Barton	278	B.9
- - - - - - - - -	Limit Switch	NAMCO	EA-740-50100	B.1

Table A.1

SYSTEM: Nuclear Boiler-Vessel Instrumentation (NBVI)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
PS 2-3-49 (A,B)	Pressure Switch	Barksdale	B2T-A12SS	Radiation Only
PS 2-3-50 (A,B)	Pressure Switch	Barksdale	B2T-A12SS	Radiation Only
PS 2-3-51 (A-D)	Pressure Switch	Barksdale	B2T-A12SS	B.13
PS 2-3-52(A)	Pressure Switch	Barksdale	B2T-A12SS	B.13
PS 2-3-52(B)	Pressure Switch	Barton	288	B.13
PS 2-3-53 (A,B)	Pressure Switch	Barksdale	B2T-A12SS	B.8
LIS 2-3-57 (A,B)	Level Indicating Switch	Yarway	4418C	B.13
LIS 2-3-58 (A,B)	Level Indicating Switch	Yarway	4418C	B.13
LIS 2-3-72 (A-D)	Level Indicating Switch	Yarway	4418C	B.13
LITS 2-3-73 (A,B)	Level Indicating Switch	Yarway	4418EC	B.8(A) B.9(B)
LITS 2-3-59 (A,B)	Level Indicating Transmitter-Switch	Yarway	4418CE	B.13
LT 2-3-61	Level Transmitter	GE	553	B.13
PT 6-53 (A,B)	Pressure Transmitter	GE	551	B.13

Table A.2

SYSTEM: Reactor Recirculation				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRONMENT
MO 2-53 (A,B)	Valve Motor Operator	Limitorque	SMB	B.1
MO 2-54 (A,B)	Valve Motor Operator	Limitorque	SMB	B.1
SV 2790	Solenoid Valve	ASCO	NP 8321A1E	B.1
SV 2791	Solenoid Valve	ASCO	THT831723	B.11
PS 2-128 (A,B)	Pressure Switch	Static-O-Ring	6N-AA3	B.8
dPIS 2-129 (A-D)	Differential Pressure Indicating Switch	Barton	288	Radiation Only
dPIS 2-136 (A,B)	Differential Pressure Indicating Switch	Barton	288	Radiation Only
dPIS 2-137 (A,B)	Differential Pressure Indicating Switch	Barton	288	Radiation Only
dPIS 2-138 (A,B)	Differential Pressure Indicating Switch	Barton	288	Radiation Only
dPIS 2-139 (A,B)	Differential Pressure Indicating Switch	Barton	288	Radiation Only
- - - - - - - - -	Limit Switch	NAMCO	EA-740-8000	B.1

Table A.3

SYSTEM: Control Rod Drive (CRD)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
SV 3-140 (A,B)	Solenoid Valve	ASCO	WPLBX 831636	B.9
SV 3-31 (A,B)	Solenoid Valve	ASCO	HVA-90-441-1A	B.8
SV 3-13-117	Solenoid Valve	ASCO	HVA-90-405	B.8
SV 3-13-118	Solenoid Valve	ASCO	HVA-90-405	B.8

Table A.4

SYSTEM: Residual Heat Removal (RHR)				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
MO 1989	Valve Motor Operator	Rotork	30A S/N S2221	B.4
MO 2002	Valve Motor Operator	Rotork	150A S/N S2221	B.4
MO 2003	Valve Motor Operator	Rotork	150A S/N S2222	B.4
MO 2006	Valve Motor Operator	Rotork	35A S/N S2207	B.3
MO 2007	Valve Motor Operator	Rotork	35A S/N S2208	B.15
MO 2008	Valve Motor Operator	Rotork	70A S/N S2219	B.3
MO 2009	Valve Motor Operator	Rotork	70A S/N S2220	B.3
MO 2010	Valve Motor Operator	Rotork	14AMKII S/N S2205	B.3
MO 2011	Valve Motor Operator	Rotork	14AMKII S/N S2205	B.3
MO 2012	Valve Motor Operator	Limitorque	SMB-5	B.10
MO 2013	Valve Motor Operator	Limitorque	SMB-5	B.10
MO 2014	Valve Motor Operator	Limitorque	SMB-2	B.10
MO 2015	Valve Motor Operator	Limitorque	SMB-2	B.10
MO 2020	Valve Motor Operator	Rotork	30A S/N S2215	B.9
MO 2021	Valve Motor Operator	Rotork	30A S/N S2212	B.13
MO 2022	Valve Motor Operator	Rotork	30A S/N S2213	B.9
MO 2023	Valve Motor Operator	Rotork	30A S/N S2214	B.13

SYSTEM: Residual Heat Removal (cont'd)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
MO 2026	Valve Motor Operator	Limitorque	SMB-00	B.13
MO 2027	Valve Motor Operator	Limitorque	SMB-00	B.1
MO 2029	Valve Motor Operator	Limitorque	SMB-4	B.1
MO 2030	Valve Motor Operator	Limitorque	SMB-4	B.10
MO 2032	Valve Motor Operator	Rotork	12A S/N S2204	B.3
MO 2407	Valve Motor Operator	Rotork	12A S/N S2315	B.3
SV 1728	Solenoid Valve	ASCO	T-HP-830081RU	B.4
SV 1729	Solenoid Valve	ASCO	T-HP-830081RU	B.4
SV 1994	Solenoid Valve	ASCO	T-HT-831723	B.4
SV 1995	Solenoid Valve	ASCO	T-HT-831723	B.4
SV 1996	Solenoid Valve	ASCO	T-HT-831723	B.4
SV 1997	Solenoid Valve	ASCO	T-HT-831723	B.4
E/P 1728	Electro - Pneumatic Transducer	Fisher	546	B.4
E/P 1729	Electro - Pneumatic Transducer	Fisher	546	B.4
dPT 10-91 (A,B)	Differential Pressure Transmitter	Barton	296	B.4
PS 7192	Pressure Switch	Square D	GHG551	B.16
PS 10-105 (E-H)	Pressure Switch	Static-O-Ring	5N AA3X	B.4

Table A.5ii

SYSTEM: Residual Heat Removal (Cont'd)				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
PS 10-119 (A-D)	Pressure Switch	Static-O-Ring	12N-AA4	B.13
FS 10-121 (A-D)	Flow Switch	Peeco	HP-F	B.4
P-202 (A-D)	Pump Motor	GE	5K6329XC4A	B.4
PS 7193	Pressure Switch	Square D	GHG551	B.15
MO 1986	Valve Motor Operator	Rotork	30A S/N S2186	B.4
MO 1987	Valve Motor Operator	Rotork	30A S/N S2185	B.4
MO 1988	Valve Motor Operator	Rotork	30A S/N S2209	B.4
PS 10-100 (A-D)	Pressure Switch	Static-O-Ring	12N AA4	B.13
PS 10-101 (A-D)	Pressure Switch	Static-O-Ring	12N-AA4	B.13
FT 10-109 (A,B)	Flow Transmitter	GE	553	B.4
FT 10-111 (A,B)	Flow Transmitter	GE	553	B.4 (A) B.15 (B)
K-10 (A,B)	Aux. Compressor Motor	GE	5K145A1246	B.16(A) B.15(B)
K-10 (A,B)	Aux. Compressor Motor Starter	GE	CR106	B.16(A) B.15(B)
PS 10-105 (A-D)	Pressure Switch	Mercoid	DAW-23-156	B.4
N3347	Aux. Comp Disconnect	GE	THN 3361, mod 2	B.16
N4347	Aux. Comp Disconnect	GE	THN 3361, mod 2	B.15

Table A.5iii

SYSTEM: Core Spray (CSS)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
MO 1749	Valve Motor Operator	Rotork	30A	B.3
MO 1750	Valve Motor Operator	Rotork	30A	B.3
MO 1751	Valve Motor Operator	Limitorque	SMB-2	B.12
MO 1752	Valve Motor Operator	Limitorque	SMB-2	B.11
MO 1753	Valve Motor Operator	Limitorque	SMB-2	B.12
MO 1754	Valve Motor Operator	Limitorque	SMB-2	B.11
PS 14-44 (A-D)	Pressure Switch	Barksdale	B2T-A12SS	B.4
P-208 (A, B)	Pump Motor	GE	5K6338XC29B	B.4
FT 14-40 (A, B)	Flow Transmitter	GE	553	B.4

Table A.6

SYSTEM: High Pressure Coolant Injection (HPCI)				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRONMENT
MO 2034	Valve Motor Operator	Limitorque	SMB-0	B.1
MO 2035	Valve Motor Operator	Limitorque	SMB-0	B.7
MO 2036	Valve Motor Operator	Limitorque	SMB-1	B.6
MO 2061	Valve Motor Operator	Rotork	16AMKII	B.6
MO 2062	Valve Motor Operator	Rotork	16AMKII	B.6
MO 2063	Valve Motor Operator	Rotork	16AMKII	B.6
MO 2067	Valve Motor Operator	Limitorque	SMB-4	B.6
MO 2068	Valve Motor Operator	Limitorque	SMB-4	B.7
Mo 2071	Valve Motor Operator	Limtorque	SMB-4	B.6
PS 23-68 (A-D)	Pressure Switch	Barksdale	B2T-A12SS	B.9
PS 23-97 (A, B)	Pressure Switch	Mercoid	DA-7043-804	B.6
PS 23-84	Pressure Switch	Mercoid	DAW-443-4132 -R26E	B.6
dPIS 23-76 (A, B)	Differential Pressure Indicating Switch	Barton	288A	B.8
dPIS 23-77 (A,B)	Differential Pressure Indicating Switch	Barton	288A	B.8
TS 23-101 (A-D)	Temperature Switch	Fenwal	17023-6	B.3(A,B) B.2(C,D)
TS 23-102 (A-D)	Temperature Switch	Fenwal	17023-6	B.3(A,B) B.2(C,D)
TS 23-103 (A-D)	Temperature Switch	Fenwal	17023-6	B.3(A,B) B.2(C,D)

Table A.7i

SYSTEM: High Pressure Coolant Injection (cont'd)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
TS 23-104 (A-D)	Temperature Switch	Fenwal	17023-6	B.3(A,B) B.2(C,D)
P-217	Motor	Baldor	310-406-404	B.6
---	EGM	Woodward Governor	8270-811	B.6
---	EGR	Woodward Governor	R 8250-133	B.6
SV 2065	Solenoid Valve	ASCO	T-HT-83212	B.6
FS 23-78	Flow Switch	Barton	289	B.6
FT 23-82	Flow Transmitter	GE	553	B.6
LS 23-91 (A, B)	Level Switch	Magnetrol	249-C	B.3
LS 23-74	Level Switch	Robertshaw	SL-412-A1	B.8
LS 23-75	Level Switch	Robertshaw	SL-412-A1	B.8
---	Limit Switch	NAMCO	EA170-34101	B.6
---	Magnetic Pick-up	Woodward Governor	1680-622	B.6
---	Ramp Generator	Woodward Governor	8271-083	B.6

SYSTEM: Reactor Core Isolation Cooling (RCIC)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRONMENT
MO 2075	Valve Motor Operator	Limitorque	SMB-000	B.1
MO 2076	Valve Motor Operator	Limitorque	SMB-000	B.7
TS 13-79 (A-D)	Temperature Switch	Fenwal	17023-6	B.3(A,B) B.5(C,D)
TS 13-80 (A-D)	Temperature Switch	Fenwal	17023-6	B.3(A,B) B.5(C,D)
TS 13-81 (A-D)	Temperature Switch	Fenwal	17023-6	B.3(A,B) B.5(C,D)
TS 13-82 (A-D)	Temperature Switch	Fenwal	17023-6	B.3(A,B) B.5(C,D)
dPIS 13-83	Differential Pressure Indicating Switch	Barton	288	B.9
dPIS 13-84	Differential Pressure Indicating Switch	Barton	288	B.9
PS 13-87 (A-D)	Pressure Switch	Meletron	372-6SS49A	B.9
MO 2107	Valve Motor Operator	Limitorque	SMB-00	B.7

Table A.8

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B,

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

5. General Electric Plant Equipment Design Memo #126-62, "Environmental Testing of MSS/RV Air Control Valves," and Rockwell Co. test report No. 2792-03-002.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam PLANT I.D. No.: SV 2-86 (A-D) COMPONENT: Solenoid Valve MANUFACTURER: Automatic Valve Co. MODEL No.: C-4988-15 FUNCTION: Pilot Air Control For MSIV SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Steam Chase FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	5 minutes	18.3 hours	[2]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.7)	(See attached test profiles)	[1]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)				[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3×10^7	[3]	[5]	Sequential Testing	None
	AGING	Not Required	40 years	(See Note 1)	[4,5]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR Table 14-10-4.
4. EDS File No. 2, Rev. 3, "AVCO Solenoid Valve," Monticello Nuclear Plant, EDS Job #0910-001-451.

(Continued Next Page)

Temperature Exposure

The following is a tabulation of total temperature exposure above 250°F commenced on August 27, 1970 on the Automatic valves.

a. Time above 250°F: 9.3 hours

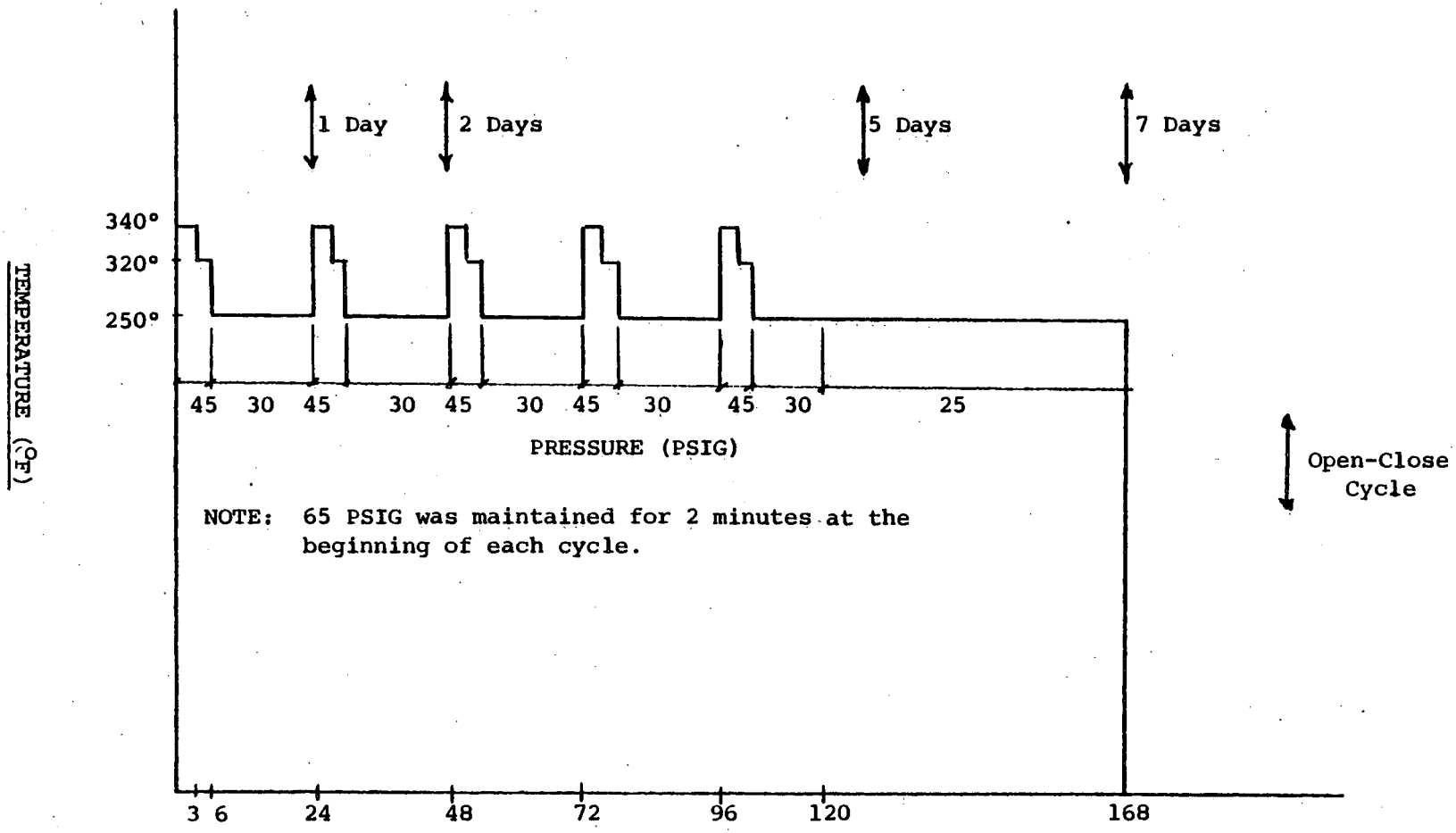
b. Time above 310°F: 5.5 hours

c. Time above 340°F: 3.3 hours

Saturated steam conditions were maintained during the test.

TEMPERATURE AND PRESSURE PROFILE

MODEL C-5450



NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. These valves are located beneath the MSIV. This effectively shields them from both direct spray and any spray runoff from the spray headers.	3. Qualification for gamma radiation was by testing. Qualification for beta radiation was done by analysis which showed that the amount of Beta radiation which penetrates existing shielding is less than 10% of the Gamma qualification dose. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	5. General Electric Plant Equipment Design Memo #126-62, "Environmental Testing of MSS/RV Air Control Valves," and Rockwell Co. Test Report No. 2792-03-002. 6. Assumed conservative surface dose.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam PLANT I.D. No.: SV 2-80 (A-D) COMPONENT: Solenoid Valve MANUFACTURER: Automatic Valve Co. MODEL No.: C-4988-15 FUNCTION: Pilot Air Control/MSIV SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	5 minutes	18.3 hours	[2]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 1)	(See attached test profile)	[3]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[4]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[4]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA		(See Note 2)			None
	RADIATION (RADS)	2 x 10^6 gamma 2 x 10^8 beta	3 x 10^7gamma 2 x 10^8 beta	[4] [6]	[5,1]	Sequential Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 years	(See Note 1)	[5,1]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

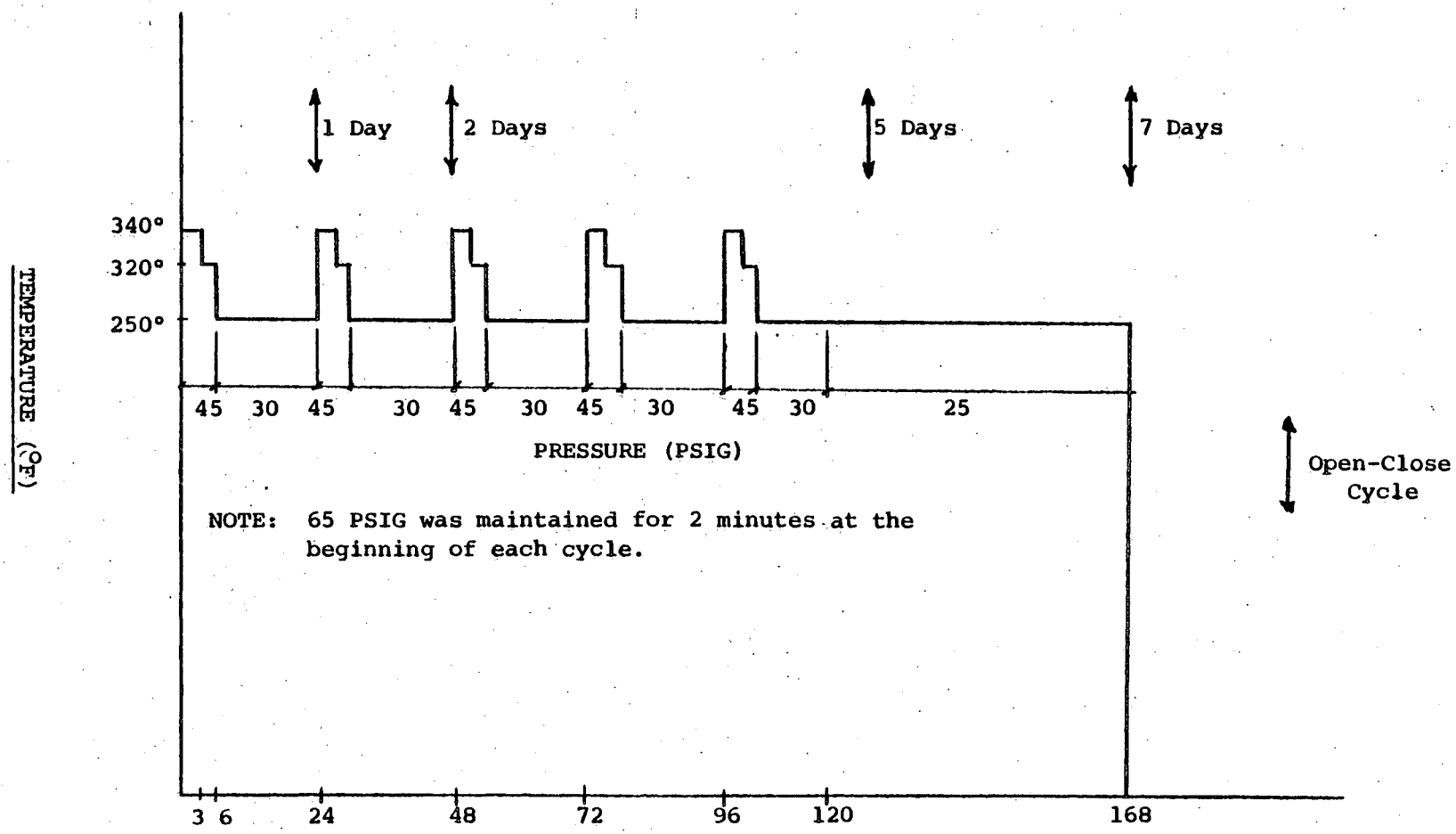
REVISION: 1 DATE: 11/01/81

REFERENCES:
1. EDS File No. 2, Rev. 3, AVCO Solenoid Valve," Monticello Nuclear Plant, EDS Job #0910-001-451.
2. General Electric Specification 22 A 1132.
3. SER Prepared by NRR Equipment Qualification Branch for Monticello Nuclear Plant, June 3, 1981.
4. Monticello Nuclear Plant FSAR Table 14-10-4, Section 5.2.3.2, "and Figure 5-2-14."

(Continued Next Page)

TEMPERATURE AND PRESSURE PROFILE

MODEL C-5450



NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This solenoid valve is qualified to NEMA 4 specifications, indicating protection from splashing water and hose-directed water. Thus, this solenoid valve is qualified for containment spray conditions.	3. Qualification for gamma radiation was by testing. Qualification for beta radiation was done by analysis which showed that the amount of Beta radiation which penetrates existing shielding is less than 10% of the Gamma qualification dose. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	5. General Electric Plant Equipment Design Memo #126-62, "Environmental Testing of MSS/RV Air Control Valves." 6. Assumed conservative surface dose.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam PLANT I.D. No.: SV 2-71 (A-H) COMPONENT: Solenoid Valve MANUFACTURER: Automatic Valve Co. MODEL No.: C-5450 FUNCTION: Control SERVICE: Safety Relief Valve ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment	OPERATING TIME	10 hours	168 hours	[2]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 1)	(See attached test profile)	[3]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[4]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[4]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized water	Water	[3]	[1]	Engineering Analysis (See Note 2)	None
	RADIATION (RADS)	4.8×10^6 gamma 2×10^8 beta	3×10^7 gamma 2×10^8 beta	[4] [6]	[5,1]	Sequential Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 years	(See Note 1)	[5,1]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. EDS File No. 2, Rev. 3, "AVCO Solenoid Valve," Monticello Nuclear Plant, EDS Job #0910-001-451.
2. General Electric Specification 21 A 1060 AB.
3. SER prepared by NRR Equipment Qualificatcn Branch for Monticello Nuclear Plant, June 3, 1981.
4. Monticello Nuclear Plant FSAR Table 14-10-4, Figure 5-2-14 and Section 5-2.3.2.

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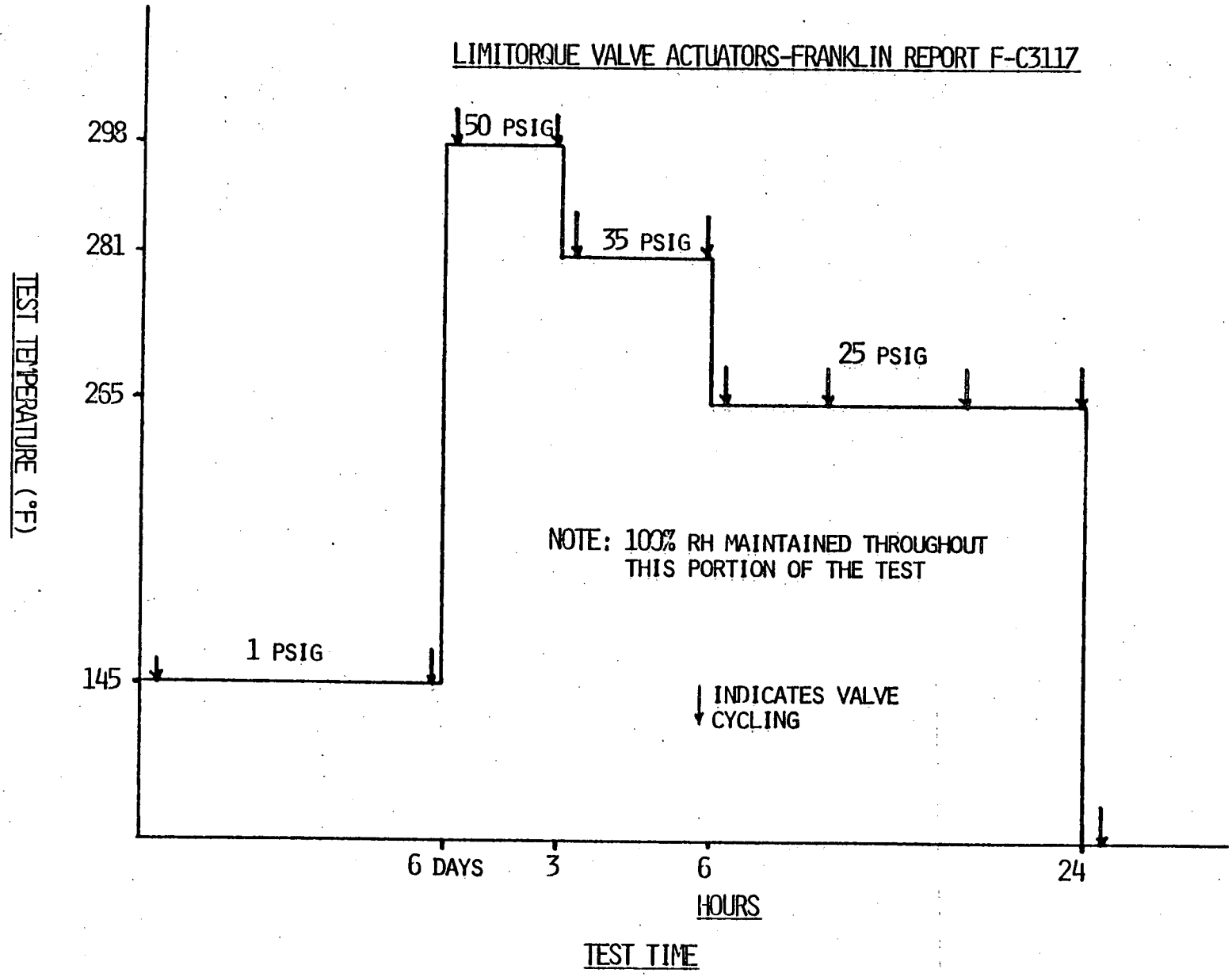
LIMITORQUE VALVE ACTUATORS-FRANKLIN REPORT F-C3117
298
281
265
145
TEST TEMPERATURE (°F)
50 PSIG
35 PSIG
25 PSIG
1 PSIG
NOTE: 100% RH MAINTAINED THROUGHOUT THIS PORTION OF THE TEST
INDICATES VALVE CYCLING
6 DAYS
3
6
24
HOURS
TEST TIME

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.
2. Through vendor correspondence, similarity of these value operators to radiation qualified operators was established. Also, all radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.
3. All materials in this equipment susceptible to thermal aging were identified. A litorature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

4. FIRL Report No. F-C3117.
5. EDS File No. 4, Rev. 4, "Limitorque Valve OPerator," Monticello Nuclear Plant, EDS Job #0910-001-451.
6. Limitorque qualification report numbers:
   B0003
   600376A
   B0009
   600456

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam PLANT I.D. No.: MO 2374 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-000 FUNCTION: Actuate Containment Isolation Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Steam Chase	OPERATING TIME	5 minutes	7 days	[2]	[4]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.7)	(See Test Profile Provided)	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)				[4]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.4×10^4	[3]	[6] [5]	Separate Test and Engineering Analysis (See Note 2)	None
	AGING	Not Required	< 40 years	(See Note 1)	[4] [5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.1.2a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR Table 14-10-4.

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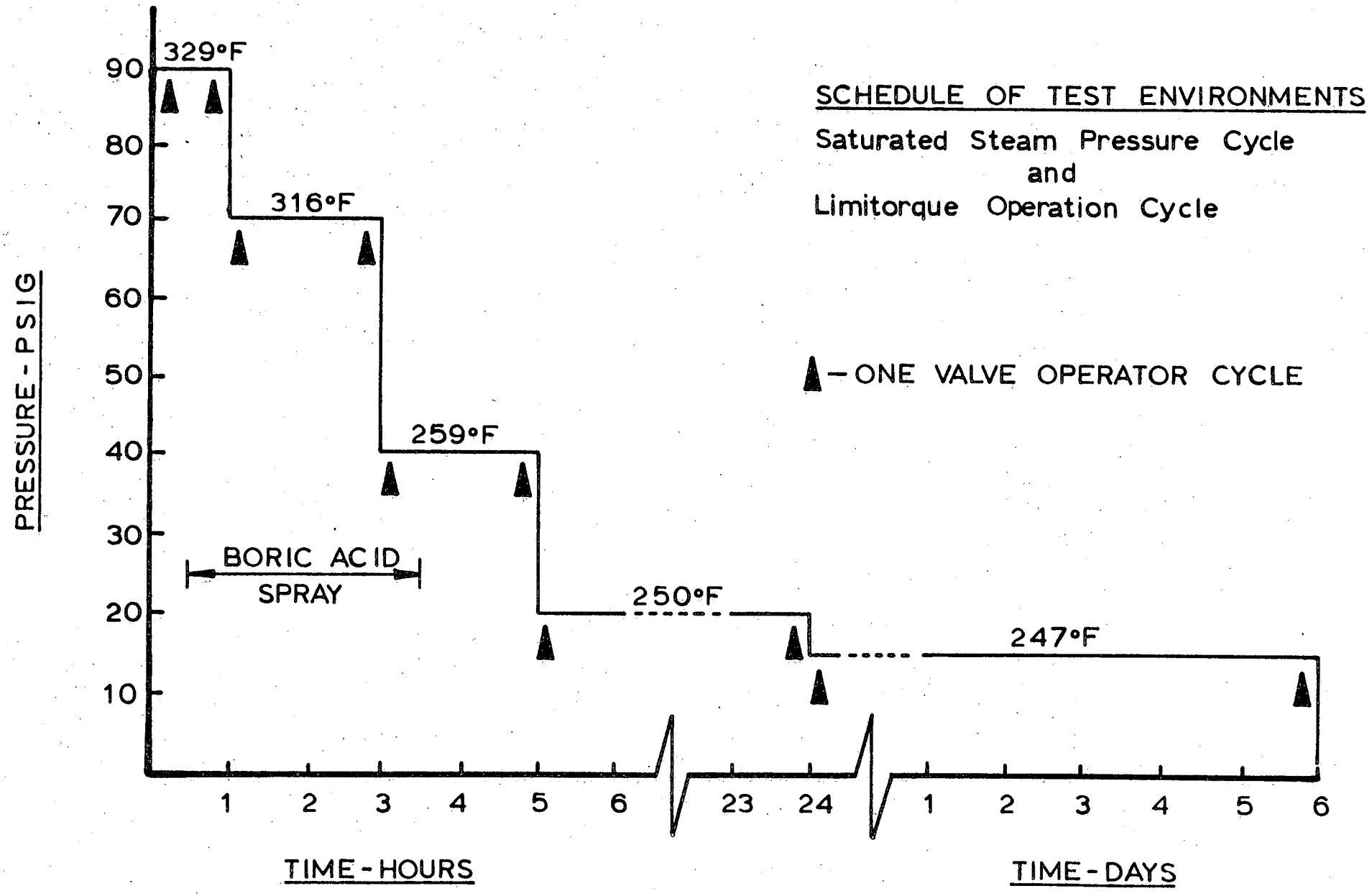

SCHEDULE OF TEST ENVIRONMENTS
Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle
▲ – ONE VALVE OPERATOR CYCLE
PRESSURE - PSIG
90
80
70
60
50
40
30
20
10
329°F
316°F
259°F
250°F
247°F
BORIC ACID
SPRAY
1
2
3
4
5
6
23
24
1
2
3
4
5
6
TIME - HOURS
TIME - DAYS

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

3. Monticello Nuclear Plant FSAR Figure 5-2-14, Section 5-2.3.2 and Table 14-10-4.

4. Assumed conservative surface dose.

5. Limitorque Test Report No. 600198 January 1969.

6. Limitorque Test Report No. 600376A, May 1980.

7. EDS File No. 4, Rev.4 , "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam PLANT I.D. No.: MO 2373 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB-000 FUNCTION: Containment Isolation SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	5 minutes	7 days	[1]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Test Profile)	[2]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[3]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[3]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	H_3BO_3 + NaOH pH = 7.67	[2]	[5]	Simultaneous Testing	None
	RADIATION (RADS)	1 x 10^6 gamma 2 x 10^8 beta	2.04x10^8gamma	[3] [4]	[6]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[5] [7]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	None

PAGE: C.1.1a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. GE Specification 22A1132.
2. Safety Evaluation Report by the Office of NRR Equipment Qualification Branch for Northern States Power Company, Monticello Nuclear Generating Plant, Docket No. 50-263, Dated June 3, 1981.

(Continued on Next Page)

APPENDIX C

SYSTEM COMPONENT EVALUATION

WORKSHEETS

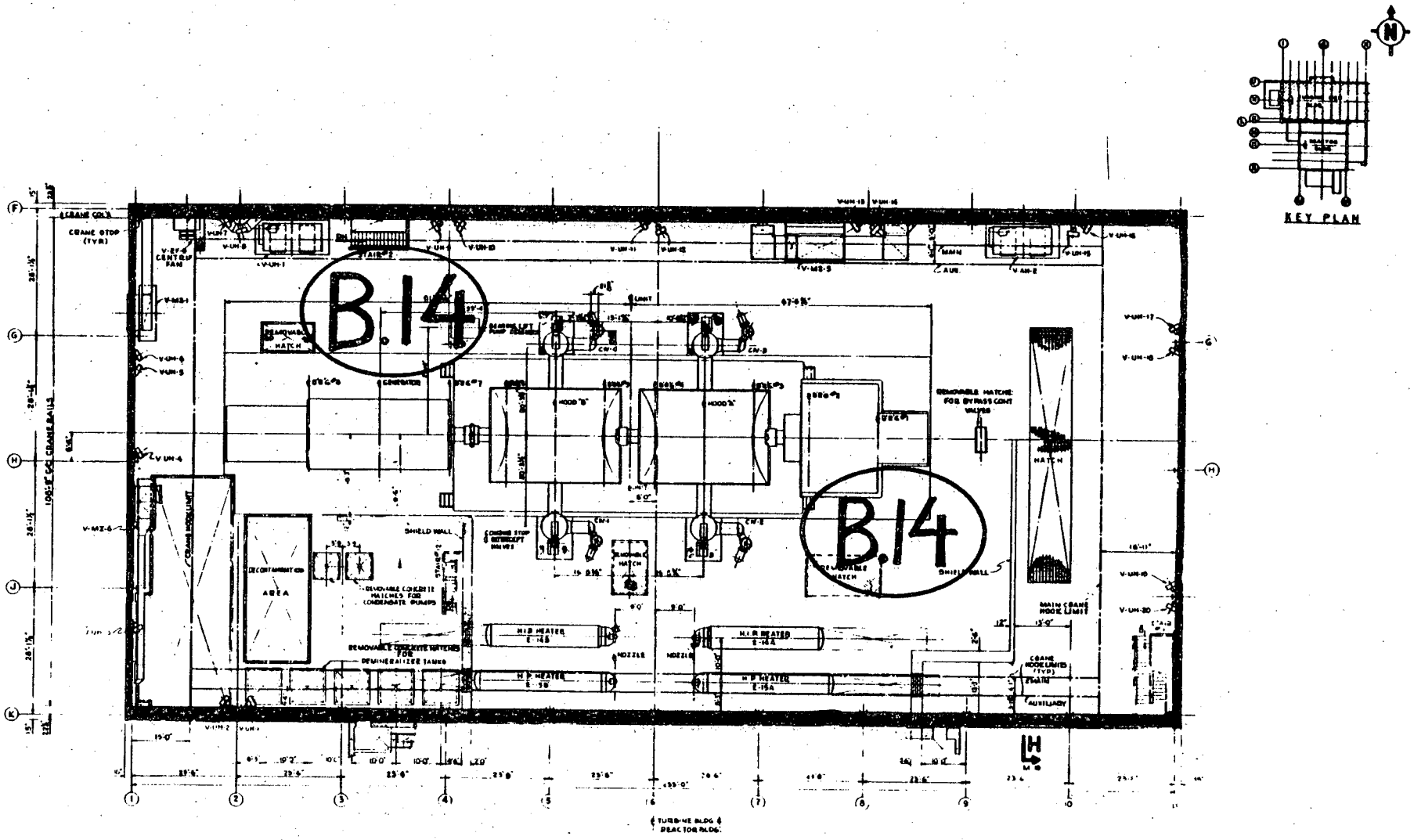
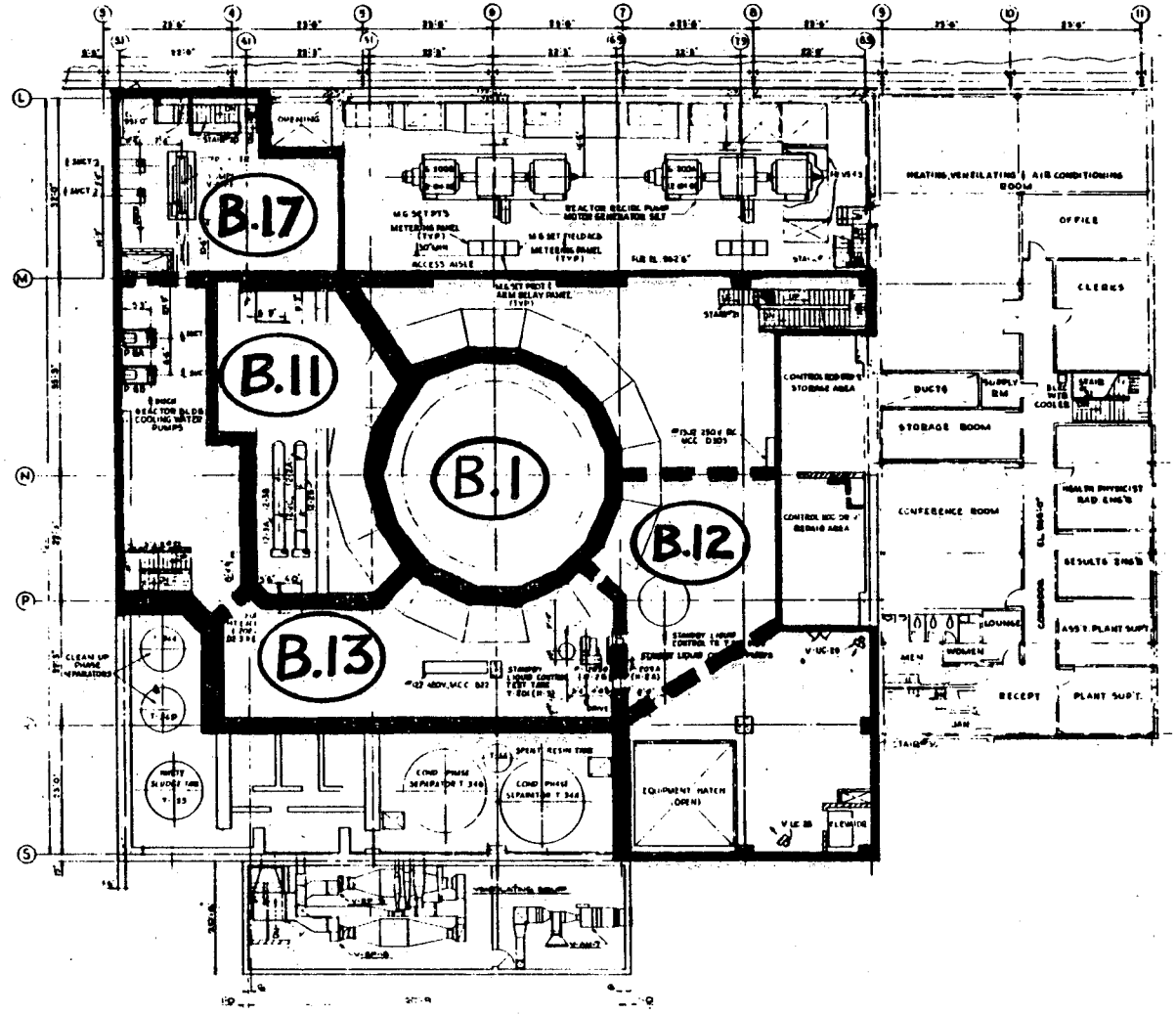


Figure B.21 - Turbine Building Operating Floor Plan at El. 951 Ft-0 In.



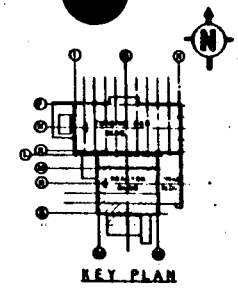


Figure B.20 - Reactor Bldg. Plan at El. 962 Ft-6 In.

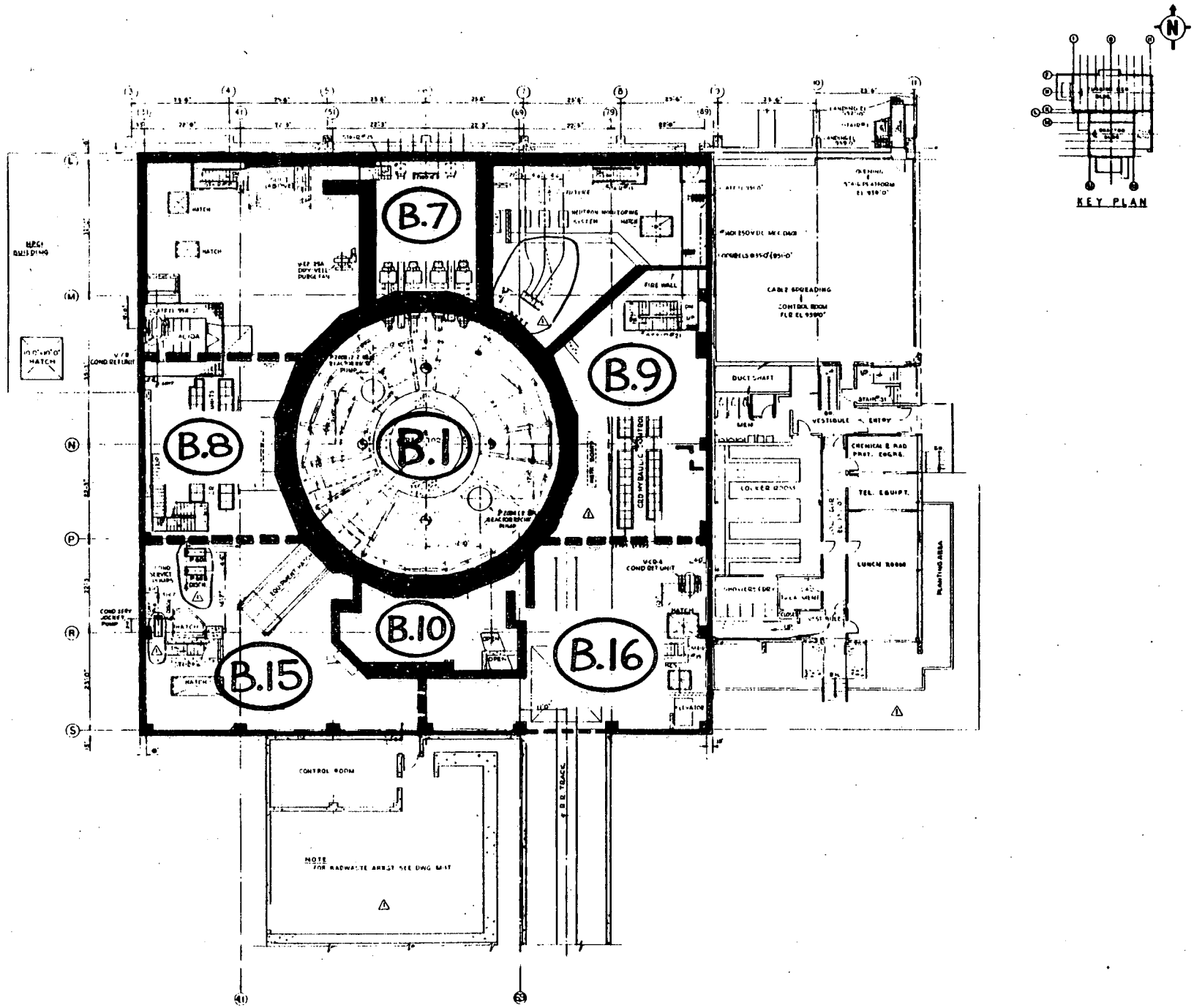


Figure B.19 - Reactor Bldg. Plans at El. 935 Ft-0 In.

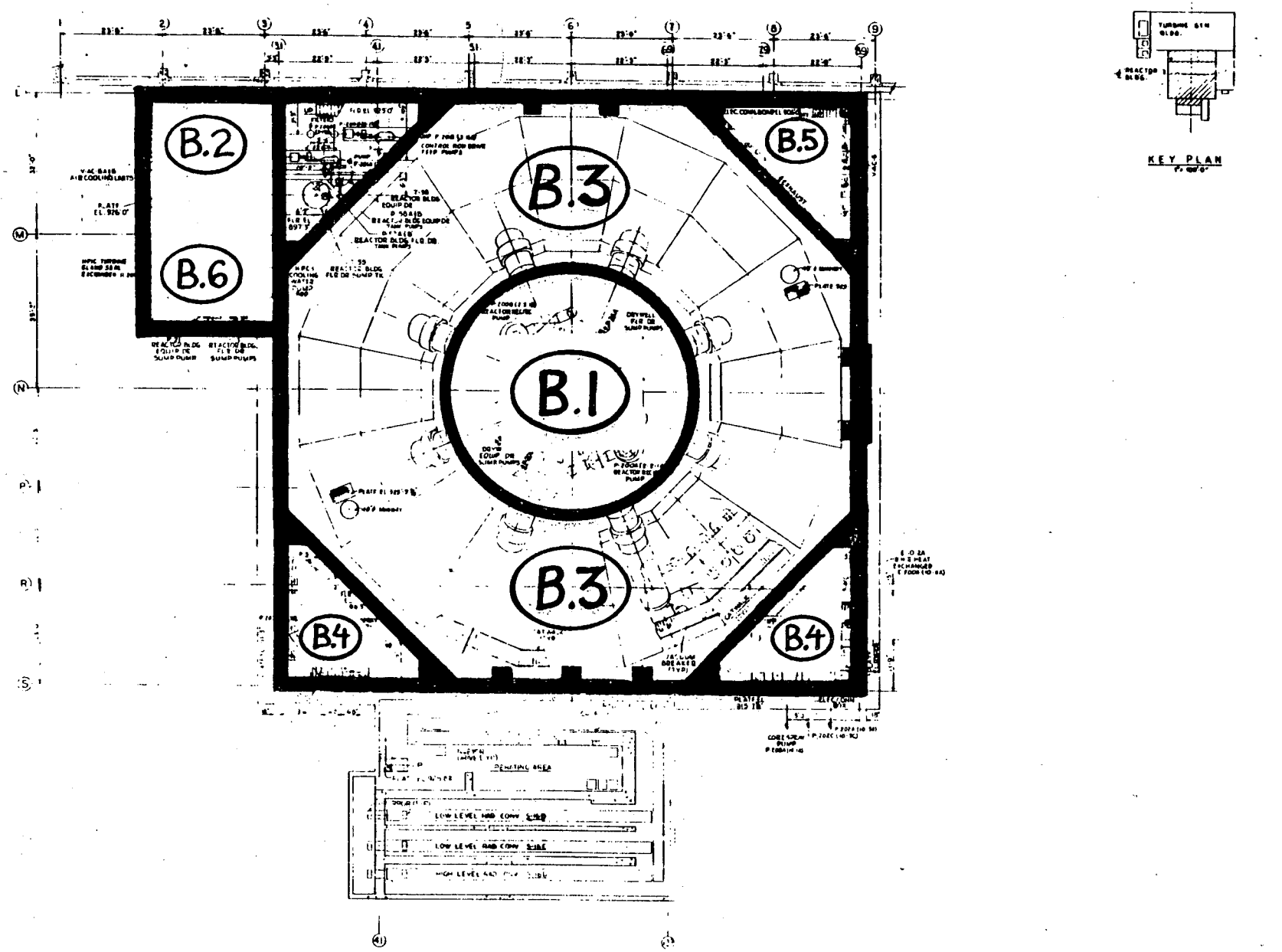


Figure B.18 - Reactor Bldg. Plans at El. 896 Ft-3 In., 911 Ft-6 In., and 922 Ft-6 In.

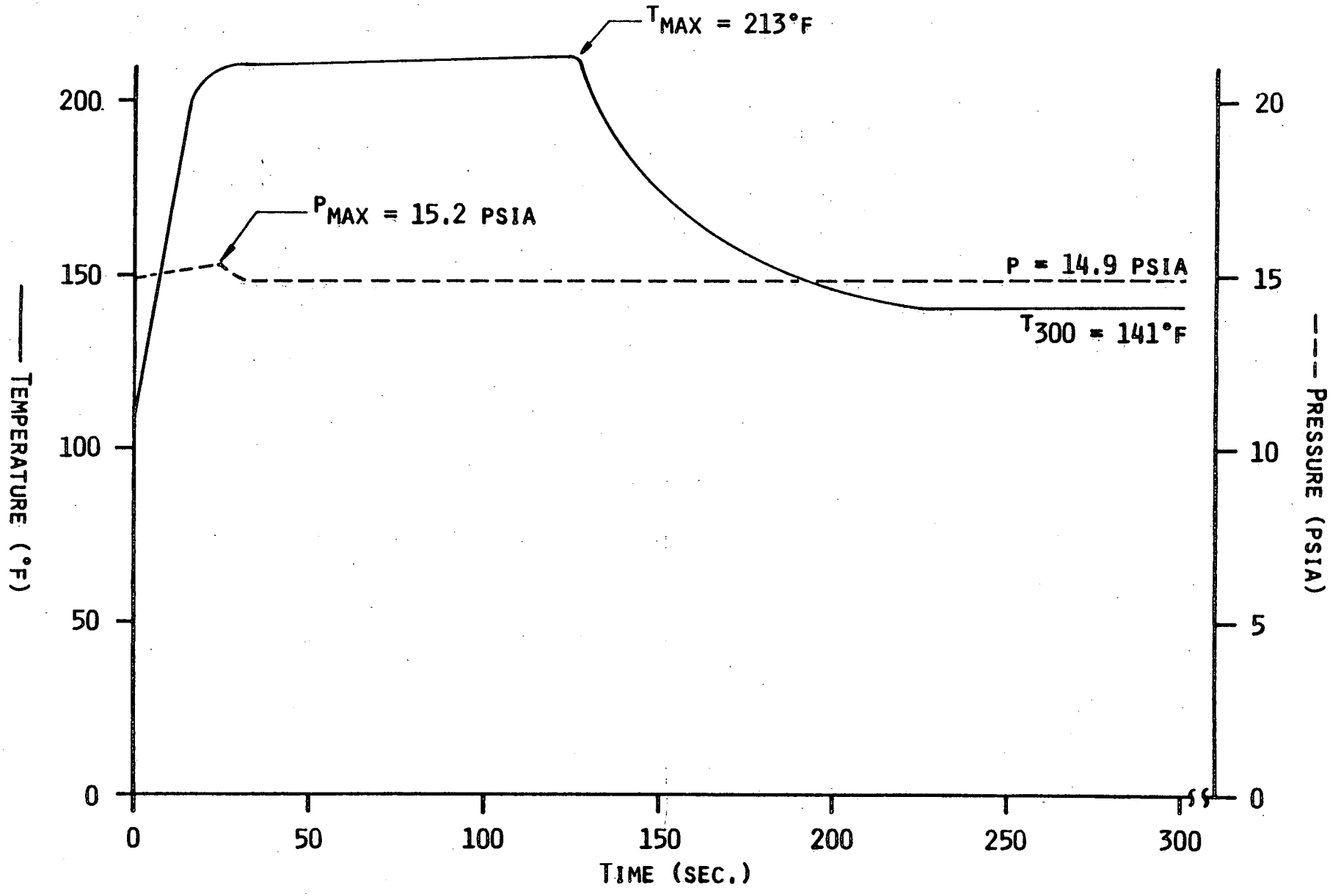


FIGURE B. 17 - RWCU LINE BREAK IN WEST SIDE REACTOR BLDG.
TEMPERATURE AND PRESSURE TRANSIENT FOR NORTH-WEST CORNER REACTOR BLDG.
EL. [illegible]-6"

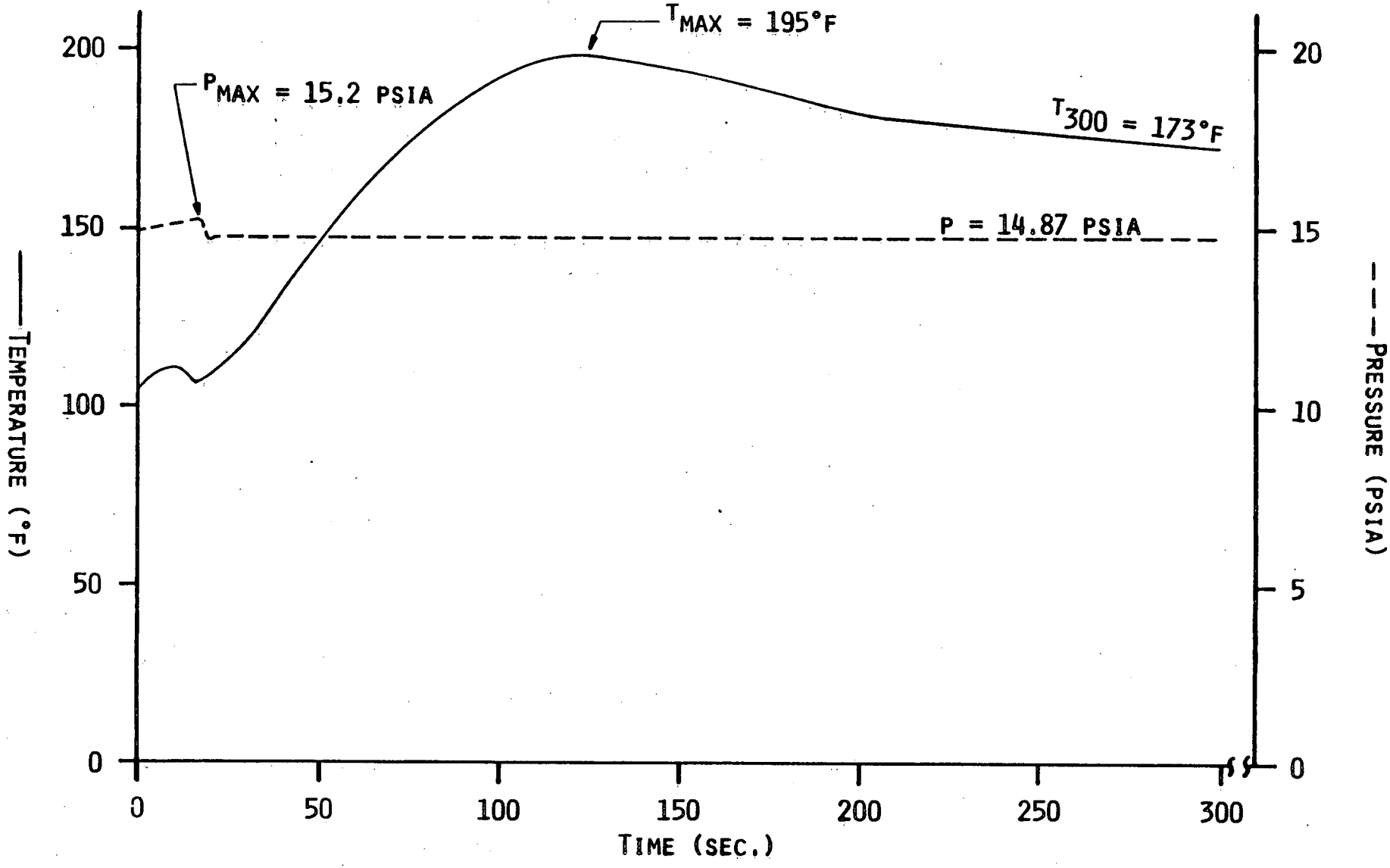


FIGURE B.16 - RWCU LINE BREAK IN WEST SIDE REACOTR BLDG.
TEMPERATURE AND PRESSURE TRANSIENT FOR SOUTH-EAST CORNER REACTOR BLDG.
EL. 935'-0"

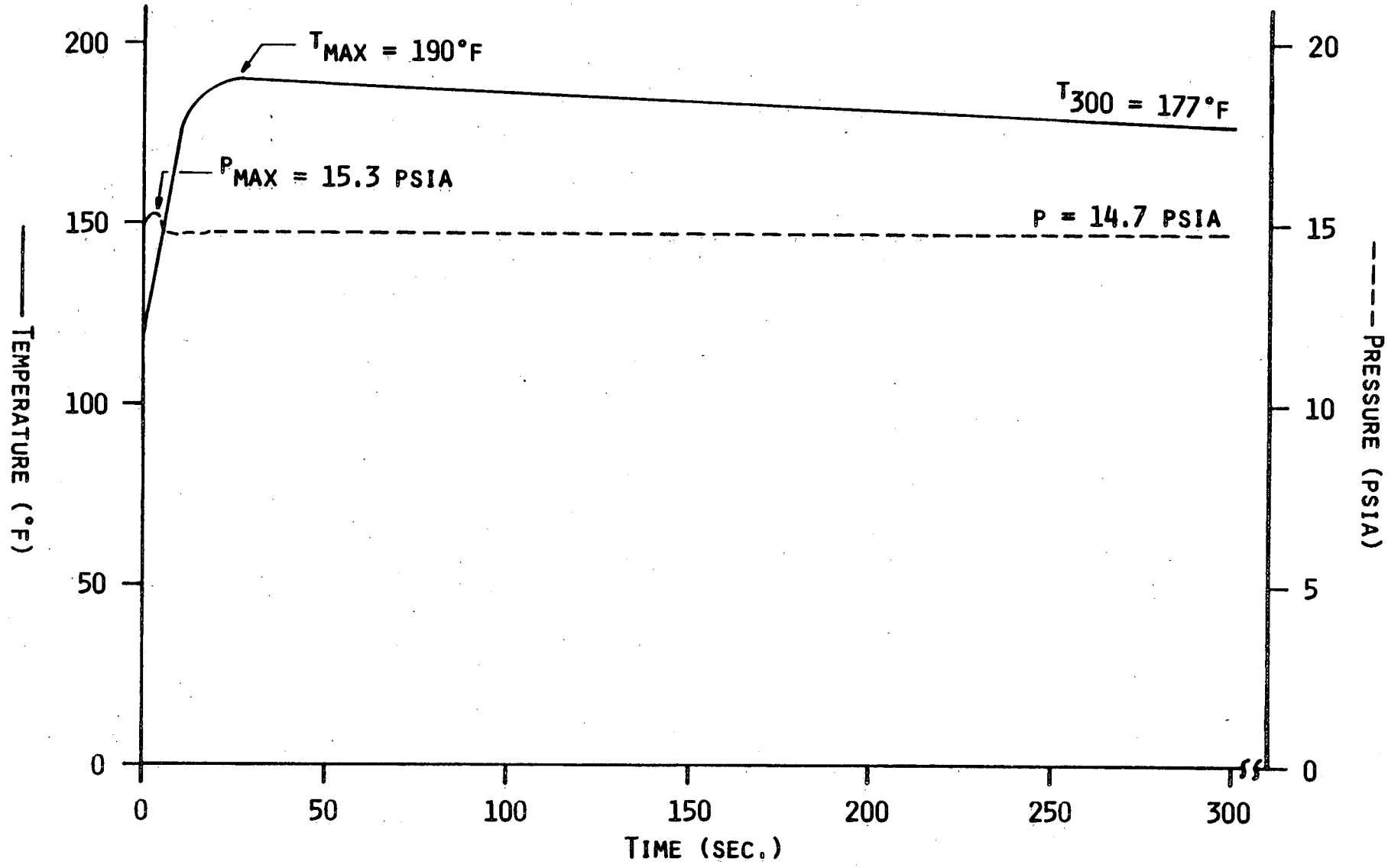


FIGURE B.15 - MAIN STEAM LINE BREAK IN MAIN STEAM TUNNEL
TEMPERATURE AND PRESSURE TRANSIENT FOR SOUTH-WEST CORNER REACTOR BLDG.
EL. 935'-0"

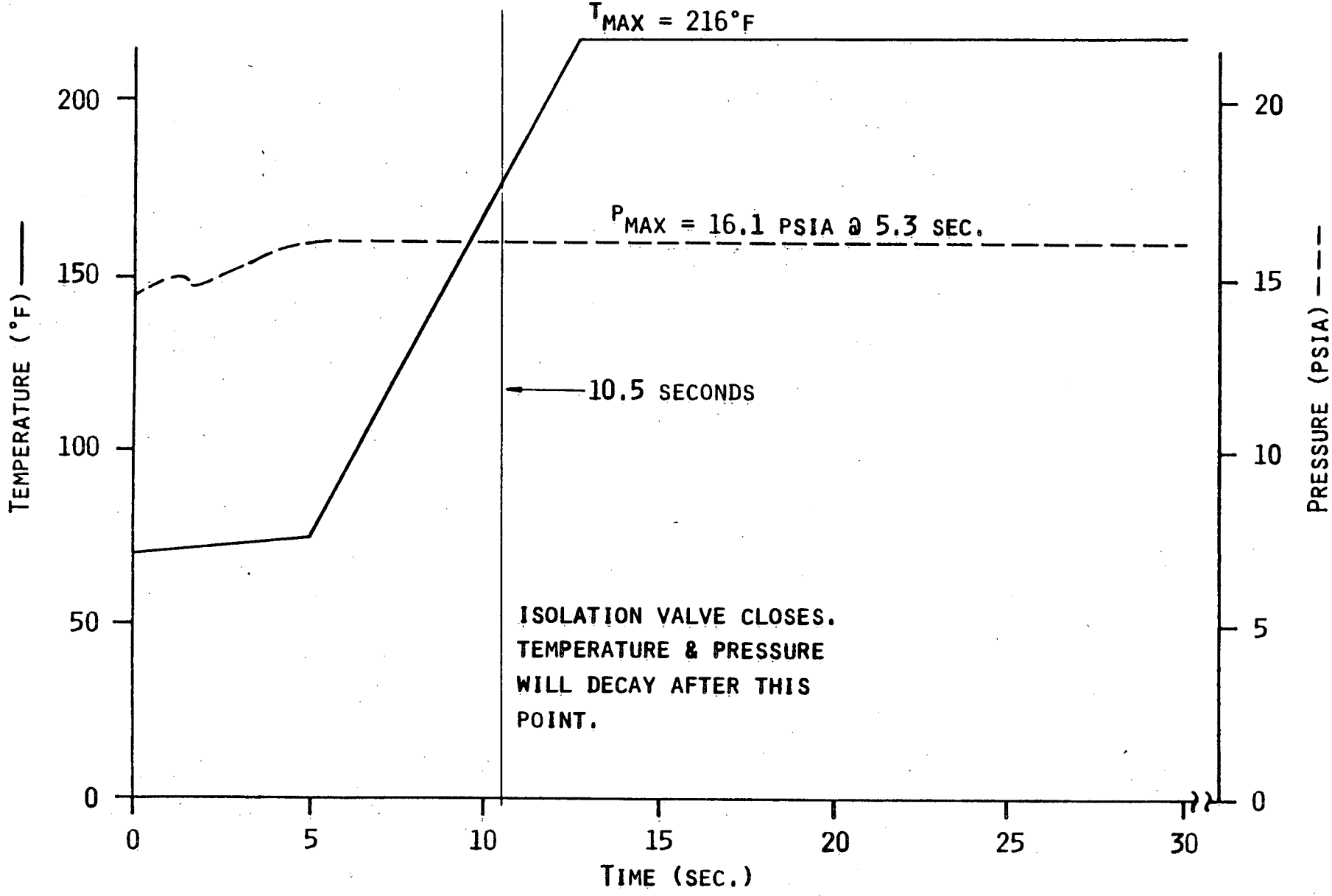


FIGURE B.14 - MAIN STEAM LINE BREAK IN TURBINE BLDG.
TEMPERATURE AND PRESSURE TRANSIENT FOR TURBINE BLDG.

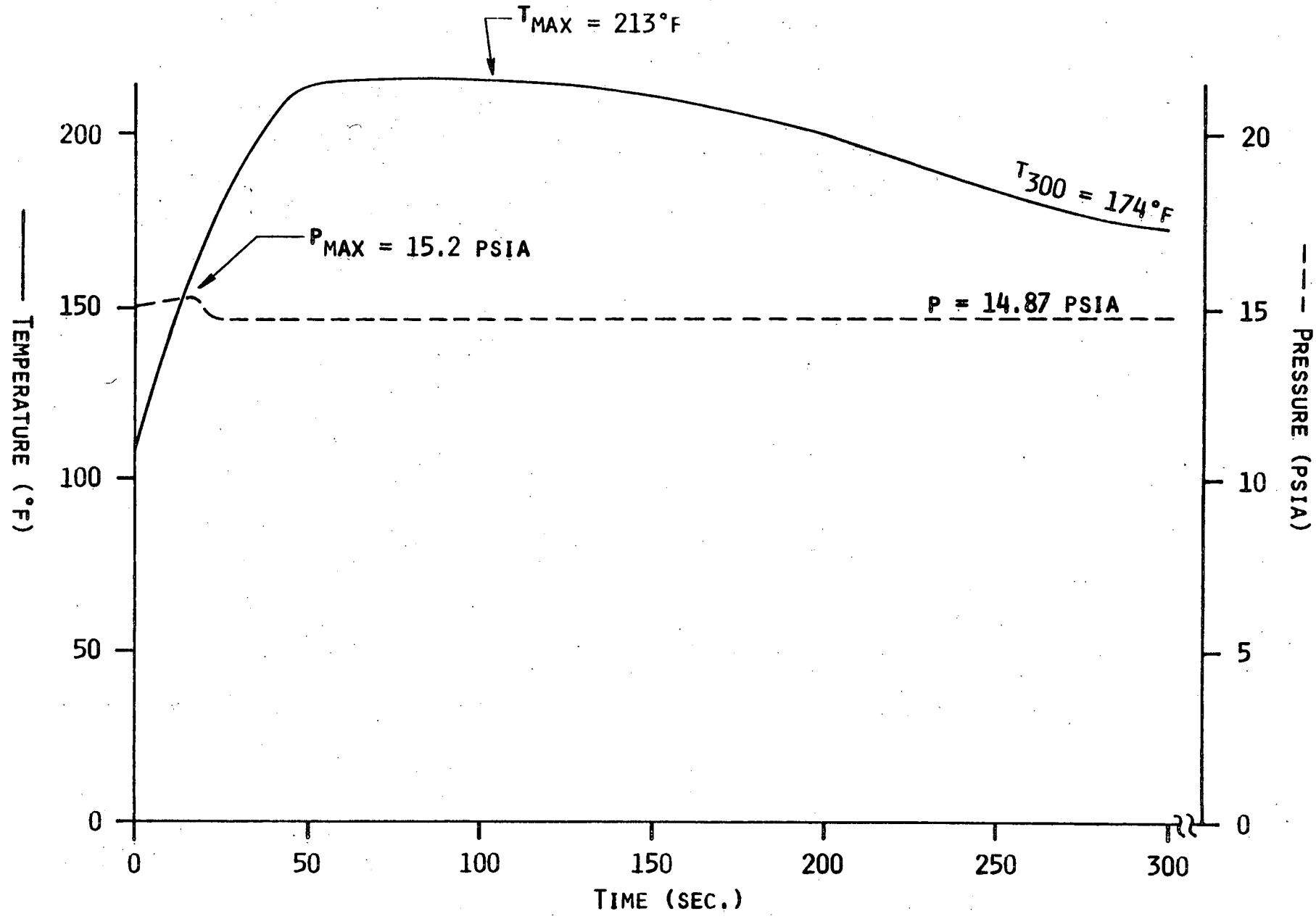


FIGURE B.13 - RWCU LINE BREAK IN WEST SIDE REACTOR BLDG. TEMPERATURE AND PRESSURE TRANSIENT FOR SOUTH SIDE REACTOR BLDG. EL. 962'-6"

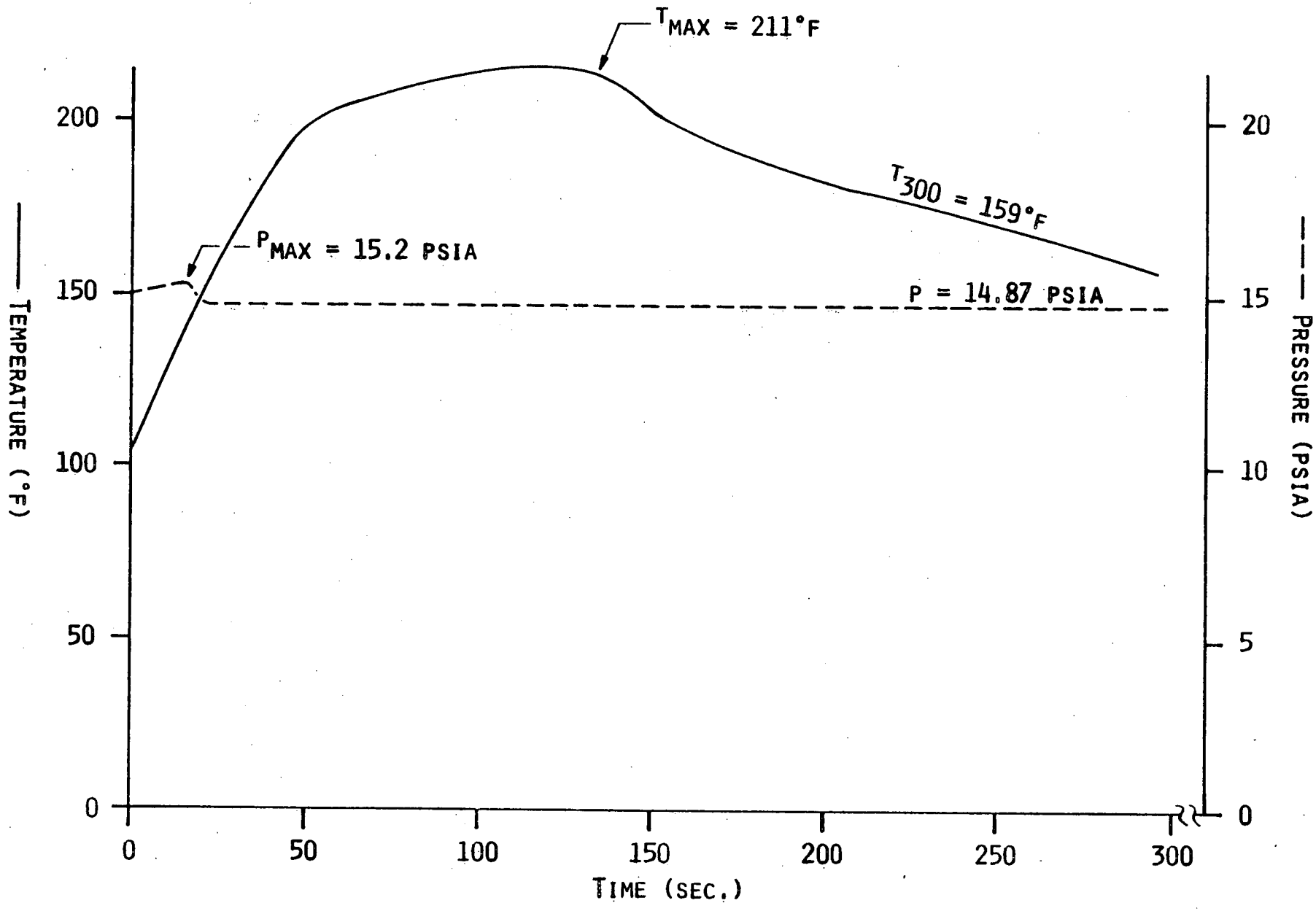


FIGURE B.12 - RWCU LINE BREAK IN WEST SIDE REACTOR BLDG. TEMPERATURE AND PRESSURE TRANSIENT FOR EAST SIDE REACTOR BLDG. EL. 962'-6"

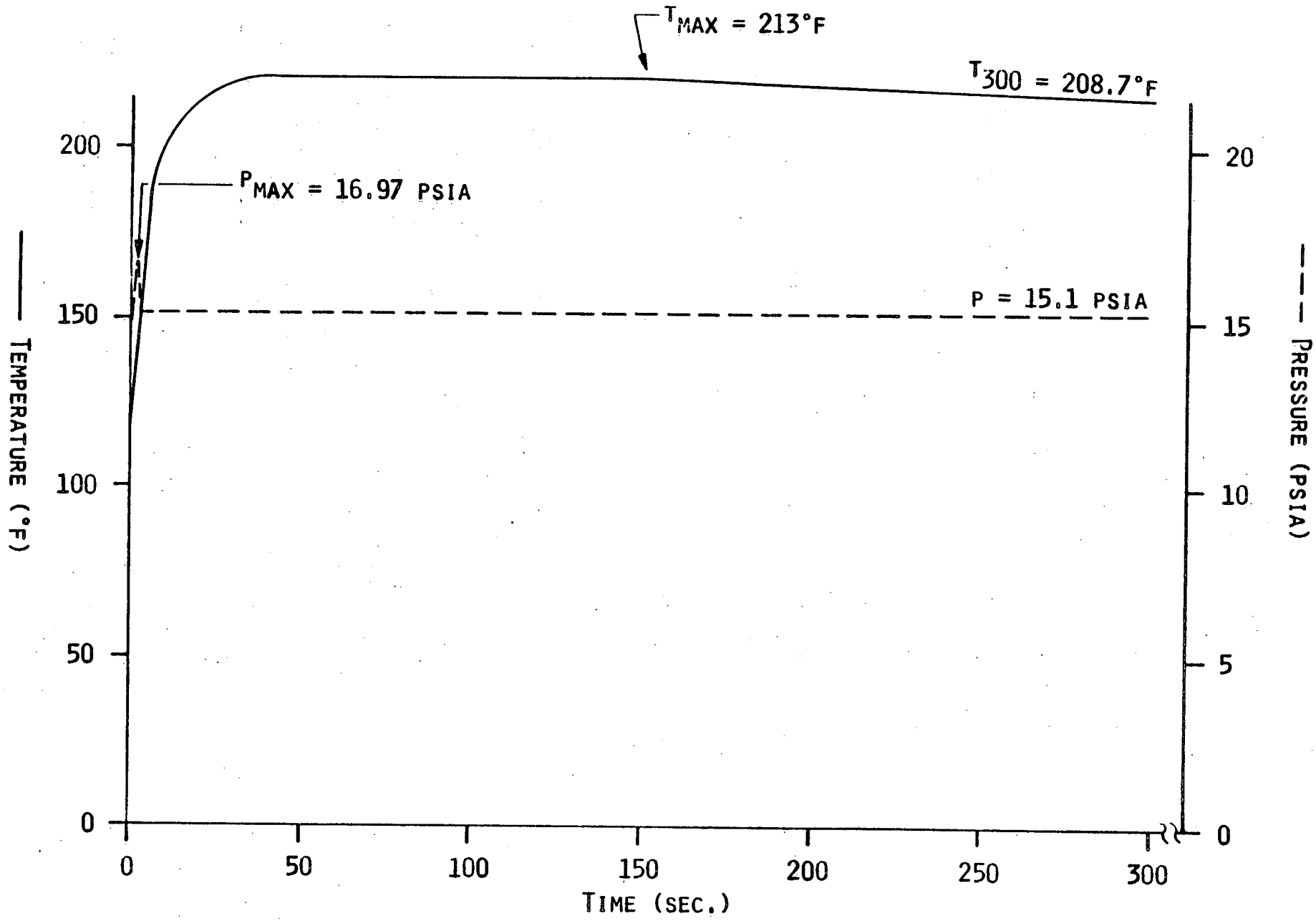


FIGURE B. 11 - RWCU LINE BREAK IN RWCU PUMP ROOM
TEMPERATURE AND PRESSURE TRANSIENT FOR RWCU PUMP ROOM
EL. [redacted]'-6"

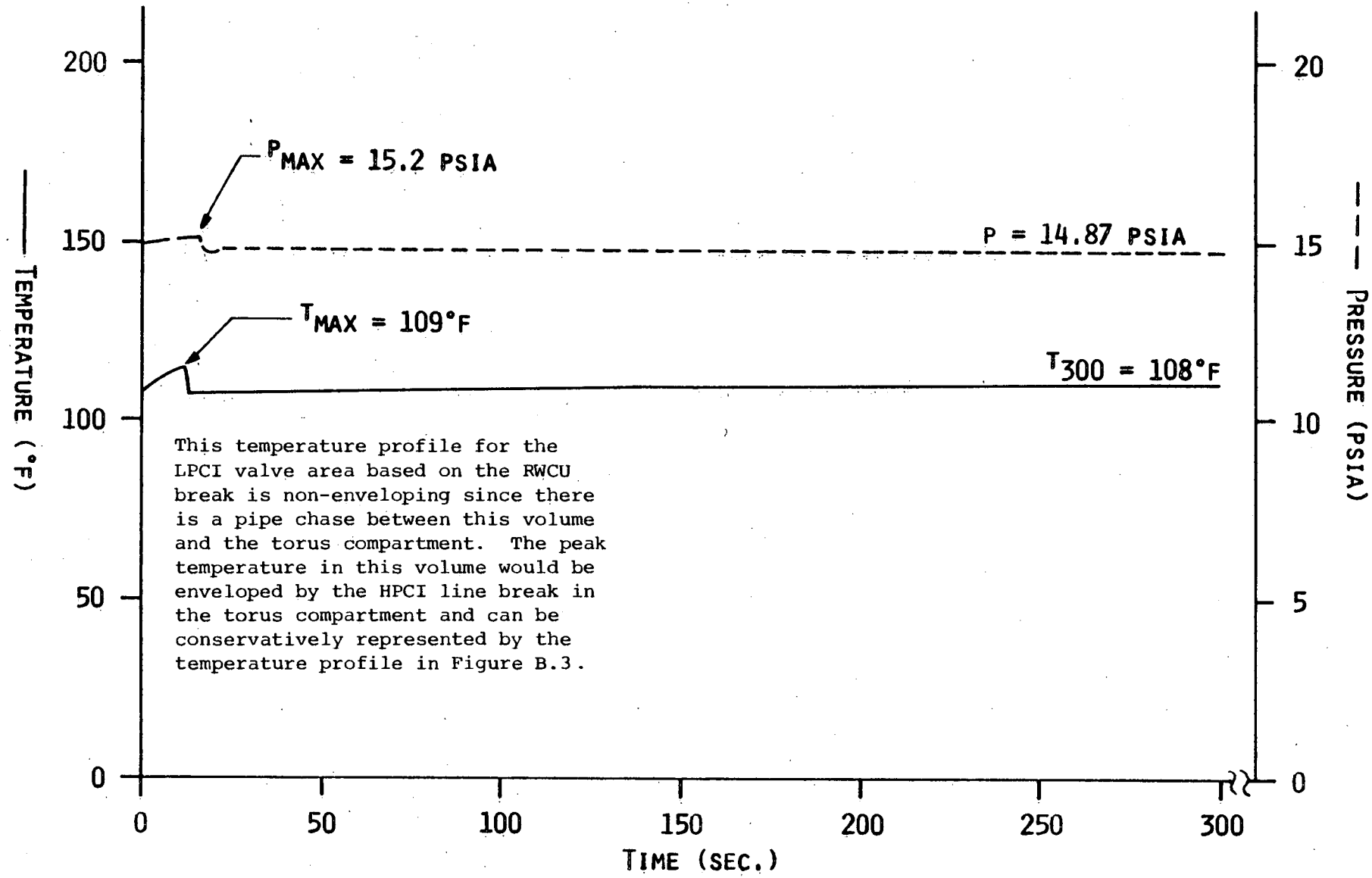


FIGURE B. 10 - RWCU LINE BREAK IN WEST SIDE REACTOR BLDG.
TEMPERATURE AND PRESSURE TRANSIENT FOR LPCI INJECTION VALVE AREA
EL. 935'-0"

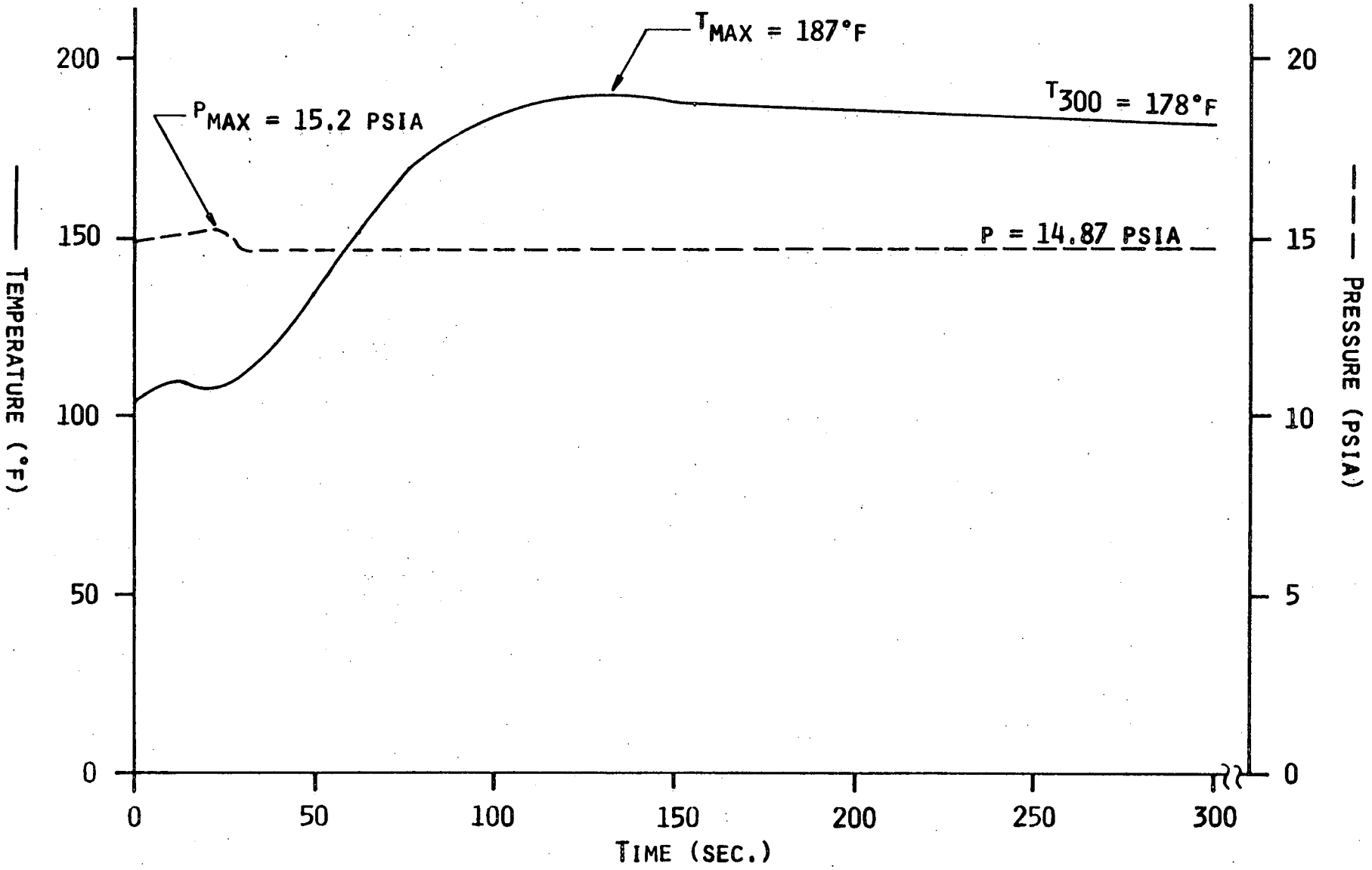


FIGURE B.9 - RWCU LINE BREAK IN WEST SIDE REACTOR BLDG.
TEMPERATURE AND PRESSURE TRANSIENT FOR EAST SIDE REACTOR BLDG.
EL. 935'-0"

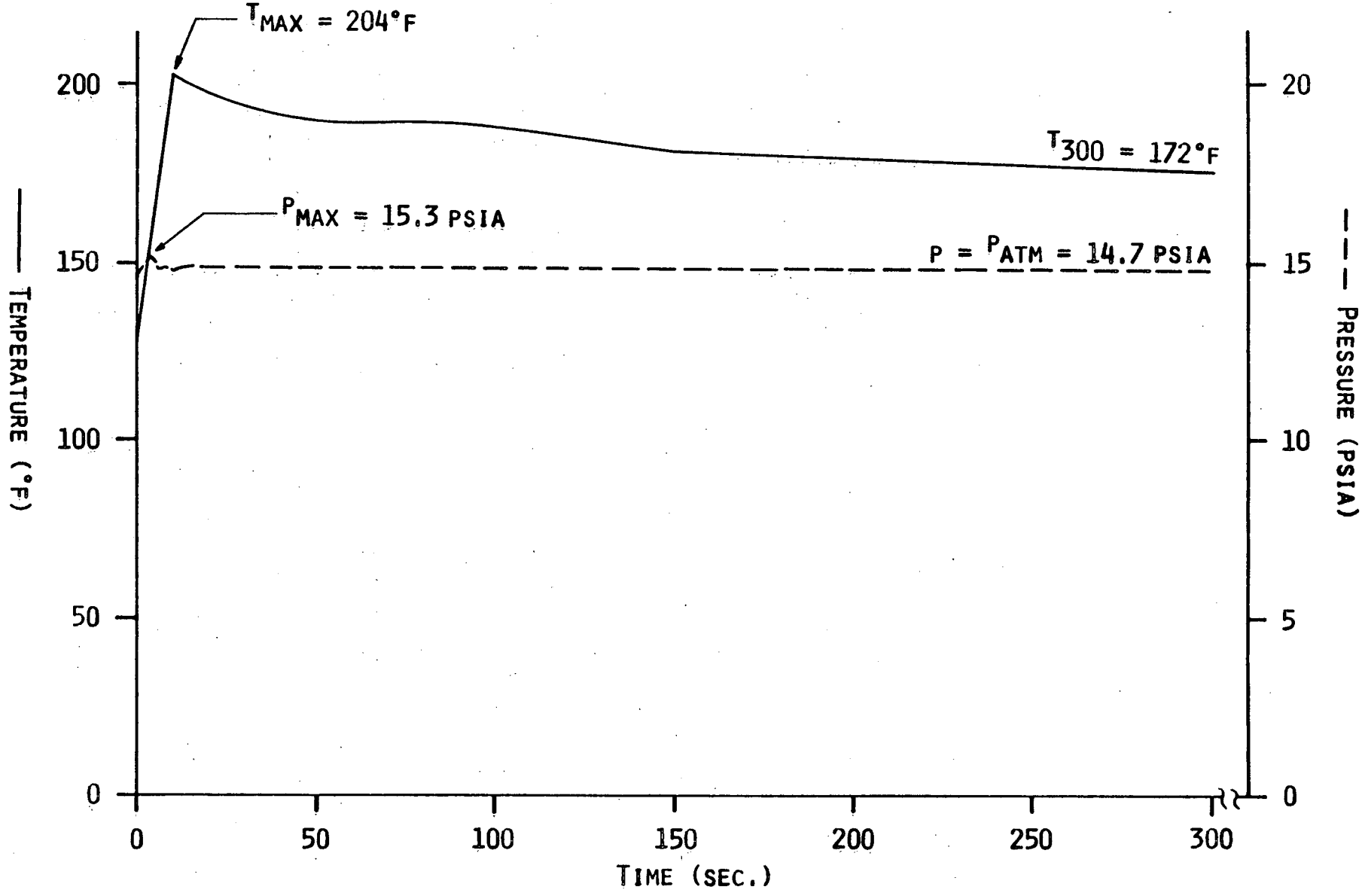


FIGURE B.8 - MAIN STEAM LINE BREAK IN MAIN STEAM TUNNEL
TEMPERATURE AND PRESSURE TRANSIENT FOR WEST SIDE REACTOR BLDG.
EL. 935'-0"

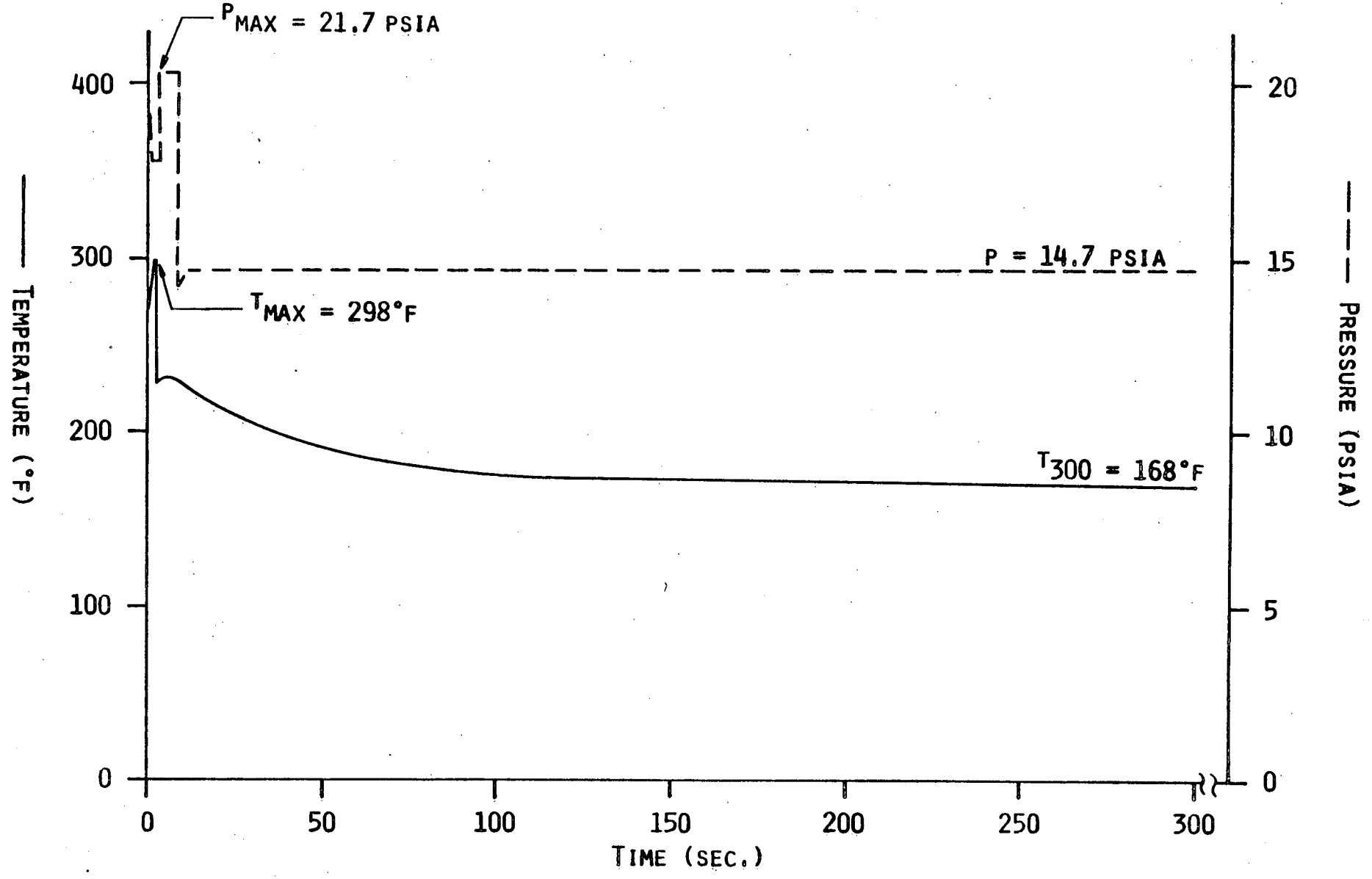


FIGURE B.7 - MAIN STEAM LINE BREAK IN MAIN STEAM TUNNEL
TEMPERATURE AND PRESSURE TRANSIENT FOR MAIN STEAM TUNNEL

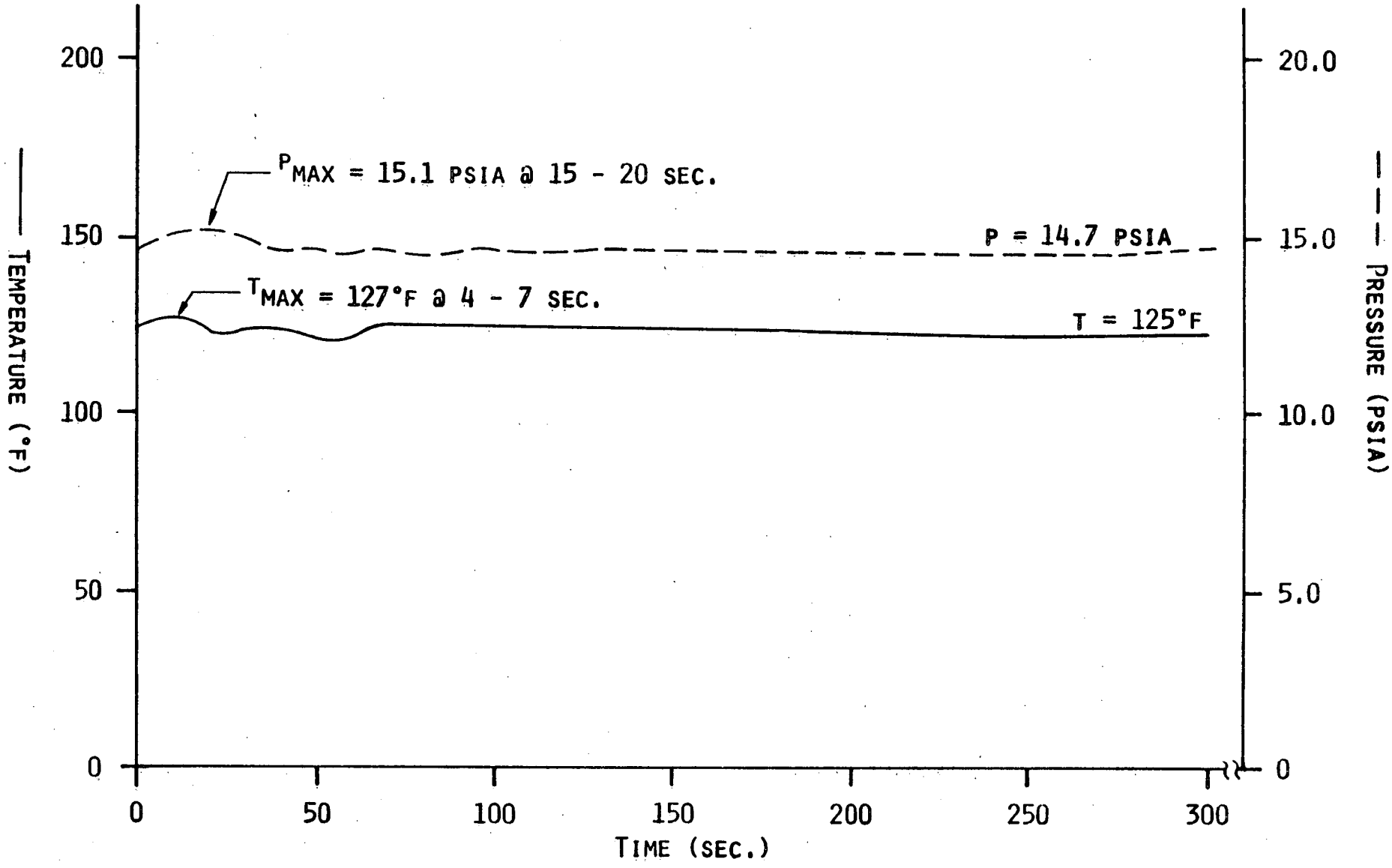


FIGURE B.6 - RCIC STEAM LINE BREAK IN TORUS COMPARTMENT
TEMPERATURE AND PRESSURE TRANSIENT FOR HPCI ROOM

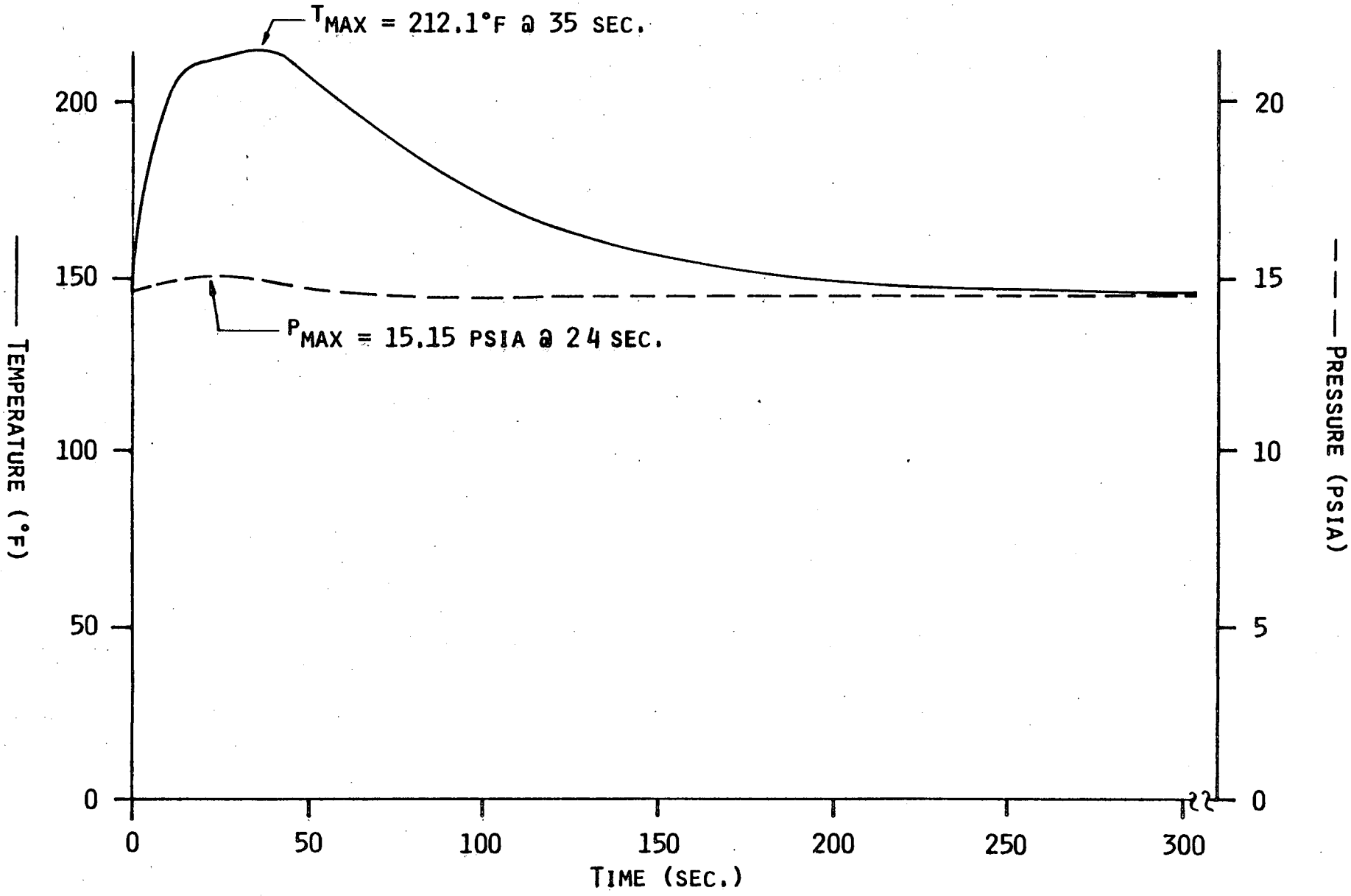


FIGURE B.5 - RCIC STEAM LINE BREAK IN RCIC ROOM
TEMPERATURE AND PRESSURE TRANSIENT FOR RCIC ROOM

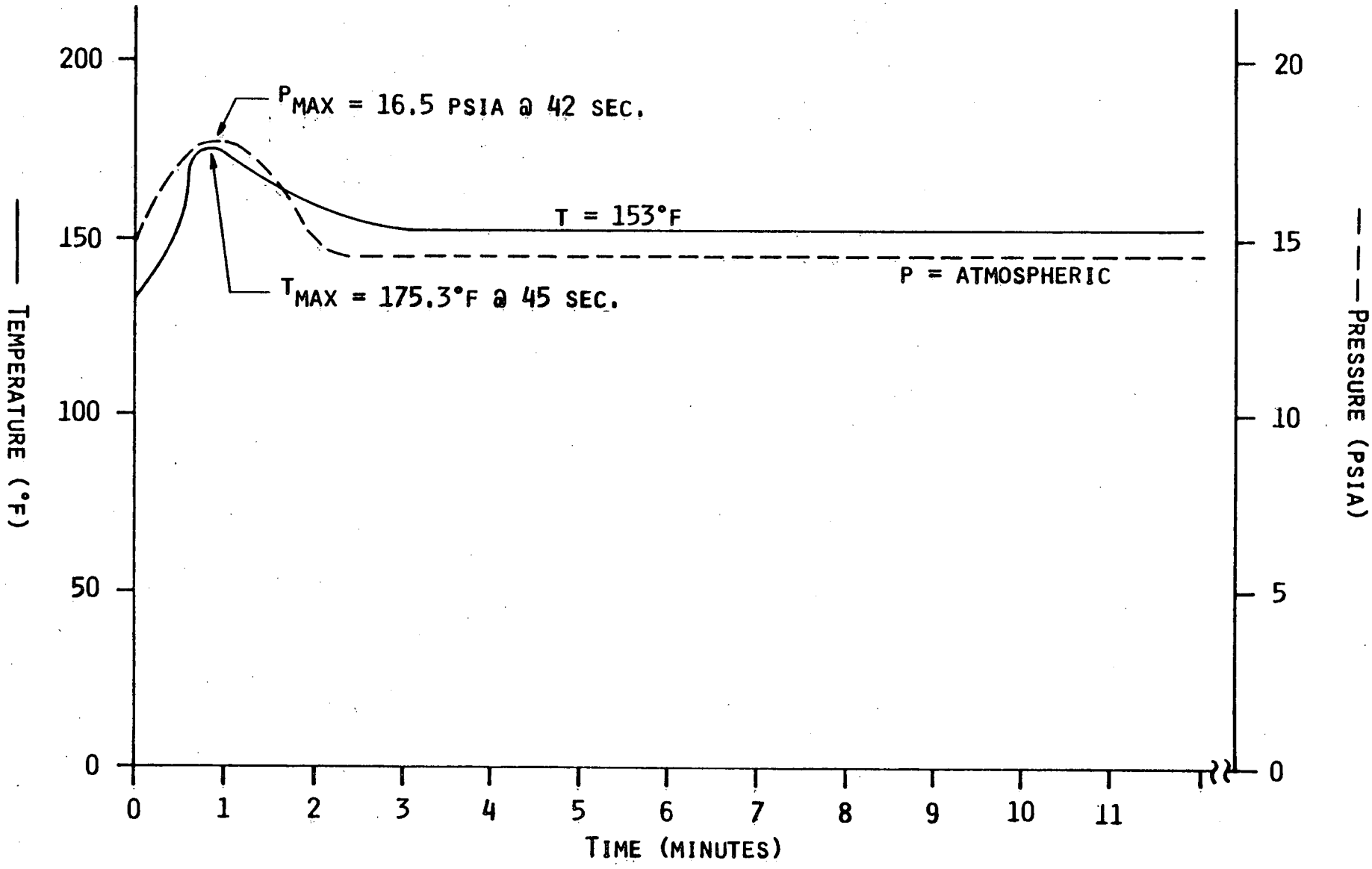


FIGURE B.4 - HPCI STEAM LINE BREAK IN TORUS COMPARTMENT TEMPERATURE AND PRESSURE TRANSIENT FOR RHR ROOMS

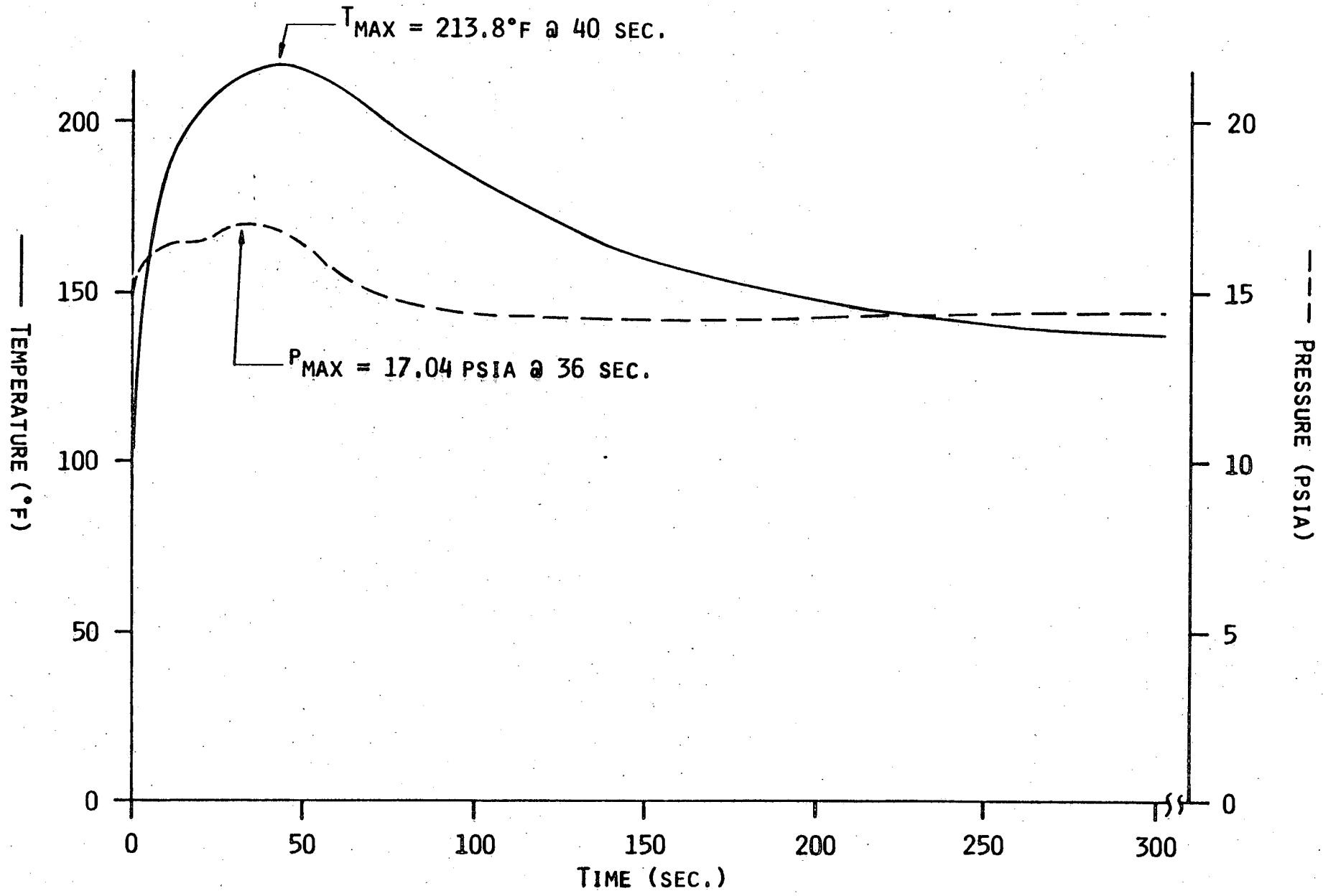


FIGURE B.3 - HPCI STEAM LINE BREAK IN TORUS COMPARTMENT
TEMPERATURE AND PRESSURE TRANSIENT FOR TORUS COMPARTMENT

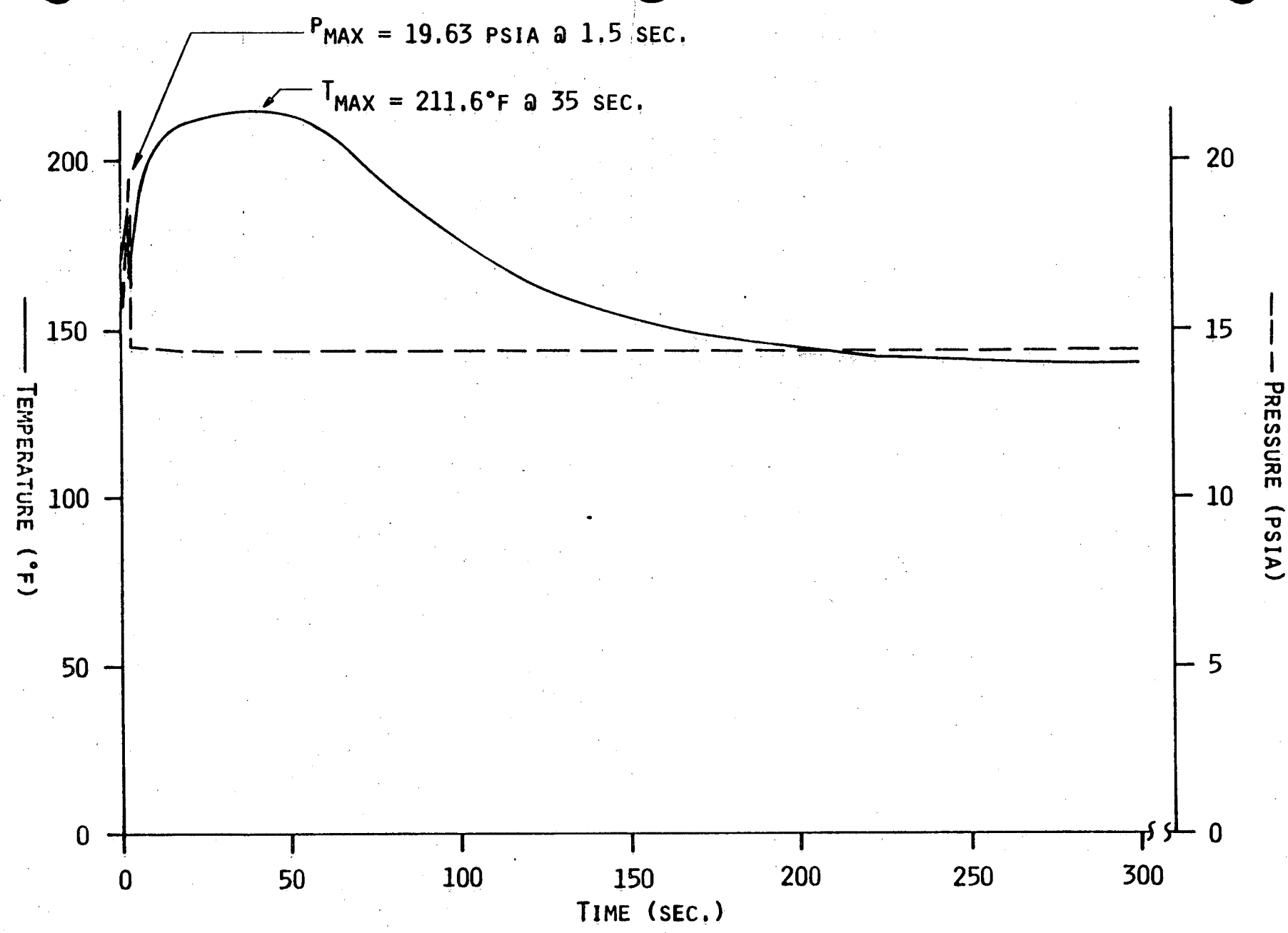


FIGURE B.2 - HPCI STEAM LINE BREAK IN HPCI ROOM
TEMPERATURE AND PRESSURE TRANSIENT FOR HPCI ROOM

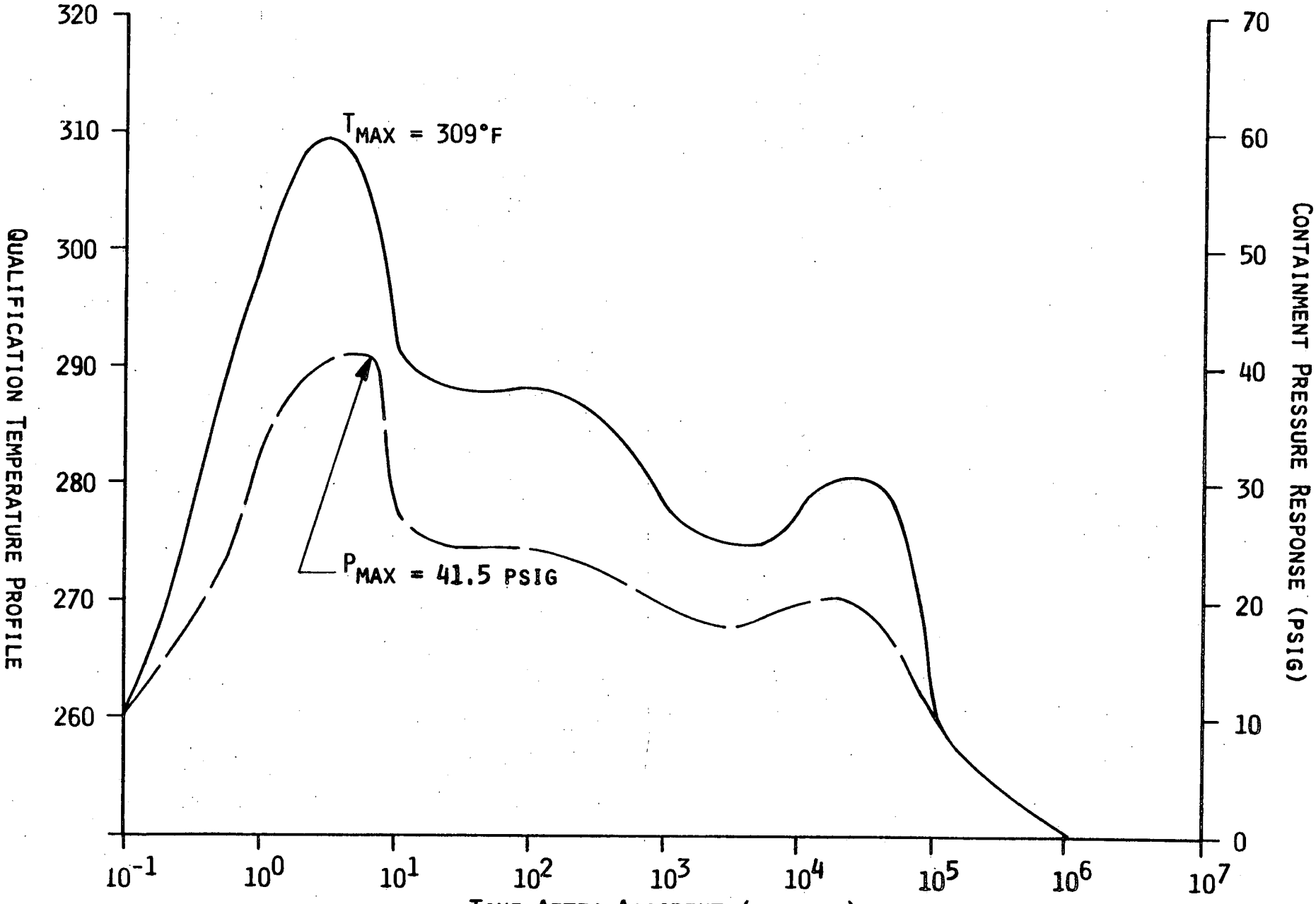


FIGURE B-1 DRYWELL PRESSURE RESPONSE AND TEMPERATURE PROFILE USED FOR EQUIPMENT QUALIFICATION

APPENDIX B

TEMPERATURE AND PRESSURE PROFILES

SYSTEM: Heating and Ventilating				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRONMENT
V-AC-4	Fan Motor	U.S. Motors	S/N 4152941	B.4
V-AC-5	Fan Motor	U.S. Motors	S/N 4152940	B.4
V-AC-8 (A, B)	Fan Motor	U.S. Motors	F-1323-02-268	B.2

Table A.22

SYSTEM: 480 VAC Station Auxiliary

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
MCC 142	Motor Control Center	GE	DA-7700	B.14
MCC 143 (A, B)	Motor Control Center	GE	DA-7700	B.14

Table A.21

SYSTEM: 250VDC				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
D31205	Motor Control Center	GE	IC-7700	B.2
D312	Motor Control Center	GE	IC-7700	B.6
D31104	Motor Control Center	GE	IC-7700	B.5

Table A.20

SYSTEM: Components (cont'd)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
----	Limit Switch	Micro Switch	BZE6-2RQ2	B.3
----	Banana Plug	E. F. Johnson	108-0302-001	B.7

Table A.19ii

SYSTEM: Components

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRONMENT
----	Electrical Cable	GE	SI-58007	B.7
----	Electrical Cable	GE	SI-58136	Various
----	Electrical Cable	GE	SI-58081	Various
----	Electrical Cable	GE	SI-58109	B.1
----	Electrical Cable	Rockbestos	Firewall III	B.1
----	Instrument Cable	Samuel Moore	#I802, 1852, 1862	Various
----	Electrical Cable	GE	SI-58042	Various
JX-105 (A, C, D)	Electrical Penetration	GE	NSO-2, NSO-3, NSO-4	B.1
----	Field Space	Raychem	WCSF-N	B.1
----	Terminal Board	GE	CR151D3	Various
----	Limit Switch	NAMCO	EA08021100	B.3
----	Limit Switch	NAMCO	D2400X ST	B.3
----	Limit Switch	NAMCO	EA 17014100	B.3
----	Limit Switch	NAMCO	D 1200G	B.3
----	Limit Switch	NAMCO	SL5-C3L	B.3
----	Limit Switch	NAMCO	SL3-B2W	B.7
----	Limit Switch	Micro Switch	BZE6-2RN	B.3

Table A.19i

SYSTEM: Containment

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
LT 7338 (A, B)	Level Transmitter	Rosemount	1153DA5	B.3
PT 2994 B	Pressure Transmitter	GE	552	B.2
PT 7348	Pressure Transmitter	GE	551	B.13
TE 2995 (F, G)	Thermocouple	Thermo-Electric	CE S16-2-516-T	B.3

Table A.18

SYSTEM: Primary Containment Nitrogen Control

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRONMENT
SV 3267	Solenoid Valve	ASCO	T-HT-831723	B.3
SV 3268	Solenoid Valve	ASCO	T-HT-831723	B.3
SV 3269A	Solenoid Valve	ASCO	T-HT-831723	B.8
SV 3305	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3306	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3307	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3308	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3309	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3310	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3311	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3312	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3313	Solenoid Valve	ASCO	T-HT-831723	B.15
SV 3314	Solenoid Valve	ASCO	T-HT-831723	B.15

Table A.17

SYSTEM: Radwaste

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
SV 2541 (A,B)	Solenoid Valve	ASCO	THT 8317B23	B.3
SV 2561 (A,B)	Solenoid Valve	ASCO	THT 8317B23	B.3

Table A.16

SYSTEM: Reactor Protection				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRONMENT
PS 5-14 (A-D)	Pressure Switch	Barksdale	B2T-A12SS	B.14
PS 5-12 (A-D)	Pressure Switch	Static-O-Ring	12N-K4	B.13

Table A.15

SYSTEM: Automatic Depressurization (ADS)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
SV 2-71 (A,B,D)	Solenoid Valve	Automatic Valve Co.	C-5450	B.1

Table A.14

SYSTEM: Reactor Building Instrument Air				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
SV 1478	Solenoid Valve	ASCO	THT 831723	B.7
SV 7956	Solenoid Valve	ASCO	THT 8317B23	B.3

Table A.13

SYSTEM: Reactor Water Cleanup (RWCU)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
MO 2397	Valve Motor Operator	Limitorque	SMB-00	B.1
MO 2398	Valve Motor Operator	Limitorque	SMB-00	B.11
MO 2399	Valve Motor Operator	Rotork	30A	B.17

Table A.12

SYSTEM: Reactor Building Cooling Water

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRONMENT
MO 1426	Valve Motor Operator	Rotork	14AMKII	B.3

Table A.11

SYSTEM: Standby Gas Treatment (Cont'd)

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
LC-2 (A-B)	Fused Disconnect	Cutler-Hammer	4105H311H	Isolated
E-34 (A-B)	Thermostat	Honeywell	T451A1132	Isolated
E-34 (A-B)	Unit Heater	ILG Industries	H7133	Isolated
K-11	Aux. Compressor Motor Starter	Furnas	14BA32BC	Isolated
K-11	Aux. Compressor Line Switch	GE	THN 3361 mod 2	Isolated
T1	Transformer	Heavy Duty Electric	SZO	Isolated
Allen-Bradley Bulletin 1492-CD3	Terminal Board	Allen-Bradley	1492-CD3	Isolated
----	Wire	GE	SI-57275	Isolated
----	Cable	GE	SI-58175	Isolated
----	Cable	GE	SI-58170	Isolated
----	Cable	Carol Wire & Cable	1050	Isolated
----	Limit Switch	Micro Switch	OP-AR	Isolated
----	Limit Switch	Cutler-Hammer	Type L	Isolated

Table A.10ii

SYSTEM: Standby Gas Treatment (SBGT)				
PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
SV 2944	Solenoid Valve	ASCO	T-HT-831723	Isolated
SV 2945	Solenoid Valve	ASCO	T-HT-831723	Isolated
SV 2978	Solenoid Valve	ASCO	T-HT-831723	Isolated
SV 2979	Solenoid Valve	ASCO	T-HT-831723	Isolated
SV 2982 (A,B)	Solenoid Valve	ASCO	T-HT 831723	Isolated
PS 3462	Pressure Switch	Furnas	69GAV7	Isolated
FT 2942	Flow Transmitter	Leeds & Northup	1912-2-10-0-000-0100-0100	Isolated
V-EF-17 (A, B)	Fan Motor	GE	5K254AK205	Isolat
FT 2943	Flow Transmitter	Leeds & Northrup	1912-2-10-0-000-0100-0100	Isolated
FS 2950	Flow Switch	McDonnell & Miller	AF1S	Isolated
FS 2951	Flow Switch	McDonnell & Miller	AF1S	Isolated
TS 3368	Temperature Switch	Chromalox	AR 2529	Isolated
TS 3369	Temperature Switch	Chromalox	AR 2529	Isolated
K-11	Aux. Compressor Motor	GE	5K43KG2802	Isolated
E/P 2942	Electro- Pneumatic Transducer	Leeds & Northrup	10970-1	Isolated
E/P 2943	Electro-Pneumatic Transducer	Leeds & Northrup	10970-1	Isolated
LC-1 (A-B)	Contactor	Cutler-Hammer	6-10-2	Isolat

Table A.10i

SYSTEM: Primary Containment and Atmosphere Control

PLANT I.D. NUMBER	COMPONENT	MANUFACTURER	MODEL	ENVIRON-MENT
SV 2377	Solenoid Valve	ASCO	8300C64U	B.3
SV 2378	Solenoid Valve	ASCO	8300C64U	B.3
SV 2379	Solenoid Valve	ASCO	8262A212	B.3
SV 2380	Solenoid Valve	ASCO	8262A212	B.3
SV 2381	Solenoid Valve	ASCO	8300C64U	B.3
SV 2383	Solenoid Valve	ASCO	8300C64U	B.3
SV 2384	Solenoid Valve	ASCO	T-HT-8317A23	B.3
SV 2385	Solenoid Valve	ASCO	T-HT-831723	B.11
SV 2386	Solenoid Valve	ASCO	8300C64U	B.11
SV 2387	Solenoid Valve	ASCO	8300C64U	B.11
SV 2896	Solenoid Valve	ASCO	8300C64U	B.3
dPS 2573	Differential Pressure Switch	Barton	289A	Radiation Only
dPS 2572	Differential Pressure Switch	Barton	289A	Radiation Only
SV 7440	Solenoid Valve	ASCO	T-HT-8317B23	B.3

Table A.9

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. For this qualification to completely apply, the mercury switches within these models must be replaced with snap switches. However, the mercury switches have qualified to similar environmental conditions. 3. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the required operating time, including margin.	5. The level switch housing is not sealed. Therefore, no significant pressure differential will exist across the switch housing. The pressure transient of 0.6 psi is sufficiently short as not to impair the integrity of the mercury switch in this equipment. No credible failure mode of the mercury switch has been demonstrated for pressures of this magnitude. Therefore, engineering judgement indicates that these components are qualified for the pressure condition. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater then the radiation dose specified for this equipment. 7. All materials in this equipment susceptible tc thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results and demonstrate that none of these materials are susceptible to significant thermal degradation at the specific temperature.	Replacement of the mercury switches will be evaluated. JUSTIFICATION FOR CONTINUED OPERATION Yarway Instruments with identical mercury switches have been qualified by testing. Engineering judgement based on previous testing, discussions with the vendor and the materials of construction indicate that this component is qualified for the specified environmental conditions.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: NBVI PLANT I.D. No.: LIS 2-3-73 (A,B) COMPONENT: Level Indicating Switch MANUFACTURER: Yarway MODEL No.: 4418EC (See Note 2) FUNCTION: Containment Spray Logic/Indication SERVICE: Reactor Level ACCURACY: Spec.: 3% Demo.: NA LOCATION: Instrument Racks C-122, C-121 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days	> 180 days	(See Note 3)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
	TEMPERATURE (^{o}F)	(See Environmental Profiles B.8 & B.9)	See attached Test Profile	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6 psig		[4]	Engineering Analysis (See Note 5)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1.0×10^6	[2]	[4]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	> 40 years	(See Note 1)	[4]	Engineering Analysis (See Note 7)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

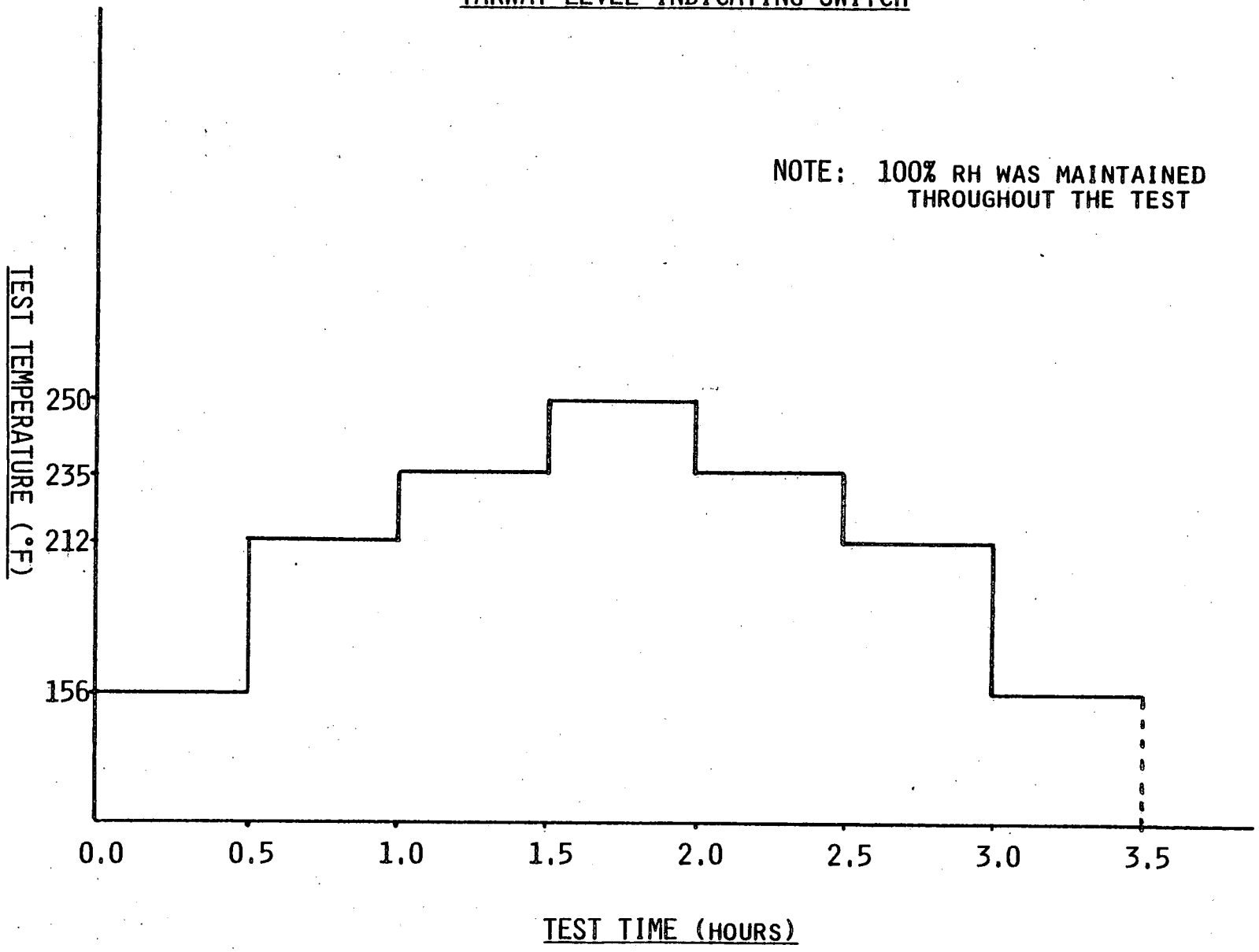
DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. Lockheed Electronics Co. Test Report #5628-3509, March 27, 1979.
4. EDS File No. 38, Rev. 2, "Yarway Level Indicator," Monticello Nuclear Plant, EDS Job #0910-001-451.

YARWAY LEVEL INDICATING SWITCH

NOTE: 100% RH WAS MAINTAINED THROUGHOUT THE TEST



NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. For this qualification to completely apply, the mercury switches within these models must be replaced with snap switches. However, the mercury switches have been qualified to similar environmental conditions. 3. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses.	4. The level switch housing is not sealed. Therefore, no significant pressure differential will exist across the switch housing. The pressure transient of 0.6 psi is sufficiently short as not to impair the integrity of the mercury switch in this equipment. No credible failure mode of the mercury switch has been demonstrated for pressures of this magnitude. Therefore, engineering judgement indicates that these components are qualified for the pressure condition. 5. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 6. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results and demonstrate that none of these materials are susceptible to significant thermal degradation at the specification temperature.	Replacement of the mercury switches will be evaluated. JUSTIFICATION FOR CONTINUED OPERATION Yarway Instruments with identical mercury switches have been qualified by testing. Engineering judgement based on previous testing, discussions with the vendor and the materials of construction indicate that this component is qualified for the specific environmental conditions.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: NBVI PLANT I.D. No.: LIS 2-3-72 (A-D) COMPONENT: Level Indicating Switch MANUFACTURER: Yarway MODEL No.: 4418C (See Note 2) FUNCTION: ESF Actuation SERVICE: Reactor Level ACCURACY: Spec.: ±3 inches Demo.: NA LOCATION: Inst. Rack C-55, C-56	OPERATING TIME	10 minutes	3.5 hours	(See Note 3)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)	See attached Test Profile	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6 psig		[4]	Engineering Analysis (See Note 4)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	1.0×10^6	[2]	[4]	Engineering Analysis (See Note 5)	None
	AGING	Not Required	> 40 years	(See Note 1)	[4]	Engineering Analysis (See Note 6)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

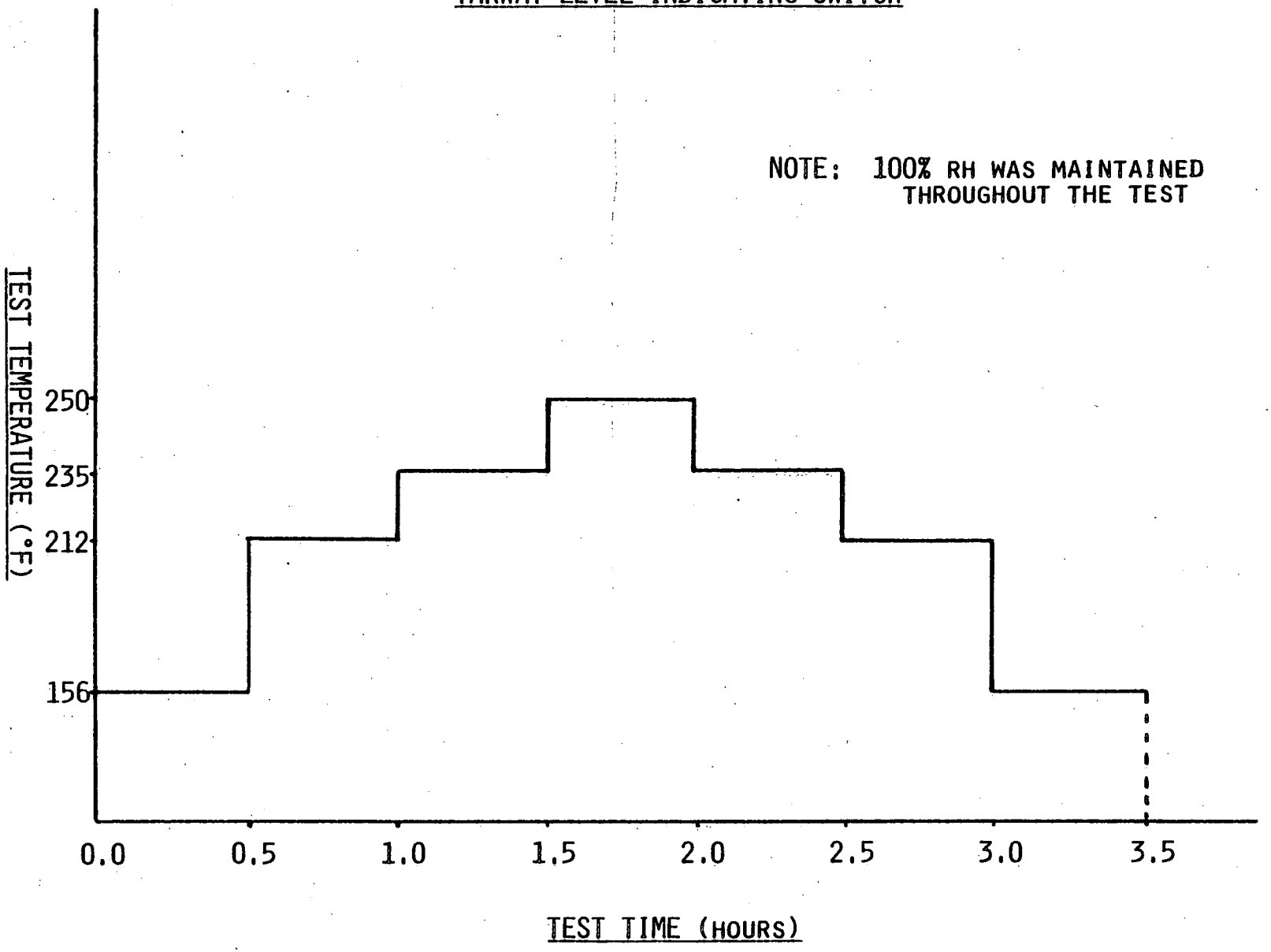
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. Lockheed Electronics Co. Test Report #5628-3509, March 27, 1979.
4. EDS File No. 38, Rev. 2, "Yarway Level Indicator," Monticello Nuclear Plant, EDS Job #0910-001-451.

YARWAY LEVEL INDICATING SWITCH



NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. For this qualification to completely apply, the mercury switches within these models must be replaced with snap switches. However, the mercury switches have been qualified to similar environmental conditions. 3. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses.	4. The level switch housing is not sealed. Therefore, no significant pressure differential will exist across the switch housing. The pressure transient of 0.6 psi is sufficiently short as not to impair the integrity of the mercury switch in this equipment. No credible failure mode of the mercury switch has been demonstrated for pressures of this magnitude. Therefore, engineering judgement indicates that these components are qualified for the pressure condition. 5. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 6. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results and demonstrate that none of these materials are susceptible to significant thermal degradation at the specification temperature.	Replacement of the mercury switches will be evaluated. JUSTIFICATION FOR CONTINUED OPERATION Yarway Instruments with identical mercury switches have been qualified by testing. Engineering judgement based on previous testing, discussions with the vendor and the materials of construction indicate that this component is qualified for the specific environmental conditions.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: NBVI PLANT I.D. No.: LIS 2-3-57(A,B) LIS 2-3-58(A,B) COMPONENT: Level Indicating Switch MANUFACTURER: Yarway MODEL No.: 4418C (Note 2) FUNCTION: Reactor Scram, Containment Isolation SERVICE: Reactor Level ACCURACY: Spec.: ±3 inches Demo.: NA LOCATION: Instrument Rack C-55, C-56 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	10 minutes	3.5 hours	(See Note 3)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)	See attached Test Profile	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6 psig		[4]	Engineering Analysis (See Note 4)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	1.0×10^6	[2]	[4]	Engineering Analysis (See Note 5)	None
	AGING	Not Required	> 40 years	(See Note 1)	[4]	Engineering Analysis (See Note 6)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. Lockheed Electronics Co. Test Report #5628-3509, March 27, 1979.
4. EDS File No. 38 - Rev. 2, "Yarway Level Indicator," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. The penetration of the switch housing is sealed with electrical conduit. The switch case is rated NEMA 4 and has sufficiently small surface area such that the effect of the 0.6 psig pressure transient is negligable.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: NBVI PLANT I.D. No.: PS 2-3-53 (A,B) COMPONENT: Pressure Switch MANUFACTURER: Barksdale MODEL No.: B2T-A12SS FUNCTION: Core Spray, RHR Permissive SERVICE: Reactor Pressure ACCURACY: Spec.: ±1% Demo.: ±1.2% LOCATION: Instrument Rack C-122	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.8)	212	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6		[3,4]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	1×10^5	[2]	[4]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	$\angle$ 40 years	(See Note 1)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. Barksdale Qualification Test, Procedure 9993.
4. EDS File No. SER-5, "Barksdale Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No operating time is available for this equipment. Specification derived from HELB Analysis Report "Postulated Pipe Failures Outside Containment," submitted by letter to A. Grambusso (AED) by C. E. Ward (NSP), dated September 7, 1973. 3. Engineering Analysis was used to supplement test data. Analysis showed that pressure transients of this magnitude are not a credible failure mode. Therefore, the pressure condition is satisfied.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	4. EDS File No. 11, Rev. 2, "Barton Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. IEEE 344-1975 Seismic and Radiation Qualification Test for ITT Barton Differential Pressure Indicating Switches 288A and 289A, Report No. 03-288A-1.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Nuclear Boiler PLANT I.D. No.: PS 2-3-52B COMPONENT: Pressure Switch MANUFACTURER: Barton MODEL No.: 288 FUNCTION: Core Spray Valve Open Permissive SERVICE: Reactor Pressure ACCURACY: Spec.: ±1% Demo.: ±1.5% LOCATION: Instrument Rack C-56	OPERATING TIME	10 Minutes	6 Hours	(See Note 2)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)	212°F	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6 psig		[3,4]	Simultaneous Testing & Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3×10^6	[2]	[5]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4]	Engineering Analysis (See Note 4)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. BWR Equipment Qualification Summary, Report No. QRS-027-A-01.

(Continued Next Page)

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. The penetration of the switch housing is sealed with electrical conduit. The switch case is rated NEMA 4 and has sufficiently small surface area such that the effect of the 0.5 psig pressure transient is negligable.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: NBVI PLANT I.D. No.: PS 2-3-52A COMPONENT: Pressure Switch MANUFACTURER: Barksdale MODEL No.: B2T- A12SS FUNCTION: Core Spray Valve Open Permissive SERVICE: Reactor Pressure ACCURACY: Spec.: ±1% Demo.: ±1.2% LOCATION: Instrument Rack C-55 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)	212	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.5		[3,4]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	1×10^5	[2]	[4]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	$\angle$ 40 years	(See Note 1)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. Barksdale Qualification Test, Procedure 9993.
4. EDS File No. SER-5, "Barksdale Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In the FSAR, this equipment was not assumed to function to mitigate a LOCA. Therefore, qualification to LOCA induced environments (such as radiation) is not required. 3. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses.	4. The penetration of the switch housing is sealed with electrical conduit. The switch case is rated NEMA 4 and has sufficiently small surface area such that the effect of the 0.5 psig pressure transient is negligable. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: NBVI PLANT I.D. No.: PS 2-3-51 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Barksdale MODEL No.: B2T-A12SS FUNCTION: Condenser Vac./MSIV Interlock SERVICE: Reactor Pressure ACCURACY: Spec.: ±1% Demo.: ±1.2% LOCATION: Instrument Racks C-55 & C-56 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	1 second	6 hours	(See Note 3)	[2]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)	212	[1]	[2]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.5		[2,3]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	Not Required	1×10^5	(See Note 2)	NA	NA	None
	AGING	Not Required	$\angle$ 40 years	(See Note 1)	[2,3]	Simultaneous Testing and Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Barksdale Qualification Test, Procedure 9993.
3. EDS File No. SER-5, "Barksdale Pressure Switch," Monticello Nuclear Plant, Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. This equipment is required to mitigate the consequences of a LOCA and is not required for a HELB. A LOCA does not affect the temperature, pressure, and relative humidity conditions at this location. 4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: NBVI PLANT I.D. No.: PS 2-3-49 (A,B) PS 2-3-50 (A,B) COMPONENT: Pressure Switch MANUFACTURER: Barksdale MODEL No.: B2T- A12SS FUNCTION: Interlock for RHR SERVICE: Reactor Pressure ACCURACY: Spec.: ±1% Demo.: ±1.2% LOCATION: A: Instrument Rack C-121 B: Instrument Rack C-122 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[1]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	Not Required	NA	(See Note 3)	NA	NA	None
	PRESSURE (PSIG)	Not Required	NA	(See Note 3)	NA	NA	None
	RELATIVE HUMIDITY (%)	Not Required	NA	(See Note 3)	NA	NA	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	1×10^5	[2]	[3]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	$\angle$ 40 years	(See Note 1)	[1,3]	Simultaneous Testing and Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

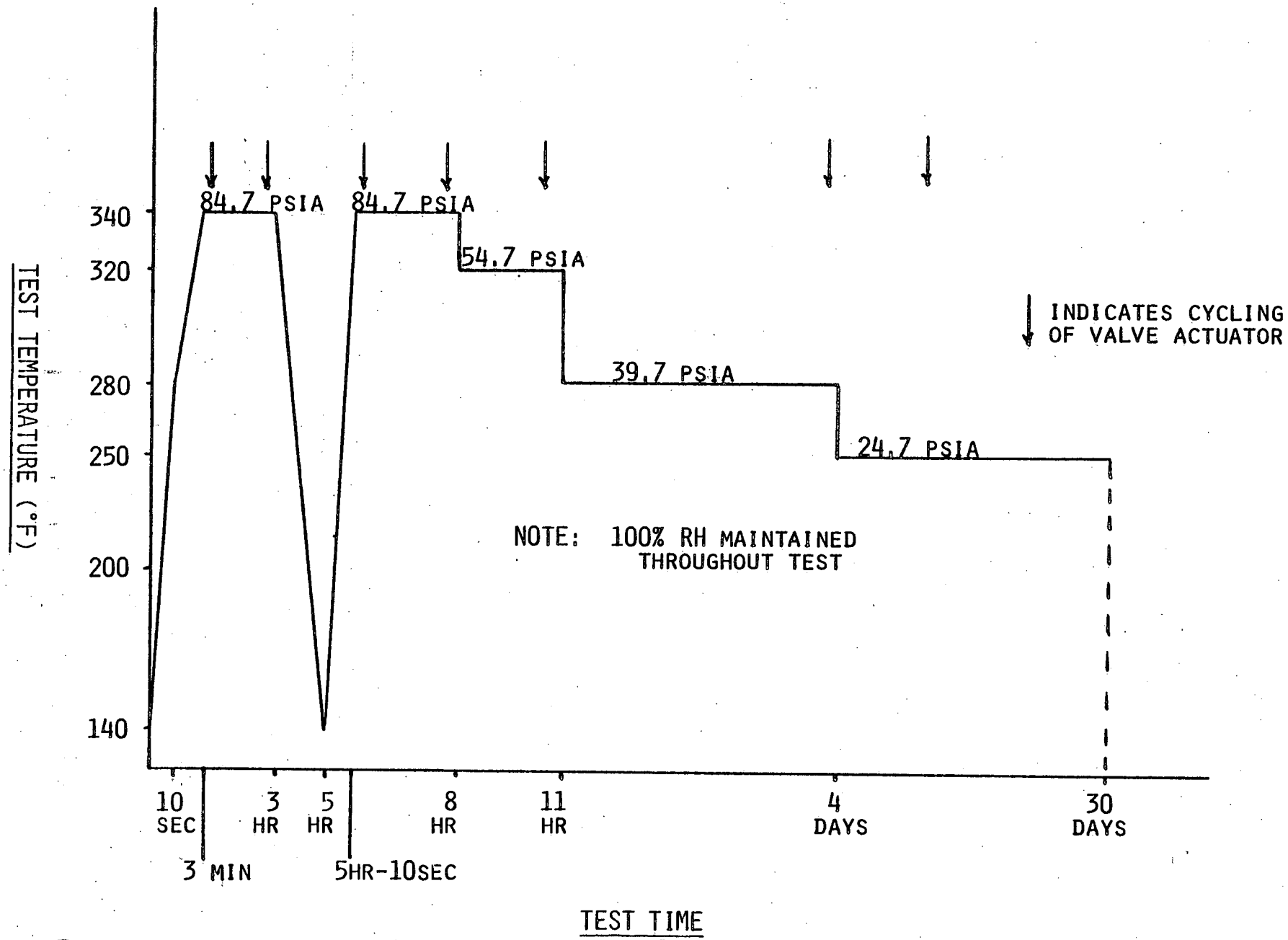
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. Barksdale Qualification Test, Procedure 9993.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. SER-5, "Barksdale Pressure Switch," Monticello Nuclear Plant, Job. No. 0910-001-451.

NAMCO LIMIT SWITCH - MODEL EA 740



NOTES		REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 3. Analysis shows that the amount of beta radiation which penetrates existing shielding is less than 10% of the gamma qualification dose.		5. EDS File No. EER-25, "NAMCO Limit Switches," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 6. NAMCO Test Report for EA 180 and EA 740 switches, dated February 22, 1979. 7. SER prepared by NRR Equipment Qualification Branch for Monticello Nuclear Plant, June 3, 1981. 8. Monticello Nuclear Plant FSAR Table 14-10-4.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam PLANT I.D. No.: See Below COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: EA 740-50100 FUNCTION: Position Indication SERVICE: AO 2-80 (A-D) ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment	OPERATING TIME	30 hours	30 Days	[2]	[6]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Attached Test Profile)	[7]	[6] [5]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	PRESSURE (PSIG)			[8]	[6]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[6]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	Boric Acid Buffered w/NaOH pH 10-11	[7]	[6]	Simultaneous Testing	None
	RADIATION (RADS)	3.3×10^7 gamma 2×10^8 beta	2×10^8 gamma 2×10^8 beta	[4] [3]	[6] [5]	Sequential Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 years	(See Note 1)	[5,6]	Sequential Testing & Environmental Analysis (See Note 2)	None
FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Figure 5-2-15.
3. Assumed conservative surface dose.
4. Monticello Nuclear Plant FSAR, Section 5-2.2.4.3.

(Continued on Next Page

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No operating time is available for this equipment. Specification derived from HELB Analysis Report "Postulated Pipe Failures Outside Containment" submitted by letter to A. Grambusso (AEC) by E. C. Ward (NSP), dated September 7, 1973. 3. Engineering Analysis was used to supplement test data for pressure qualification of this switch. The surface area of this switch is sufficiently small so that the effect of a 0.5 psig pressure rise for a few seconds is negligible. Therefore, this switch is pressure qualified.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 5. Barton model 278 d/p indicating switches employ mercury switches. As required in G.E. instructions PPD No. 145C3009, mercury switches were replaced with snap switches during plant startup. This makes model 278 equivalent to the Barton Model 288.	4. EDS File No. 11, Rev. 2, "Barton Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. IEEE 344-1975 Seismic and Radiation Qualification Test for ITT Barton Differential Pressure Indicating Switches 288A and 289A, Report No. R3-288A-1.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam PLANT I.D. No.: dPIS 2-116 (A-D), 117 (A-D), 118 (A-D), 119 (A-D) COMPONENT: Differential Pressure Indicating Switch MANUFACTURER: Barton MODEL No.: (See Note 5) FUNCTION: NA SERVICE: NA ACCURACY: Spec.: ±2%, Demo.: ±1.5% LOCATION: RWCU Pipe Open Space	OPERATING TIME	10 Minutes	6 Hours	(See Note 2)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.9)	212°F	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.5 psig		[3,4]	Simultaneous Testing & Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3×10^6	[2]	[5]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4]	Engineering Analysis (See Note 4)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.1.7a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

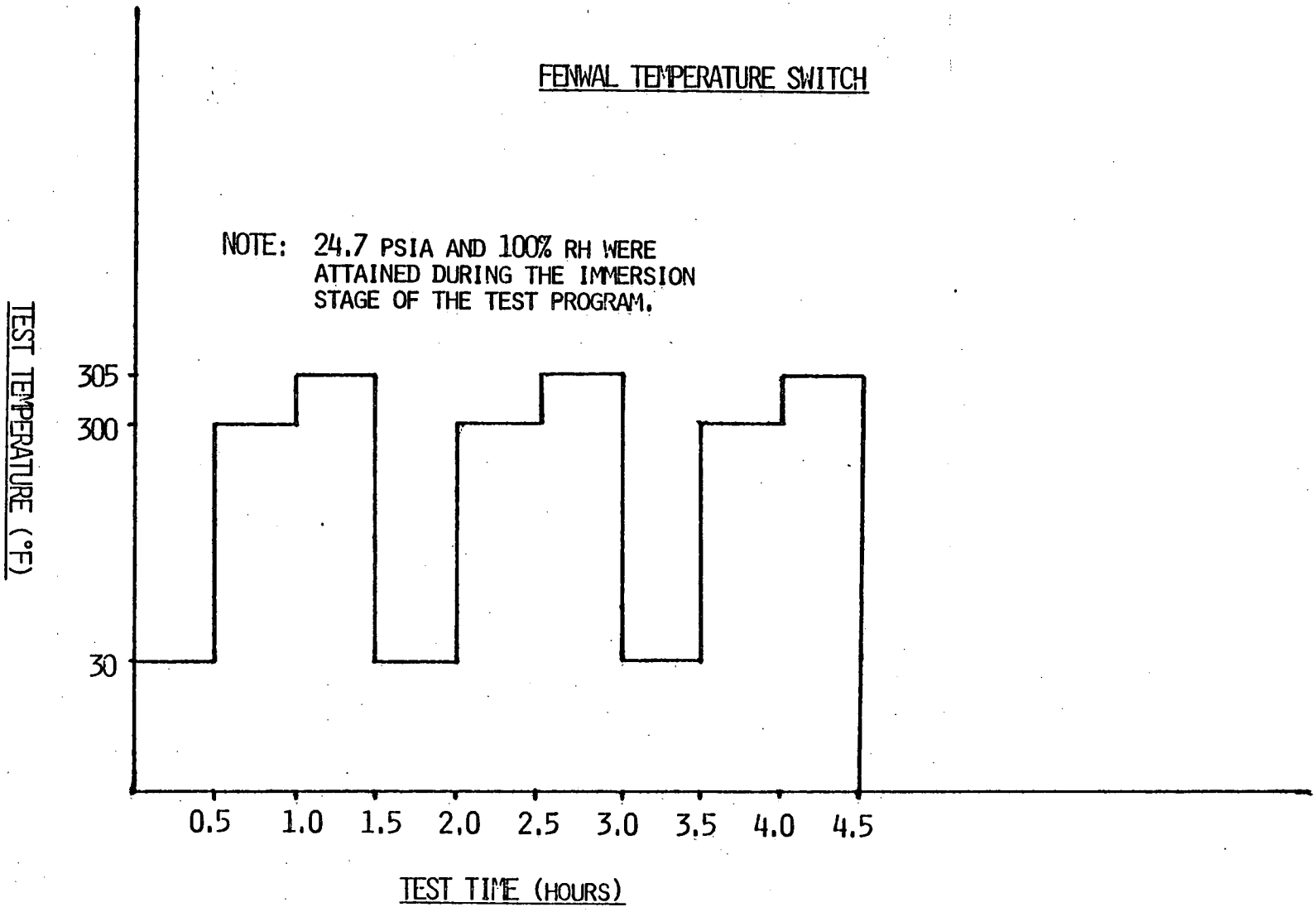
REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. BWR Equipment Qualification Summary, Report No. QSR-027-A-01.

(Continued Next Page)

FENWAL TEMPERATURE SWITCH

NOTE: 24.7 PSIA AND 100% RH WERE ATTAINED DURING THE IMMERSION STAGE OF THE TEST PROGRAM.



NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Main Steam PLANT I.D. No.: TS 2-121(A-D), 122(A-D) 123(A-D), 124(A-D) COMPONENT: Temperature Switch MANUFACTURER: Fenwal MODEL No.: 17002-40 FUNCTION: Main Steam Line Break (High Temperature) Detection SERVICE: NA ACCURACY: Spec.: ±2% Demo.: ±1% LOCATION: Steam Chase FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	10 minutes	1.5 hours	(See Note 2)	[2]	Sequential Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.7)	(See attached profile)	[1]	[2]	Sequential Testing	None
	PRESSURE (PSIG)		(See attached profile)		[2]	Sequential Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Sequential Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.7×10^4	[4]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	>40 years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. GE Report VPF145C3004-8, data Report No. 6350.
3. EDS File No. EER-10, "Fenwal Temperature Switch," Monticello Nuclear Plant, Job #0910-001-451.
4. Monticello Nuclear Plant FSAR Table 14-10-4.

Temperature Exposure

The following is a tabulation of total temperature exposure above 250°F commended on August 27, 1970 on the Automatic Valves.

a. Time above 250°F: 9.3 hours

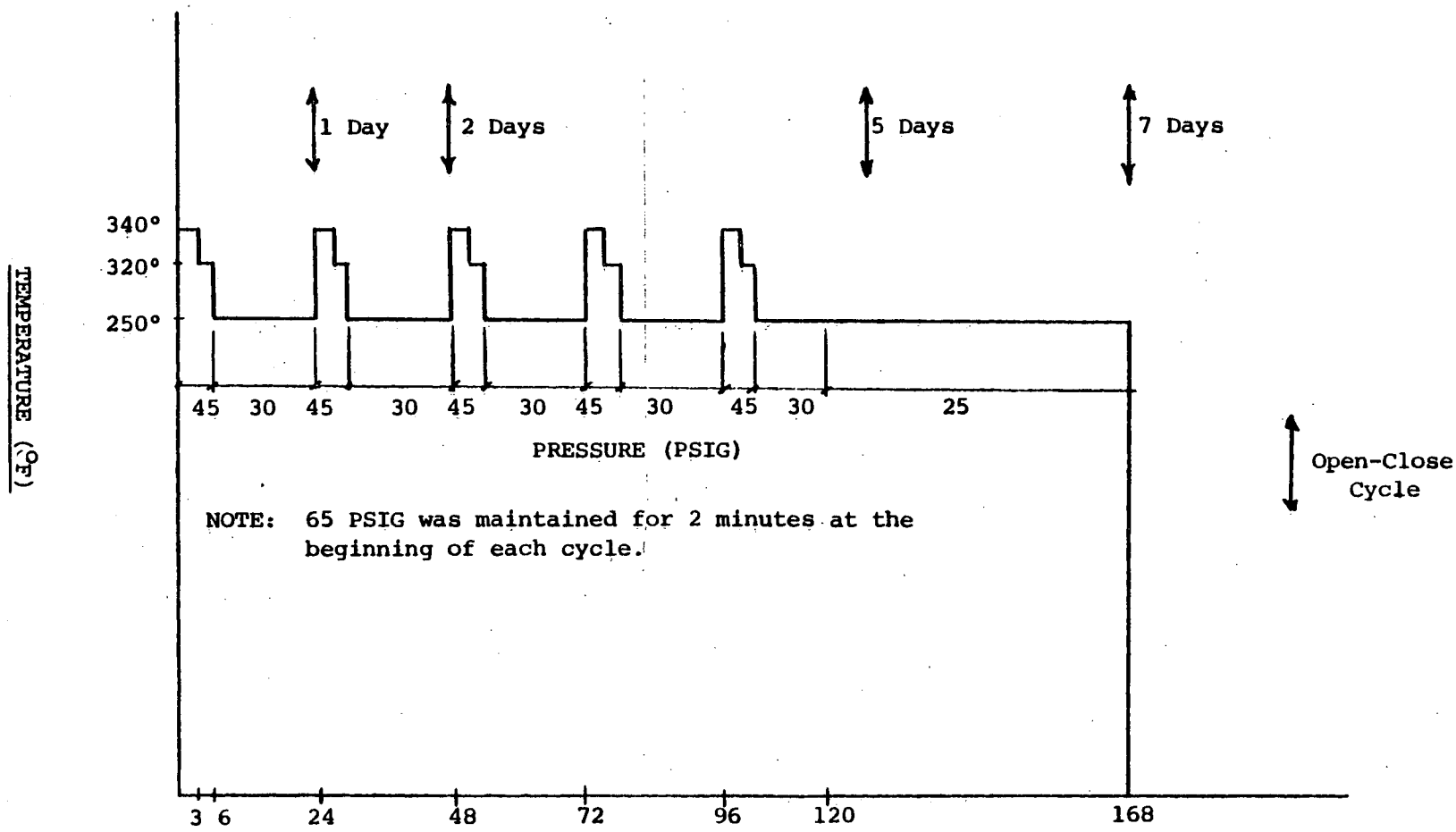
b. Time above 310°F: 5.5 hours

c. Time above 340°F: 3.3 hours

Saturated steam conditions were maintained during the test.

TEMPERATURE AND PRESSURE PROFILE

MODEL C-5450



NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 16.5 psia; however, since the operator housing is made of steel and totally sealed, pressure transients of this magnitude not a credible failure mode. Therefore, this equipment is qualified for the pressure condition.	4. EDS File No. EER-29, "Rotork Valve Motor Operator," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IE 3025, dated April 8, 1980.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 1986, 1987, 1988, 1989 COMPONENT: Valve Motor Operator MANUFACTURER: Rotork MODEL No.: 30A FUNCTION: RHR Pump Suction Valve Actuation SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: RHR Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 Hours	200 Hours	[3]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 4)	212°F	[1]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)		16.5 psia		[4]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

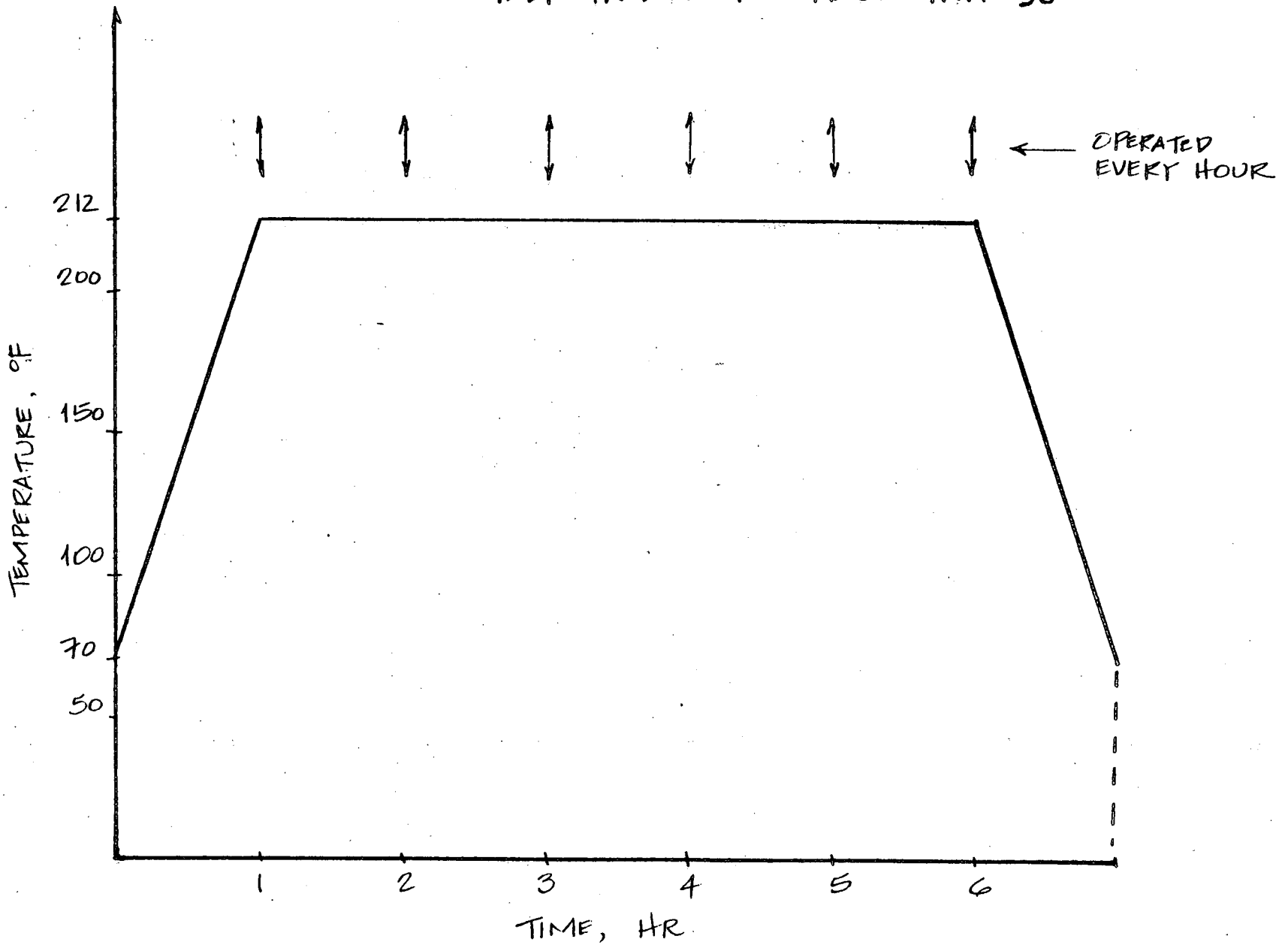
REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Table 14-10.1.3.

(Continued Next Page)

TEST PROFILE FOR ASCO HVA-90



NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. The operating time requirement was derived from LOCA and HELB analyses. No specific specification is available for this equipment. 3. Engineering analysis was used to evaluate pressure qualification of this valve. The maximum pressure rise experienced by this valve during normal or accident is 0.4 psig for less than 5 seconds. No credible failure mode due to a pressure of this magnitude is expected.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. Operating experience, as outlined in NRC Bulletins 78-14, indicates that the life of the limiting material, BUNA 'N' to be 7 years. A regular replacement schedule for these materials has been established to insure that they remain in proper operating condition throughout their 40-year design life.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Control Rod Drive PLANT I.D. No.: SV 3-13-117, SV 3-13-118 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: HVA-90-405 FUNCTION: Actuate CRD Scram Valves SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Reactor Building Elev. 935' W FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[2]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.8)	(See Test Profile)	[1]	[2]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.4		[3]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	6×10^5	[4]	[3]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	< 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

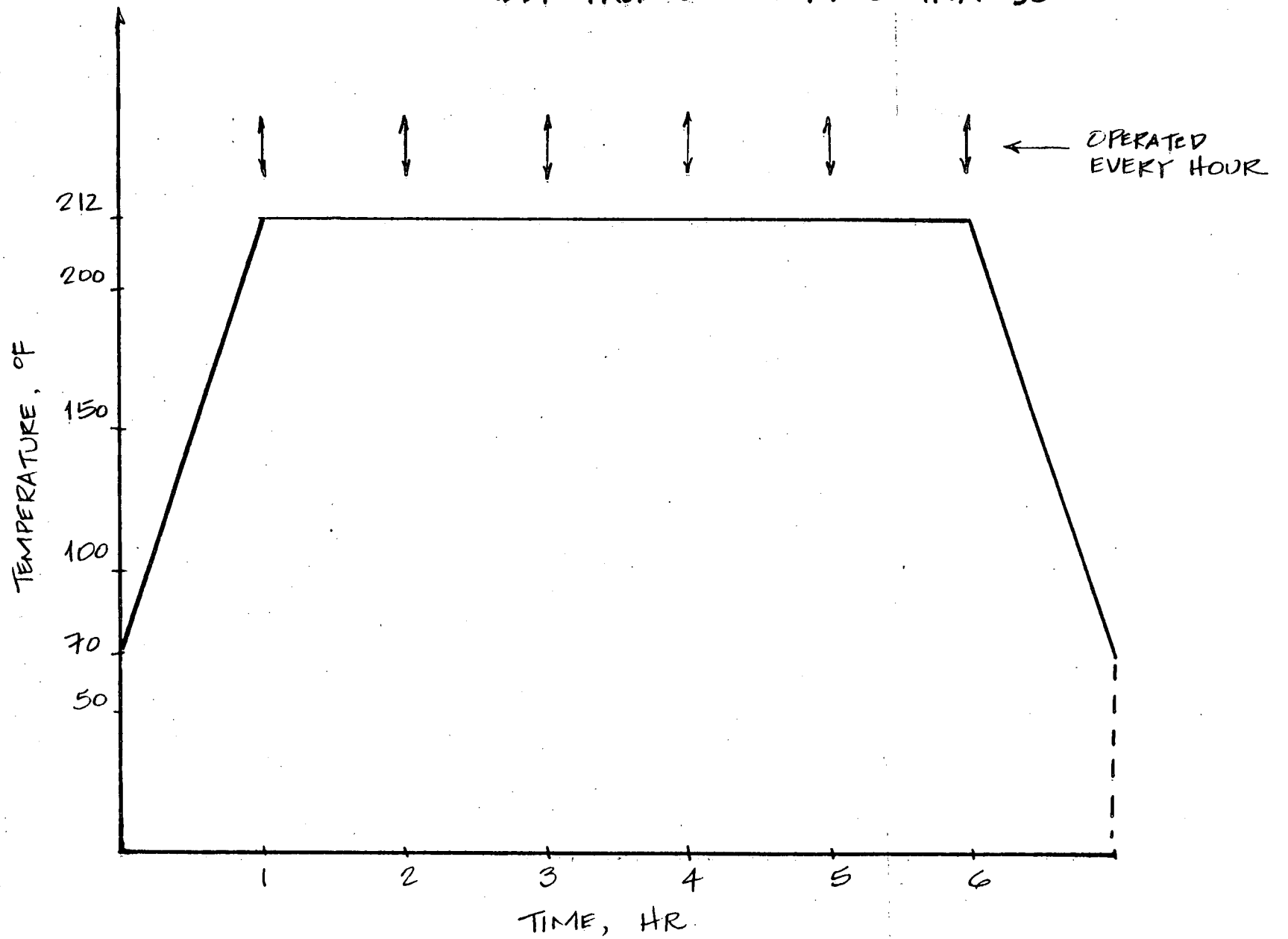
DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. BWR Owners Group Equipment Qualification Summary Report No. 097-A-01.
3. EDS File No. 9, Revision 2, "ASCO Solenoid Valve," Monticello Nuclear Plant, EDS Job #0910-001-451.
4. Monticello Nuclear Plant FSAR Table 14-10-4.

TEST PROFILE FOR ASCO HVA-90



NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. The operating time requirement was derived from LOCA and HELB analyses. No specific specification is available for this equipment. 3. Engineering analysis was used to evaluate pressure qualification of this valve. The maximum pressure rise experienced by this valve during normal or accident is 0.4 psig for less than 5 seconds. No credible failure mode due to a pressure of this magnitude is expected.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. Operating experience, as outlined in NRC Bulletins 78-14, indicates that the life of the limiting material, BUNA 'N' to be 7 years. A regular replacement schedule for these materials has been established to insure that they remain in proper operating condition throughout their 40-year design life.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Control Rod Drive PLANT I.D. No.: SV 3-31 (A, B) COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: HVA-90-441-1A FUNCTION: Actuate Scram Discharge Volume Valves SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. El 935' W	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[2]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 8)	(See Test Profile)	[1]	[2]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.4		[3]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	6.0×10^5	[4]	[3]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

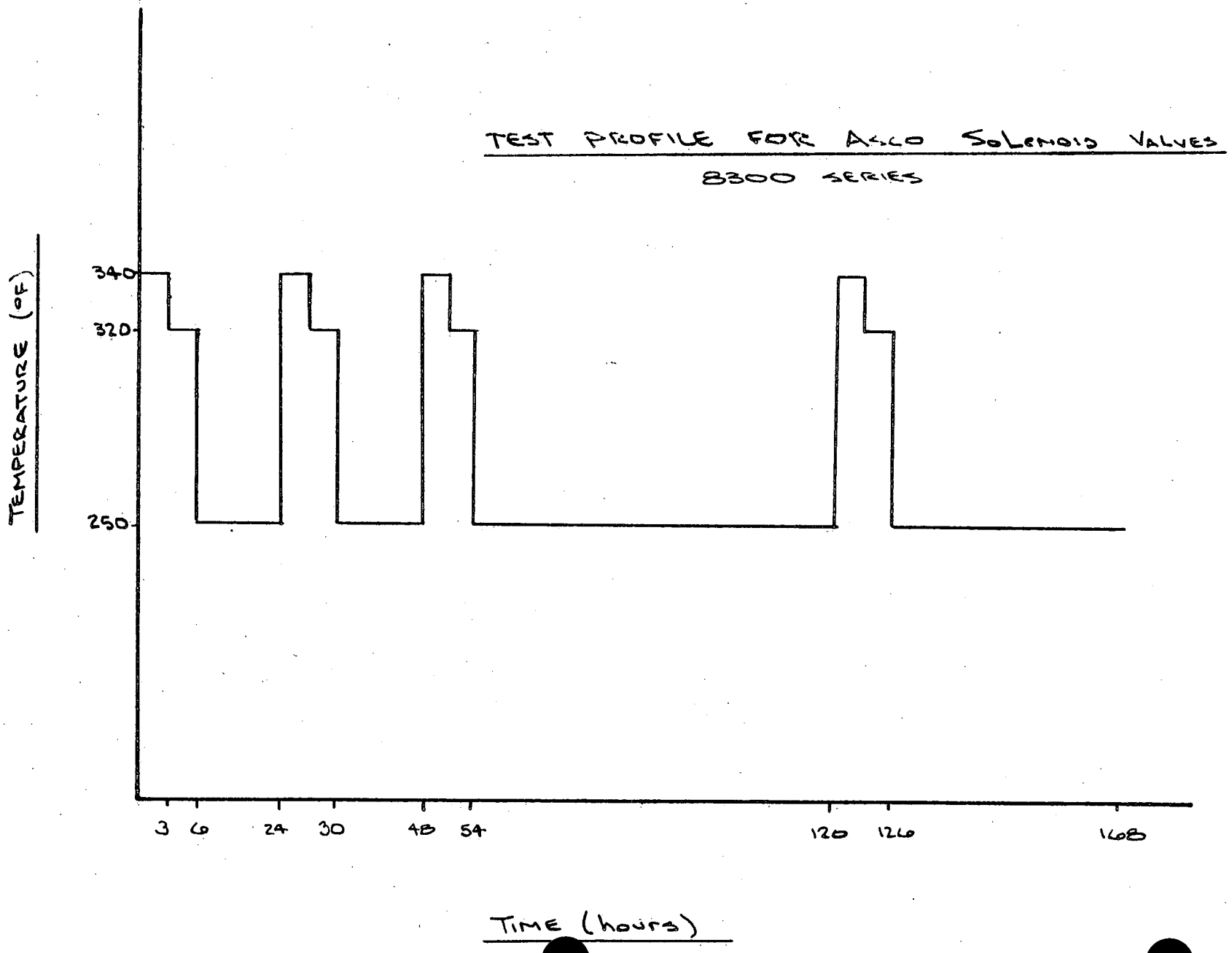
UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. BWR Owners Group Equipment Qualification Summary, Report No. 097-A-01.
3. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.
4. Monticello Nuclear Plant FSAR Table 14-10-4.


TEST PROFILE FOR ASCO SOLENOID VALVES
8300 SERIES
TEMPERATURE (°F)
340
320
250
3
6
24
30
48
54
120
126
168
TIME (hours)

NOTES		
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.		

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Control Rod Drive PLANT I.D. No.: SV3-140 (A,B) COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: WPLBX 831636 FUNCTION: Vent Scram Air Header SERVICE: ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. El. 950 NE FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	66 hours	(See Note 2)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.9)	See Attached Test Profile	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		See Attached Test Profile		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3×10^7	[2]	[3]	Sequential Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.4.1a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

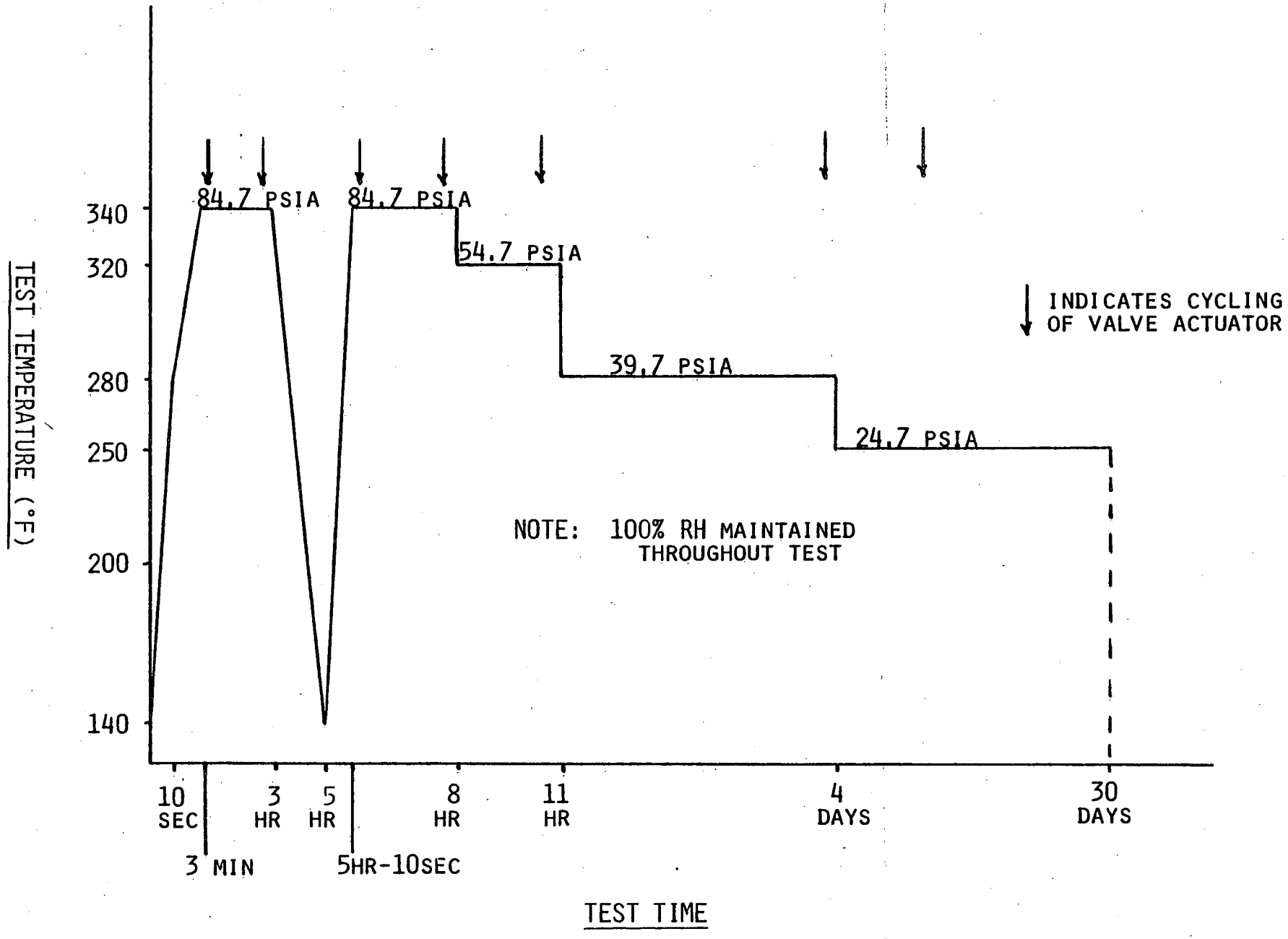
DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. BWR Owners' Group Equipment Qualification Summary Report No. 096-A-01.
4. EDS File No. 9, Revision 2, "ASCO Solenoid Valve ", Monticello Nuclear Plant, EDS Job #0910-001-451.

NAMCO LIMIT SWITCH - MODEL EA 740



NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

3. Analysis shows that the amount of beta radiation which penetrates existing shielding is less than 10% of the gamma qualification dose.

REFERENCES (Continued)

5. EDS File No. EER-25, "NAMCO Limit Switches," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

6. NAMCO Test Report for EA 180 and EA 740 switches, dated February 22, 1979.

7. SER prepared by NRR Equipment Qualification Branch for Monticello Nuclear Plant, June 3, 1981.

8. Monticello Nuclear Plant FSAR Table 14-10-4.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Recirculation PLANT I.D. No.: See Below COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: EA 740-8000 FUNCTION: Position Indication SERVICE: CV-2790 ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	30 hours	30 Days	[2]	[6]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Attached Profile	[7]	[6]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	PRESSURE (PSIG)		(See Attached Profile)	[8]	[6]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[6]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	Boric Acid Buffered w/NaOH pH 10-11	[7]	[6]	Simultaneous Testing	None
	RADIATION (RADS)	3.3×10^7 gamma 2×10^8 beta	2×10^8 gamma 2×10^8 beta	[4] [3]	[6] [5]	Sequential Testing Engineering Analysis (See Note 3)	None None
	AGING	Not Required	< 40 years	(See Note 1)	[5,6]	Sequential Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.3.7a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Figure 5-2-15.
3. Assumed conservative surface dose.
4. Monticello Nuclear Plant FSAR, Section 5-2.2.4.3.

(Continued on Next Page)

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No operating time is available for this equipment. Specification derived from HELB Analysis Report "Postulated Pipe Failures Outside Containment," submitted by letter to A. Grambusso (AEC) by E. C. Ward (NSP), dated September 7, 1973. 3. The instruments must function to mitigate the consequences of a LOCA inside containment. This event does not result in harsh pressure, temperature, or relative humidity conditions at the installed location.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Recirculation PLANT I.D. No.: dPIS 2-136 (A,B), 137 (A,B), 138 (A,B), 139 (A,B) COMPONENT: Differential Pressure Indicating Switch MANUFACTURER: Barton MODEL No.: 288 FUNCTION: LPCI Loop Selection SERVICE: Recirculation Loop dP ACCURACY: Spec.: ±1% Demo.: ±1.5% LOCATION: Instrument Racks C-73 and C-74 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[1]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	NA	NA	(See Note 3)	NA	NA	None
	PRESSURE (PSIG)		NA		NA	NA	None
	RELATIVE HUMIDITY (%)	NA	NA	(See Note 3)	NA	NA	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3×10^6	[2]	[1]	Sequential Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[1]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.3.6a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. IEEE 344-1975 Seismic and Radiation Qualification Test for ITT Barton Differential Pressure Indicating Switches 288A and 289A, Report No. R3-288A-1.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. EDS File No. 11, Rev. 2, "Barton Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No operating time is available for this equipment. Specification derived from HELB Analysis Report "Postulated Pipe Failures Oustide Containment," submitted by letter to A. Grambusso (AEC) by E. C. Ward (NSP), dated September 7, 1973. 3. These instruments must function to mitigate the consequences of a LOCA inside containment. This event does not result in harsh pressure, temperature, or relative humidity conditions at the installed location.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Recirculation PLANT I.D. No.: dPIS 2-129 (A-D) COMPONENT: Differential Pressure Indicating Switch MANUFACTURER: Barton MODEL No.: 288 FUNCTION: LPCI Loop Selection SERVICE: Recirculation Loop dP ACCURACY: Spec.: ±1% Demo.: ±1.5% LOCATION: Instrument Racks C-121 & C-122 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[1]	Simultaneous Testing	None
	TEMPERATURE (°F)	NA	NA	(See Note 3)	NA	NA	None
	PRESSURE (PSIG)		NA		NA	NA	None
	RELATIVE HUMIDITY (%)	NA	NA	(See Note	NA	NA	None
	CHEMICAL SPRAY	NA ed	NA d	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4 gamma	3×10^6	[2]	[1]	Sequential Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. IEEE 344-1975 Seismic and Radiation Qualification Test for ITT Barton Differential Pressure Indicating Switches 288A and 289A, Report No. R3-288A-1.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. 11, Rev. 2, "Barton Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. Engineering analysis was used to supplement test data for pressure qualification of this switch. Electrical conduit penetration effectively seals the switch housing so that internal components do not experience a pressure differential. Cases are rated NEMA 4 and have a sufficiently small surface area that the effect of an external 0.6psig pressure rise for only a few seconds is negligible. Therefore, this switch is pressure qualified.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Recirculation PLANT I.D. No.: PS 2-128 (A, B) COMPONENT: Pressure Switch MANUFACTURER: Static-O-Ring MODEL No.: 6N-AA3 FUNCTION: Shutdown Cooling Isolation SERVICE: Reactor Pressure ACCURACY: Spec.: ±1% Demo.: NA LOCATION: Instrument Rack C-122	OPERATING TIME	10 min.	6 hours	(See Note 2)	[3]	Simultaneous Test	None
	TEMPERATURE (°F)	(See Environmental Profile B. 8)	212°F	[1]	[3]	Simultaneous Test	None
	PRESSURE (PSIG)		0.6 psig		[3,4]	Simultaneous Test and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	7.5×10^4	[2]	[4]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)	[3,4]	Simultaneous Test and Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. Viking Laboratories Test Letter-Report No. 30203-2, dated Nov. 20, 1973
4. EDS File No. SER-32, "Static O-Ring Pressure Switch" Monticello Nuclear Plant, EDS Job No. 0910-001-451

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Recirculation PLANT I.D. No.: SV 2791 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 831723 FUNCTION: Pilot Air Control For Isolation Valve SERVICE: Reactor Water Sample Line Isolation ACCURACY: Spec.: NA Demo.: NA LOCATION: RWCU Pump Room El 962'-6" FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	5 minutes		[2]			Yes
	TEMPERATURE (^{o}F)	(See Environmental Profile B.11)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	5×10^6	4×10^6	[2]	[3,4]	Sequential Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. BWR Owners' Group Summary Report No. QSR-096-A-01.
4. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

ACTUAL LOCA SIMULATION BY ENVIRONMENTAL EXPOSURE (STEAM / CHEMICAL)

ACTUAL TEMPERATURE/PRESSURE PROFILE FOR SIMULATION OF LOSS-OF-COOLANT ACCIDENT (LOCA)

NOTES		REFERENCES (Continued
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. Engineering Analysis showed that the beta dose to radiation sensitive internals is less than 10% of the qualified gamma dose. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.		5. FSAR Figure 5-2-14. 6. Conservative unshielded beta dose assumed.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Recirculation PLANT I.D. No.: SV 2790 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: NP8321A1E FUNCTION: Pilot Air Control, Sample Line Isolation SERVICE: Reactor Water Sample Line Isolation ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment	OPERATING TIME	5 minutes	30 days	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	See Attached Test Profile	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		See Attached Test Profile	[5]	[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	$NaOH + H_3BO_3$ pH=9.5-10.5	[1]	[3]	Simultaneous Testing	None
	RADIATION (RADS)	$5x10^6$ gamma $2x10^8$ beta	2×10^8 gamma 2×10^8 beta	[2] [6]	[3] [4]	Sequential Testing Engineering Analysis (See Note 2)	None
	AGING	Not Required	<40 Years	(See Note 1)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. Safety Evaluation Report by the Equipment Qualification Branch for the Monticello Nuclear Plant.
2. General Electric Specification 22A1132.
3. ASCO Test Report No. AQS21678/TR, Rev. A
4. EDS File No. 9, Revision 2, "ASCO Solenoid Valve," Monticello Nuclear Plant, EDS Job #0910-001-451.

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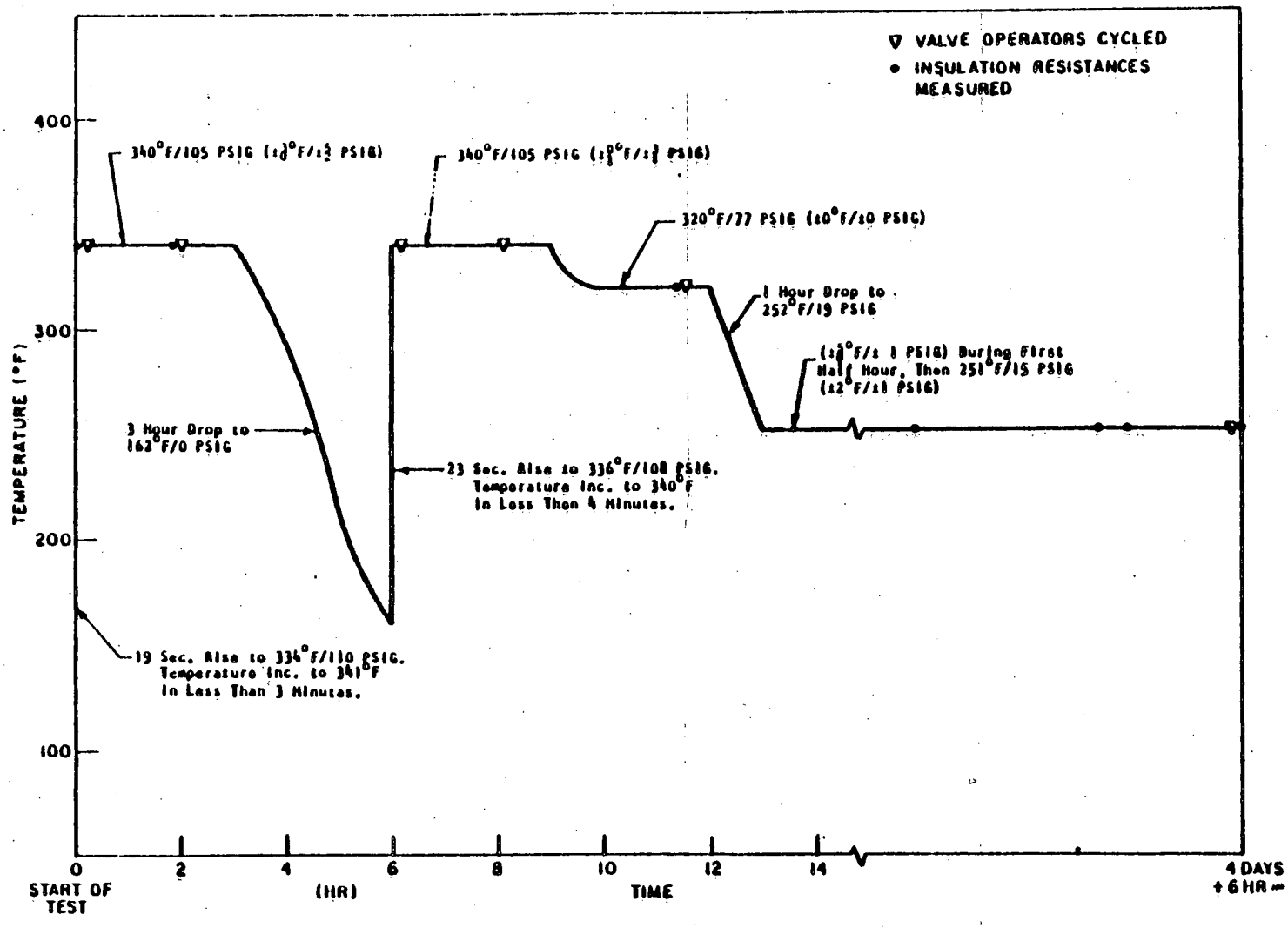

Actual Steam Exposure Profile

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

3. Monticello Nuclear Plant FSAR Figure 5-2-14, Section 5-2.3.2 and Table 14-10-4.

4. Assumed conservative surface dose.

5. Limitorque Test Report No. 600198 January 1969.

6. Limitorque Test Report No. 600376A, May 1980.

7. EDS File No. 4, Rev.4 , "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Recirculation PLANT I.D. No.: MO 2-53 (A,B) MO 2-54 (A,B) COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB, SB Series FUNCTION: Actuate Recirculation Pump Discharge Valves SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	43 sec.	30 days	[1]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Test Profile)	[2]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[3]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[3]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	H_3BO_3 + NaOH pH = 7.67	[2]	[4]	Separate Testing	None
	RADIATION (RADS)	1×10^6 gamma 2×10^8 beta	2.04×10^8 gamma	[3] [7]	[5]	Sequential Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[4] [6]	Separate Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	None

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. Letter, G. H. Scott (G.E.) to L. R. Eliason (NSP) dated November 15, 1978.
2. Safety Evaluation Report prepared by the Office of NRR Equipment Qualification Branch for Northern States Power Company, Monticello Nuclear Generating Plant, Docket No. 50-263, dated June 3, 1981.
(Continued on Next Page)

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussions with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Nuclear Boiler PLANT I.D. No.: PT 6-53 (A,B) COMPONENT: Pressure Transmitter MANUFACTURER: General Electric MODEL No.: 551 FUNCTION: Indication SERVICE: Reactor Pressure ACCURACY: Spec.: ±1%span Demo.: LOCATION: A. Instrument Rack C-55 B. Instrument Rack C-56 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days		(See Note 2)			yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)		[1]			yes
	PRESSURE (PSIG)						yes
	RELATIVE HUMIDITY (%)	100%		[1]			yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			yes
	AGING	Not Required		(See Note 1)			yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussions with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Nuclear Boiler PLANT I.D. No.: LT 2-3-61 COMPONENT: Level Transmitter MANUFACTURER: General Electric MODEL No.: 553 FUNCTION: Indication SERVICE: Reactor Vessel Level ACCURACY: Spec.: ±2%span Demo.: NA LOCATION: Instrument Rack C-55	OPERATING TIME	180 days		(See Note 2)			yes
	TEMPERATURE (^{o}F)	(See Environmental Profile B.13)		[1]			yes
	PRESSURE (PSIG)						yes
	RELATIVE HUMIDITY (%)	100%		[1]			yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			yes
	AGING	Not Required		(See Note 1)			yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

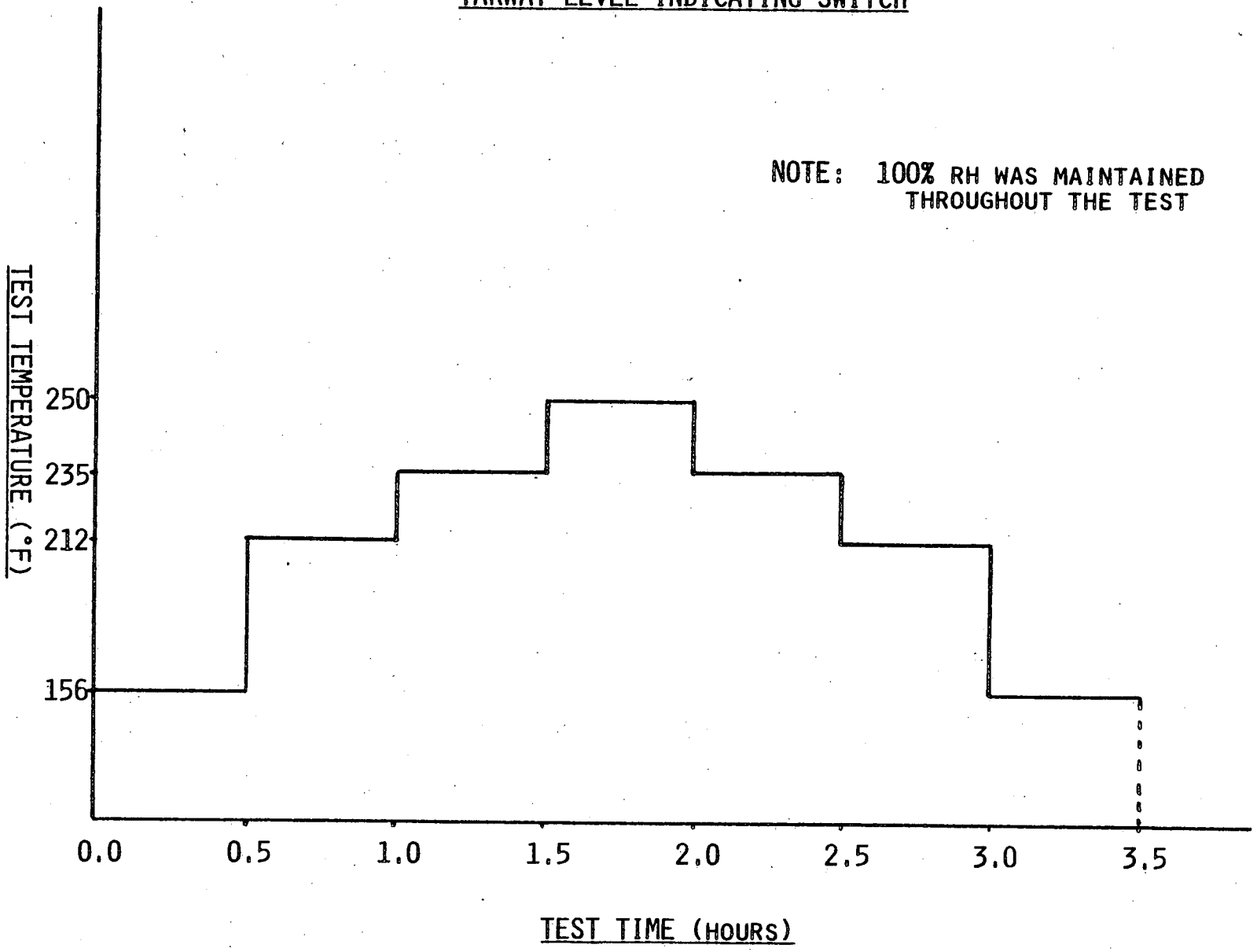
DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

YARWAY LEVEL INDICATING SWITCH

NOTE: 100% RH WAS MAINTAINED THROUGHOUT THE TEST



NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. For this qualification to completely apply, the mercury switches within these models must be replaced with snap switches. However, the mercury switches have qualified to similar environmental conditions. 3. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the required operating time, including margin.	5. The level switch housing is not sealed. Therefore, no significant pressure differential will exist across the switch housing. The pressure transient of 0.6 psi is sufficiently short as not to impair the integrity of the mercury switch in this equipment. No credible failure mode of the mercury switch has been demonstrated for pressures of this magnitude. Therefore, engineering judgement indicates that these components are qualified for the pressure condition. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 7. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results and demonstrate that none of these materials are susceptible to significant thermal degradation at the specific temperature.	Replacement of the mercury switches will be evaluated. JUSTIFICATION FOR CONTINUED OPERATION Yarway Instruments with identical mercury switches have been qualified by testing. Engineering judgement based on previous testing, discussions with the vendor and the materials of construction indicate that this component is qualified for the specified environmental conditions.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: NBVI PLANT I.D. No.: LITS 2-3-59 (A,B) COMPONENT: Level Indicating Transmitting Switch MANUFACTURER: Yarway MODEL No.: 4418CE (See Note 2) FUNCTION: Indication SERVICE: Reactor Level ACCURACY: Spec.: ±1% Span Demo.: NA LOCATION: A - Inst. Rack C-55 B - Inst. Rack C-56	OPERATING TIME	180 days	> 180 days	(See Note 3)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
	TEMPERATURE (°F)	(See Environmental Profile B.13)	See attached Test Profile	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6 psig		[4]	Engineering Analysis (See Note 5)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1.0×10^6	[2]	[4]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	> 40 years	(See Note 1)	[4]	Engineering Analysis (See Note 7)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

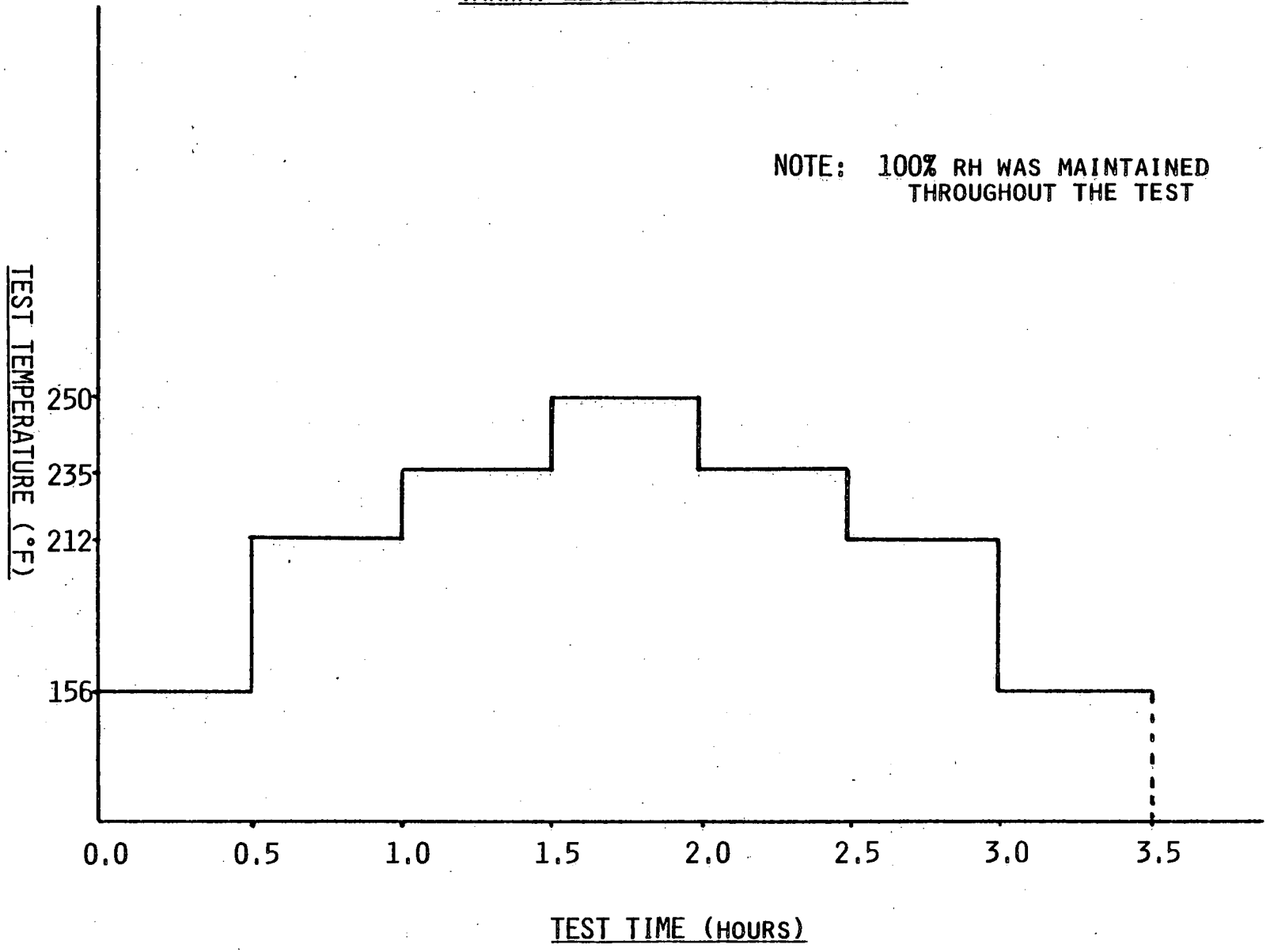
DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. Lockheed Electronics Co. Test Report #5628-3509, March 27, 1979.
4. EDS File No. 38, Rev. 2, "Yarway Level Indicator," Monticello Nuclear Plant, EDS Job #0910-001-451.

YARWAY LEVEL INDICATING SWITCH

NOTE: 100% RH WAS MAINTAINED THROUGHOUT THE TEST



NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the postulated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: SV 1994, SV 1995, SV 1996, SV 1997 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 831723 FUNCTION: Actuate CV 1994, CV 1995, CV 1996, CV 1997 SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: RHR Room	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	4×10^6	[2]	[3,4]	Sequential Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant, FSAR Table 14-10-4.
3. BWR Owners' Group Summary Report No. QSR-096-A-01.
4. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the postulated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: SV 1728, SV 1729 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THP 830081RU FUNCTION: NA SERVICE: Instrument Air ACCURACY: Spec.: NA, Demo.: NA LOCATION: RHR Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	4×10^6	[2]	[3,4]	Sequential Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.5.13a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. BWR Owners' Group Summary Report No. QSR-096-A-01.
4. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 17.04 psia. Since the operator housing is made of steel and totally sealed, pressure transients of this magnitude are not a credible failure mode. Therefore, this equipment is qualified for the pressure condition. 4. A thermal capacitance heat transfer calculation was performed and concluded that the high temperature transient is short enough so that performance of this equipments required function is not impared.	4. EDS File No. EER-29, "Rotork Valve Motor Operators," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IR 3025, dated April 8, 1980.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2407, 2032 COMPONENT: Valve Operator MANUFACTURER: Rotork MODEL No.: 12 A FUNCTION: Actuate Waste Surge Tank Isolation Valve SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Torus Area FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 Hours	200 Hours	[3]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 3)	214°F	[1]	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		17.04 psia		[4]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Section 14-10.1.3.

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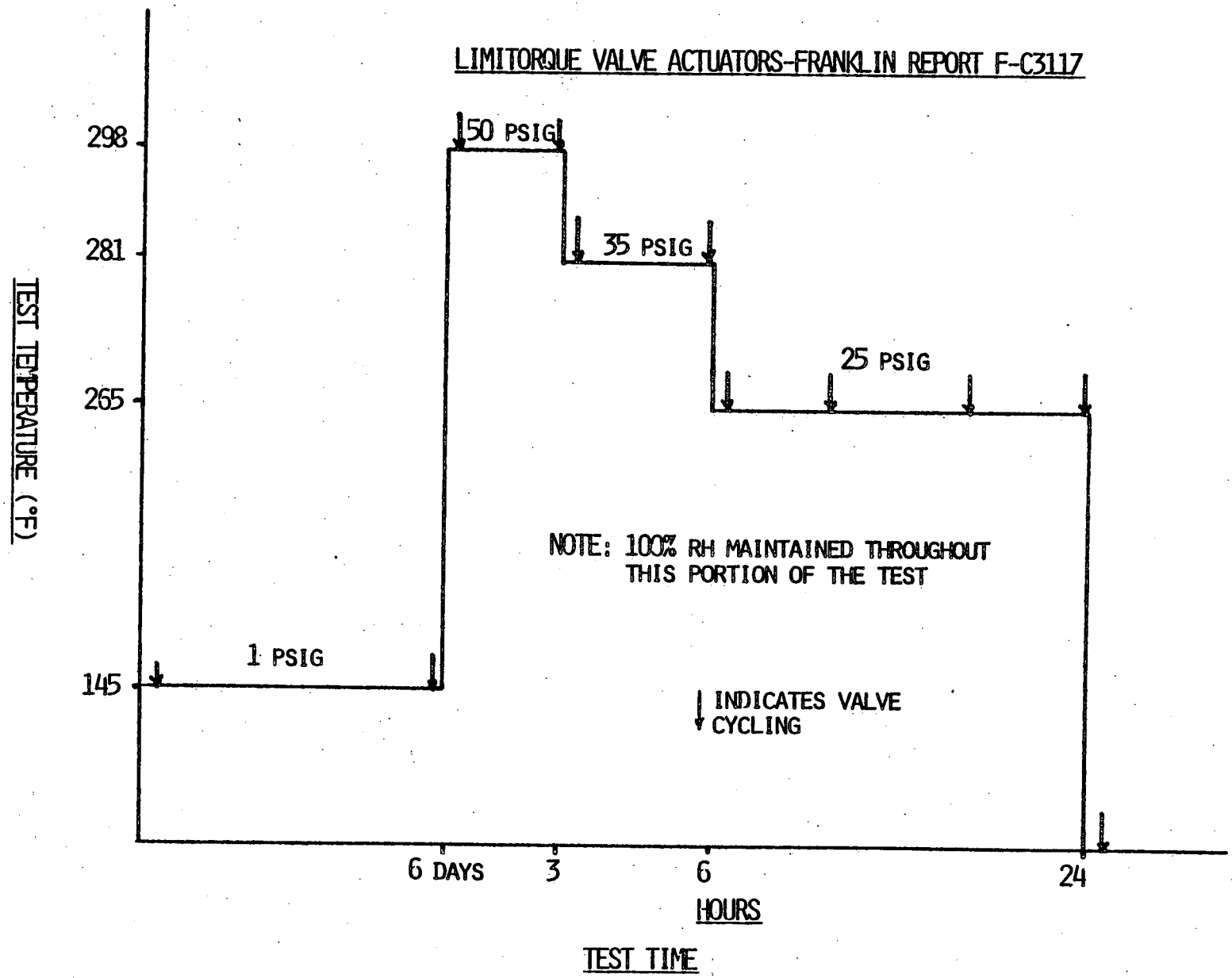

LIMITORQUE VALVE ACTUATORS-FRANKLIN REPORT F-C3117
298
281
265
145
TEST TEMPERATURE (°F)
50 PSIG
35 PSIG
25 PSIG
1 PSIG
NOTE: 100% RH MAINTAINED THROUGHOUT THIS PORTION OF THE TEST
INDICATES VALVE CYCLING
6 DAYS
3
6
24
HOURS
TEST TIME

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.
2. Through vendor correspondence, similarity of these value operators to radiation qualified operators was established. Also, all radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.
3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

4. FIRL Report No. F-C3117.
5. EDS File No. 4, Rev. 4, "Limitorque Valve OPerator," Monticello Nuclear Plant, EDS Job #0910-001-451.
6. Limitorque qualification report numbers:
   B0003
   600376A
   B0009
   600456

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2030 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-4 FUNCTION: Actuate Containment Isolation Valve SERVICE: Shutdown Cooling Supply ACCURACY: Spec.: NA Demo.: NA LOCATION: LPCI Injection Valve Area	OPERATING TIME	5 minutes	7 days	[2]	[4]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.10)	(See Test Profile Provided)	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)				[4]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.4×10^4	[3]	[6] [5]	Separate Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required	< 40 years	(See Note 1)	[4] [5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

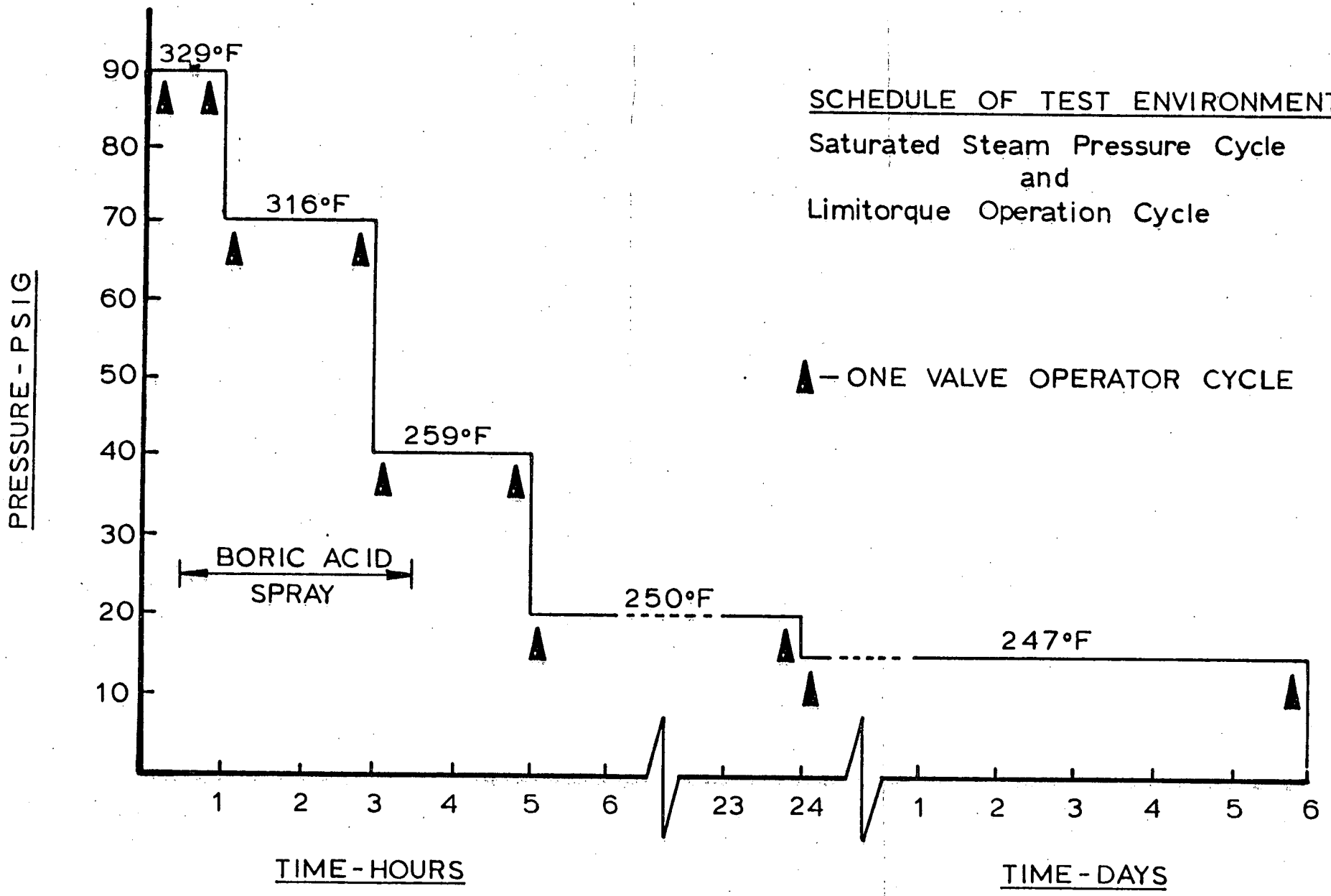
REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR Table 14-10-4.

(Continued on Next Page)

SCHEDULE OF TEST ENVIRONMENTS

Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle



▲ — ONE VALVE OPERATOR CYCLE

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

3. Monticello Nuclear Plant FSAR Figure 5-2-14, Section 5-2.3.2 and Table 14-10-4.

4. Assumed conservative surface dose.

5. Limitorque Test Report No. 600198 January 1969.

6. Limitorque Test Report No. 600376A, May 1980.

7. EDS File No. 4, Rev.4 , "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2027, 2029 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB-00, SMB-4 FUNCTION: Containment Isolation SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	5 minutes	7 days	[1]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Test Profile)	[2]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[3]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[3]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	H_3BO_3 + NaOH pH = 7.67	[2]	[5]	Simultaneous Testing	None
	RADIATION (RADS)	1×10^6 gamma 2×10^8 beta	2.0×10^8 gamma	[3] [4]	[6]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[5] [7]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	None

PAGE: C.5.10a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

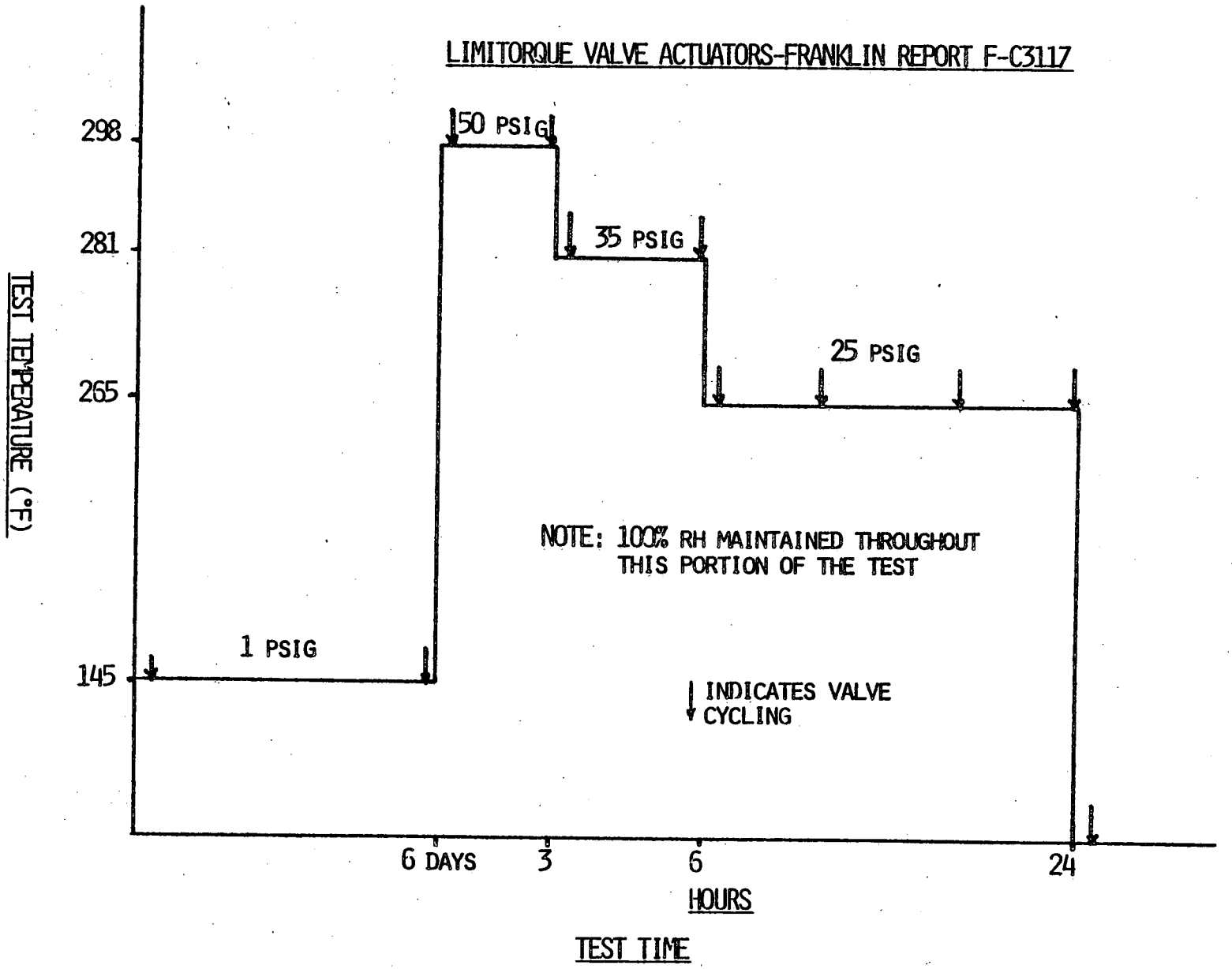
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. GE Specification 22A1132.
2. Safety Evaluation Report by the Office of NRR Equipment Qualification Branch for Northern States Power Company, Monticello Nuclear Generating Plant, Docket No. 50-263, Dated June 3, 1981.

(Continued on Next Page)


LIMITORQUE VALVE ACTUATORS-FRANKLIN REPORT F-C3117
298
281
265
145
TEST TEMPERATURE (°F)
50 PSIG
35 PSIG
25 PSIG
1 PSIG
NOTE: 100% RH MAINTAINED THROUGHOUT THIS PORTION OF THE TEST
INDICATES VALVE CYCLING
6 DAYS
3
6
24
HOURS
TEST TIME

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.
2. Through vendor correspondence, similarity of these value operators to radiation qualified operators was established. Also, all radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.
3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

4. FIRL Report No. F-C3117.
5. EDS File No. 4, Rev. 4, "Limitorque Valve OPerator," Monticello Nuclear Plant, EDS Job #0910-001-451.
6. Limitorque qualification report numbers:
   B0003
   600376A
   B0009
   600456

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2026 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-00 FUNCTION: Actuate Containment Isolation Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg.EL 980'	OPERATING TIME	5 minutes	7 days	[2]	[4]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)	(See Test Profile Provided)	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)				[4]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.4×10^4	[3]	[6] [5]	Separate Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required	< 40 years	(See Note 1)	[4] [5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR Table 14-10-4.

(Continued on Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Accidents for which the drywell spray could be required do not result in a harsh pressure, temperature or humidity condition at these valve locations. Therefore, qualification for these parameters is not required.	4. Rotork Test Report No. N14/21, dated May, 1970. 5. EDS File No. EER-29, "Rotork Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-415.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2020,2021,2022,2023 COMPONENT: Valve Motor Operator MANUFACTURER: Rotork MODEL No.: 30A FUNCTION: Containment Spray Valve Actuation SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Building El. 950'	OPERATING TIME	8 hours	200 hours	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	NA (See Note 3)	212°F	NA	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.0 psig		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	NA (See Note 3)	100%	NA	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[2]	[4]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[3,5]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Section 14-10.1.3.
3. Rotork Test Report No. IR 3025, dated April 8, 1980.

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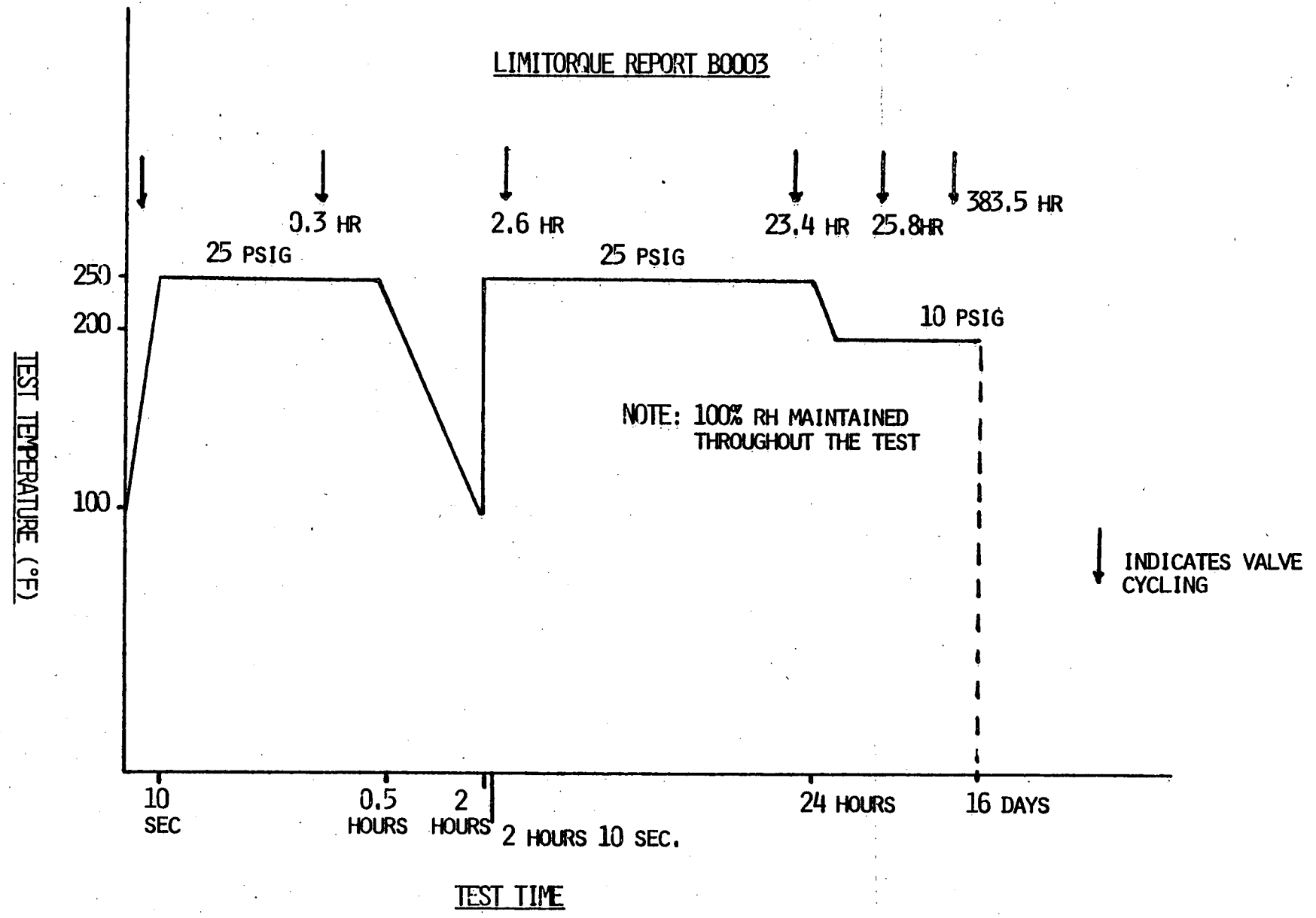

LIMITORQUE REPORT B0003
0.3 HR
2.6 HR
23.4 HR
25.8HR
383.5 HR
25 PSIG
25 PSIG
10 PSIG
250
200
100
NOTE: 100% RH MAINTAINED THROUGHOUT THE TEST
INDICATES VALVE CYCLING
TEST TEMPERATURE (°F)
10 SEC
0.5 HOURS
2 HOURS
2 HOURS 10 SEC.
24 HOURS
16 DAYS
TEST TIME

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2014, MO 2015 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-2 FUNCTION: Actuate Inboard RHR Injection Valve SERVICE: ACCURACY: Spec.: NA, Demo.: NA LOCATION: Reactor Bldg. Elev.948' FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 hours	> 24 hours	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.10)	(See attached Test Profile)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		(See attached Test Profile)		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2.0×10^7	[2]	[3]	Sequential Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[3]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

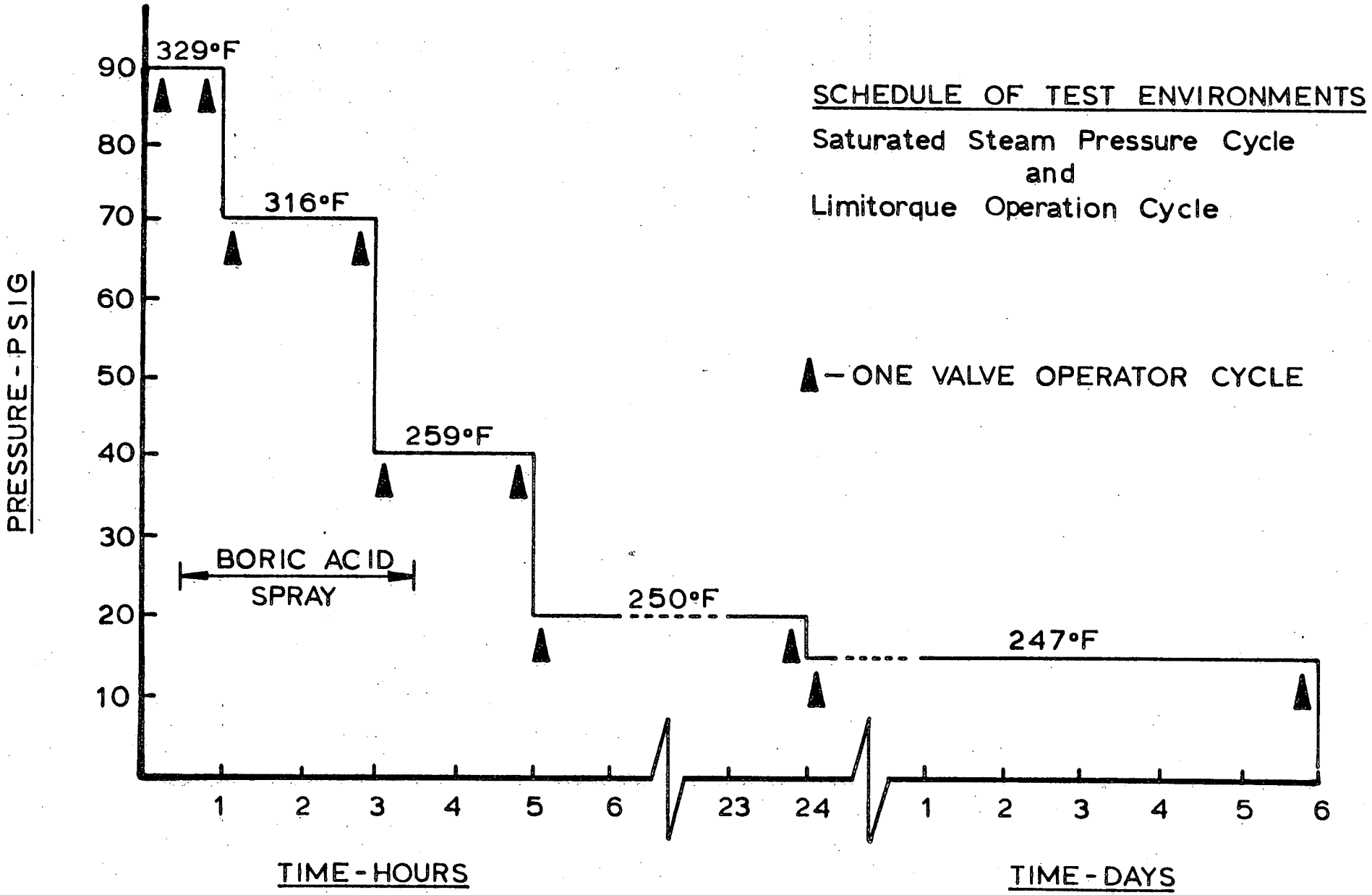
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Section 14-10.1.3.
3. Limitorque Qualification Report No. B0003.


SCHEDULE OF TEST ENVIRONMENTS
Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle
▲ — ONE VALVE OPERATOR CYCLE
PRESSURE - PSIG
90
80
70
60
50
40
30
20
10
329°F
316°F
259°F
250°F
247°F
BORIC ACID
SPRAY
1
2
3
4
5
6
23
24
1
2
3
4
5
6
TIME - HOURS
TIME - DAYS

NOTES		
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. The material most susceptible to thermal degradation in this component was identified. A literature search was performed to identify the thermal aging properities of this material. The Arrhenius Method was then used in conjunction with these properties to extrapolate existing test data.		

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2012, 2013 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB-5 FUNCTION: Actuate Outboard RHR Injection Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: LPCI Injection Valve Area FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	8 hours	7 days	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.10)	(See Test Profile Provided)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)				[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	H_3BO_3 + NaOH pH = 7.67	NA	[3]	NA	None
	RADIATION (RADS)	7.5×10^4	2.04×10^8	[2]	[4]	Separate Testing	None
	AGING	Not Required	> 40 years	(See Note 1)	[3] [5]	Simultaneous Test and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.5.6a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. Limitorque Qualification Report 600198.
4. Limitorque Qualification Report 600376A.
5. EDS File No. 4, Rev. 4, "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 17.04 psia. Since the operator housing is made of steel and totally sealed, pressure transients of this magnitude are not a credible failure mode. Therefore, this equipment is qualified for the pressure condition. 4. A thermal capacitance heat transfer calculation was performed and concluded that the high temperature transient is short enough so that performance of this equipments required function is not impared.	4. EDS File No. EER-29, "Rotork Valve Motor Operators," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IR 3025, dated April 8, 1980.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2010, 2011 COMPONENT: Valve Operator MANUFACTURER: Rotork MODEL No.: 14A MK II FUNCTION: Inboard Torus Spray Valve Actuation SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Area FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	8 Hours	200 Hours	[3]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)	214°F	[1]	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		17.04 psia		[4]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

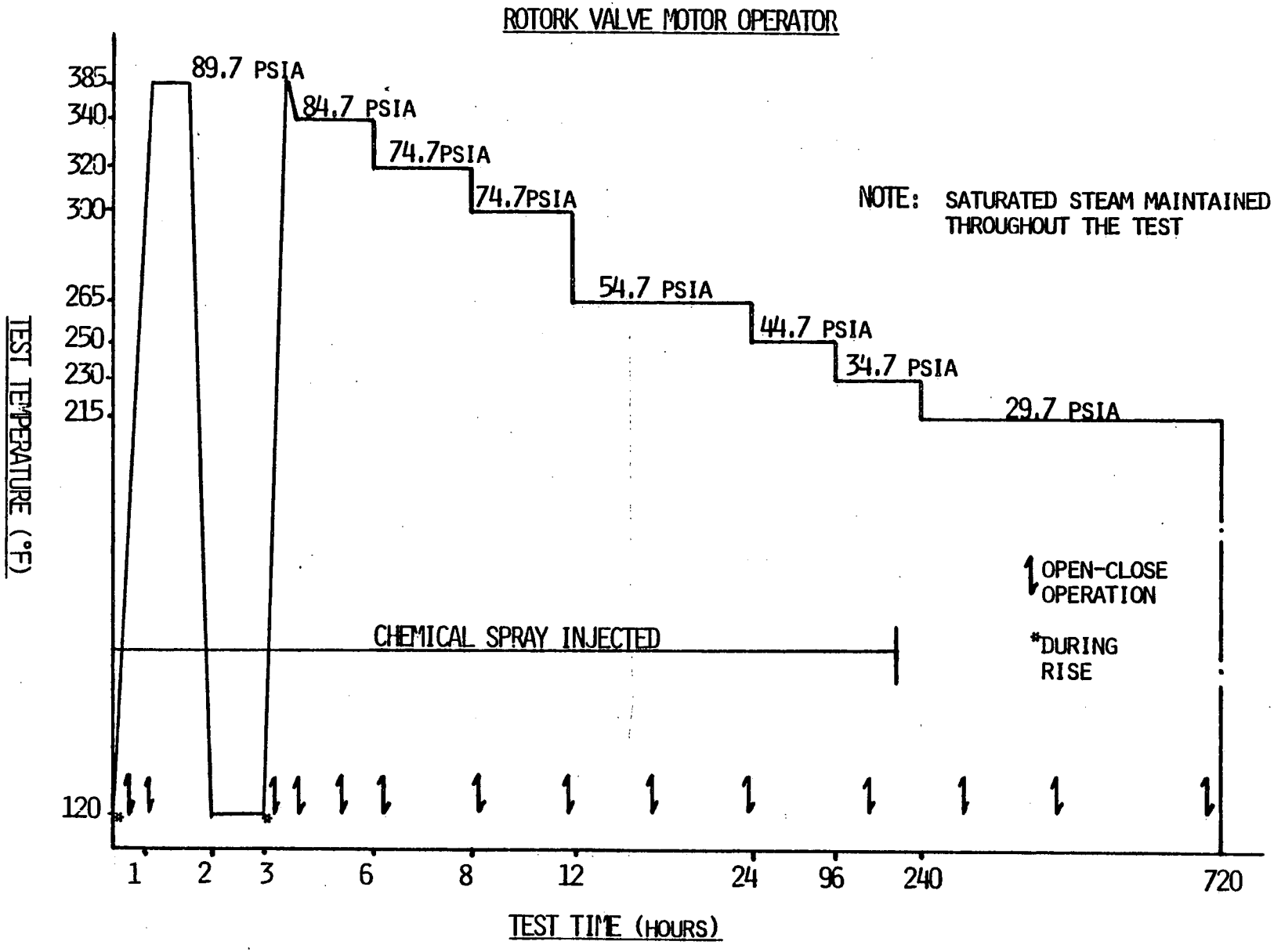
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Section 14-10.1.3.

(Continued Next Page)


ROTORK VALVE MOTOR OPERATOR
TEST TEMPERATURE (°F)
385
340
320
300
265
250
230
215
120
89.7 PSIA
84.7 PSIA
74.7PSIA
74.7PSIA
54.7 PSIA
44.7 PSIA
34.7 PSIA
29.7 PSIA
NOTE: SATURATED STEAM MAINTAINED THROUGHOUT THE TEST
OPEN-CLOSE OPERATION
*DURING RISE
CHEMICAL SPRAY INJECTED
1
2
3
6
8
12
24
96
240
720
TEST TIME (HOURS)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test data and encompass the specification temperature.

REFERENCES (Continued)

3. "Qualification Test Report for Two Valve Operators (11NAZT1 and 90NAZT1) for Rotork Controls," by Wyle Lab. Report No. 43979-1, Rev. A, dated December 19, 1978.

4. Monticello Nuclear Plant FSAR Section 14-10.1.3.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2008, 2009 COMPONENT: Valve Motor Operator MANUFACTURER: Rotork MODEL No.: 70 NA4 FUNCTION: Torus Cooling Valve Actuation SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 hours	737 hours	[4]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.3)	(See Attached Profile)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		(See Attached Profile)		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2.04×10^8	[4]	[3]	Sequential Testing	None
	AGING	Not Required	<40 years	(See Note 1)	[2,3]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. EDS File No. EER-29, "Rotork Valve Operator", Monticello Nuclear Plant; EDS Job No.0910-001-451

(Continued on Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 17.04 psia. Since the operator housing is made of steel and totally sealed, pressure transients of this magnitude are not a credible failure mode. Therefore, this equipment is qualified for the pressure condition. 4. A thermal capacitance heat transfer calculation was performed and concluded that the high temperature transient is short enough so that performance of this equipments required function is not impared.	4. EDS File No. EER-29, "Rotork Valve Motor Operators," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IR 3025, dated April 8, 1980.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2006, 2007 COMPONENT: Valve Operator MANUFACTURER: Rotork MODEL No.: 35A FUNCTION: Outboard Torus Spray Valve Actuation SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: 2006 - Torus Compartment 2007 - Reactor Bldg. El 935' FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 Hours	200 Hours	[3]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3 & B.15)	214°F	[1]	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		17.04 psia		[5]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[6]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Section 14-10.1.3.

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 16.5 psia; however, since the operator housing is made of steel and totally sealed, pressure transients of this magnitude not a credible failure mode. Therefore, this equipment is qualified for the pressure condition.	4. EDS File No. EER-29, "Rotork Valve Motor Operator," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IE 3025, dated April 8, 1980.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2002, 2003 COMPONENT: Valve Operator MANUFACTURER: Rotork MODEL No.: 150A FUNCTION: RHR Hx Bypass Valve Actuation SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: RHR Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 Hours	200 Hours	[3]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B. 4)	212°F	[1]	[5]	Simultaneous Testing & Engineering Analysis (See Note 3)	None
	PRESSURE (PSIG)		16.5 psia		[4]		None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis See Note	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Section 14-10.1.3.

(Continued Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.
2. Through vendor correspondence, similarity of these value operators to radiation qualified operators was established. Also, all radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.
3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

4. FIRL Report No. F-C3117.
5. EDS File No. 4, Rev. 4, "Limitorque Valve OPerator," Monticello Nuclear Plant, EDS Job #0910-001-451.
6. Limitorque qualification report numbers:
   B0003
   600376A
   B0009
   600456

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2030 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-4 FUNCTION: Actuate Containment Isolation Valve SERVICE: Shutdown Cooling Supply ACCURACY: Spec.: NA Demo.: NA LOCATION: LPCI Injection Valve Area FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	5 minutes	7 days	[2]	[4]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.10)	(See Test Profile Provided)	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)				[4]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.4×10^4	[3]	[6] [5]	Separate Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required	< 40 years	(See Note 1)	[4] [5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

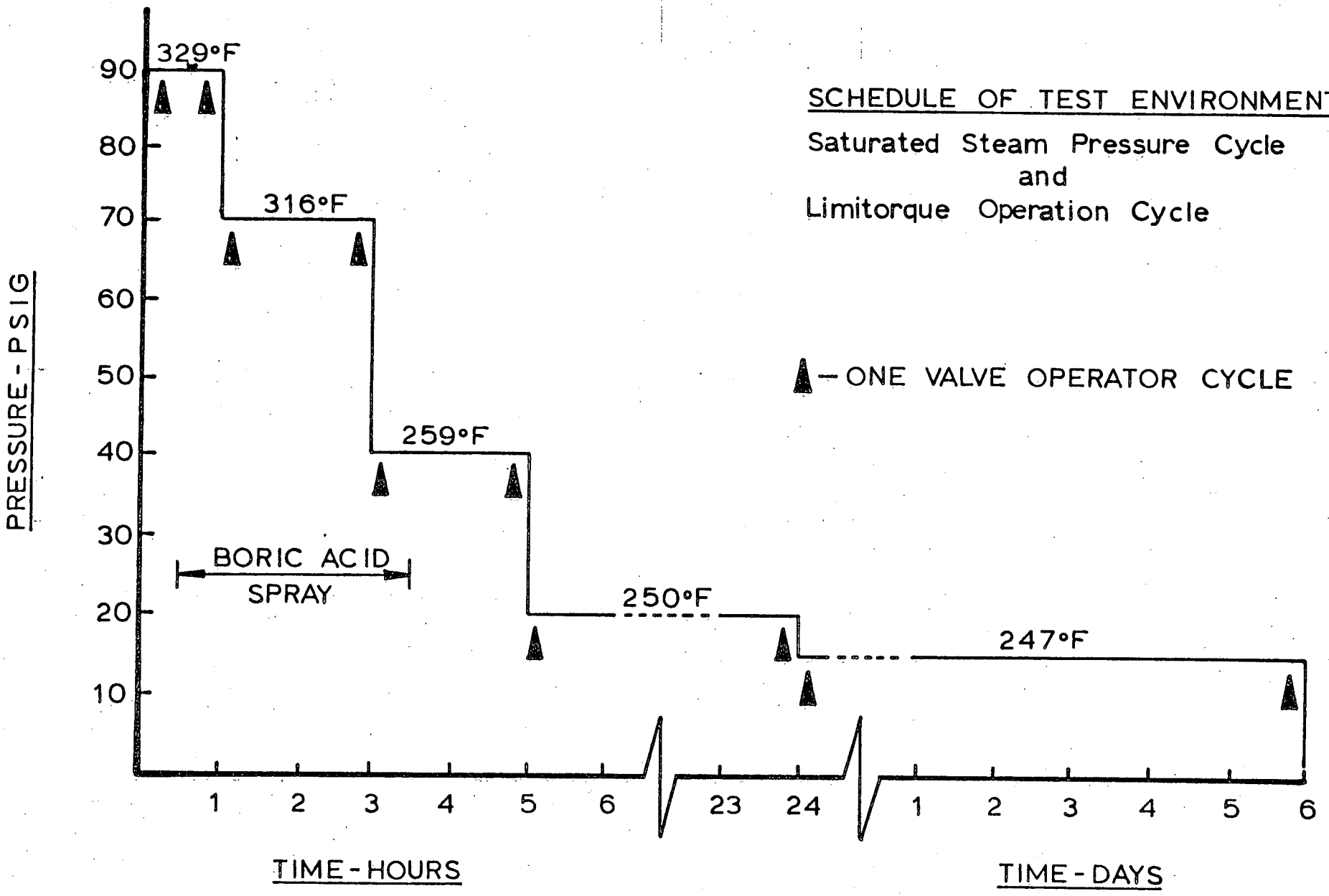
REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR Table 14-10-4.

(Continued on Next Page)

SCHEDULE OF TEST ENVIRONMENTS

Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle



▲ — ONE VALVE OPERATOR CYCLE

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

3. Monticello Nuclear Plant FSAR Figure 5-2-14, Section 5-2.3.2 and Table 14-10-4.

4. Assumed conservative surface dose.

5. Limitorque Test Report No. 600198 January 1969.

6. Limitorque Test Report No. 600376A, May 1980.

7. EDS File No. 4, Rev.4 , "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2027, 2029 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB-00, SMB-4 FUNCTION: Containment Isolation SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	5 minutes	7 days	[1]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Test Profile)	[2]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[3]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[3]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	H_3BO_3 + NaOH pH = 7.67	[2]	[5]	Simultaneous Testing	None
	RADIATION (RADS)	1×10^6 gamma 2×10^8 beta	2.0×10^8 gamma	[3] [4]	[6]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[5] [7]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	None

PAGE: C.5.10a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. GE Specification 22A1132.
2. Safety Evaluation Report by the Office of NRR Equipment Qualification Branch for Northern States Power Company, Monticello Nuclear Generating Plant, Docket No. 50-263, Dated June 3, 1981.

(Continued on Next Page)

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	Qualification documentation is unavailable for this equipment. It will be either relocated to a less severe environment or replaced.	Justification for continued operation is made on the basis of past operating experience and the short duration of the harsh portion of the accident environment. Engineering judgement indicates this equipment will function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: K-10 (A) COMPONENT: Motor Starter MANUFACTURER: General Electric MODEL No.: CR 106 FUNCTION: Compressor Motor Starter SERVICE: RHR Auxiliary Air Compressor K-10 (A) ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. EL 935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.16)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This motor will be replaced.	On the basis of vendor contact and previous operating experience, as well as the short duration of the harsh post-accident environment, engineering judgement indicates this motor will function for the required post-accident operating time.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: K-10 (B) COMPONENT: Motor MANUFACTURER: General Electric MODEL No.: 5K145A1246 FUNCTION: Compressor Motor SERVICE: RHR Auxiliary Air Compressor K-10 (B) ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. EL 935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.15)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-acoident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This motor will be replaced.	On the basis of vendor contact and previous operating experience, as well as the short duration of the harsh post-accident environment, engineering judgement indicates this motor will function for the required post-accident operating time.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: K 10 (A) COMPONENT: Motor MANUFACTURER: General Electric MODEL No.: 5K145A1246 FUNCTION: Compressor Motor SERVICE: RHR Auxiliary Air Compressor K-10 (A) ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. EL 935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.16)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B, 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussions with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: FT 10-111 (B) COMPONENT: Flow Transmitter MANUFACTURER: General Electric MODEL No.: 553 FUNCTION: Indication SERVICE: Containment Cooling Flow ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. El 935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.15)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.5.27a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B, 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussions with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPDC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: FT 10-111 (A) COMPONENT: Flow Transmitter MANUFACTURER: General Electric MODEL No.: 553 FUNCTION: Indication SERVICE: Containment Cooling Flow ACCURACY: Spec.: NA Demo.: NA LOCATION: RHR Pump Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussions with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: FT 109 (A,B) COMPONENT: Flow Transmitter MANUFACTURER: General Electric MODEL No.: 553 FUNCTION: Indication SERVICE: LPCI Flow ACCURACY: Spec.: ±1½%span Demo.: NA LOCATION: RHR Room	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. Engineering analysis was used to supplement test data for pressure qualification of this switch. Electrical conduit penetration effectively seals the switch housing so that internal components do not experience a pressure differential. Cases are rated NEMA 4 and have a sufficiently small surface area that the effect of an external 0.5psig pressure rise for only a few seconds is negligible. Therefore, this switch is pressure qualified.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 6. This component was type-tested for 6.5 hours at a maximum temperature of 212°F. The accident profile shows that temperatures in excess of the test temperature last only a few seconds and exceed it by only one degree. The thermal capcitance of the housing is sufficient to prevent the internal components from experiencing the 213°F temperature rise, therefore adequate margin exists for temperature qualification.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: PS 10-101(A-D) COMPONENT: Pressure Switch MANUFACTURER: Static-O-Ring MODEL No.: 12N-AA4 FUNCTION: Logic to initiate Core Spray, HPCI, LPCI SERVICE: Drywell Pressure ACCURACY: Spec.: 1% Demo.: NA LOCATION: Instrument Rack C-55 C-56 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 min.	6 hours	(See Note 2)	[3]	Simultaneous Test	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.13)	212°F	[1]	[3,4]	Simultaneous Test and Engineering Analysis (See Note 6)	None
	PRESSURE (PSIG)		0.5 psig		[3,4]	Simultaneous Test and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3,4]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	7.5×10^4	[2]	[4]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)		Simultaneous Test and Engineering (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. Viking Laboratories Test Letter Report No. 30203-2, Dated Nov. 20, 1973.
4. EDS File No. SER-32, "Static O-Ring Pressure Switch" Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	NOTES
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. Engineering analysis was used to supplement test data for pressure qualification of this switch. Electrical conduit penetration effectively seals the switch housing so that internal components do not experience a pressure differential. Cases are rated NEMA 4 and have a sufficiently small surface area that the effect of an external 0.5psig pressure rise for only a few seconds is negligible. Therefore, this switch is pressure qualified.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 6. This component was type-tested for 6.5 hours at a maximum temperature of 212°F. The accident profile shows that temperatures in excess of the test temperature last only a few seconds and exceed it by only one degree. The thermal capcitance of the housing is sufficient to prevent the internal components from experiencing the 213°F temperature rise, therefore adequate margin exists for temperature qualification.	7. Components susceptible to thermal degradation were identified and an Arrhenius calculation was performed to evaluate the equivalent operating time based on test and accident temperature profiles. The equivalent operating time of this equipment was 11 hours. This is greater than the required 10 hours, including margin.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: PS 10-100 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Static-O-Ring MODEL No.: 12N-AA4 FUNCTION: Logic to Initiate Auto Blowdown SERVICE: Drywell Pressure ACCURACY: Spec.: ±1% Demo.: NA LOCATION: Instrument Rack C-55 C-56 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 hours	11 hours	[2]	[4,5]	Simultaneous Test and Engineering Analysis (See Note 7)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1-3)	212°F	[4,5] [1]	[4,5]	Simultaneous Test and Engineering Analysis (See Note 6)	None
	PRESSURE (PSIG)		0.5 psig		[4,5]	Simultaneous Test and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	$> 7.5 \times 10^4$	[3]	[5]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	< 40 years	(See Note 1)	[4,5]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. G.E. Spec. 21A1060AB
3. Monticello Nuclear Plant FSAR Section 14-10.1.3.
4. Viking Laboratories Test Letter-Report No. 30203-2, dated Nov. 20, 1973
5. EDS File No. SER-32, "Static O-Ring Pressure Switch" Monticello Nuclear Plant, EDS Job No. 0910-001-451

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	These switches are to be replaced.	Engineering judgement based on operating experience, discussions with vendor, and design specifications indicate that this component will perform its required function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: PS 7193 COMPONENT: Pressure Switch MANUFACTURER: Square D MODEL No.: GHG 551 FUNCTION: Compressor Start Switch SERVICE: RHR Auxiliary Air Compressor K-10(B) ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. EL 935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.15)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. The Arrhenius method, in conjunction with test data, has shown that the test conditions have enveloped the operating time requirement. 4. The Arrhenius method in conjunction with test data has provided a life for this equipment. This life will be coordinated with a surveillance and maintenance program to insure qualification is maintained for the life of the plant.	5. Since this motor is open and the pressure transient sufficiently short, the motor will not be subjected to a significant pressure differential which could impair its functioning. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: P-202 (A-D) COMPONENT: Pump Motor MANUFACTURER: General Electric MODEL No.: 5K6329XC4A FUNCTION: NA SERVICE: Motors for RHR Pumps ACCURACY: Spec.: NA, Demo.: NA LOCATION: RHR Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 Days	>180 Days	(See Note 2)	[2,3]	Simultaneous Test & Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.4)	212°F	[1]	[2]	Simultaneous Test	None
	PRESSURE (PSIG)		16.5 psia		[2]	Engineering Analysis (See Note 5)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	2.2×10^7	[4]	[3]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	<40 Years	(See Note 1)	[2,3]	Simultaneous Test & Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. BWR Owners Group Summary Report No. QRS-111-A-05.
3. EDS File No. 48, Rev. 3, "GE RHR & CS Pump Motors," Monticello Nuclear Plant, EDS Job #0910-001-451.
4. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.	This flow switch will be replaced.	Preliminary information indicates that this component will operate in the required accident environment. On the basis of vendor contact, and the short duration of the harsh post-accident environment, engineering judgement indicates this component will function for the required post-accident operating time.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: FS 10-121 (A-D) COMPONENT: Flow Switch MANUFACTURER: Peeco MODEL No.: HP-F FUNCTION: RHR Recirculation SERVICE: Pump Discharge Flow ACCURACY: Spec.: ±2% Demo.: NA LOCATION: RHR Room	OPERATING TIME	180 days		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	4. Accidents for which drywell spray could be required do not result in a hostile temperature, pressure, or humidity environment at this location. Therefore, qualification to these parameters is not required.	5. EDS File No. SER-32, "Static-O-Ring Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: PS 10-119 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Static-O-Ring MODEL No.: 12N-AA4 FUNCTION: Contained Spray Permissive SERVICE: Drywell Pressure ACCURACY: Spec.: ±1% Demo.: NA LOCATION: Instrument Rack C-55 C-56 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	8 hours	NA	[2]	(See Note 4)	NA	None
	TEMPERATURE (^{O}F)	Not Required	212°F	(See Note 4)	[4]	Simultaneous Test	None
	PRESSURE (PSIG)		0.25 psig		[4]	Simultaneous Test	None
	RELATIVE HUMIDITY (%)	Not Required	100%	(See Note 4)	[4]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	$>7.5 \times 10^4$	[3]	[5]	Engineering Analysis (See Note 2)	None
	AGING	Not Required	<40 years	(See Note 1)	[4,5]	Simultaneous Test and Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. Monticello Nuclear Plant FSAR Table 14-10-4.
4. Viking Laboratories Test Letter-Report No. 30203-2 dated Nov. 20, 1973.

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NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. Engineering analysis was used to supplement test data for pressure qualification of this switch. Electrical conduit penetration effectively seals the switch housing so that internal components do not experience a pressure differential. Cases are rated NEMA 4 and have a sufficiently small surface area that the effect of an external 1.8 psig pressure rise for only a few seconds is negligible. Therefore, this switch is pressure qualified.	3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 5. Components susceptible to thermal degradation were identified and an Arrhenius calculation was performed to evaluate the equivalent operating time based on test and accident temperature profiles. The equivalent operating time of this equipment was 11 hours. This is greater than the required 10 hours, including margin.	5. EDS File No. SER-32, "Static-O-Ring Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: PS 10-105 (E-H) COMPONENT: Pressure Switch MANUFACTURER: Static-O-Ring MODEL No.: 5N-AA-3X FUNCTION: Logic for Auto Blowdown SERVICE: Pump Discharge Pressure ACCURACY: Spec.: ±2% Demo.: NA LOCATION: RHR Room Instrument Rack C-129 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 Hours	11 Hours	[2])	[4,5]	Simultaneous Test & Engineering Analysis (See Note 5)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 4)	212°F	[1]	[5]	Simultaneous Test	None
	PRESSURE (PSIG)		1.8 psig		[4,5]	Simultaneous Test & Engineering Analysis (See Note 2	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	$>7.5 \times 10^4$	[3]	[5]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysi (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Spec. 2141060AB.
3. Monticello Nuclear Plant FSAR Section 14-10.1.3.
4. Viking Laboratories Test Letter-Report No. 30203-2, dated November 20, 1973.

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NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	These switches are to be replaced.	Engineering judgement based on operating experience, discussions with vendor, and design specifications indicate that this component will perform its required function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: PS 7192 COMPONENT: Pressure Switch MANUFACTURER: Square D MODEL No.: GHG 551 FUNCTION: Compressor Start Switch SERVICE: RHR Auxiliary Air Compressor K-10(A) ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. EL 935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.16)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B,	This component is schedule for replacement with a similar, qualified model.	Engineering judgement based on operating experience and similarity to existing qualified models indicates that until replaced, this would be able to perform its required safety function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: dPT 10-91 (A,B) COMPONENT: Differential Pressure Transmitter MANUFACTURER: Barton MODEL No.: 296 FUNCTION: RHR Heat Exchanger Shell to Tube Differential Pressure SERVICE: indication NA ACCURACY: Spec.: ±.5% Demo.: NA LOCATION: RHR Room	OPERATING TIME	180 days		[3]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

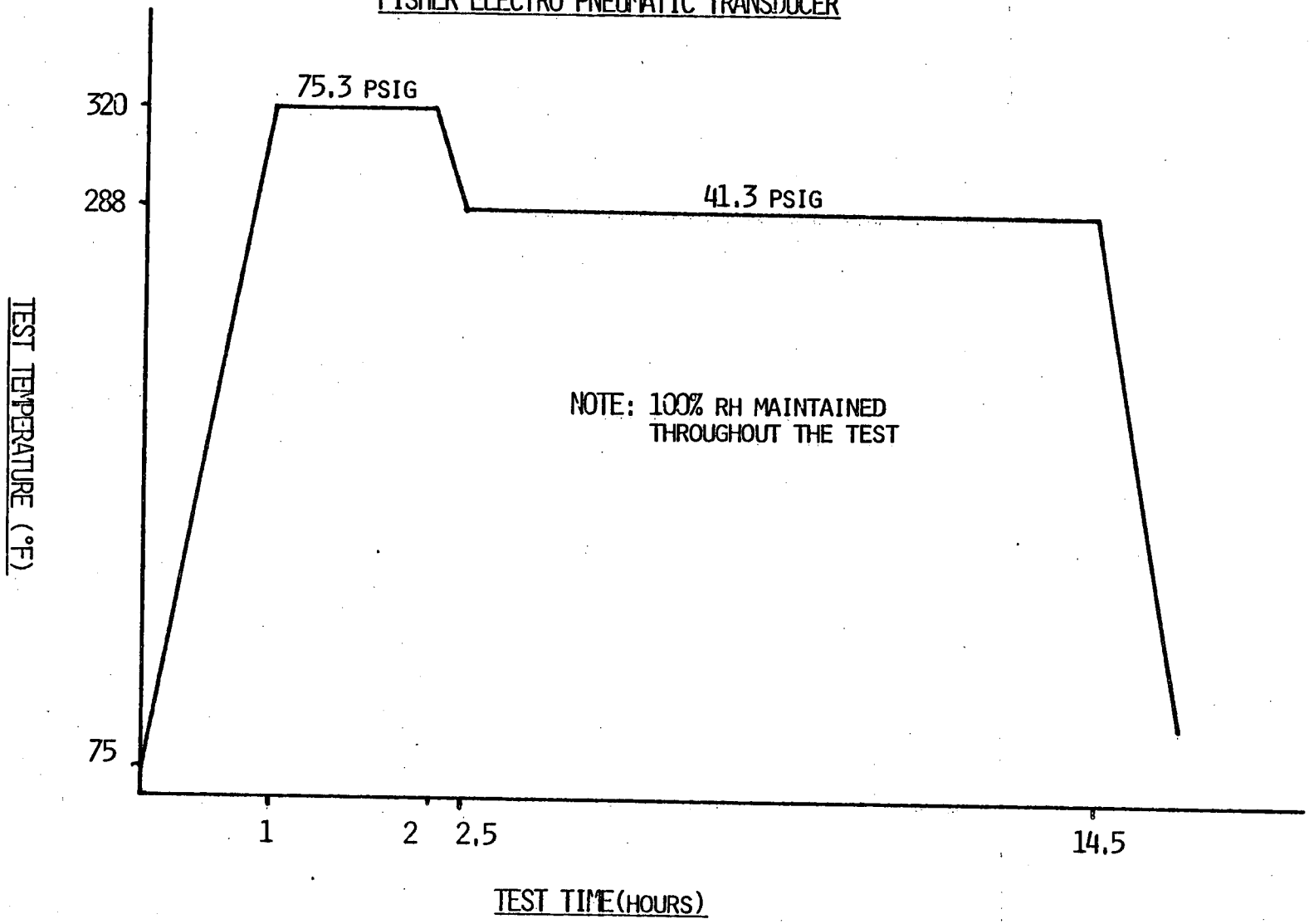
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. Monticello Nuclear Plant FSAR, Section 14-10.1.3.

FISHER ELECTRO PNEUMATIC TRANSDUCER



NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B, 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the required operating time including margin.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. EDS File No. 17 - Rev. 3, "Fisher E/P Transducer," EDS Job No. 0910-001-451. 4. FSAR Table 14-10-4.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: E/P 1728, E/P 1729 COMPONENT: Electro-Pneumatic Transducer MANUFACTURER: Fisher Controls MODEL No.: 546 FUNCTION: Air Control SERVICE: CV 1728, CV 1729 ACCURACY: Spec.: NA Demo.: NA LOCATION: RHR Pump Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	180 days	200 days	(See Note 2)	[2,3]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 4)	(See Test Profile)	[1]	[2]	Simultaneous Testing	None
	PRESSURE (PSIG)				[2]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1×10^7	[4]	[2]	Sequential Testing	None
	AGING	Not Required	> 40 years	(See Note 1)	[2,3]	Separate Testing and Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

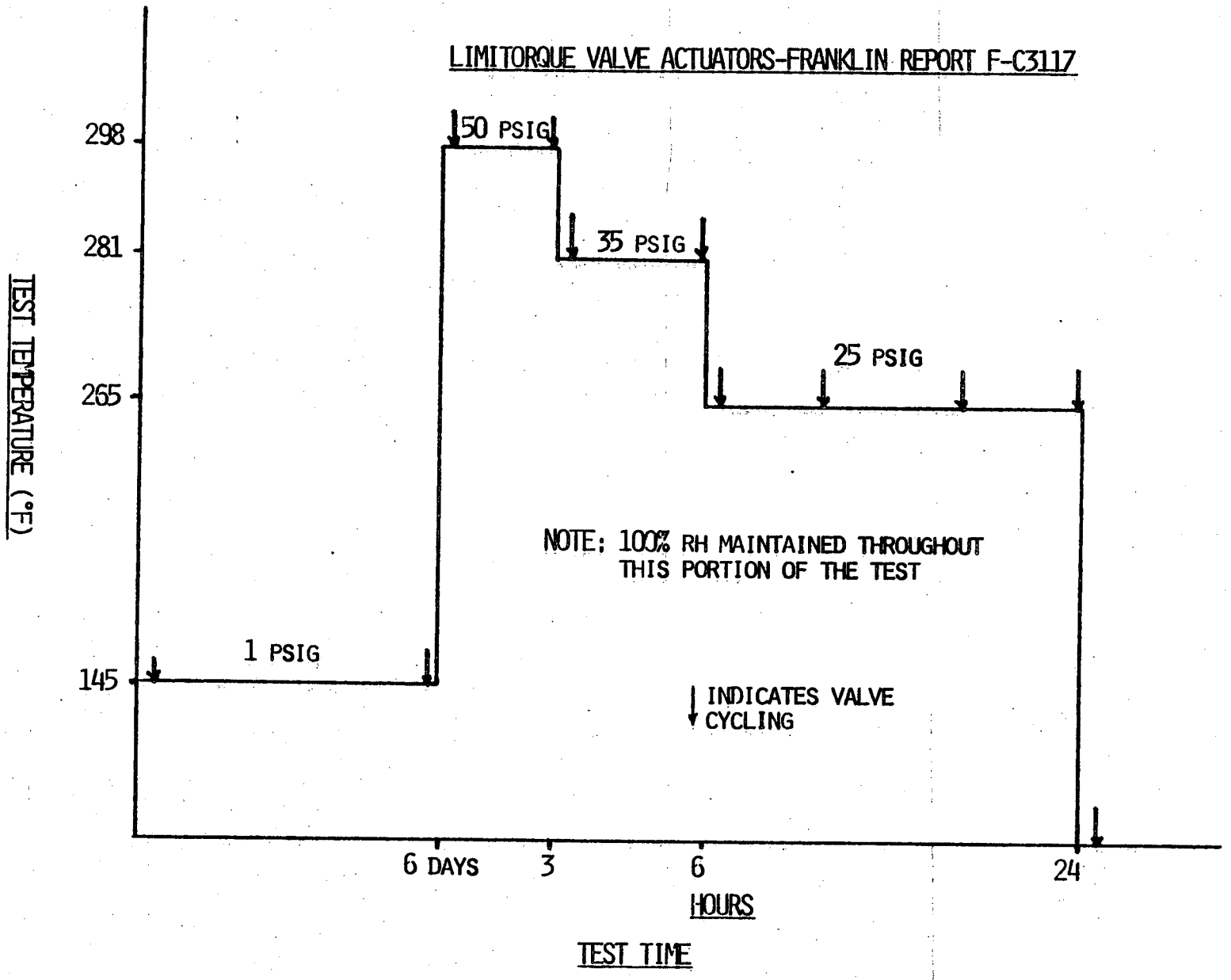
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. "Seismic and Environmental Testing of Type 546 Transducer and Type 67FR Regulator," Fisher Report No. NA-23.

(Continued on Next Page)


LIMITORQUE VALVE ACTUATORS-FRANKLIN REPORT F-C3117
298
281
265
145
TEST TEMPERATURE (°F)
50 PSIG
35 PSIG
25 PSIG
1 PSIG
NOTE: 100% RH MAINTAINED THROUGHOUT THIS PORTION OF THE TEST
INDICATES VALVE CYCLING
6 DAYS
3
6
24
HOURS
TEST TIME

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: MO 2407, 2032 COMPONENT: Valve Operator MANUFACTURER: Rotork MODEL No.: 12 A FUNCTION: Actuate Waste Surge Tank Isolation Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Area FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 Hours	200 Hours	[3]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B. 3)	214°F	[1]	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		17.04 psia		[4]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Section 14-10.1.3.

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 17.04 psia. Since the operator housing is made of steel and totally sealed, pressure transients of this magnitude are not a credible failure mode. Therefore, this equipment is qualified for the pressure condition. 4. A thermal capacitance heat transfer calculation was performed and concluded that the high temperature transient is short enough so that performance of this equipments required function is not impared.	4. EDS File No. EER-29, "Rotork Valve Motor Operators," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IR 3025, dated April 8, 1980.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: SV 1728, SV 1729 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THP 8300811RU FUNCTION: NA SERVICE: Instrument Air ACCURACY: Spec.: NA, Demo.: NA LOCATION: RHR Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	4×10^6	[2]	[3,4]	Sequential Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. BWR Owners' Group Summary Report No. QSR-096-A-01.
4. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: K-10 (B) COMPONENT: Motor Starter MANUFACTURER: General Electric MODEL No.: CR 106 FUNCTION: Compressor Motor Starter SERVICE: RHR Auxiliary Air Compressor K-10 (B) ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. EL935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.15)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	Qualification documentation is unavailable for this equipment. It will be either relocated to a less severe environment or replaced.	Justification for continued operation is made on the basis of past operating experience and the short duration of the harsh portion of the accident environment. Engineering judgement indicates this equipment will function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: PS 10-105 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Mercoid MODEL No.: DAW-23-156 FUNCTION: Logic for Auto Blowdown SERVICE: Pump Discharge Pressure ACCURACY: Spec.: ±2% Demo.: LOCATION: RHR Room Instrument Rack C-129	OPERATING TIME	10 hours	None	[2]		None	Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.4)	None	[1]		None	Yes
	PRESSURE (PSIG)		None			None	Yes
	RELATIVE HUMIDITY (%)	100%	None	[1]		None	Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	1.0×10^5	[3]	[4]	Engineering Analysis (See Note 2)	None
	AGING	Not Required	<40 years	(See Note 1)	[4]	Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Data Sheet 21A1060AB.
3. FSAR Section 14.10.1.3.
4. EDS File No. 20, "Mercoid Pressure Switch," Monticello Nuclear Plant, EDS Job # 0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	This equipment will be replaced with an already qualified pressure switch.	Based on vendor contact and previous operating experience, as well as the short duration of the post accident environment, engineering judgement indicates this equipment is capable of functioning for the required post-accident operating time.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: N3347 COMPONENT: Aux. Compressor Disconnect Switch MANUFACTURER: General Electric MODEL No.: THN3361, Mod 2 FUNCTION: NA SERVICE: RHR Aux. Air Compressor K-10 (A) ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. EL 935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.16)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This switch is scheduled to be relocated or replaced.	On the basis of past operating performance, vendor contact, and construction, engineering judgement indicates that this switch will perform its intended function during an accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RHR PLANT I.D. No.: N4347 COMPONENT: Aux. Compressor Disconnect Switch MANUFACTURER: General Electric MODEL No.: THN3361, Mod 2 FUNCTION: NA SERVICE: RHR Aux. Air Compressor K-10 (B) ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. EL 935'	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.15)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This switch is scheduled to be relocated or replaced.	On the basis of past operating performance, vendor contact, and construction, engineering judgement indicates that this switch will perform its intended function during an accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Core Spray PLANT I.D. No.: MO 1749, 1750 COMPONENT: Valve Motor Operator MANUFACTURER: Rotork MODEL No.: 30A FUNCTION: System Test Valve Actuation SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	8 hours	200 hours	[3]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)	214°F	[1]	[4,5]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		17.04 psig		[4]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[4,5]	Simultaneous Testing and Engineering Analysis (See Note 2.)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Section 14-10.1.3.

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 17.04 psia. Since the operator housing is made of steel and totally sealed, pressure transients of this magnitude are not a credible failure mode. Therefore, this equipment is qualified for the pressure condition. 4. A thermal capacitance heat transfer calculation was performed and concluded that the high temperature transient is short enough so that performance of this equipments required function is not impared.	4. EDS File No. EER-29, "Rotork Valve Motor Operators," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IR 3025, dated April 8, 1980.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Core Spray PLANT I.D. No.: MO 1751, 1753 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB-2 FUNCTION: Actuate Injection Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bodg. EL 976'	OPERATING TIME	8 hours	7 days	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.12)	(See Test Profile Provided)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)				[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	H_3BO_3+ NaOH pH = 7.67		[3]	Simultaneous Testing	None
	RADIATION (RADS)	7.5×10^4	2.04×10^8	[2]	[4]	Separate Testing	None (See Note 3)
	AGING	Not Required	> 40 years	(See Note 1)	[3] [5]	Simultaneous Test and Engineering Analysis (See Note 2)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. Limitorque Qualification Report 600198.
4. Limitorque Qualification Report 600376A.
5. EDS File No. 4, Rev. 4, "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. The material most susceptible to thermal degradation in this component was identified. A literature search was performed to identify the thermal aging properties of this material. The Arrhenius Method was then used in conjunction with these properties to extrapolate existing test data. 3. These operators employ motors and motor brakes for which radiation qualifications have not been established.	Radiation qualification information is currently being investigated for these motors and brakes. If qualification cannot be established with the information obtained, one of the following actions will be taken. 1) Modify operator with Limitorque SB modification. 2) Replace motor and brake. 3) Replace operator.	The vendor would not supply radiation qualification data for the motor because of the unqualified brake. Similar motors on actuators purchased in the same sequence are fully qualified. These brakes have been tested and have failed at high levels radiation. The radiation specification for these components is relatively low. Therefore, engineering judgment indicates these components will function in the postulated accident environment.

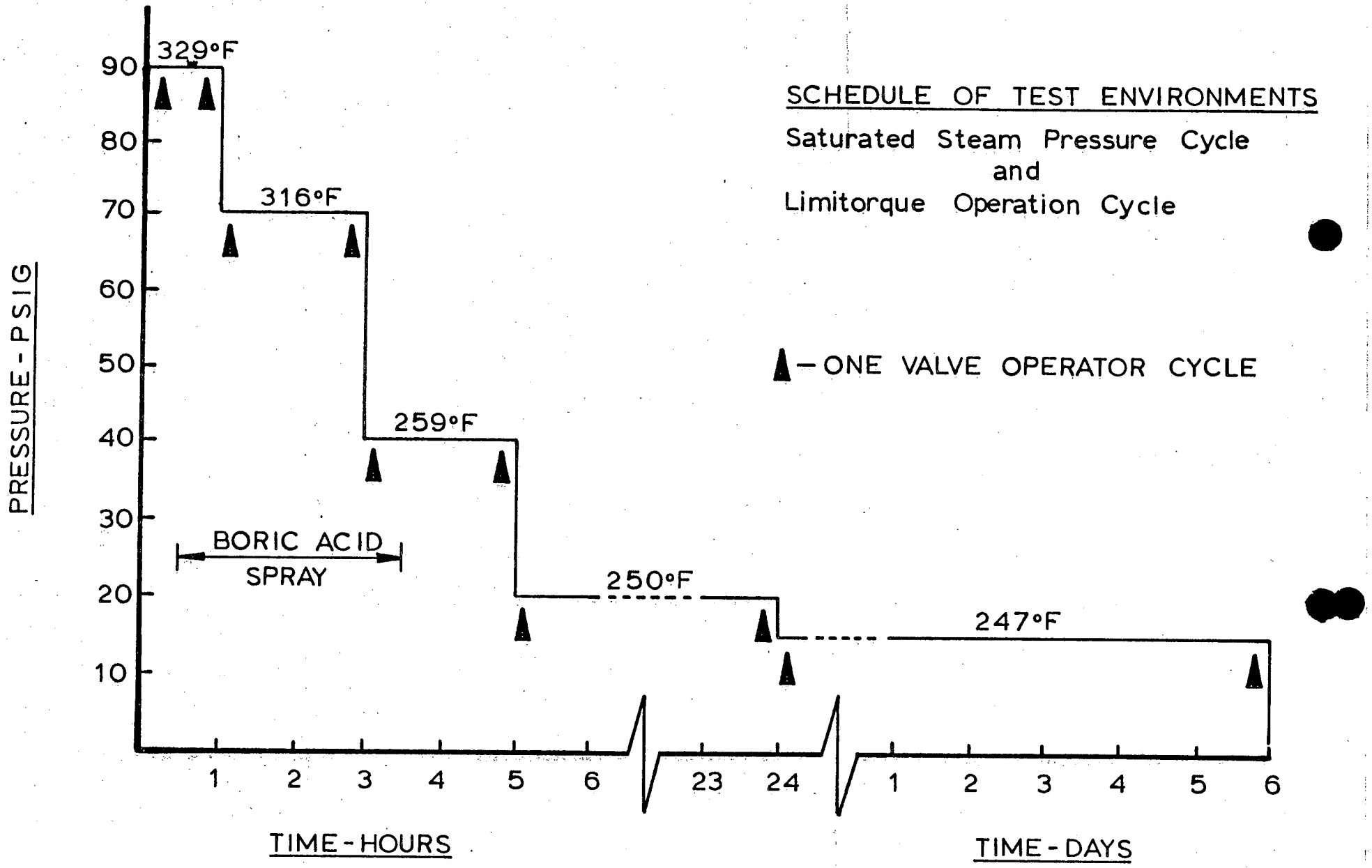
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


SCHEDULE OF TEST ENVIRONMENTS
Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle
▲ — ONE VALVE OPERATOR CYCLE
PRESSURE - PSIG
90
80
70
60
50
40
30
20
10
329°F
316°F
259°F
250°F
247°F
BORIC ACID
SPRAY
1
2
3
4
5
6
23
24
1
2
3
4
5
6
TIME - HOURS
TIME - DAYS

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Core Spray PLANT I.D. No.: MO 1752, 1754 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB - 2 FUNCTION: Actuate Injection Valve SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: RWCU Heat Exchanger Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 hours	7 days	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.11)	(See Test Profile Provided)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)				[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	H_3BO_3 + NaOH pH = 7.67		[3]	Simultaneous Testing	None
	RADIATION (RADS)	7.5×10^4	2.04×10^8	[2]	[4]	Separate Testing	None (See note 3)
	AGING	Not Required	> 40 years	(See Note 1)	[3] [5]	Simultaneous Test And Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.6.3a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. Limitorque Qualification Report 600198.
4. Limitorque Qualification Report 600376A.
5. EDS File No. 4, Rev. 4, "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B, 2. The material most susceptible to thermal degradation in this component was identified. A literature search was performed to identify the thermal aging properties of this material. The Arrhenius Method was then used in conjunction with these properties to extrapolate existing test data. 3. These operators employ motors and motor brakes for which radiation qualifications have not been established.	Radiation qualification information is currently being investigated for these motors and brakes. If qualification cannot be established with the information obtained, one of the following actions will be taken. 1) Modify operator with Limitorque SB modification. 2) Replace motor and brake. 3) Replace operator.	The vendor would not supply radiation qualification data for the motor because of the unqualified brake. Similar motors on actuators purchased in the same sequence are fully qualified. These brakes have been tested and have failed at high levels radiation. The radiation specification for these components is relatively low. Therefore, engineering judgment indicates these components will function in the postulated accident environment.

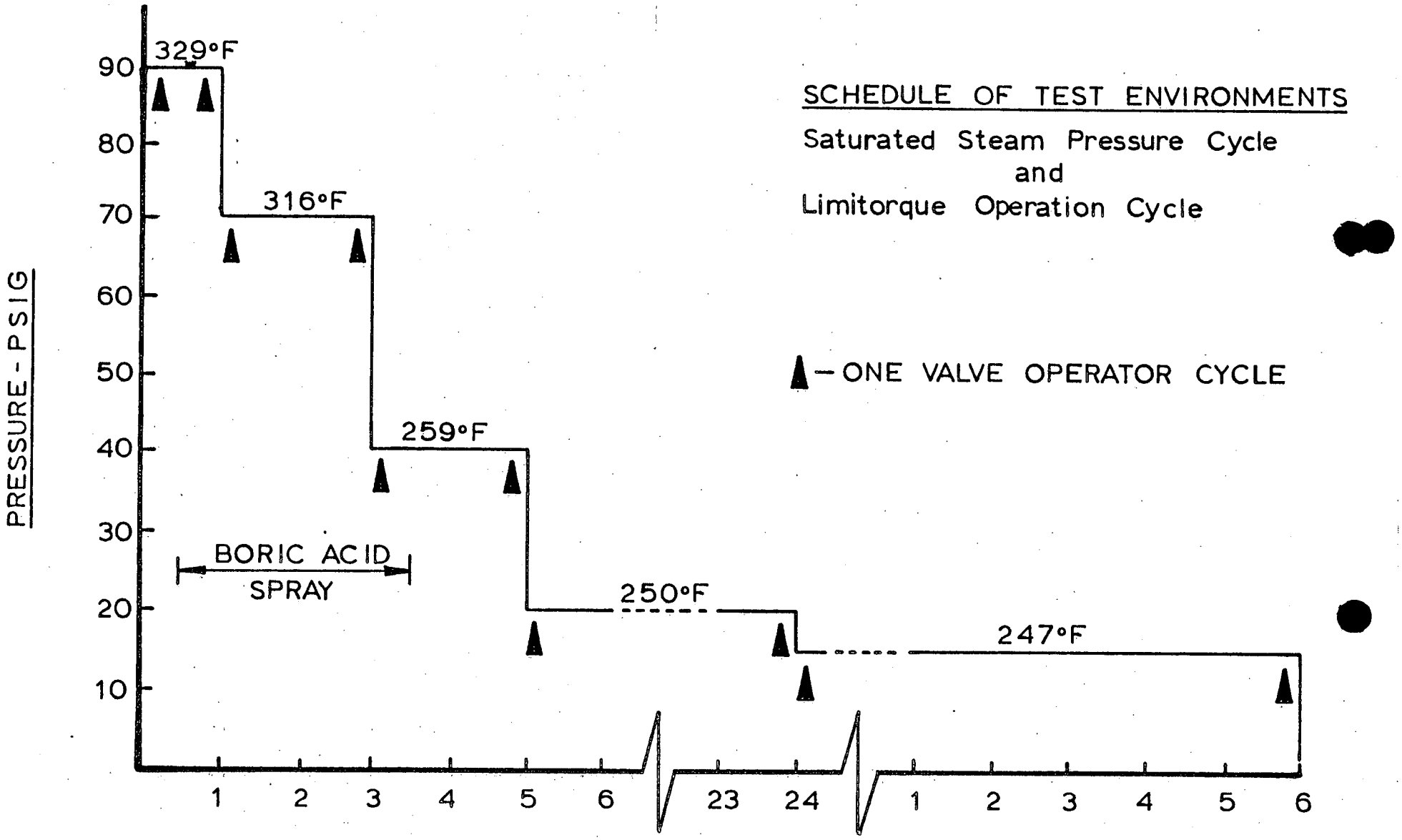
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


SCHEDULE OF TEST ENVIRONMENTS
Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle
ONE VALVE OPERATOR CYCLE
PRESSURE - PSIG
90
80
70
60
50
40
30
20
10
329°F
316°F
259°F
250°F
247°F
BORIC ACID
SPRAY
1
2
3
4
5
6
23
24
1
2
3
4
5
6
TIME - HOURS
TIME - DAYS

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Core Spray PLANT I.D. No.: PS 14-44 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Barksdale MODEL No.: B2T- A12SS FUNCTION: Logic for Auto Blowdown SERVICE: Core Spray Pump Discharge Pressure ACCURACY: Spec.: ±2% Demo.: ±1.2% LOCATION: Instrument Rack C-129	OPERATING TIME	10 hours	11 hours	[2]	[4,5]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B. 4)	212	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)		1.8		[4,5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	1×10^5	[3]	[5]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	$\angle$ 40 years	(See Note 1)	[4,5]	Simultaneous Testing and Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. GE SPEC 21A1060AB.
3. Monticello Nuclear Plant FSAR Table 14.10.1.3.
4. Barksdale Qualification Test, Procedure 9993.
5. EDS File No. SER-5, "Barksdale Pressure Switch," Monticello Nuclear Plant, Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in the equipment susceptable to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the required operating time. 3. The penetration of the switch housing is sealed with electrical conduit. The switch case is rated NEMA 4 and has sufficiently small surface area such that the effect of the 1.8 psig pressure transient is negligable.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Core Spray PLANT I.D. No.: P-208 (A, B) COMPONENT: Pump Motor MANUFACTURER: General Electric MODEL No.: 5K6338XC29B FUNCTION: NA SERVICE: Motors for Core Pumps ACCURACY: Spec.: NA, Demo.: NA LOCATION: RHR Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 Days	>180 Days	(See Note 2)	[2,3]	Simultaneous Test & Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.4)	212°F	[1]	[2]	Simultaneous Test	None
	PRESSURE (PSIG)		16.5 psia		[2]	Engineering Analysis (See Note 5)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	2.2×10^7	[4]	[3]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	<40 Years	(See Note 1)	[2,3]	Simultaneous Test & Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. BWR Owners Group Summary Report No. QSR-111-A-05.
3. EDS File No. 48, Rev. 2, "GE RHR and CS Pump Motors," Monticello Nuclear Plant, EDS Job #0910-001-451.
4. Monticello Nuclear Plant FSAR, Table 14-10-4.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. The Arrhenius method, in conjunction with test data, has shown that the test conditions have enveloped the operating time requirement. 4. The Arrhenius method in conjunction with test data has provided a life for this equipment. This life will be coordinated with a surveillance and maintenance program to insure qualification is maintained for the life of the plant.	5. Since this motor is open and the pressure transient sufficiently short, the motor will not be subjected to a significant pressure differential, that would impair the equipments functionality. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Core Spray PLANT I.D. No.: FT 14-40 (A,B) COMPONENT: Flow Transmitter MANUFACTURER: General Electric MODEL No.: 553 FUNCTION: Indication SERVICE: Core Spray Flow Loop ACCURACY: Spec.: NA Demo.: NA LOCATION: RHR Pump Room	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.6.6a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussions with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: MO 2034 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB-0 FUNCTION: Containment Isolation SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	5 minutes	7 days	[1]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Test Profile)	[2]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[3]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[3]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	H_3BO_3 + NaOH pH = 7.67	[2]	[5]	Simultaneous Testing	None
	RADIATION (RADS)	1×10^6 gamma 2×10^8 beta	2.04×10^8 gamma	[3] [4]	[6] [7]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[5] [7]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	None

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. GE Specification 22A1132.
2. Safety Evaluation Report by the Office of NRR Equipment Qualification Branch for Northern States Power Company, Monticello Nuclear Generating Plant, Docket No. 50-263, Dated June 3, 1981.

(Continued on Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

3. Monticello Nuclear Plant FSAR Figure 5-2-14, Section 5-2.3.2 and Table 14-10-4.

4. Assumed conservative surface dose.

5. Limitorque Test Report No. 600198 January 1969.

6. Limitorque Test Report No. 600376A, May 1980.

7. EDS File No. 4, Rev.4 , "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

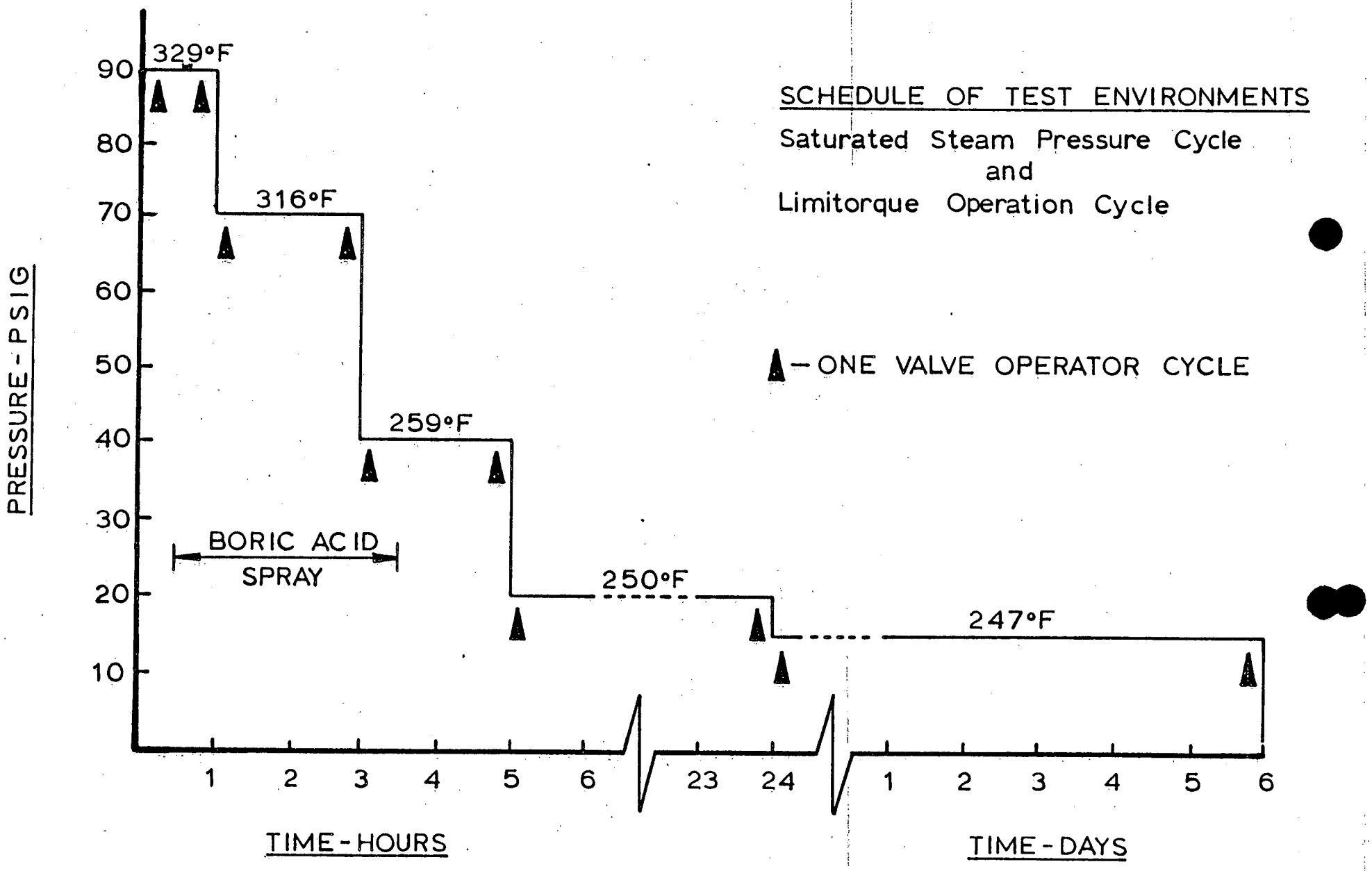
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

SCHEDULE OF TEST ENVIRONMENTS

Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: MO 2035 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-0 FUNCTION: Actuate Containment Isolation Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Steam Chase	OPERATING TIME	5 minutes	7 days	[2]	[4]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.7)	(See Test Profile Provided)	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)				[4]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	1×10^7	[3]	[6] [5]	Separate Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required	< 40 years	(See Note 1)	[4] [5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.7.2a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR Table 14-10-4.

(Continued on Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.
2. Through vendor correspondence, similarity of these value operators to radiation qualified operators was established. Also, all radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.
3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

4. FIRL Report No. F-C3117.
5. EDS File No. 4, Rev. 4, "Limitorque Valve OPerator," Monticello Nuclear Plant, EDS Job #0910-001-451.
6. Limitorque qualification report numbers:
   B0003
   600376A
   B0009
   600456

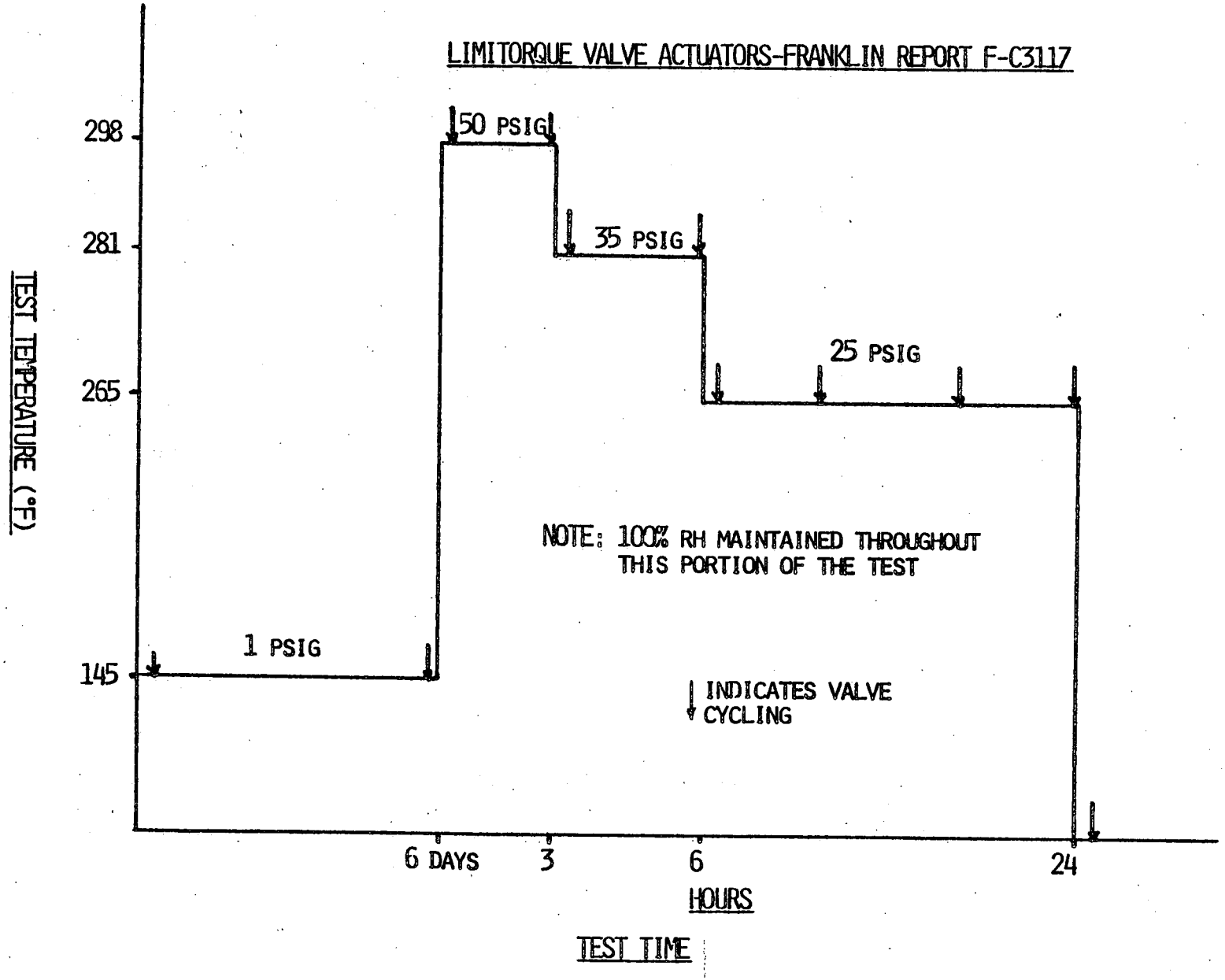
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


LIMITORQUE VALVE ACTUATORS-FRANKLIN REPORT F-C3117
298
281
265
145
TEST TEMPERATURE (°F)
50 PSIG
35 PSIG
25 PSIG
1 PSIG
NOTE: 100% RH MAINTAINED THROUGHOUT THIS PORTION OF THE TEST
INDICATES VALVE CYCLING
6 DAYS
3
6
24
HOURS
TEST TIME

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: MO 2036 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB 1 FUNCTION: Actuate Valve SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: HPCI Room	OPERATING TIME	8 hours	> 24 hours	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)	(See attached Profile)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		(See attached Profile)		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[4]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[2]	[3]	Sequential Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[3,5]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x, no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Section 14-10.1.3.
3. Limitorque Test Report B0003, Project No. 600461 June 1976.
4. General Electric Spec. 257HA345AF.
5. EDS File No. 4, Rev. 4, "Limitorque Motor Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES		
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.		

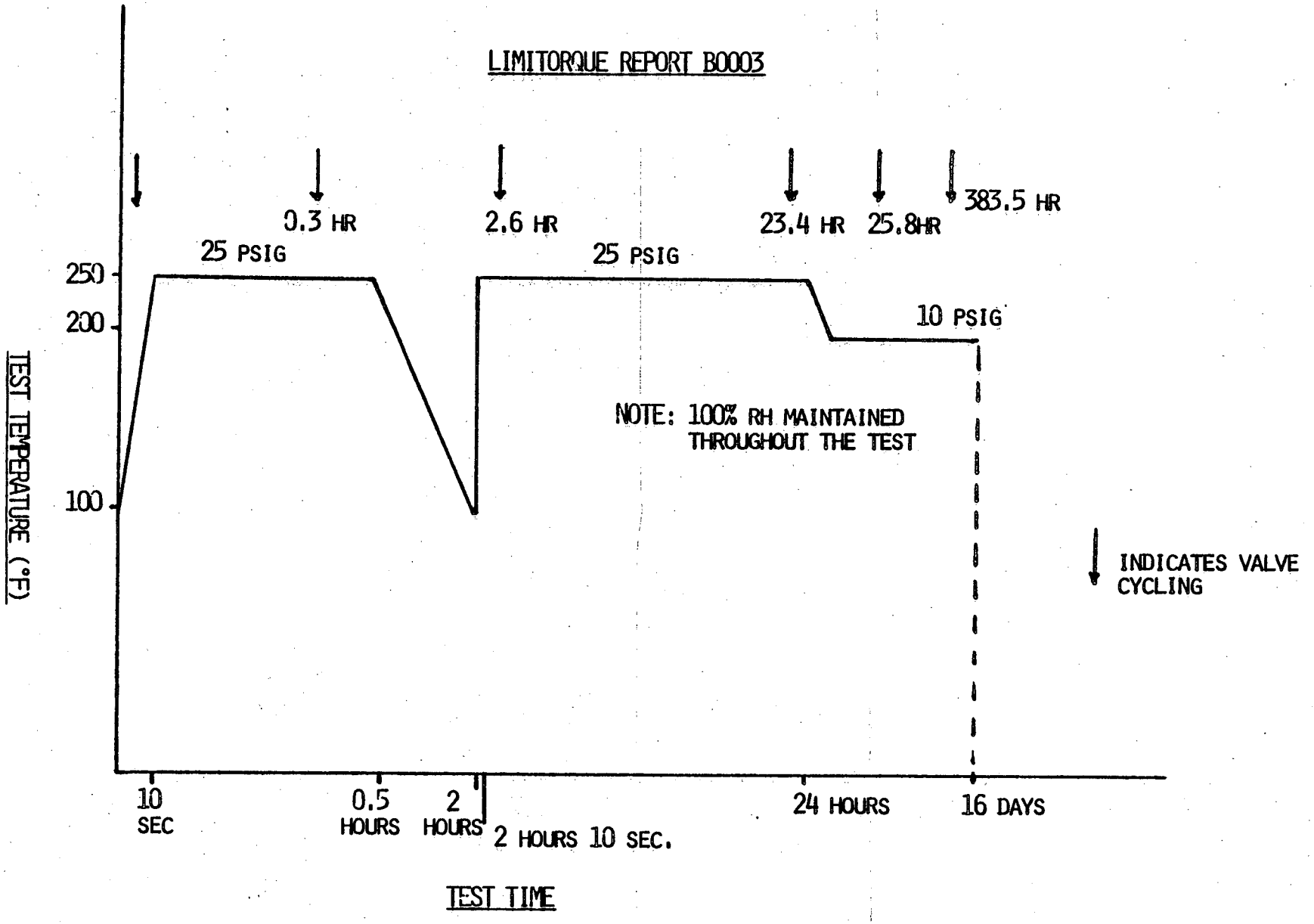
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


LIMITORQUE REPORT B0003
0.3 HR
2.6 HR
23.4 HR
25.8HR
383.5 HR
25 PSIG
25 PSIG
10 PSIG
250
200
100
NOTE: 100% RH MAINTAINED THROUGHOUT THE TEST
INDICATES VALVE CYCLING
TEST TEMPERATURE (°F)
10 SEC
0.5 HOURS
2 HOURS
2 HOURS 10 SEC.
24 HOURS
16 DAYS
TEST TIME

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: MO 2061, 2062, 2063 COMPONENT: Valve Operator MANUFACTURER: Rotork MODEL No.: 16A MKII FUNCTION: Valve Actuator SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	8 Hours	200 Hours	[3]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)	212°F	[1]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.4 psia		[4]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Section 14-10.1.3.

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 15.1 psia; however, since the operator housing is made of steel and totally sealed, pressure transients of this magnitude not a credible failure mode. Therefore, this equipment is qualified for the pressure condition.	4. EDS File No. EER-29, "Rotork Valve Motor Operator," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IE 3025, dated April 8, 1980.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: MO 2067, MO 2071 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB 4 FUNCTION: Actuate Valve SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: HPCI Room	OPERATING TIME	8 hours	>24 hours	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)	(See attached Profile)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		(See attached Profile)		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2.0×10^7	[2]	[3]	Sequential Testing	None (See Note 2)
	AGING	Not Required	<40 years	(See Note 1)	[3,5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x, no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Section 14-10-1.3
3. Limitorque Test Report B0003, Project No. 600461, June 1976.
4. General Electric Spec. 257HA345AF.
5. EDS File No. 4, Rev. 4, "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES		CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. These actuators employ motor brakes for which complete qualification documentation does not exist. The motor and actuator have been qualified to 2×10^7 rads. See corrective action and justification for continued operation. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.		Information necessary to analytically qualify the motor brakes is currently being investigated. If qualification cannot be established, one of the following actions will be taken: 1) brake removal, 2) motor operator modification, 3) motor operator replacement. JUSTIFICATION FOR CONTINUED OPERATION Motor brakes have been environmentally tested but have failed aftor exposure to high levels of radiation. Because the radiation specification for the component is relatively low, engineering judgement indicates the component will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

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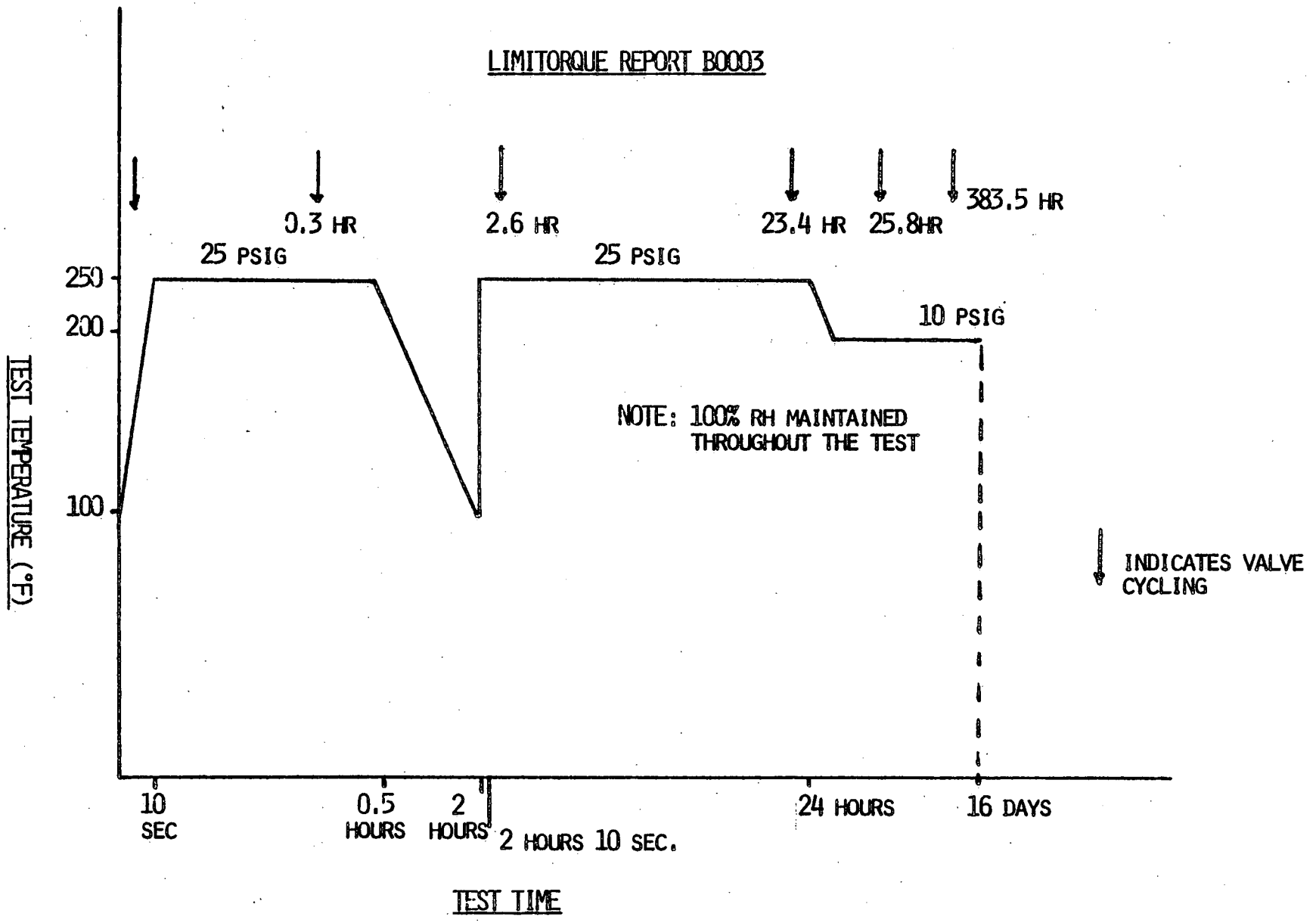
LIMITORQUE REPORT B0003
0.3 HR
2.6 HR
23.4 HR
25.8HR
383.5 HR
25 PSIG
25 PSIG
10 PSIG
250
200
100
TEST TEMPERATURE (°F)
NOTE: 100% RH MAINTAINED THROUGHOUT THE TEST
INDICATES VALVE CYCLING
10 SEC
0.5 HOURS
2 HOURS
2 HOURS 10 SEC.
24 HOURS
16 DAYS
TEST TIME

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: MO 2068 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB 4 FUNCTION: Actuate Injection Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Steam Chase FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	8 hours	> 24 hours	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.7)	(See Attached Profile)	[1]	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		(See Attached Profile)		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2.0×10^7	[2]	[3]	Sequential Testing	None (See Note 2)
	AGING	Not Required	< 40 years	(See Note 1)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

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REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Section 14-10.1.3.
3. Limitorque Test Report B0003, Project No. 600A61, June 1976.
4. EDS File No. 4, Rev. 4, "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.	4. Radiation was qualified by showing that the radiation thresholds for all non-mettalic parts are greater than the specified radiation dose.	
2. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity parameter from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required.	5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	
3. Since the component is qualified for a 12 hour TID following a LOCA, and since all other accidents result in mild environment conditions at this location, the component is qualified for a 12-hour operating time.		

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: dPIS 23-76 (A,B) dPIS 23-77 (A,B) COMPONENT: Differential Pressure Indicating switch MANUFACTURER: Barton MODEL No.: 288A FUNCTION: HPCI Steamline Isolation SERVICE: NA ACCURACY: Spec.: ±2% Demo.: 1.5% LOCATION: Inst. Rack C-122	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 8)	212°F	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6 psig		[3,4]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3×10^6	[2]	[5]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[4]	Engineering Analysis (See Note 4)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nulcear Plant FSAR Table 14-10-4.
3. BWR Equipment Qualification Summary Report No. QSR-027-A-01,
4. EDS File No. 11, Rev. 2, "Barton Pressure Switch" Monticello Nuclear Plant, EDS Job #0910-001-451.

(Continued next page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No operating time is available for this equipment. Specification derived from HELB Analysis Report "Postulated Pipe Failures Outside Containment" submitted by letter to A. Grambusso (AEC) by E. C. Ward (NSP) dated September 7, 1973. 3. Engineering Analysis was used to Supplement test data. Analysis showed that pressure transients of this magnitude are not a credible failure mode. Therefore, the pressure condition is satisfied. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conunction with these properties to extrapolate	existing test results to encompass the specification temperature.	5. IEE 344-1975 Seismic and Radiation Qualification Test for ITT Barton Differential Pressure Indicating Switches 288A and 289A. Report No. R3-288A-1

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HCPI PLANT I.D. No.: TS 23-101(C-D), 102(C-D), 103(C-D), 104(C-D) COMPONENT: Temperature Switch MANUFACTURER: Fenwal MODEL No.: 17023-6 FUNCTION: Isolate HCPI Steam Line SERVICE: NA ACCURACY: Spec.: ±2%, Demo.: ±1% LOCATION: HCPI Room	OPERATING TIME	10 minutes	1.5 hours	(See Note 2)	[2]	Sequential Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.2)	(See attached profile)	[1]	[2]	Sequential Testing	None
	PRESSURE (PSIG)		(See attached profile)		[2]	Sequential Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Sequential Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.7×10^4	[4]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	>40 years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	None
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes X no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. GE Report VPF 145C3004-8 data Report No. 6350.
3. EDS File No. EER-10, "Fenwal Temperature Switch," Monticello Nuclear Plant, EDS Job #0910-001-451.
4. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

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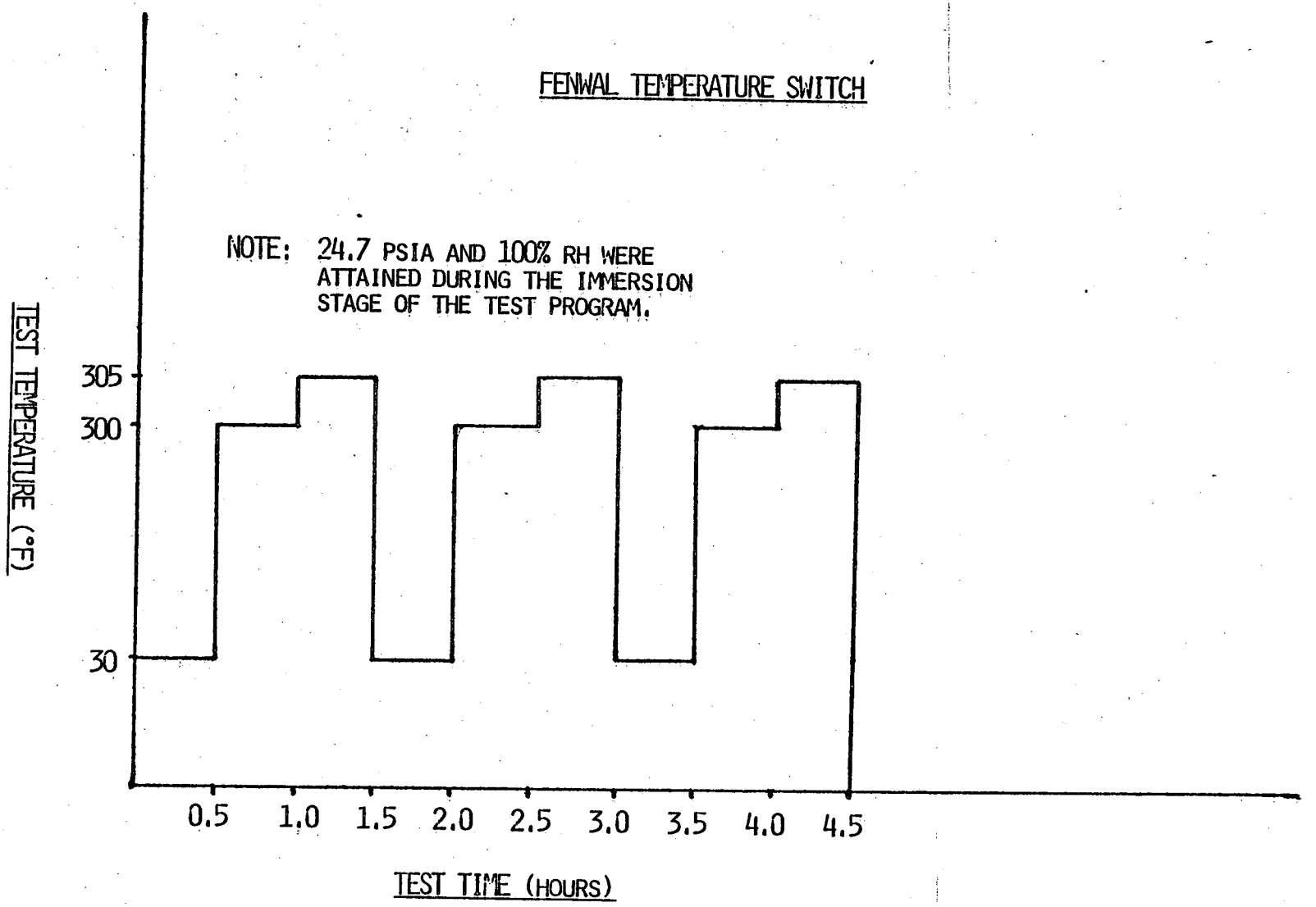
FENWAL TEMPERATURE SWITCH

NOTE: 24.7 PSIA AND 100% RH WERE ATTAINED DURING THE IMMERSION STAGE OF THE TEST PROGRAM.



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: TS 23-101(A,B), 102(A,B) 103(A,B), 104(A,B) COMPONENT: Temperature Switch MANUFACTURER: Fenwal MODEL No.: 17023-6 FUNCTION: Isolate HPCI Steam Line SERVICE: NA ACCURACY: Spec.: ±2% Demo.: ±1% LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	1.5 hours	(See Note 2)	[2]	Sequential Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 3)	(See attached profile)	[1]	[2]	Sequential Testing	None
	PRESSURE (PSIG)		(See attached profile)		[2]	Sequential Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Sequential Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.7×10^4	[4]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	> 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. GE Report VPF145C3004-8, data Report No. 6350.
3. EDS File No. EER-10, "Fenwal Temperature Switch," Monticello Nuclear Plant, Job #0910-001-451.
4. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

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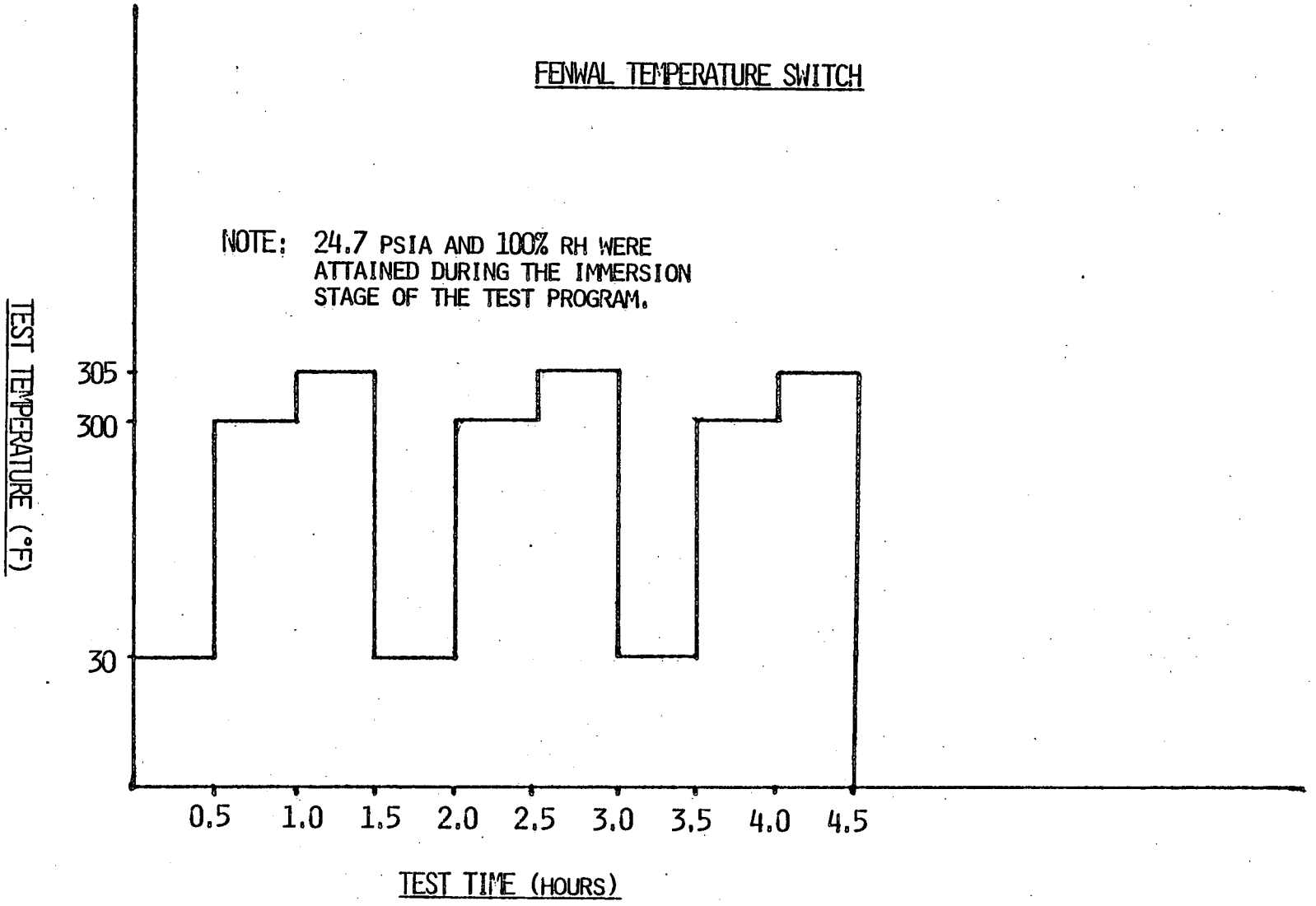
FENWAL TEMPERATURE SWITCH
NOTE: 24.7 PSIA AND 100% RH WERE ATTAINED DURING THE IMMERSION STAGE OF THE TEST PROGRAM.
TEST TEMPERATURE (°F)
305
300
30
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
TEST TIME (HOURS)

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: P-217 COMPONENT: Motor MANUFACTURER: Baldor MODEL No.: 310-406-404 FUNCTION: NA SERVICE: Motor for Aux. Oil Pump ACCURACY: Spec.: NA, Demo.: NA LOCATION: HPCI Room	OPERATING TIME	8 hours	12 hours	[2]	[3]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 6)	Not Required	[4]	(See Note 2)	NA	None
	PRESSURE (PSIG)		Not Required		(See Note 2)	NA	None
	RELATIVE HUMIDITY (%)	100%	Not Required	[1]	(See Note 2)	NA	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	3×10^5	[2]	[3]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x, no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

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REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. EDS File No. 14, Rev. 3, "Baldor Pump Motor," Monticello Nuclear Plant, EDS Job #0910-001-451.
4. Supplement to Reference [1], EDS Letter No. 0910-001-083, Dated May 5, 1981.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity parameter from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required. 3. The 8 hour operating time specification is based on a HELB. This results in mild environment conditions as discussed in Note 2. The radiation specification is the 12 hour TID due to a LOCA. Qualification for this 12 hour TID has been established.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: NA COMPONENT: EG-M MANUFACTURER: Woodward Governor MODEL No.: 8270-811 FUNCTION: Turbine Speed Control SERVICE: HPCI Turbine ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	8 hours	12 hours	[2])	[3]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)	Not Required	[1]	(See Note 2)		None
	PRESSURE (PSIG)		Not Required		(See Note 2)		None
	RELATIVE HUMIDITY (%)	100%	Not Required	[1]	(See Note 2		None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	3×10^5	[2]	[3]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)	[3,4]	Engineering Analysis See Note 5	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

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REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. EDS File No. SER-35, "Woodward Govenor", Monticello Nuclear Plant, EDS Job No. 0910-001-451

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity parameter from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required. 3. The operating time parameter was satisfied by establishing radiation qualification per the 12 hour FSAR specified dose.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to temperature degradation were identified. A literature search was performed and indicated that this equipment will withstand the specification temperature. Calibration procedures currently in effect will predict any pending failures of this component. However, these procedures may be supplemented to document any age related degradation.	4. Cannon Electric Co., R & D "Radiation Effects on Materials" Table 1 - "Thermal Spectrum for Electrical Insulation."

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: NA COMPONENT: EG-R MANUFACTURER: Woodward Governor MODEL No.: R 8250-133 FUNCTION: Turbine Speed Control SERVICE: HPCI Turbine ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room	OPERATING TIME	8 hours		[2]			Yes
	TEMPERATURE (^{o}F)	(See Environmental Profile B.6)	Not Required	[1]	(See Note 2)		None
	PRESSURE (PSIG)		Not Required		(See Note 2)		None
	RELATIVE HUMIDITY (%)	100%	Not Required	[1]	(See Note 2)		None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

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REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity parameter from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required.	Information has been requested from the manufacturer of this component. When this information is obtained, the component can then be qualified.	The limiting accident for which this equipment could be expected to operate is a RCIC line break in the Torus compartment. Figure B.6 illustrates that the accident produces a mild environment in the HPCI room. Therefore the normal and accident temperatures will have minimal thermal impact on the equipment. Also, these units have operated satisfactorily over a ten year period.

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	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: SV 2065 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 83212 FUNCTION: Pump Minimum Flow Valve Control SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	8 hours		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[3]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	4×10^6	[2]	[4,5]	Sequential Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

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REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant, FSAR Section 14-10.1.3.
3. General Electric Specification 257HA345AF.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: FS 23-78 COMPONENT: Flow Switch MANUFACTURER: Barton MODEL No.: 289 FUNCTION: Pump Minimum Flow Valve Control SERVICE: NA ACCURACY: Spec.: ±5% Demo.: ±1.9% LOCATION: HPCI Room FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	8 hours	9 hours	[2]	[3,4]	Simultaneous Testing Engineering Analysis (See Note 3	None
	TEMPERATURE (°F)	(See Environmental Profile B. 6)	212°F	[1]	[4])	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6 psig		[3,4]	Simultaneous Testing & Engineering Analysi (See Note 4)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4])	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	3×10^6	[2]	[5]	Separate Testing	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Section 14-10.1.3.
3. EDS File No. 11, Rev. 2, "Barton Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

Continued Next Pa e

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in ccnjunction with these properties to extrapolate existing test results to encompass the specified operating time.	4. Engineering Analysis was used to supplement test data for pressure qualification of this switch. The surface area of this switch is sufficiently small that the effect of a 0.6 psig pressure rise for a few seconds is negligible. Therefore, this switch is pressure qualified.	4. BWR Equipment Qualification Summary No. QSR-029-A-01. 5. IEEE 344-1975 Seismic and Radiation Qualification Test for ITT Barton Differential Pressure Indicating Switches 288A and 289A, Report No. R3-288A-1.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: FT 23-82 COMPONENT: Flow Transmitter MANUFACTURER: General Electric MODEL No.: 553 FUNCTION: Flow Control SERVICE: NA ACCURACY: Spec.: ±1% Demo.: NA LOCATION: HPCI Room	OPERATING TIME	8 hours		(See Note 2			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)		[1]	)		Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]	)		Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14.10.1.3.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussion with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: LS 23-91(A,B) COMPONENT: Level Switch MANUFACTURER: Magnetrol MODEL No.: 249-C (Note 2) FUNCTION: HPCI Pump Suction Con SERVICE: Torus Level ACCURACY: Spec.: ±5% Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	8 hours	640 hours	[2]	[3]	Simultaneous Test	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)	See Attached Test Profile	[1]	[3]	Simultaneous Test	None
	PRESSURE (PSIG)		2.34		[4]	Engineering Analysis (See Note 3)	Yes (See Note 2)
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	1×10^7	[2]	[3,4]	Simultaneous Test Engineering Analysis (See Note 4)	None
	AGING	Not Required	> 40 years	(See Note 1)	[3,4]	Simultaneous Test Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Section 14-10.1.3.
3. BWR Equipment Qualification Summary Report No. QRSR-030-H-1.
4. EDS File 25, Rev. 2, "Magnetrol Level Switch", Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. The mercury switch installed in the Model 249-C is to be replaced with a dry contact, snap acting switch. 3. The maximum accident pressure is significally short not to affect the functioning of the level switch. 4. During testing, all materials were serviceable to a radiation dose of 10^7 rads. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties	to show that none of these materials are susceptible to significant thermal degradation at the specification temperature. CORRECTIVE ACTION To insure qualification for the pressure condition, the mercury switch is to be replaced with a qualified snap switch. If a qualified snap switch is not available, the entire unit will be replaced.	The only outstanding item for this component is qualification for the pressure condition. The postulated transient equals 17 psia, which is an increase of 2.3 psi. Continued operation is justified for the following reasons: 1) The design and materials of this unit are similar to other qualified units. 2) The pressure transient of 2.3 psi is of low enough magnitude to have insignificant impact on the equipment. Therefore, engineering judgement indicates that these components will pose no threat to safety until they are replaced.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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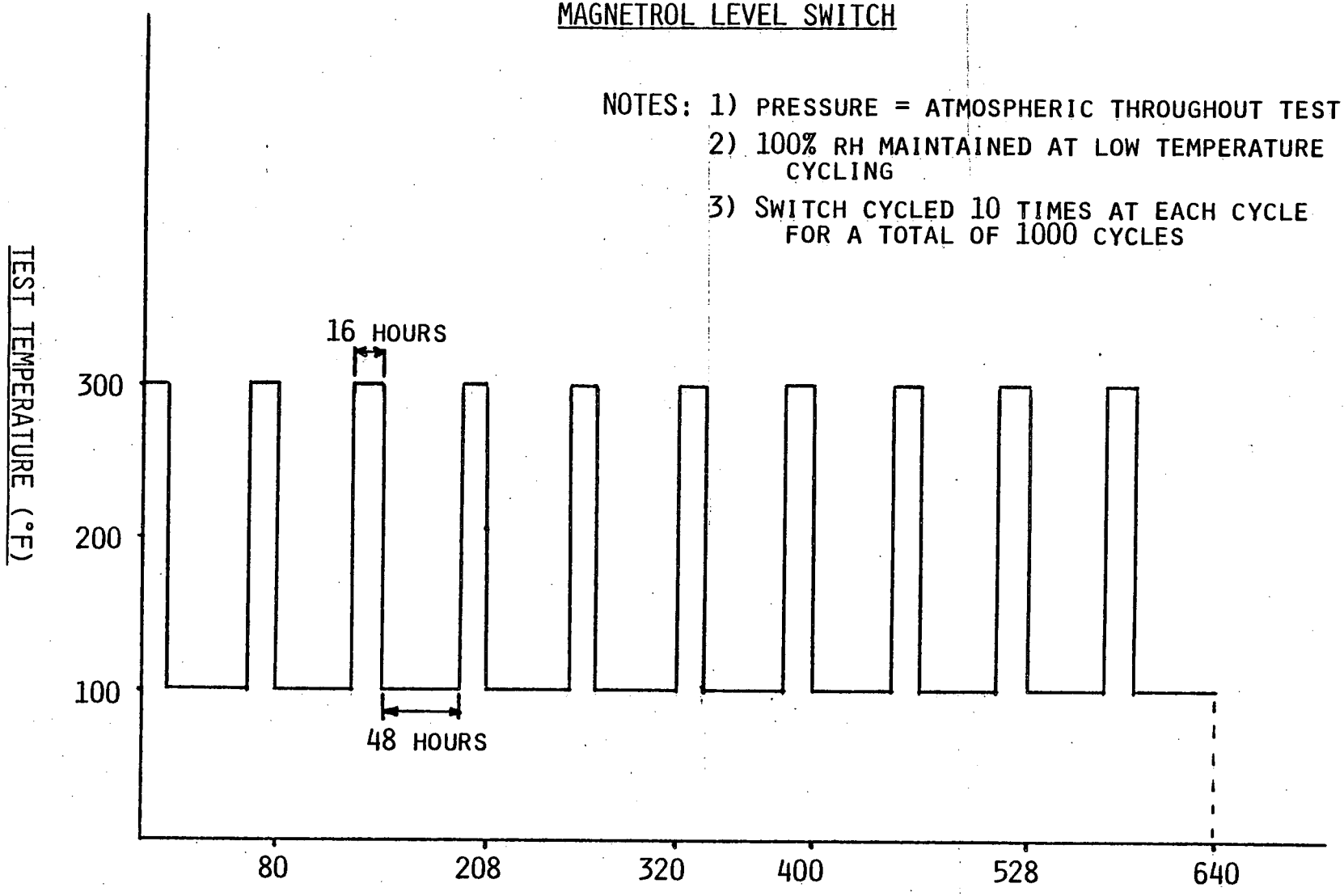
MAGNETROL LEVEL SWITCH

NOTES: 1) PRESSURE = ATMOSPHERIC THROUGHOUT TEST
2) 100% RH MAINTAINED AT LOW TEMPERATURE CYCLING
3) SWITCH CYCLED 10 TIMES AT EACH CYCLE FOR A TOTAL OF 1000 CYCLES



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: LS 23-74, LS 23-75 COMPONENT: Level Switch MANUFACTURER: Robertshaw MODEL No.: SL-412-A1 FUNCTION: HPCI Pump Suction Cntrl SERVICE: CST Level ACCURACY: Spec.: ±5% Demo.: LOCATION: Reactor Bldg. El 935' W FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	8 hours	27 hours	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B. 8)	(See attached profile)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		(See attached profile)		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^6	[2]	[4]	Engineering Analysis (See Note 2)	None
	AGING	Not Required	>40 years	(See Note 1)	[4]	Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. Robertshaw Qualification Test Report on 99350-A1 Electric Switch Station for Liquid Level Control.
4. EDS File No. EER-27, "Robertshaw Level Switch," Monticello Nuclear Plant, EDS Job # 0910-001-451.

NOTES		
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.		

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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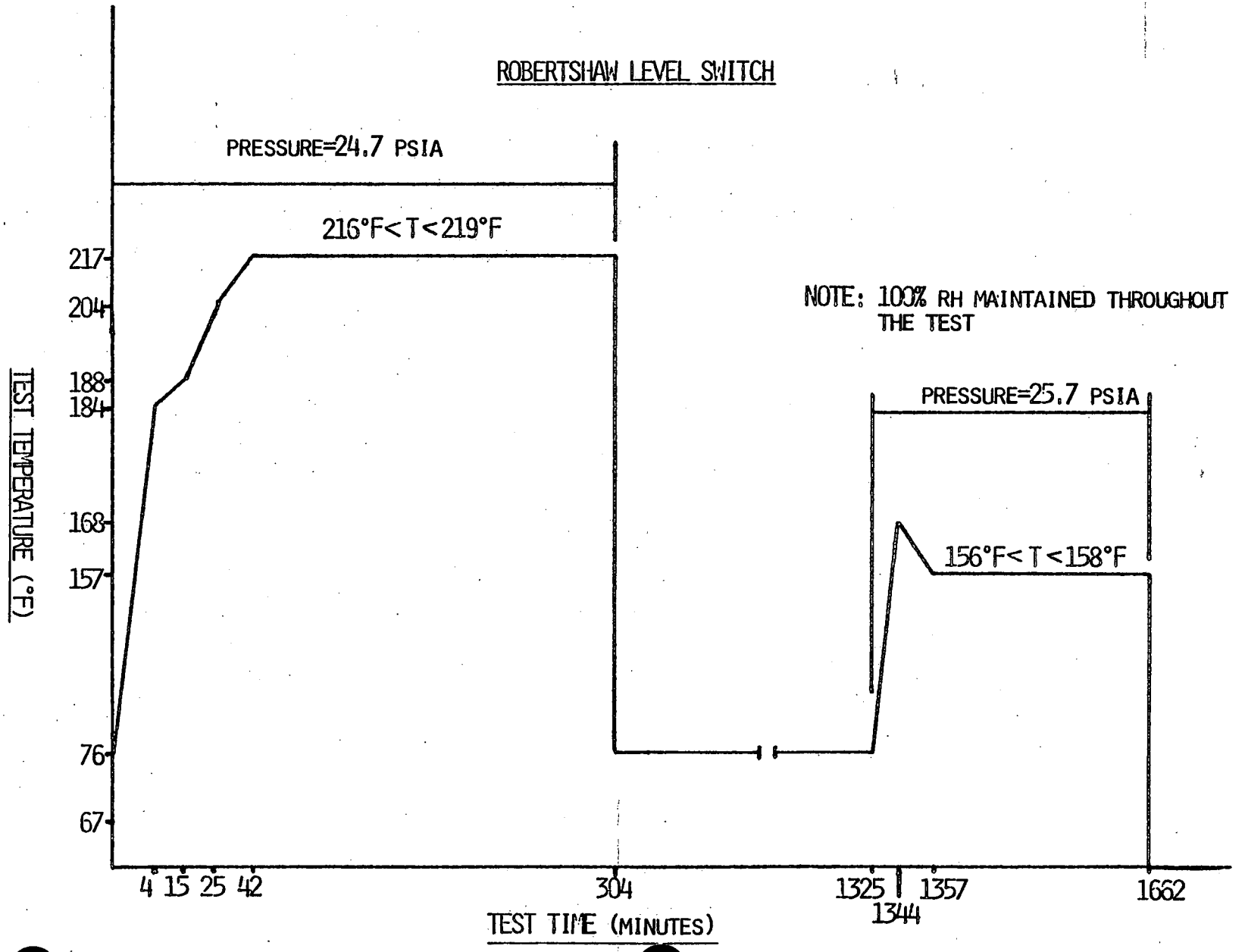
ROBERTSHAW LEVEL SWITCH
PRESSURE=24.7 PSIA
216°F<T<219°F
NOTE: 100% RH MAINTAINED THROUGHOUT THE TEST
PRESSURE=25.7 PSIA
156°F<T<158°F
TEST TEMPERATURE (°F)
217
204
188
184
168
157
76
67
4 15 25 42
304
1325
1344
1357
1662
TEST TIME (MINUTES)

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: NA COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: EA 170-34101 FUNCTION: Control Interlock SERVICE: HPCI Turbine Stop Valve Position ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	8 hours	9 hours	[2]	[3]	Engineering Analysis (See Note 4)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)	Not Required	[1]	(See Note 3)	NA	None
	PRESSURE (PSIG)		Not Required		(See Note 3)	NA	None
	RELATIVE HUMIDITY (%)	NA	Not Required	NA	(See Note 3)	NA	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	2×10^6	[2]	[3]	Engineering Analysis (See Note 2)	None
	AGING	Not Required	< 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Section 14.10.1.3.
3. EDS File No. EER-25, "NAMCO Limit Switch", Monticello Nuclear Plant, EDS Job No. 0910-001-451

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 3. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity parameter from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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EQUIPMENT DESCRIPTION	PARAMETER	ENVIRONMENT SPECIFICATION	ENVIRONMENT QUALIFICATION	DOCUMENTATION REFERENCES SPEC.	DOCUMENTATION REFERENCES QUAL.	QUALIFICATION METHOD	OUTSTANDING ITEMS
SYSTEM: HPC PLANT I.D. No.: NA COMPONENT: Magnetic Pick up MANUFACTURER: Woodward Governor MODEL No.: 1680-622 FUNCTION: Turbine Speed Sensor SERVICE: HPCI Turbine ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	8 hours	12 hours	[2]	[3]	Engineering Analysis	None
	TEMPERATURE (^{O}F)	(See Environmental Profile E.6)	Not Required	[1]	(See Note 2		None
	PRESSURE (PSIG)		Not Required		(See Note 2)		None
	RELATIVE HUMIDITY (%)	100%	Not Required	[1]	(See Note 2		None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	1×10^5	[2]	[3]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. EDS File No. SER-35, "Woodward Govenor", Monticello Nuclear Plant, EDS Job. No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity parameter from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required. 3. The operating time parameter was satisfied by establishing radiation qualification per the 12 hour FSAR specified dose.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to temperature degradation were identified. A literature search was performed and indicated that this equipment will withstand the specification temperature. Calibration procedures currently in effect will predict any pending failures of this component. However, these procedures may be supplemented to document any age related degradation.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: NA COMPONENT: Ramp Generator MANUFACTURER: Woodward Governor MODEL No.: 8271-083 FUNCTION: Turbine Speed Control SERVICE: HPCI Turbine ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room	OPERATING TIME	8 hours	12 hours	[2]	[3]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 6)	Not Required	[1]	(See Note 2)		None
	PRESSURE (PSIG)		Not Required		(See Note 2)		None
	RELATIVE HUMIDITY (%)	100%	Not Required	[1]	(See Note 2)		None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	1×10^6	[2]	[3]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	>40 years	(See Note 1)	[3,4]	Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes X no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. EDS File No. SER-35 "Woodward Governor", Monticello Nuclear Plant, EDS Job # 0910-001-451.

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NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity parameter from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required. 3. The operating time parameter was satisfied by establishing radiation qualification per the 12 hour FSAR specified dose.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to temperature degradation were identified. A literature search was performed and indicated that this equipment will withstand the specification temperature. Calibration procedures currently in effect will predict any pending failures of this component. However, these procedures may be supplemented to document any age related degradation.	4. EPRI NP -1558 Project 890-1 Final Report September 1980, pg. 7-134 (Figure 7-45).

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RCIC PLANT I.D. No.: MO 2075 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB-000 FUNCTION: Containment Isolation SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes X, no ___	OPERATING TIME	5 minutes	7 days	[1]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B. 1)	(See Test Profile)	[2]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[3]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[3]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	H_3BO_3 + NaOH pH = 7.67	[2]	[5]	Simultaneous Testing	None
	RADIATION (RADS)	1×10^6 gamma 2×10^8 beta	2.04×10^8 gamma	[3] [4]	[6]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[5] [7]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	None

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. GE Specification 22A1132.
2. Safety Evaluation Report by the Office of NRR Equipment Qualification Branch for Northern States Power Company, Monticello Nuclear Generating Plant, Docket No. 50-263, Dated June 3, 1981.

(Continued on Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

3. Monticello Nuclear Plant FSAR Figure 5-2-14, Section 5-2.3.2 and Table 14-10-4.

4. Assumed conservative surface dose.

5. Limitorque Test Report No. 600198 January 1969.

6. Limitorque Test Report No. 600376A, May 1980.

7. EDS File No. 4, Rev.4 , "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

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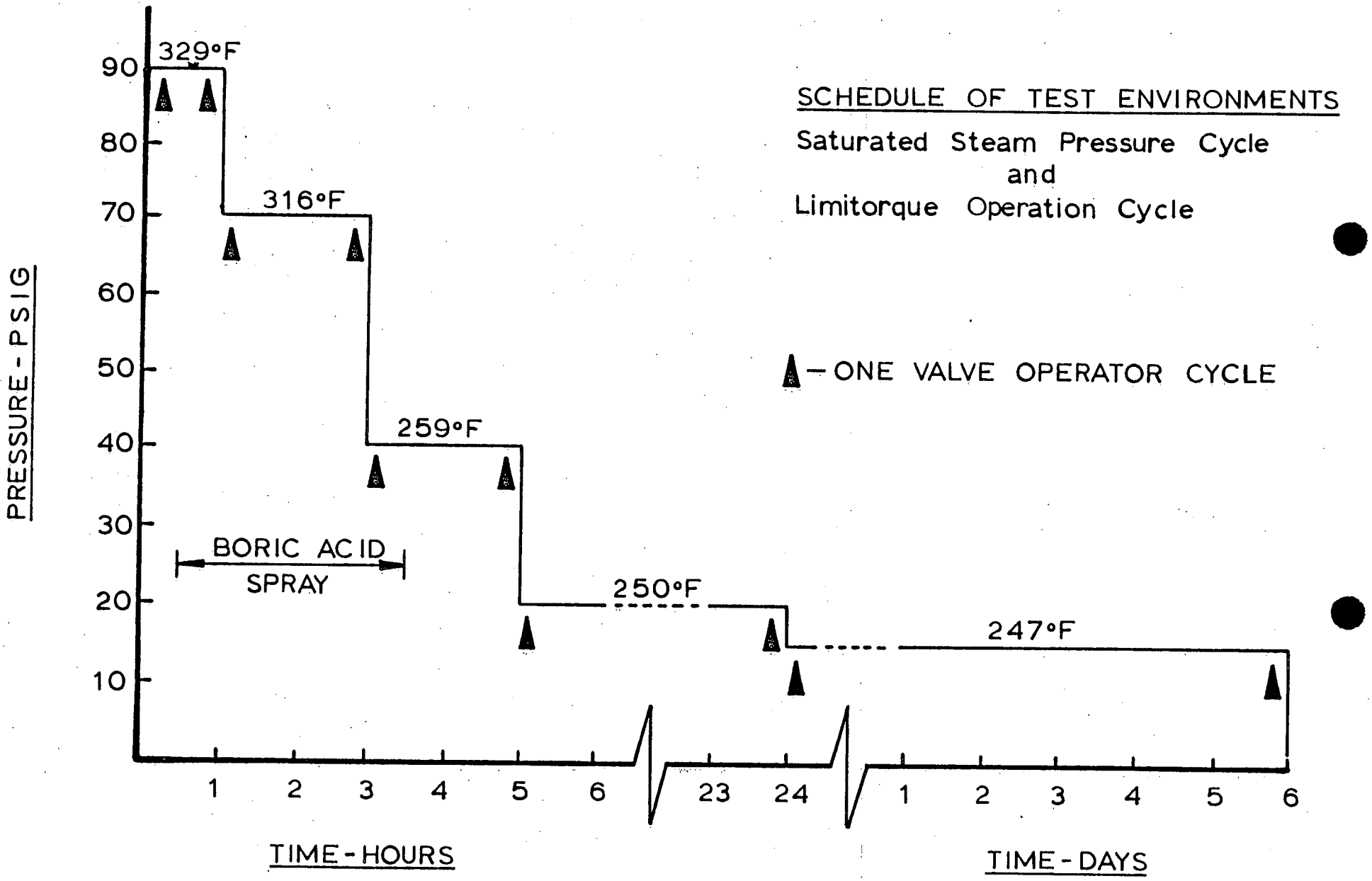

SCHEDULE OF TEST ENVIRONMENTS
Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle
▲ — ONE VALVE OPERATOR CYCLE
PRESSURE - PSIG
90
80
70
60
50
40
30
20
10
329°F
316°F
259°F
250°F
247°F
BORIC ACID
SPRAY
1
2
3
4
5
6
23
24
1
2
3
4
5
6
TIME - HOURS
TIME - DAYS

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RCIC PLANT I.D. No.: MO 2076 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-000 FUNCTION: Actuate Containment Isolation Valve SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Steam Chase FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	5 minutes	7 days	[2]	[4]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 7)	(See Test Profile Provided)	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)				[4]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.4×10^4	[3]	[6] [5]	Separate Test and Engineering Analysis (See Note 2)	None
	AGING	Not Required	< 40 years	(See Note 1)	[4] [5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR, Table 14-10-4.

(Continued on Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.
2. Through vendor correspondence, similarity of these value operators to radiation qualified operators was established. Also, all radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.
3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

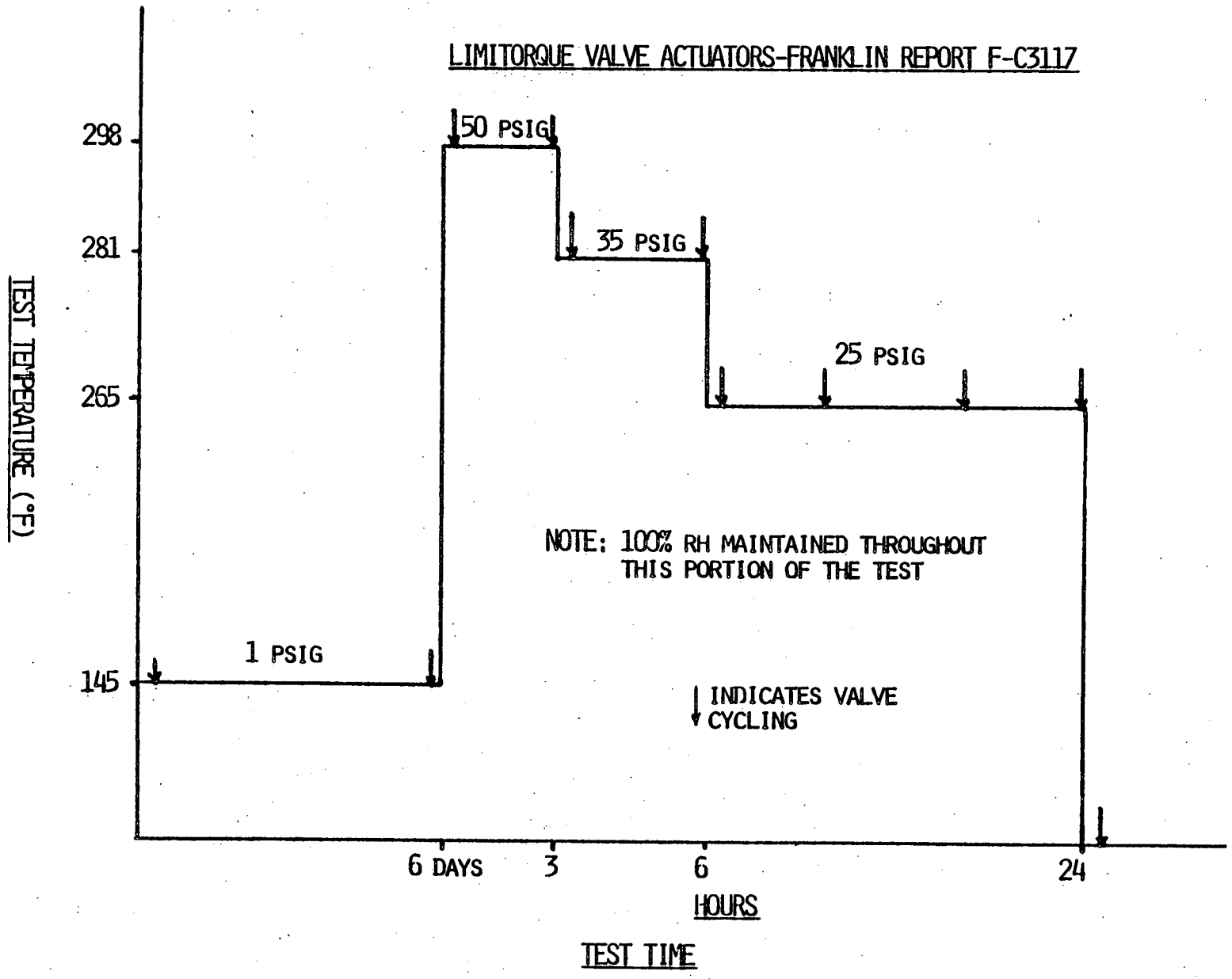
REFERENCES (Continued)

4. FIRL Report No. F-C3117.
5. EDS File No. 4, Rev. 4, "Limitorque Valve OPerator," Monticello Nuclear Plant, EDS Job #0910-001-451.
6. Limitorque qualification report numbers:
   B0003
   600376A
   B0009
   600456

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

LIMITORQUE VALVE ACTUATORS-FRANKLIN REPORT F-C3117



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RCIC PLANT I.D. No.: TS 13-79(A,B), 80(A,B), 81(A,B), 82(A,B) COMPONENT: Temperature Switch MANUFACTURER: Fenwal MODEL No.: 17023-6 FUNCTION: Steam Line Isolation SERVICE: NA ACCURACY: Spec.: ±2%, Demo.: ±1% LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	1.5 hours	(See Note 2)	[2]	Sequential Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)	(See attached Profile)	[1]	[2]	Sequential Testing	None
	PRESSURE (PSIG)		(See attached profile)		[2]	Sequential Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]		Sequential Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.7×10^4	[4]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	>40 years	(See Note 1)	[3]	Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. GE Report VPF145C3004-8, data Report No. 6350.
3. EDS File No. EER-10, "Fenwal Temperature Switch," Monticello Nuclear Plant, EDS Job #0910-001-451.
4. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

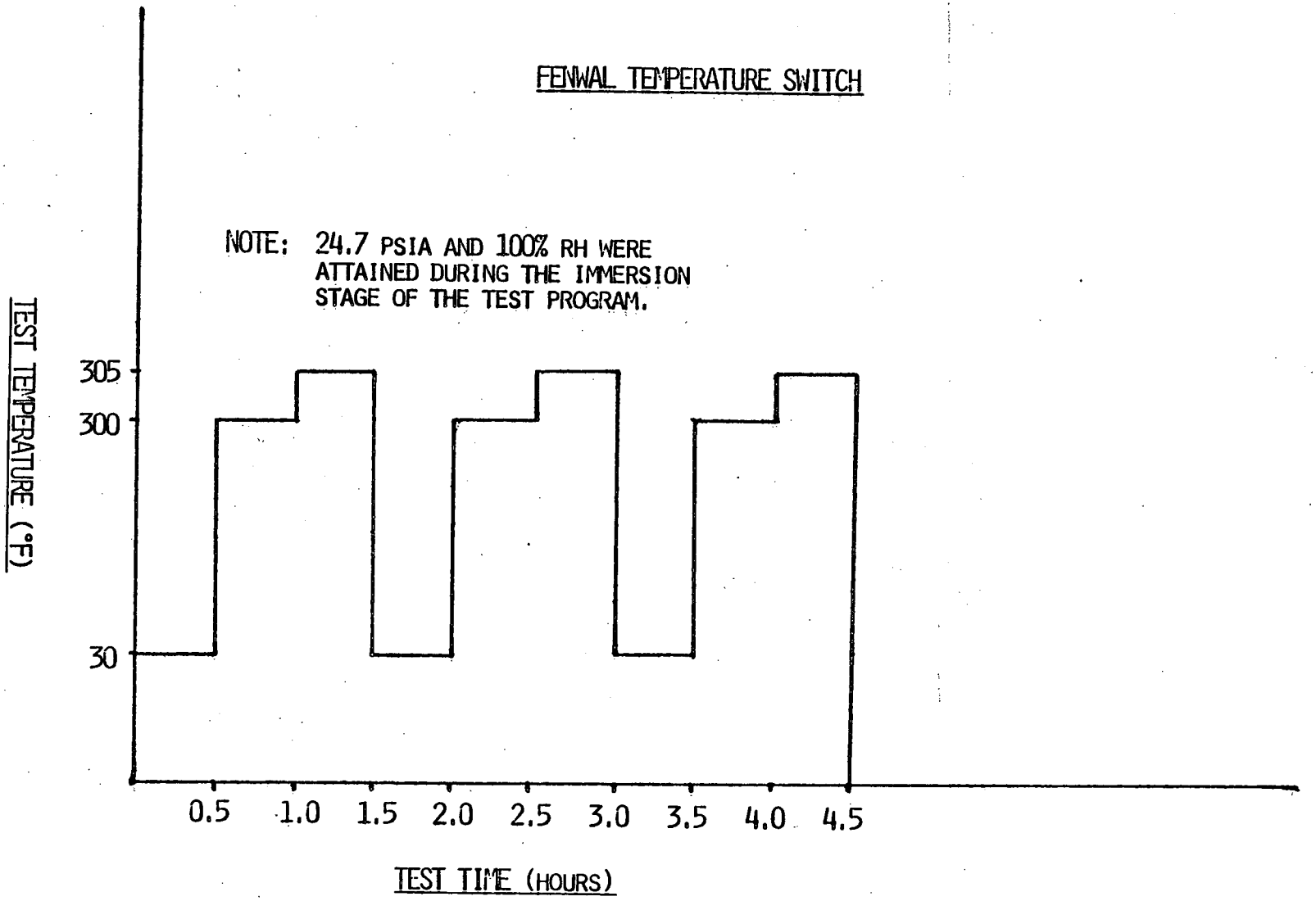
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

FENWAL TEMPERATURE SWITCH

NOTE: 24.7 PSIA AND 100% RH WERE ATTAINED DURING THE IMMERSION STAGE OF THE TEST PROGRAM.



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RCIC PLANT I.D. No.: TS 13-79 (C-D), 80 (C-D), 81 (C-D), 82 (C-D) COMPONENT: Temperature Switch MANUFACTURER: Fenwal MODEL No.: 17023-6 FUNCTION: Steam Line Isolation SERVICE: NA ACCURACY: Spec.: ±2% Demo.: ±1% LOCATION: RCIC Room	OPERATING TIME	10 minutes	1.5 hours	(See Note 2)	[2]	Sequential Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.5)	(See attached profile)	[1]	[2]	Sequential Testing	None
	PRESSURE (PSIG)		(See attached profile)		[2]	Sequential Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Sequential Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.7×10^4	[4]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	> 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. GE Report VPF145C3004-8, data Report No. 6350.
3. EDS File No. EER-10, "Fenwal Temperature Switch," Monticello Nuclear Plant, Job #0910-001-451.
4. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

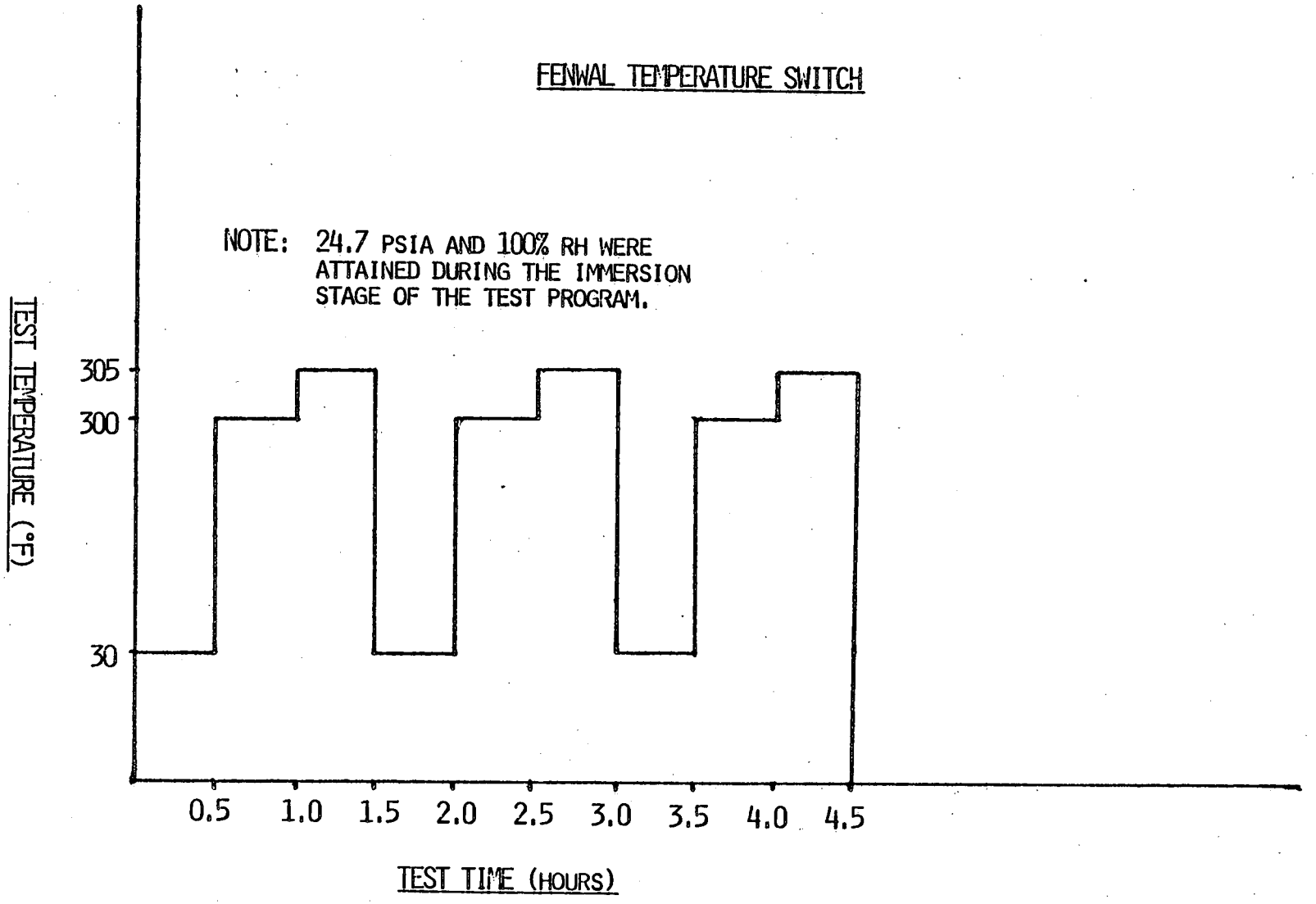
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

FENWAL TEMPERATURE SWITCH

NOTE: 24.7 PSIA AND 100% RH WERE ATTAINED DURING THE IMMERSION STAGE OF THE TEST PROGRAM.



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RCIC PLANT I.D. No.: dPIS 13-83, dPIS 13-84 COMPONENT: Differential Pressure Indicating Switch MANUFACTURER: Barton MODEL No.: 288 FUNCTION: Steamline Isolation SERVICE: NA ACCURACY: Spec.: ±2%, Demo.: 1.5% LOCATION: Instrument Rack C-214 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[3]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.9)	212°F	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.6 psig		[3,4]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3×10^6	[2]	[5]	Separate Testing	None
	AGING	Not Required	<40 years	(See Note 1)	[4]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. BWR Equipment Qualification Summary, Report No. QSR-027-A-01
4. EDS File No. 11, Rev. 2, "Barton Pressure Switch" Monticello Nuclear Plant, EDS Job # 0910-001-451

(Continued next page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No operating time is available for this equipment. Specification derived from HELB Analysis Report "Postulated Pipe Failures Outside Containment" submitted by letter to A. Grambusso (AEC) by E. C. Ward (NSP) dated September 7, 1973. 3. Engineering analysis was used to supplement test data for pressure qualification of this switch. The surface area of this switch is sufficiently small that the effect of a 0.6 psig pressure rise for a few seconds is negligible. Therefore, this switch is pressure qualified.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	5. IEEE 344-1975 Seismic and Radiation Qualification Test for ITT Barton Differential Pressure Indicating Switches 288A and 289A, Report No. R3-288A-1.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RCIC PLANT I.D. No.: PS 13-87 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Meletron MODEL No.: 372-6SS49A FUNCTION: Shutdown Turbine SERVICE: Turbine Steam Supply Pres. ACCURACY: Spec.: ±2% Demo.: NA LOCATION: Instrument Rack C-214 FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	8 Hours		(See Note 2)			Yes Note 4
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 9)		[1]			Yes Note 4
	PRESSURE (PSIG)						Yes Note 4
	RELATIVE HUMIDITY (%)	100%		[1]			Yes Note 4
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	Not Required		(See Note 3)			None
	AGING	Not Required		(See Note 1)			Yes Note 4 & 5
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. In the FSAR, this equipment was not assumed to function to mitigate a LOCA. Therefore, qualifioation to LOCA induced environments (such as radiation) is not required.	4. These instruments are essentially identical to Barksdale Model B2T-A12SS Pressure switches. The Barksdale pressure switches have been qualified to environment more severe than those conditions specified for these instruments. We contend that these Meletron instruments are qualified on the basis of similarity to qualified Barksdale Instruments. 5. It was not possible to identify all materials in this component susceptible to thermal aging. However, operating experience and similarity to Barksdale's B2T-A12SS instruments indicate that thermal aging does not constitute a significant failure mode. Calibration procedures currently in effect will identify any age related failure of this component.	No corrective action is required. JUSTIFICATION FOR CONTINUED OPERATION On the basis of construction and similarity to qualified equipment, engineering judgement indicates that these components are qualified for their intended service conditions.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RCIC PLANT I.D. No.: MO 2107 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-00 FUNCTION: Actuate Injection Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: LOCATION: Steam Chase	OPERATING TIME	8 Hours	>24 Hours	[2]	[4]	Simultaneous Test	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B. 7)	See Attached Test Profile	[1]	[4]	Simultaneous Test & Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		See Attached Test Profile		[4]	Simultaneous Test	None
	RELATIVE HUMIDITY (%)	100%	100%	[3]	[4]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	Not Required	2.0×10^7	(See Note 2)	[4]	Sequential Testing	NA
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Test & Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. HELB analysis Report, "Postulated Pipe Failures Outside Containment" submitted to the AEC by letter from E.C. Ward (NSP) to A. Grambusso (AEC), dated September 8, 1973.

(Continued Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. In the FSAR analyses , this equipment is not assumed to operate to mitigate the consequences of a LOCA. Therefore, qualification to LOCA induced environmental conditions, i.e., radiation, is not required.

3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

NOTES

4. Simultaneous testing was used in conjunction with engineering analysis to show that the 5 second temperature spike to 298°F would not impact the actuator qualification. The justification for this is: 1) the actuator will not experience a significant temperature rise due to the 5 second spike and 2) the total thermal input due to the test exceeds that due to the accident (as shown with Arrhenius calculations).

REFERENCES (Continued)

3. General Electric Spec. 257HA351AJ.

4. Limitorque Test Report B0003, Project No. 600461, June, 1976.

5. EDS File No. 4, Rev. 4, "Limitorque Motor Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

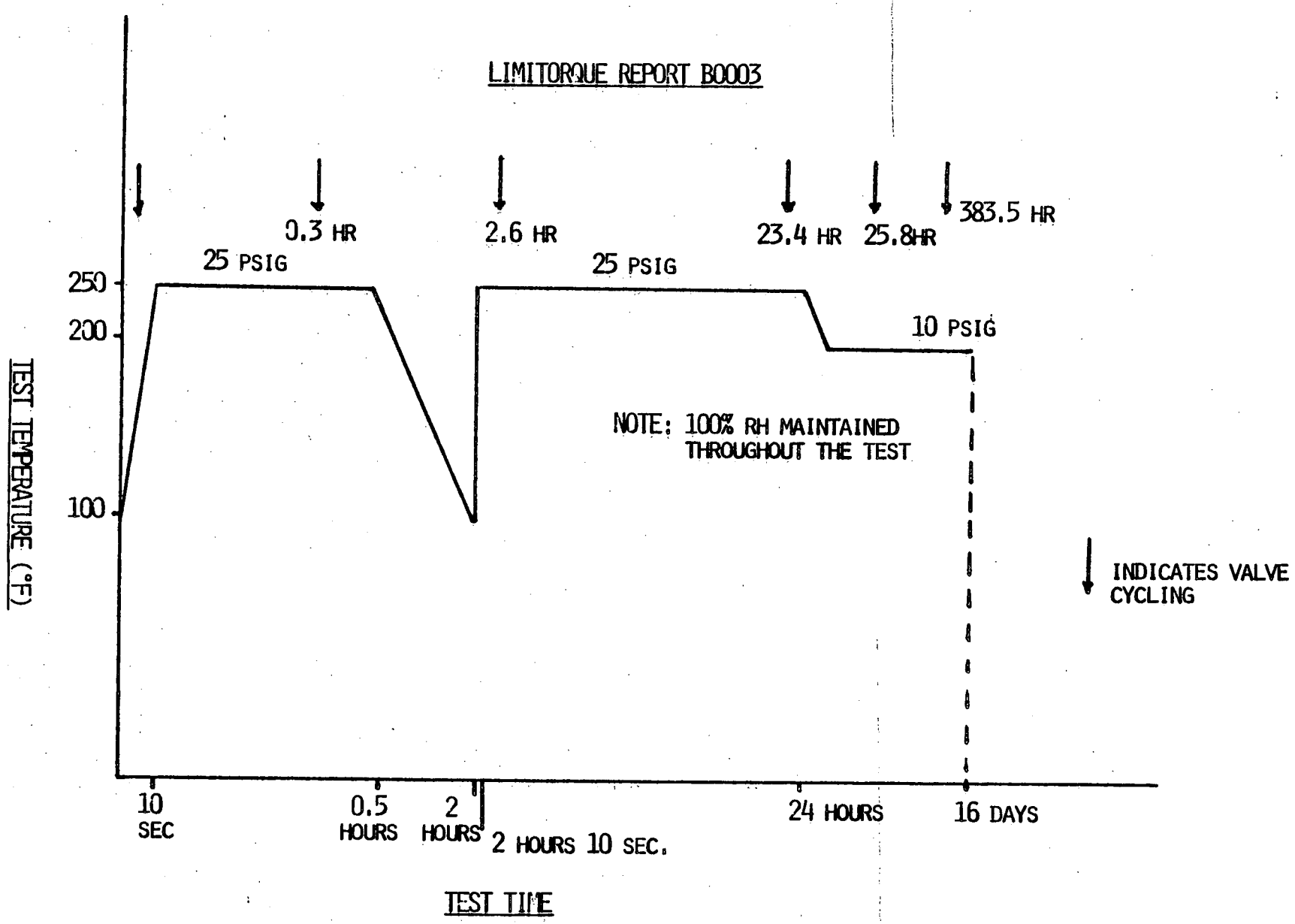
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


LIMITORQUE REPORT B0003
0.3 HR
2.6 HR
23.4 HR
25.8HR
383.5 HR
25 PSIG
25 PSIG
10 PSIG
250
200
100
TEST TEMPERATURE (°F)
NOTE: 100% RH MAINTAINED THROUGHOUT THE TEST
INDICATES VALVE CYCLING
10 SEC
0.5 HOURS
2 HOURS
2 HOURS 10 SEC.
24 HOURS
16 DAYS
TEST TIME

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Primary Containment & Atmosphere Control PLANT I.D. No.: SV 2377, SV 2378, SV 2381 SV 2383, SV 2896 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: 8300C64U FUNCTION: Valve Control SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL; yes___ no ___	OPERATING TIME	5 minutes		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	4×10^6	[3]	[4,5]	Sequential Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant, FSAR Table 14-10-4.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Primary Containment and Atmosphere Control PLANT I.D. No.: SV 2386, SV 2387 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: 8300C64U FUNCTION: Valve Control SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: RWCU Room El 962'-6"	OPERATING TIME	5 Minutes		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.11)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	4×10^6	[3]	[4,5]		None
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR Table 14-10-4.
4. BWR Owners' Group Summer Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Primary Containment & Atmosphere Control PLANT I.D. No.: SV 2379, SV 2380 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: 8262A212 FUNCTION: Valve Control SERVICE: Containment Vacuum Relief ACCURACY: Spec.: NA, Demo.: NA LOCATION: Torus Containment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	4×10^6	[2]	[3,4]	Sequential Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant, FSAR Table 14-10-4.
3. BWR Owners' Group Summary Report No. QSR-096-A-01.
4. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the postulated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Primary Containment & Atmosphere Control PLANT I.D. No.: SV 2384 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 8317A23 FUNCTION: Valve Control SERVICE: Containment Isolation ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	5 minutes		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	4×10^6	[3]	[4,5]	Sequential Testing & Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Sepcification 22A1132
3. Monticello Nuclear Plant, FSAR Table 14-10-4.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Primary Containment & Atmosphere Control PLANT I.D. No.: SV 2385 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 8317A23 FUNCTION: Valve Control SERVICE: Containment Isolation ACCURACY: Spec.: NA Demo.: NA LOCATION: RWCU Room El. 962'-6"	OPERATING TIME	5 minutes		[2]			Yes
	TEMPERATURE (^{o}F)	(See Environmental Profile B.11)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	4×10^6	[3]	[4,5]	Sequential Testing & Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Sepcification 22A1132
3. Monticello Nuclear Plant, FSAR Table 14-10-4.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. These actuators employ motor brakes for which complete qualification documentation does not exist. The motor and actuator have been qualified to 2×10^7 rads. See corrective action and justification for continued operation.

3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

4. Simultaneous testing was used in conjunction with engineering analysis to show that the 5 second temperature spike to 298°F would not impact the actuator qualification. The justification for this is 1) the actuator will not experience a significant temperature rise due to the 5 second spike and 2) the total thermal input due to the test exceeds that due to the accident (as shown with Arrhenius calculations).

CORRECTIVE ACTION

Information necessary to analytically qualify the motor brakes is currently being investigated. If qualification cannot be established, one of the following actions will be taken: 1) brake removal, 2) motor operator modification, 3) motor operator replacement.

JUSTIFICATION FOR CONTINUED OPERATION

Motor brakes have been environmentally tested but have failed after exposure to high levels of radiation. Because the radiation specification for the component is relatively low, engineering judgement indicates the component will function in the postulated accident environment.

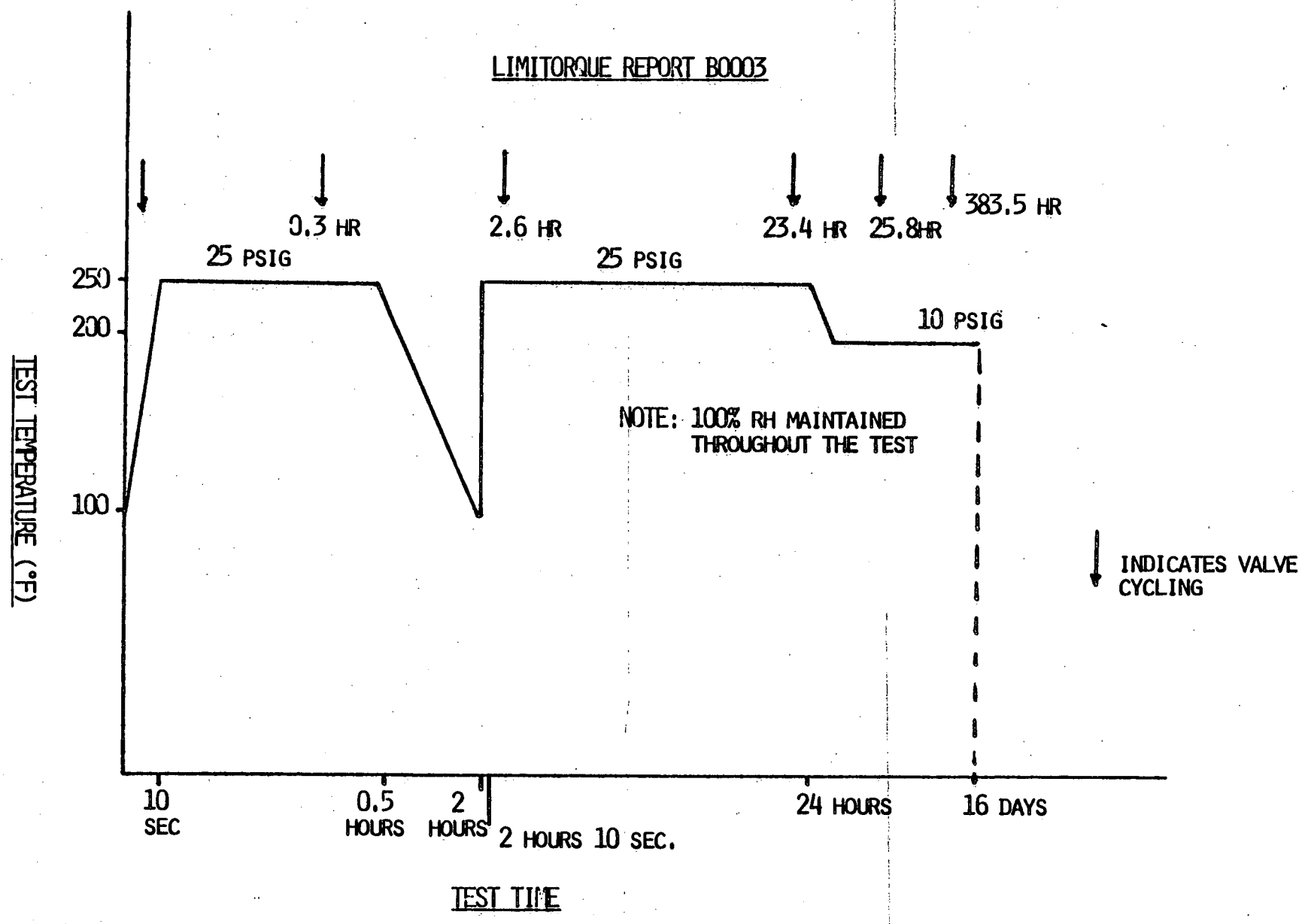
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


LIMITORQUE REPORT B0003
0.3 HR
2.6 HR
23.4 HR
25.8HR
383.5 HR
25 PSIG
25 PSIG
10 PSIG
250
200
100
TEST TEMPERATURE (°F)
NOTE: 100% RH MAINTAINED THROUGHOUT THE TEST
INDICATES VALVE CYCLING
10 SEC
0.5 HOURS
2 HOURS
2 HOURS 10 SEC.
24 HOURS
16 DAYS
TEST TIME

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: PS 23-68 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Barksdale MODEL No.: B2T-A12SS FUNCTION: Shutdown HPCI SERVICE: NA ACCURACY: Spec.: ±2% Demo.: ±1.2% LOCATION: Instrument Rack C-215	OPERATING TIME	8 hours	9 hours	[2]	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.9)	212°F	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		0.5		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	1×10^5	[2]	[4]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	<40 years	(See Note 1)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14.10.1.3.
3. Barksdale Qualification Test Procedure 9993.
4. EDS File No. SER-5 "Barksdale Pressure Switch," Monticello Generating Plant, Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the required operating time. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: PS 23-97 (A, B) COMPONENT: Pressure Switch MANUFACTURER: Mercoid Corp. MODEL No.: DA-7043-804 FUNCTION: Trip HPCI Turbine SERVICE: NA ACCURACY: Spec.: ±1% Demo.: LOCATION: HPCI Room Instrument Rack C-120	OPERATING TIME	8 hours	12 hours	[3]	[2]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)	NA	[1]	(See Note 2)	NA	None
	PRESSURE (PSIG)		NA		(See Note 2)	NA	None
	RELATIVE HUMIDITY (%)	100%	NA	[1]	(See Note 2)	NA	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	6.0×10^5	[3]	[2,4]	Seperate Test & Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. EDS File No. 28, "Mercoid Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.
3. Monticello Nuclear Plant FSAR Section 14-10.1.3.
4. Wyle Test Report #44285-1, October 26, 1978.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.	4. Radiation was qualified by showing that the radiation thresholds for all non-mettalic parts are greater than the specified radiation dose.	
2. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity parameter from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required.	5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	
3. Since the component is qualified for a 12 hour TID following a LOCA, and since all other accidents result in mild environment conditions at this location, the component is qualified for a 12-hour operating time.		

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HPCI PLANT I.D. No.: PS 23-84 COMPONENT: Pressure Switch MANUFACTURER: Mercoid MODEL No.: DAW-443-4132-R26E FUNCTION: Turbine Trip SERVICE: NA ACCURACY: Spec.: ±2% Demo.: NA LOCATION: HPCI Room	OPERATING TIME	8 hours	12 hours	[3]	[2]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.6)	NA	[1]	(See Note 2)	NA	None
	PRESSURE (PSIG)		NA		(See Note 2)	NA	None
	RELATIVE HUMIDITY (%)	100%	NA	[1]	(See Note 2)	NA	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	1.0×10^5	[3]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

PAGE: C.7.9a

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. EDS File No. 28, "Mercoid Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.
3. Monticello Nuclear Plant FSAR Section 14-10.1.3.

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment Atmosphere Control PLANT I.D. No.: dPS 2572, dPS 2573 COMPONENT: Differential Pressure Switch MANUFACTURER: Barton MODEL No.: 289A FUNCTION: Valve Control SERVICE: Containment Vacuum relief ACCURACY: Spec.: 5% Demo.: 1.97% LOCATION: Reactor Bldg. El 935' E FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	Not Required		(See Note 3)			None
	TEMPERATURE (^{o}F)	Not Required		(See Note 2)			None
	PRESSURE (PSIG)						None
	RELATIVE HUMIDITY (%)	Not Required		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	3×10^6	[1]	[2]	Sequential Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. Monticello Nuclear Plant FSAR, Table 14-10-4.
2. IEEE 344-1975 Seismic and Radiation Qualification Test for ITT Barton Differential Pressure indicating switches, Models 288A and 289A, Report No. R3-288A-1.
3. EDS File No. 11, Rev. 2, "Barton Pressure Switch", Monticello Nuclear Plant, EDS Job # 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. These instruments must function to mitigate the consequences of a LOCA inside containment. This event does not result in harsh pressure, temperature, or relative humidity condition at the installed location. 3. An operating time specification for this equipment is not available. Since radition is the only parameter of concern, use of total integrated dose as a qualified operating requirement provides adequate consideration of operating time. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these	materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Primary Containment & Atmosphere Control PLANT I.D. No.: SV 7440 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 8317B23 FUNCTION: Actuate Containment Isolation Valve SERVICE: Containment Isolation ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	5 minutes		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	4×10^6	[3]	[4,5]	Sequential Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132
3. Monticello Nuclear Plant, FSAR Table 14-10-4.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solencid Valve" Montioello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: SV 2944, SV 2945 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 831723 FUNCTION: Valve Control SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.5×10^6	4×10^6	[1]	[2,3]	Sequential Testing and Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 Years	(See Note 1)	(See Note 5)	Operating Experience	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. BWR Owners' Group Summary Report No. QSR-096-A-01.
3. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Generating Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. Extensive operating experience exists for these components. The current maintenance procedures for these valves predict pending age related failures and will assure safe operation of these valves for the plant life.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: SV 2978, SV 2979 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 831723 FUNCTION: Valve Control SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	5.5×10^6	4×10^6	[1]	[2,3]	Sequential Testing and Engineering Analysis (See Note 4	Yes
	AGING	Not Required	<40 Years	(See Note 1)	(See Note 5)	Operating Experience	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. BWR Owners' Group Summary Report No. QSR-096A-01.
3. EDS File No. 9, Revision 2, ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. Extensive operating experience exists for these components. The current maintenance procedures for these valves predict pending age related failures and will assure safe operation of these valves for the plant life.	These solenoid valves will be shielded, relocated or replaced. JUSTIFICATION FOR CONTINUED OPERATION This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the postulated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: SV 2982(A,B) COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 831723 FUNCTION: Valve Control SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	2×10^6	4×10^6	[1]	[2,3]	Sequential Testing and Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 Years	(See Note 1)	(See Note 5)	Operating Experience	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. BWR Owners' Group Summary Report No. QSR-096-A-01.
3. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS File #0910-001-451.

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation.

3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.

NOTES

4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.

5. Extensive operating experience exists for these components. The current maintenance procedures for these valves predict pending age related failures and will assure safe operation of these valves for the plant life.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

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DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: PS 3462 COMPONENT: Pressure Switch MANUFACTURER: Furnas Electric MODEL No.: 69GAV7 FUNCTION: Compressor Control SERVICE: SGTS Aux. Air Compressor ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	8.7×10^5	2.0×10^6	[1]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
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REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 18, Rev. 3, "Furnas Electric Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: FT 2942, FT 2943 COMPONENT: Flow Transmitter MANUFACTURER: Leeds & Northrup MODEL No.: 1912-2-10-0-000-0100-0100 FUNCTION: Flow Control SERVICE: SGTS Flow ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	8.7×10^5	1.7×10^4	[1]	[2]	Engineering Analysis (See Note 4)	Yes
	AGING	Not Required	$\angle$ 40 Years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

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REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 23, Rev. 2, "Leeds & Northrup," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment, except for one material. Teflon was given a radiation threshold of 1.7×10^4 rads. This is based on mechanical rather than electrical properties. Components employing teflon as an electrical insulator have been qualified to over 2×10^7 rads, however an auditable data source for this information has not been found. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	These components will be shielded, relocated, or replaced. JUSTIFICATION FOR CONTINUED OPERATION Based on the design and construction of these instruments coupled with existing test data for similar equipment, engineering judgement indicates these components will function in the postulated accident conditions.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: V-EF-17(A,B) COMPONENT: Motor MANUFACTURER: GE MODEL No.: 5K254AK205 S/N 1431443 S/N 1431427 FUNCTION: Fan Motor SERVICE: Motor for SGTS Fans V-EF-17A, V-EF-17B ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	8.7×10^5	7.0×10^6	[1]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	40 Years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 41, Rev. 2, "GE Motors/Standby Gas Treatment System", Monticello Nuclear Plant, EDS Job # 0910-001-451.

NOTES	NOTES
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. The temperature service conditions in the SBGT system room are not affected by a LOCA/HELB. The primary concern of the thermal aging parameter is to avoid common mode failure of components due to the harsh accident temperatures. Because this location is isolated from harsh accident temperatures, any age related failures would be of a random nature. Further investigation of the susceptibility to thermal aging of the non-metallic components is in progress. In addition vendor information indicates that these motors will last for 40 years.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: ES 2950, 2951 COMPONENT: Flow Switch MANUFACTURER: McDonnell & Miller MODEL No.: AF1S FUNCTION: Heater Control SERVICE: SGTS Room Heater ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3.0×10^6	5×10^6	[1]	[2,3]	Sequential Testing & Engineering Analysis (See Note 5)	None
	AGING	Not Required	40 years	(See Note 1)	[2]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

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REFERENCES:

1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 26, Rev. 3, "McDonnell & Miller Flow Switch," Monticello Nuclear Plant, EDS Job # 0910-001-451.
3. Micro Switch Engineering Report 15027-1, "Permanent Effects of Gamma Radiation on Various Switches."

NOTES	NOTES
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature. 5. The results of Reference [3] were employed to qualify the limit switch used in this equipment. The remaining non-metallic materials were identified and a literature search was performed to identify the radiation properties of these materials. The results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: TS 3368, 3369 COMPONENT: Temperature Switch MANUFACTURER: Chromalox MODEL No.: AR 2529 FUNCTION: Temperature Control SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	5.5×10^6	(See Note 4)	[1]			Yes
	AGING	Not Required	(See Note 4)	(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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REFERENCES: 1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.

NOTES	NOTES	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. No qualification information has been obtained for this instrument. The vendor considered all information regarding their products proprietary. CORRECTIVE ACTION This component will be shielded, relocated or replaced.	Engineering judgement based on: 1. Discussions with vendor, 2. Materials of construction of similar components, and 3. Past operating experience indicates that this component will function in the postulated accident environment.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: K-11 COMPONENT: Motor MANUFACTURER: GE MODEL No.: 5K43KG2802 FUNCTION: Air Compressor Motor SERVICE: SGTS Aux. Air Compressor ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	8.7×10^5	3.0×10^5	[1]	[2]	Engineering Analysis (See Note 4,5)	Yes
	AGING	Not Required	40 Years	(See Note 1)	[2]	Engineering Analysis (See Note 6)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

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REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 41, Rev. 2, "G.E. Motor/Standby Gas Treatment" Monticello Nuclear Plant, EDS Job # 0910-001-451.

NOTES	NOTES	CORRECTION ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. Radiation is an open item. 5. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that not all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 6. The temperature service conditions in the SBGT system room are not affected by a LOCA/HELB. The primary concern of the thermal aging parameter is to avoid common mode failure of components due to the harsh accident temperatures. Because this location is isolated from harsh accident temperatures, any age related failures would be of a random nature. Further investigation of the susceptibility to thermal aging of the non-metallic components is in progress. In addition vendor information indicates that these motors will last for 40 years.	Adequate documentation to qualify this component is not available. This motor will be shielded, relocated, or replaced. JUSTIFICATION FOR CONTINUED OPERATION The limiting materials are inside the motor and surrounded by a metal shell which would partially shield them from the total radiation dose. In addition, engineering judgement based upen typical materials of construction for motors of this type indicates this motor will perform its intended function in the postulated accident environment.

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	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: E/P 2942, E/P 2943 COMPONENT: Electro-Pneumatic Transducer MANUFACTURER: Leeds & Northrup MODEL No.: 10970-1 FUNCTION: Valve Control SERVICE: Flow Control ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	8.7×10^5	1.7×10^4	[1]	[2]	Engineering Analysis (See Note 4)	Yes
	AGING	Not Required	$\angle$40 Years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

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REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 23, Rev. 2, "Leeds & Northrup," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment, except for one material. Teflon was given a radiation threshold of 1.7×10^4 rads. This is based on mechanical rather than electrical properties. Components employing teflon as an electrical insulator have been qualified to over 2×10^7 rads, however an auditable data source for this information has not been found. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	These components will be shielded, relocated, or replaced. JUSTIFICATION FOR CONTINUED OPERATION Based on the design and construction of these instruments coupled with existing test data for similar equipment, engineering judgement indicates these components will function in the postulated accident conditions.

COMPONENT EVALUATION WORKSHEET

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	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: LC-1 (A, B) COMPONENT: Contactor MANUFACTURER: Cutler-Hammer MODEL No.: 6-10-2 FUNCTION: NA SERVICE: Unit Heater Contactor ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3×10^6		[1]			Yes
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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REFERENCES: 1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only aocident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	This equipment will either be shielded, relocated, or replaced.	The 180 day total integrated dose values of Reference [1] are conservative and do not consider the shielding effects of a conorete block wall which exists between the radiation source and this equipment. In addition, similar equipment has withstood higher doses and remained functional. Engineering judgement thus indicates that this equipment will perform its safety function.

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	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: LC-2 (A, B) COMPONENT: Fused Disconnect MANUFACTURER: Cutler-Hammer MODEL No.: 4105H311H FUNCTION: NA SERVICE: Unit Heater Switch ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3×10^6		[1]			Yes
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

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REFERENCES: 1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	This equipment will either be shielded, relocated, or replaced.	The 180 day total integrated dose values of Reference [1] are conservative and do not consider the shielding effects of a concrete block wall which exists between the radiation source and this equipment. In addition, similar equipment has withstood higher doses and remained functional. Engineering judgement thus indicates that this equipment will perform its safety function.

COMPONENT EVALUATION WORKSHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: E-34 (A,B) COMPONENT: Thermostat MANUFACTURER: Honeywell MODEL No.: T451A1132 FUNCTION: Thermostat SERVICE: Room Unit Heaters ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3.0×10^6	1.0×10^7	[1]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 21, Rev. 3, "Honeywell Thermostat," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: E-34 (A,B) COMPONENT: Unit Heater MANUFACTURER: ILG Industries MODEL No.: H7133 FUNCTION: Room Heater SERVICE: SGTS Room Heater ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3×10^6		[1]			Yes
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only aocident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	The need for post accident operation of the component is being reevaluated. If it is determined that post accident operation is required, the component will be replaced.	These heaters are electrical resistance heaters. Typically, the components essential for operation are metallic. In addition, the installed environment is relatively mild. Engineering judgement indicates that this component will perform in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: K-11 COMPONENT: Motor Starter MANUFACTURER: Furnas Electric MODEL No.: 14 BA 32 BC FUNCTION: Compressor Motor Starter SERVICE: SGTS Aux. Air Compressor ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	8.7×10^5	2.0×10^6	[1]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	< 40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 18, Rev. 3, "Furnas Electric Pressure Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: K-11 COMPONENT: Line Switch MANUFACTURER: General Electric MODEL No.: THN 3361, Mod 2 FUNCTION: NA SERVICE: Aux. Air Compressor Disconnect ACCURACY: Spec.: NA Demo.: LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	8.7×10^5		[1]			Yes
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	This component will be shielded, relocated or replaced.	Engineering judgement based on discussion with the vendor and typical materials of construction for components of this type indicates that this component will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: T1 COMPONENT: Transformer MANUFACTURER: Heavy Duty Electric MODEL No.: SZO FUNCTION: Unit Heater Control Power Transformer SERVICE: Room Heater ACCURACY: Spec.: NA Demo.: LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA	Not Required	(See Note 3)			None
	TEMPERATURE (^{O}F)	NA	Not Required	(See Note 2)			None
	PRESSURE (PSIG)	NA	Not Required	(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA	Not Required	(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3×10^6	1.0×10^6	[1]	[2]	Engineering Analysis (See Note 4)	Yes
	AGING	Not Required	< 40 years	(See Note 1)	[2]	Engineering Analysis (See Note 4)	Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 20, Rev. 3 "Heavy Duty Electric Transformer," EDS Job No. 0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All materials susceptible to radiation and thermal degradation in this component were identified. A literature search was then performed and the results indicated that not all materials can be qualified for the appropriate service conditions.	This transformer will be shielded, relocated or replaced. Justification For Continued Operation The accident radiation analysis [1] is overly conservative as it does not consider shielding provided by a concrete block wall between the radiation sources and this component. Also, because the temperature conditions at this location are not affected, failure due to thermal aging is unlikely. Therefore, engineering judgment indicates that this component will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: NA COMPONENT: Terminal Board MANUFACTURER: Allen-Bradley MODEL No.: Bulletin 1492-CD3 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3.0×10^6	6.0×10^6	[1]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	> 40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 24, Rev. 3, "Allen Bradley Terminal Board," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: NA COMPONENT: Cable MANUFACTURER: General Electric MODEL No.: SI-58170 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{o}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3×10^6	1.9×10^7	[1]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	>40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 45, Rev. 3, "GE Wire and Cable," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: NA COMPONENT: Cable MANUFACTURER: General Electric MODEL No.: SI-58175 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3×10^6	1.9×10^7	[1]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	>40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 45, Rev. 3, "GE Wire and Cable," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: NA COMPONENT: Wire MANUFACTURER: General Electric MODEL No.: SI-57275 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3×10^6	4.0×10^7	[1]	[2]	Sequential Testing	None
	AGING	Not Required	40 years	(See Note 1)	[2]	Sequential Testing	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. "Wyle Test Report No. 44114-2, September 15, 1978.

NOTES		
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only aocident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.		

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: NA COMPONENT: Cable MANUFACTURER: Carol Wire & Cable MODEL No.: 1050 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3×10^6	4.7×10^6	[1]	[2]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	>40 years	(See Note 1)	[2]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No 47, Rev. 3, "Carol Wire & Cable," Monticello Nuclear Plant, EDS Job. #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: See Below COMPONENT: Limit Switch MANUFACTURER: Micro Switch MODEL No.: OP-AR FUNCTION: Position Indication SERVICE: AO 2944, AO 2978,AO 2979 ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	NA		(See Note 3)			
	TEMPERATURE (^{O}F)	NA		(See Note 2)			
	PRESSURE (PSIG)	NA		(See Note 2)			
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	5.5×10^{6}	1.0×10^{7}	[1]	[2,3]	Sequential Testing & Engineering Anaylsis (See Note 5)	
	AGING	Not Required	$\geq$ 40 Years	(See Note 1)	[2]	Engineering Analysis (See Note 4)	
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.
2. EDS File No. 29, Rev. 2, "Micro Switch Limit Switch", Monticello Nuclear Plant, EDS Job No.0910-001-451
3. Micro Switch Engineering Report 15027-1, "Permanent Effects of Gamma Radiation on Various Switches."

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature. 5. Reference [3] indicated the BZ switching block internal to the OP-AR limit switch was not susceptible to radiation damage from a gamma dose less than 1.0×10^7 rads. For the remaining components of this switch, all radiation susceptible materials were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this switch.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: SGTS PLANT I.D. No.: See Below COMPONENT: Limit Switch MANUFACTURER: Cutler-Hammer MODEL No.: Type L FUNCTION: Position Indicator SERVICE: AO - 2982 ACCURACY: Spec.: NA Demo.: NA LOCATION: SGTS Room FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	NA		(See Note 3)			None
	TEMPERATURE (^{O}F)	NA		(See Note 2)			None
	PRESSURE (PSIG)	NA		(See Note 2)			None
	RELATIVE HUMIDITY (%)	NA		(See Note 2)			None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	2×10^6		[1]			Yes
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job No. 10040-048, June 1981.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This equipment is located in the SGTS room, connected to the Reactor Building by double air lock doors which are always closed. Since there are no high energy lines running through this room, this area is isolated from the temperature, pressure and humidity effects of a HELB or a LOCA. Thus, the only relevant accident parameter is radiation. 3. An operating time specification for this equipment is not available. Since the only accident parameter of concern is radiation, use of the 180 day total integrated dose values of Reference [1] as a qualification requirement provides adequate consideration of operating time.	This component will be tested or replaced.	Engineering judgement, based on discussions with the vendor and typical materials of construction for equipment of this type indicate this limit switch will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RBCW PLANT I.D. No.: MO 1426 COMPONENT: Valve Operator MANUFACTURER: Rotork MODEL No.: 14A MKII FUNCTION: Containment Isolation Valve Actuator SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	5 Minutes	200 Hours	[6]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 3)	214°F	[1]	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		17.04 psia		[4]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Table 14-10-4.

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 17.04 psia. Since the operator housing is made of steel and totally sealed, pressure transients of this magnitude are not a credible failure mode. Therefore, this equipment is qualified for the pressure condition. 4. A thermal capacitance heat transfer calculation was performed and concluded that the high temperature transient is short enough so that performance of this equipments required function is not impared.	4. EDS File No. EER-29, "Rotork Valve Motor Operators," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IR 3025, dated April 8, 1980. 6. General Electric Specification 22A1132.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RWCU PLANT I.D. No.: MO 2397 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL No.: SMB-00 FUNCTION: Containment Isolation SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	5 minutes	7 days	[1]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Test Attached Profile)	[2]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[3]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[3]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	H_3BO_3 + NaOH pH = 7.67	[2]	[5]	Simultaneous Testing	None
	RADIATION (RADS)	1×10^6 gamma 2×10^8 beta	2.04×10^8 gamma	[3] [4]	[6]	Separate Testing	None
	AGING	Not Required	< 40 years	(See Note 1)	[5] [7]	Simultaneous Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. GE Specification 22A1132.
2. Safety Evaluation Report by the Office of NRR Equipment Qualification Branch for Northern States Power Company, Monticello Nuclear Generating Plant, Docket No. 50-263, Dated June 3, 1981.

(Continued on Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

3. Monticello Nuclear Plant FSAR Figure 5-2-14, Section 5-2.3.2 and Table 14-10-4.

4. Assumed conservative surface dose.

5. Limitorque Test Report No. 600198 January 1969.

6. Limitorque Test Report No. 600376A, May 1980.

7. EDS File No. 4, Rev.4 , "Limitorque Valve Operator," Monticello Nuclear Plant, EDS Job #0910-001-451.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

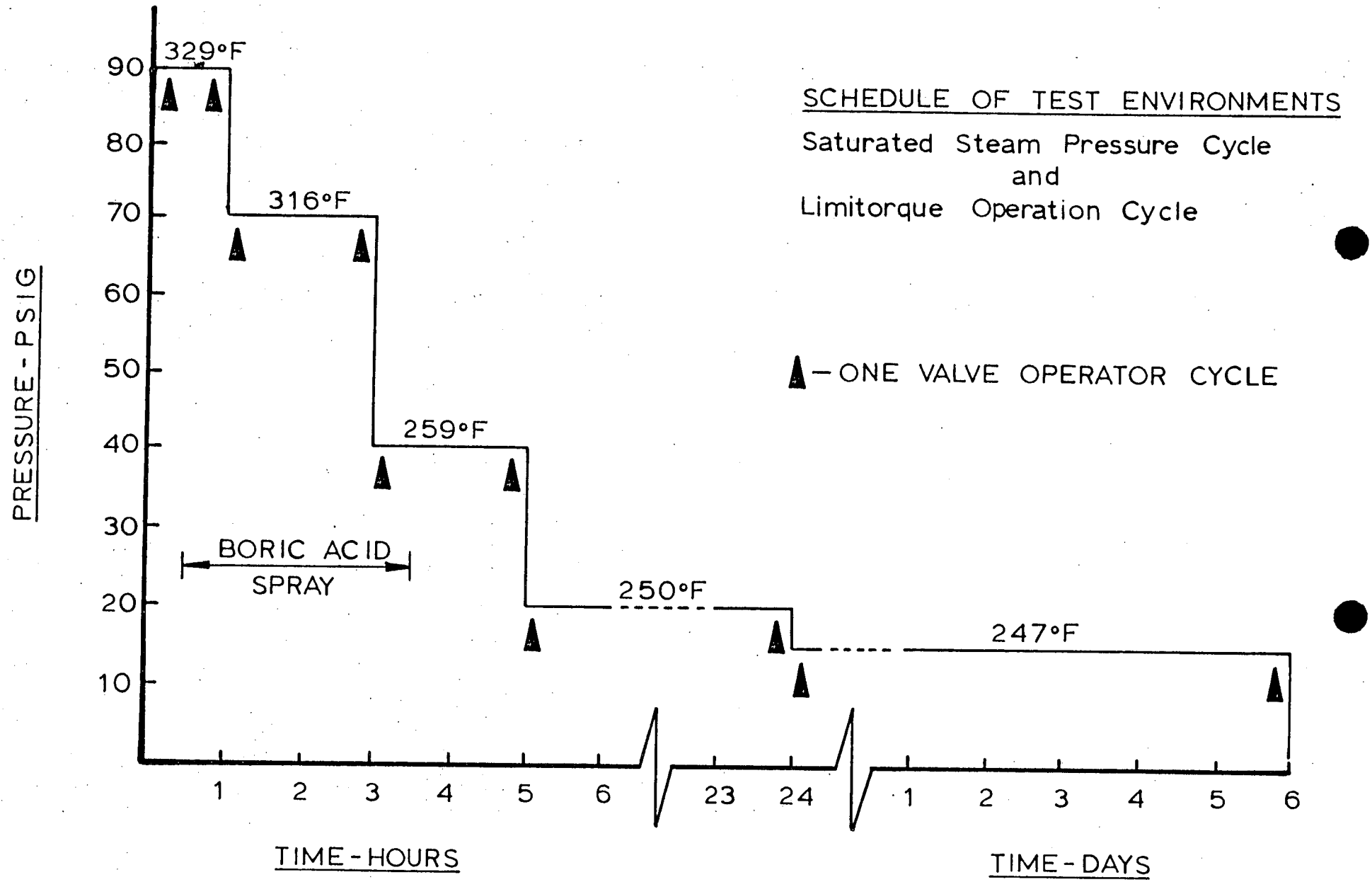
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

SCHEDULE OF TEST ENVIRONMENTS

Saturated Steam Pressure Cycle
and
Limitorque Operation Cycle



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: RWCU PLANT I.D. No.: MO 2398 COMPONENT: Valve Motor Operator MANUFACTURER: Limitorque MODEL No.: SMB-00 FUNCTION: Actuate Containment Isolation Valve SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. El 975'	OPERATING TIME	5 minutes	7 days	[2]	[4]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.11)	(See Test Profile Provided)	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)				[4]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	3.4×10^4	[3]	[6] [5]	Separate Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required	< 40 years	(See Note 1)	[4] [5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant FSAR Table 14-10-4.

(Continued on Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.
2. Through vendor correspondence, similarity of these value operators to radiation qualified operators was established. Also, all radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.
3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

REFERENCES (Continued)

4. FIRL Report No. F-C3117.
5. EDS File No. 4, Rev. 4, "Limitorque Valve OPerator," Monticello Nuclear Plant, EDS Job #0910-001-451.
6. Limitorque qualification report numbers:
   B0003
   600376A
   B0009
   600456

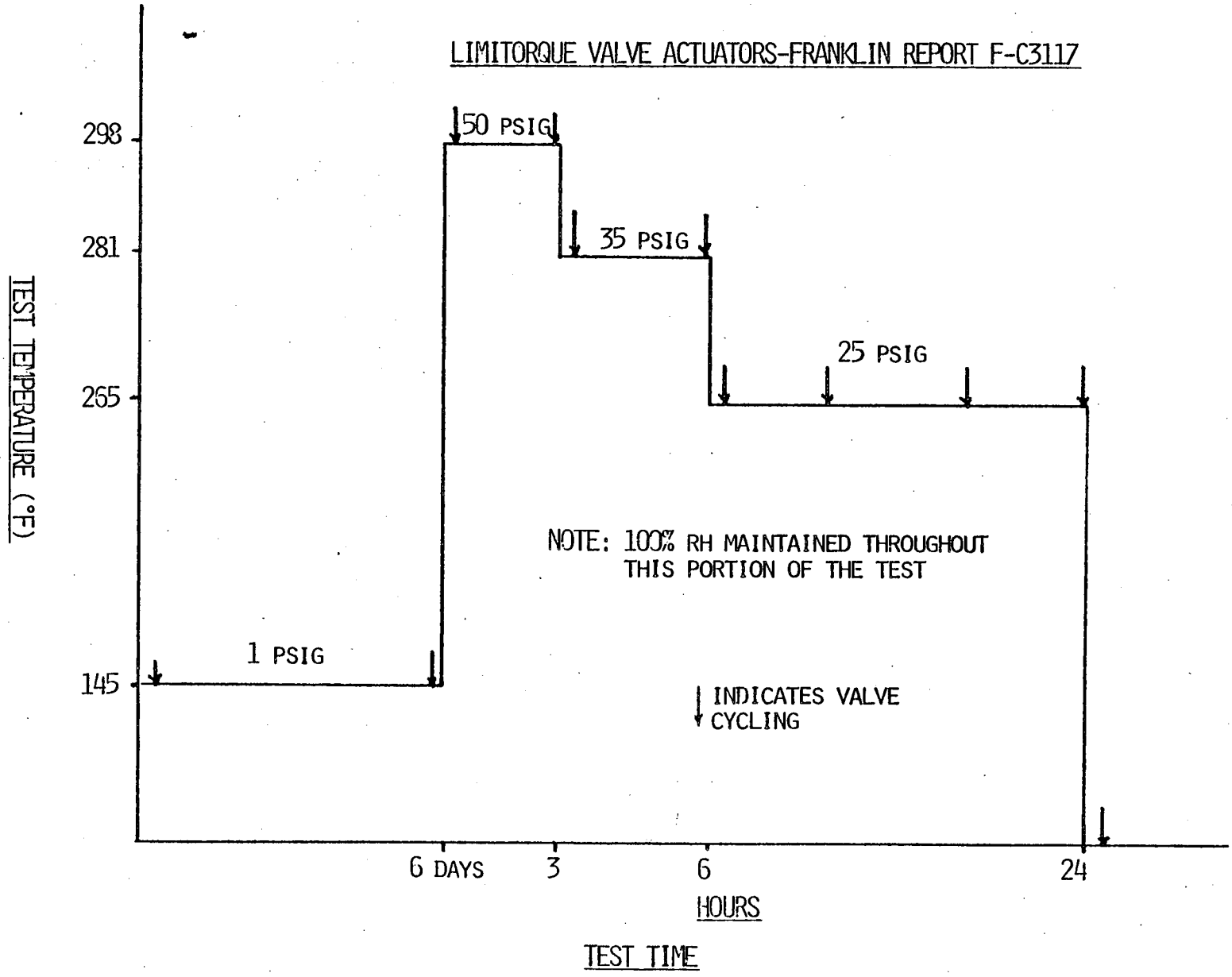
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


LIMITORQUE VALVE ACTUATORS-FRANKLIN REPORT F-C3117
298
281
265
145
TEST TEMPERATURE (°F)
50 PSIG
35 PSIG
25 PSIG
1 PSIG
NOTE: 100% RH MAINTAINED THROUGHOUT THIS PORTION OF THE TEST
INDICATES VALVE CYCLING
6 DAYS
3
6
24
HOURS
TEST TIME

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Water Cleanup PLANT I.D. No.: MO 2399 COMPONENT: Valve Operator MANUFACTURER: Rotork MODEL No.: 30A FUNCTION: Containment Isolation Valve Actuation SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Reactor Bldg. El 970' NW FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	5 Minutes	200 Hours	[6]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.17)	213°F	[1]	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		15.2 psia		[4]	Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	2×10^7	[3]	[2]	Separate Testing	None
	AGING	Not Required	<40 Years	(See Note 1)	[4,5]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Rotork Test Report No. N 14/2, dated May, 1970.
3. Monticello Nuclear Plant FSAR, Table 14-10-4.

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	3. Maximum accident pressure is 15.2 psia; however, since the operator housing is made of steel and totally sealed, pressure transients of this magnitude not a credible failure mode. Therefore, this equipment is qualified for the pressure condition. 4. A thermal capacitance heat transfer calculation was performed and concluded that the high temperature transient is short enough so that performance of this equipments required function is not impared.	4. EDS File No. EER-29, "Rotork Valve Motor Operator," Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Rotork Test Report IE 3025, dated April 8, 1980. 6. General Electric Specification 22A1132.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Building Instrument Air PLANT I.D. No.: SV 1478 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 831723 FUNCTION: Valve Control SERVICE: Containment Isolation ACCURACY: Spec.: NA Demo.: NA LOCATION: Main Steam Tunnel FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes X no ___	OPERATING TIME	10 hours		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.7)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4	4×10^6	[3]	[4,5]	Sequential Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 21A1060AB
3. Monticello Nuclear Plant, FSAR Table 14-10-4.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPDC.	QUAL.		
SYSTEM: Reactor Building Instrument Air PLANT I.D. No.: SV 7956 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 8317B23 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	5 minutes		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	4×10^6	[3]	[4,5]	Sequential Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant, FSAR Table 14-10-4.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Automatic Depressurization PLANT I.D. No.: SV 2-71 (A,B,D) COMPONENT: Solenoid Valve MANUFACTURER: Automatic Valve Co. MODEL No.: C-5450 FUNCTION: Control SERVICE: Safety Relief Valve ACCURACY: Spec.: NA, Demo.: NA LOCATION: Containment	OPERATING TIME	10 hours	168 hours	[2]	[5]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 1)	(See attached test profile)	[3]	[5]	Simultaneous Testing	None
	PRESSURE (PSIG)			[4]	[5]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[4]	[5]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized water	Water	[3]	[1]	Engineering Analysis (See Note 2)	None
	RADIATION (RADS)	4.8×10^6 gamma 2×10^8 beta	3×10^7 gamma 2×10^8 beta	[4] [6]	[5,1]	Sequential Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 years	(See Note 1)	[5,1]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x, no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. EDS File No. 2, Rev. 3, "AVCO Solenoid Valve," Monticello Nuclear Plant, EDS Job #0910-001-451.
2. General Electric Specification 22 A 1132.
3. SER prepared by NRR Equipment Qualification Branch for Monticello Nuclear Plant, June 3, 1981.
4. Monticello Nuclear Plant FSAR Table 14-10-4, Figure 5-2-14 and Section 5-2.3.2.

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. This solenoid valve is qualified to NEMA 4 specifications, indicating protection from splashing water and hose-directed water. Thus, this solenoid valve is qualified for containment spray conditions.	3. Qualification for gamma radiation was by testing. Qualification for beta radiation was done by analysis which showed that the amount of Beta radiation which penetrates existing shielding is less than 10% of the Gamma qualification dose. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	5. General Electric Plant Equipment Design Memo #126-62, "Environmental Testing of MSS/RV Air Control Valves." 6. Assumed conservative surface dose.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

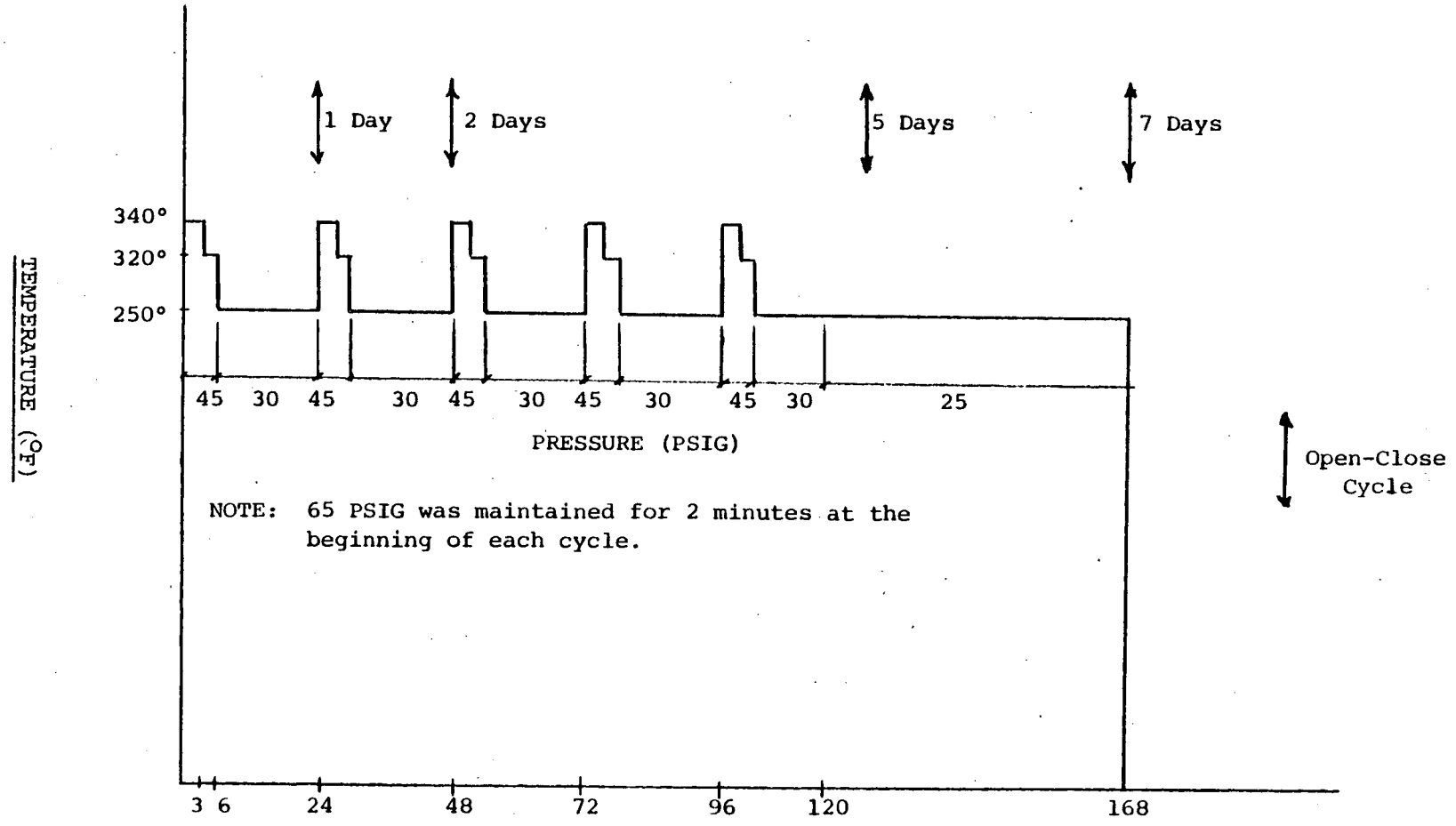
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

TEMPERATURE AND PRESSURE PROFILE

MODEL C-5450



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Protection PLANT I.D. No.: PS 5-14 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Barksdale MODEL No.: B2T-A12SS FUNCTION: Reactor Scram Interlock SERVICE: Turbine First Stage Pressure ACCURACY: Spec.: ±30 psi Demo.: ±1.2% LOCATION: Turbine Bldg. SE Corner FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	10 minutes	6 hours	(See Note 2)	[2]	Simultaneous Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.14)	216	[1]	[2,3]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		1.4		[2,3]	Simultaneous Testing and Engineering Analysis (See Note 5)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	Not Required	1×10^5	(See Note 3)	[3]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	<40 years	(See Note 1)	[2,3]	Simultaneous Testing and Engineering Analysis (See Note 7)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Barksdale Qualification Test, Procedure 9993.
3. EDS File No. SER-5, "Barksdale Pressure Switch," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. In the FSAR, this equipment was not assumed to function to mitigate a LOCA. Therefore, qualification to LOCA induced environments (such as radiation) is not required. 4. The postulated accident profile exceeds the test conditions by 4°F for less than 30 seconds. The thermal capacitance of the switch housing is sufficient to prevent the internal components from experiencing a temperature in excess of 212°F during this short duration.	5. The penetration of the switch housing is sealed with electrical conduit. The switch case is rated NEMA 4 and has sufficiently small surface area such that the effect of the 1.4 psig pressure transient is negligable. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 7. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Reactor Protection PLANT I.D. No.: PS 5-12 (A-D) COMPONENT: Pressure Switch MANUFACTURER: Static-O-Ring MODEL No.: 12N-K4 FUNCTION: Reactor Scram/ Containment Isolation SERVICE: Drywell Pressure ACCURACY: Spec.: ±0.5 psig Demo.: NA LOCATION: Instrument Rack C-55 C-56	OPERATING TIME	10 min.	6.5 hours	(See Note 2)	[3]	Simultaneous Test	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)	212°F	[1]	[3,4]	Simultaneous Test and Engineering Analysis (See Note 6	None
	PRESSURE (PSIG)		0.5 psig		[3,4]	Simultaneous Test and Engineering Analysis (See Note 3)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Test	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	7.5×10^4	[2]	[4]	Engineering Analysis (See Note 4)	None
	AGING	Not Required	<40 years	(See Note 1)		Simultaneous Test and Engineering Analysis (See Note 5)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. Viking Laboratories Test Letter-Report No. 30203-2 dated Nov. 20, 1973
4. EDS File No. SER-32, "Static O-Ring Pressure Switch, Monticello Nuclear Plant, EDS Job No 1 - 1-451

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. Engineering analysis was used to supplement test data for pressure qualification of this switch. Electrical conduit penetration effectively seals the switch housing so that internal components do not experience a pressure differential. Cases are rated NEMA 4 and have a sufficiently small surface area that the effect of an external 0.5psig pressure rise for only a few seconds is negligible. Therefore, this switch is pressure qualified.	4. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 6. This component was type-tested for 6.5 hours at a maximum temperature of 212°F. The accident profile shows that temperatures in excess of the test temperature last only a few seconds and exceed it by only one degree. The thermal capcitance of the housing is sufficient to prevent the internal components from experiencing the 213°F temperature rise, therefore adequate margin exists for temperature qualification.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Radwaste PLANT I.D. No.: SV2541(A,B) SV2561(A,B) COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 8317B23 FUNCTION: Actuate Containment Isolation Valve SERVICE: Containment Isolation ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	5 minutes		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	4×10^6	[3]	[4,5]	Sequential Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant, FSAR Table 14-10-4.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	This valve is to be replaced with an equivalent ASCO NP-1 Series Solenoid Valve.	This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the posutlated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Primary Containment Nitrogen Control PLANT I.D. No.: See Note 3 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL No.: THT 831723 FUNCTION: Valve Control SERVICE: Containment Isolation ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Containment Reactor Bldg. El 935'W & El935'SW FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	5 minutes		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 3,B.8, B.15)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	4×10^6	[3]	[4,5]	Sequential Testing and Engineering Analysis (See Note 2)	None
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. General Electric Specification 22A1132.
3. Monticello Nuclear Plant, FSAr Table 14-10-4.
4. BWR Owners' Group Summary Report No. QSR-096-A-01.
5. EDS File No. 9, Revision 2, "ASCO Solenoid Valve" Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES		CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 3. Plant ID No.: SV 3267 SV 3268 SV 3269A SV 3305 SV 3306 SV 3307 SV 3308 SV 3309 SV 3310 SV 3311 SV 3312 SV 3313 SV 3314		This solenoid valve will be replaced with an equivalent ASCO NP-1 Series Solenoid Valve. JUSTIFICATION FOR CONTINUED OPERATION This solenoid valve is very similar to other ASCO solenoid valves that have passed environmental tests. Engineering judgement, based on this similarity and on the fact that the postulated accident environment is relatively mild, indicates that this solenoid valve will function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment PLANT I.D. No.: LT 7338 (A,B) (See Note 5) COMPONENT: Level Transmitter MANUFACTURER: Rosemount MODEL No.: 1153DA5 FUNCTION: Indication SERVICE: Wide Range Torus Water Level ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days	200 days	(See Note 2)	[3,4]	Simultaneous Testing and Engineering Analysis (See Note 4)	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.3)	(See attached profile)	[1]	[4]	Simultaneous Testing	None
	PRESSURE (PSIG)		(See attached profile)		[4]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[4]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1×10^7	4.4×10^7	[2]	[4]	Sequential Testing	None
	AGING	Not Required	<40 years	(See Note 1)	[3,5]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. "Plant Shielding Design Review," Monticello Nuclear Plant, Bechtel Job #10040-048, June 1981.
3. EDS File 52 "Rosemount Pressure Transmitters" Monticello Nuclear Plant, EDS Job #0910-001-451.

(Continued on Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.	4. All materials in this equipment susceptable to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the required operating time. 5. This is a Three Mile Island Lessons Learned Item, NUREG 0737 Item II.F.1-5.	4. Rosemount Report No. 3788, "Qualification Test Report for Rosemount Pressure Transmitters Model 1153A," dated 3-28-78. 5. Westinghouse Qualification Testing of Rosemount Model 1153A Pressure Transmitters.

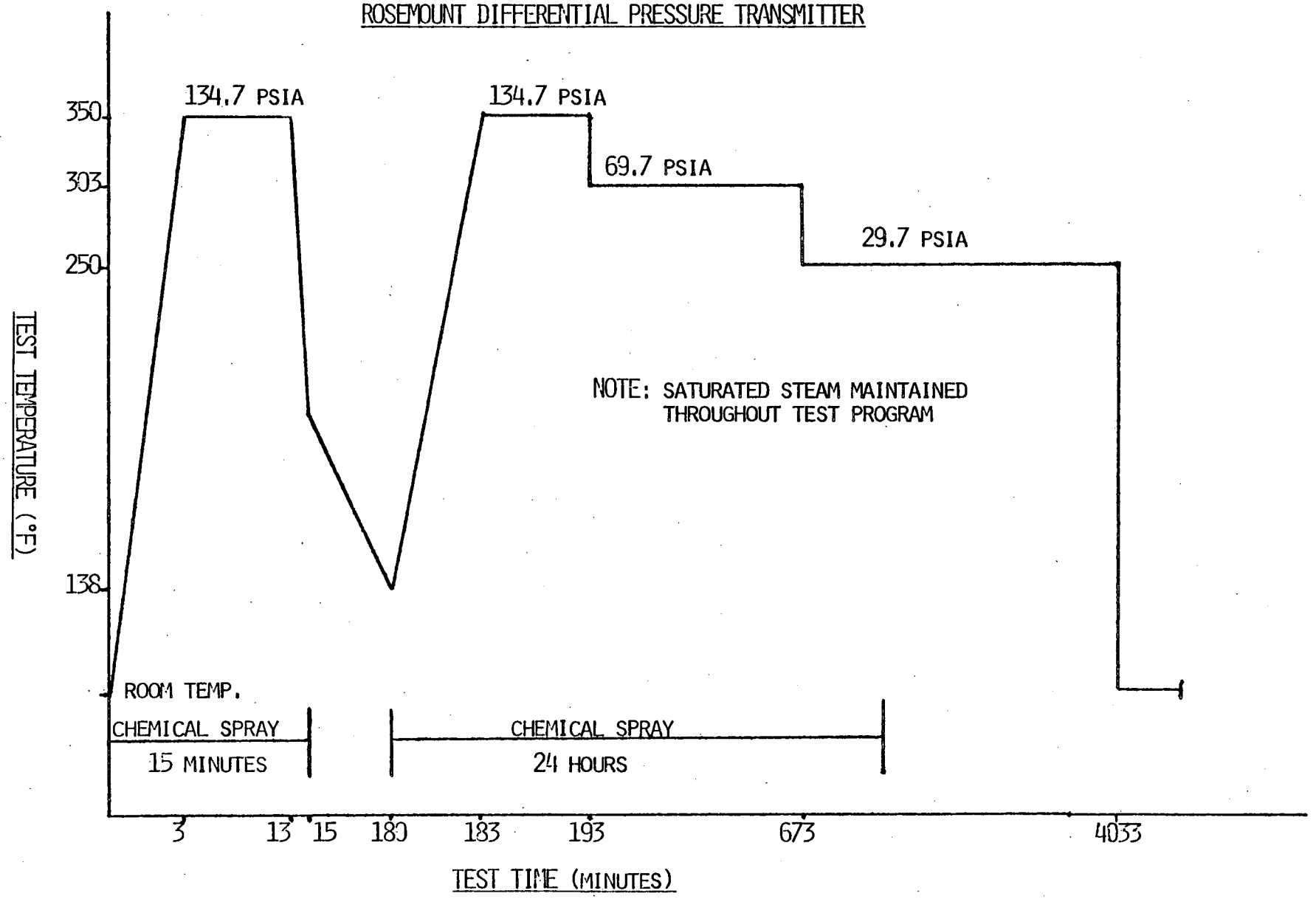
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


ROSEMOUNT DIFFERENTIAL PRESSURE TRANSMITTER
134.7 PSIA
134.7 PSIA
69.7 PSIA
29.7 PSIA
350
303
250
138
TEST TEMPERATURE (°F)
NOTE: SATURATED STEAM MAINTAINED THROUGHOUT TEST PROGRAM
ROOM TEMP.
CHEMICAL SPRAY
15 MINUTES
CHEMICAL SPRAY
24 HOURS
3
13
15
180
183
193
673
4033
TEST TIME (MINUTES)

EQUIPMENT DESCRIPTION	ENVIRONMENT				DOCUMENTATION REFERENCES		QUALIFICATION	OUTSTANDING
	PARAMETER	SPECIFICATION	QUALIFICATION		SPEC.	QUAL.	METHOD	ITEMS
SYSTEM: Containment PLANT I.D. No.: PT 2994 B COMPONENT: Pressure Transmitter MANUFACTURER: General Electric MODEL No.: 552 FUNCTION: Indication SERVICE: Torus Pressure ACCURACY: Spec.: 5% Demo.: NA LOCATION: CRD Pump Room	OPERATING TIME	180 days			(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 2)			[1]			Yes
	PRESSURE (PSIG)							Yes
	RELATIVE HUMIDITY (%)	100%			[1]			Yes
	CHEMICAL SPRAY	NA	NA		NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5			[2]			Yes
	AGING	Not Required			(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA		NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussions with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment PLANT I.D. No.: PT 7348 COMPONENT: Pressure Transmitter MANUFACTURER: General Electric MODEL No.: 551 FUNCTION: Indication SERVICE: Drywell Wide Range Pressure ACCURACY: Spec.: 5% Demo.: NA LOCATION: Instrument Rack C-55	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	This transmitter is scheduled to be replaced with a fully qualified Rosemount 1153 Series B transmitter.	Continued operation is justified on the basis of past operating experience and upon discussions with the equipment vendor. Engineering judgement indicates this equipment will perform its function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Containment PLANT I.D. No.: TE 2995 (F,G) COMPONENT: Temperature Element MANUFACTURER: Thermo-Electric MODEL No.: CES 16-2-516-T Assembly 607P-16-20 FUNCTION: Temperature Detection and Indication SERVICE: Torus Temperature ACCURACY: Spec.: 2°F Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 3)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	These temperature elements are to be superseded by a new torus temperature monitoring system.	Engineering judgement based on vendor contact, materials of construction, and past operating experience of this equipment indicates that this temperature element will be able to function in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Electrical Cable MANUFACTURER: General Electric MODEL No.: SI-58007 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Steam Chase FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	180 days	200 days	(See Note 2)	[3]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.7)	300	[1]	[3]	Engineering Analysis (See Note 3)	None
	PRESSURE (PSIG)		8.7		[3]	Engineering Analysis (See Note 4)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Engineering Analysis (See Note 5)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1.0×10^6	[2]	[3]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. 19, Rev. 3, "GE Cable," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature, operating time and aging parameters. 4. There is no credible failure mode of cable due to a pressure transient of 8.7 psig	5. Similar materials to those in this cable have been successfully functional tested to 100% relative humidity. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Electrical Cable MANUFACTURER: General Electric MODEL No.: SI-58007 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Various Outside Containment (Excluding Steam Chase) FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days	200 days	(See Note 2)	[3]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.14)	275	[1]	[3]	Engineering Analysis (See Note 3)	None
	PRESSURE (PSIG)		4.9		[3]	Engineering Analysis (See Note 4)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Engineering Analysis (See Note 5)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1.0×10^6	[2]	[3]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	< 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello FSAR Nuclear Plant Table 14-10-4.
3. EDS File No. 19, Rev. 3, "GE Cable," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature, operating time and aging parameters. 4. There is no credible failure mode of cable due to a pressure transient of 4.9 psig.	5. Similar materials to those in this cable have been successfully functional tested to 100% relative humidity. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Electrical Cable MANUFACTURER: General Electric MODEL No.: SI-58136 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Various FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days	200 days	(See Note 2)	[3]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.14)	275	[1]	[3]	Engineering Analysis (See Note 3)	None
	PRESSURE (PSIG)		4.9		[3]	Engineering Analysis (See Note 4)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Engineering Analysis (See Note 5)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1.0×10^6	[2]	[3]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	< 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. 19, Rev. 3, "GE Cable," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature, operating time and aging parameters. 4. There is no credible failure mode of cable due to a pressure transient of 4.9 psig.	5. Similar materials to those in this cable have been successfully functional tested to 100% relative humidity. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Electrical Cable MANUFACTURER: General Electric MODEL No.: SI-58081 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Various	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.14)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1×10^7	[2]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. 19, Rev. 3, "General Electric Cable," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment. 4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with	these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.	Qualification information for this cable is being pursued. If adequate qualification documentation is not obtained, this cable will be tested or replaced. JUSTIFICATION FOR CONTINUED OPERATION Engineering judgment based on vendor contact, operating experience and materials data indicate that this cable will perform its safety function in the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Electrical Cable MANUFACTURER: General Electric MODEL No.: SI-58109 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment	OPERATING TIME	30 hours	96 hours	[2]	[4]	Sequential Testing	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Attached Test Profile)	[3]	[4]	Sequential Testing	None
	PRESSURE (PSIG)			[2]	[4]	Sequential Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[2]	[4]	Sequential Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3.3×10^7 gamma 2.0×10^8 beta	4×10^7 gamma	[2]	[4] [5]	Sequential Testing Engineering Analysis (See Note 2)	None
	AGING	Not Required	40 years	(See Note 1)	[4]	Sequential Testing	None
FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No.
2. Monticello Nuclear Plant FSAR Figures 5-2-14, 5-2-15, Section 5.2.3.2, and Table 14-10-4.
3. SER Prepared by NRR EQ Branch for Monticello Nuclear Plant, June 3, 1981.

(Continued on Next Page)

NOTES		REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.		4. Wyle Laboratories Qualification Test Report #44114-2. 5. EDS File No. 19, Rev. 3, "GE Cable," Monticello Nuclear Plant, EDS Job #9010-001-451.
2. Currently available information does not provide sufficient data to evaluate beta radiation shielding for these cables. Actual beta radiation shielding mechanisms are currently being investigated. Engineering judgement, based on experience with similar cables, indicates the cables are qualified for the conservatively assumed beta exposure.		

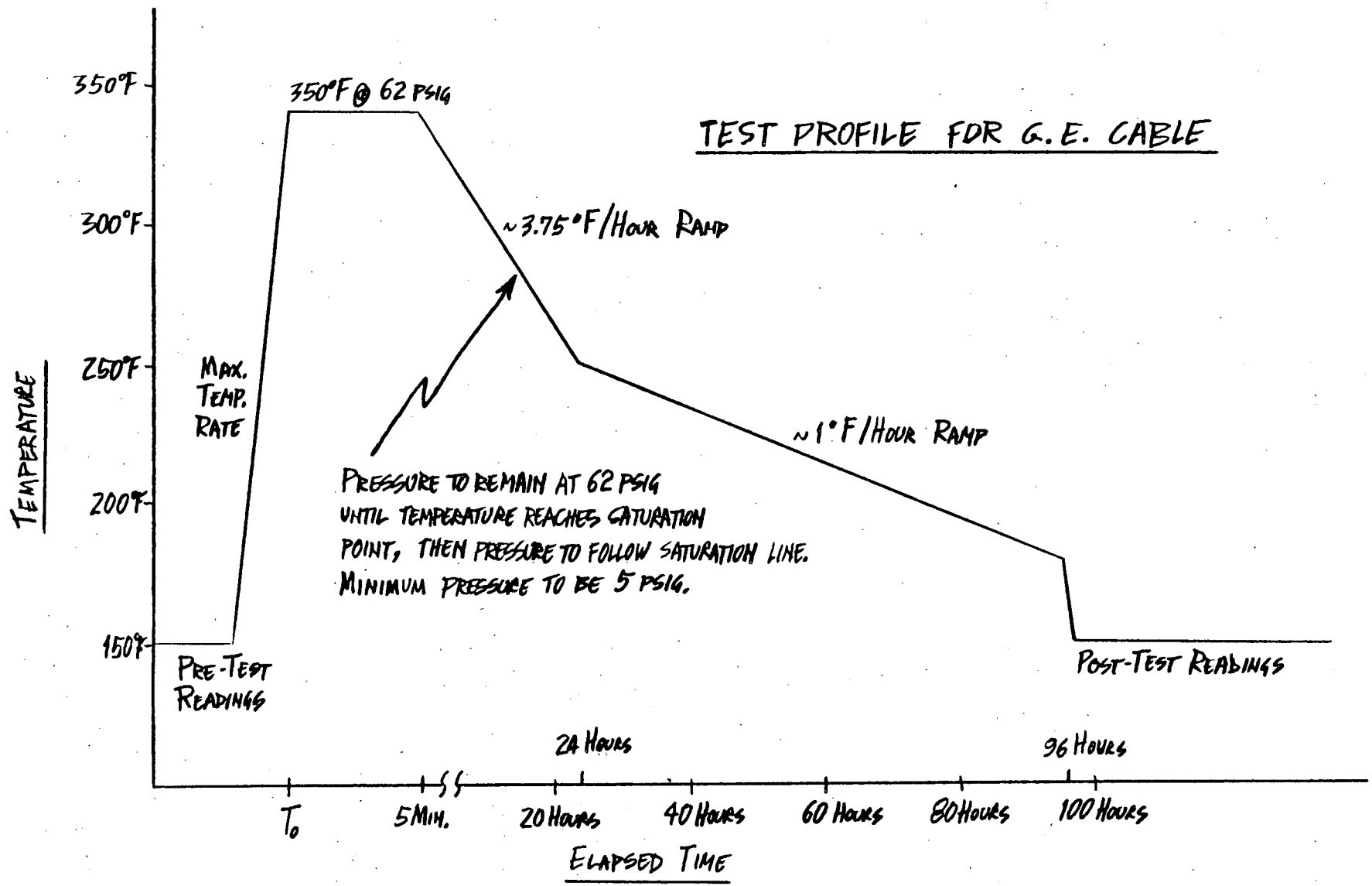
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81


TEST PROFILE FOR G.E. CABLE
350°F
300°F
250°F
200°F
150°F
TEMPERATURE
350°F @ 62 PSIG
~3.75°F/HOUR RAMP
~1°F/HOUR RAMP
MAX. TEMP. RATE
PRESSURE TO REMAIN AT 62 PSIG UNTIL TEMPERATURE REACHES SATURATION POINT, THEN PRESSURE TO FOLLOW SATURATION LINE. MINIMUM PRESSURE TO BE 5 PSIG.
PRE-TEST READINGS
POST-TEST READINGS
24 HOURS
96 HOURS
T0
5 MIN.
20 HOURS
40 HOURS
60 HOURS
80 HOURS
100 HOURS
ELAPSED TIME

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Electrical Cable MANUFACTURER: Rockbestos MODEL No.: Firewall III FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	30 hours	30 days	[2]	[3]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.1)	(See Attached Profile)	[6]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		(See Attached Profile)	[1]	[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	3.3×10^7 gamma 2×10^8 beta	2×10^8 gamma 2×10^8 beta	[1] [5]	[3,4]	Sequential Testing and Engineering Analysis	None
	AGING	Not Required	> 40 years	(See Note 1)	[3]	Sequential Testing	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. Monticello Nuclear Plant FSAR 5-2-14, Sec. 5-2.3.2 and Table 14-10-4.
2. Monticello Nuclear Plant FSAR Figure 5-2-15.
3. Rockbestos Co. Qualification Test Report, "Qualification of Firewall III Class 1E Electric Cables," dated February 1, 1977.

(Continued on Next Page)

NOTES		REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.		4. EDS File No. 53, "Rockbestos Wire/ Cable, Monticello Nuclear Plant, EDS Job No. 0910-001-451. 5. Assumed conservative Beta radiation surface dose. 6. Safety Evaluation Report prepared by the Office of NRR Equipment Qualification Branch for Northern States Power Company, Monticello Nuclear Generating Plant, Docket No. 50-263, dated June 3, 1981.

COMPONENT EVALUATION WORKSHEET

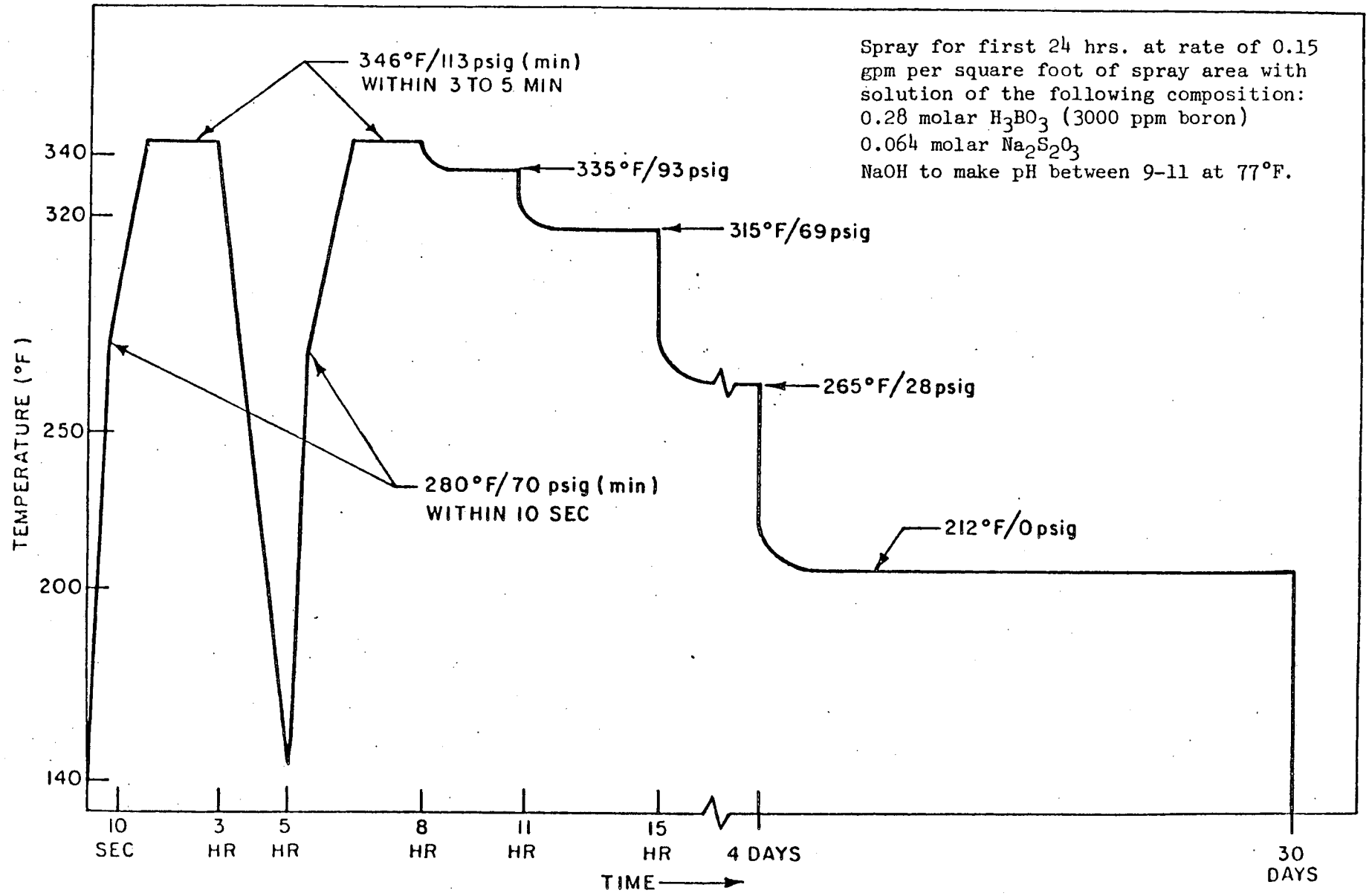
UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

LOCA Profile (ROCKBESTOS)



LOCA PROFILE

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Instrument Cable MANUFACTURER: Samuel Moore MODEL No.: 1802, 1852, 1862 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Various FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	180 days	200 days	(See Note 2)	[3]	Engineering Analysis	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.13)	235°F	[1]	[3]	Engineering Analysis (See Note 4)	None
	PRESSURE (PSIG)		16.5 psia		[3]	Engineering Analysis (See Note 6)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3,4]	Simultaneous Testing & Engineering Analysis (See Note 7)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1.0×10^7	[2]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis (See Note 5)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File SER-30, "Samuel Moore Instrument Cable," Monticello Nuclear Plant, EDS Job #0910-001-451.
(Continued Next Page.)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses.

3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.

4. All materials in this equipment susceptible to temperature degradation were identified. A literature search was performed and indicated that this equipment will withstand the specification temperature.

NOTES

5. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature.

6. Engineering judgement indicates there is no credible mode of failure caused by a maximum accident pressure transient of 16.5.

7. Analysis demonstrated similarity between submerged cable [4] and installed cable. The relative humidity condition is thus satisfied.

REFERENCES (Continued)

4. "Insulations and Jackets for Control and Power Cables in Thermal Reactor Nuclear Generating Stations," IEEE Transactions on Power Apparatus and Systems, May 1969.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Electrical Cable MANUFACTURER: General Electric MODEL No.: SI-58042 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Various	OPERATING TIME	180 days	200 days	(See Note 2)	[3]	Engineering Analysis (See Note 3)	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.5)	275	[1]	[3]	Engineering Analysis (See Note 3)	None
	PRESSURE (PSIG)		4.9		[3]	Engineering Analysis (See Note 4)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Engineering Analysis (See Note 5)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1.0×10^6	[2]	[3]	Engineering Analysis (See Note 6)	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. 19, Rev. 3, "GE Cable," Monticello Nuclear Plant, EDS Job #0910-001-451.

NOTES	NOTES	
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature, operating time and aging parameters. 4. There is no credible failure mode of cable due to a pressure transient of 4.9 psig.	5. Similar materials to those in this cable have been successfully functional tested to 100% relative humidity. 6. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: JX-105 (A, C, D) COMPONENT: Containment Electrical Penetration MANUFACTURER: General Electric MODEL No.: NSO-2, 3, 4 GE Part #237X627G7 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	30 hours	40 hours	[1]	[5,6] [4]	Separate Testing and Engineering Analysis (See Note 2)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.1)	(See Attached Test Profiles)	[2] [1]	[5,6] [4]	Separate Testing and Engineering Analysis (See Note 2)	None
	PRESSURE (PSIG)				[5,6]	Separate Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[5,6]	Separate Testing	None
	CHEMICAL SPRAY	Demineralized Water	Water	[2]	[8,6]	Separate Testing and Engineering Analysis (See Note 3)	None
	RADIATION (RADS)	2.3×10^7 gamma 2.0×10^8 beta	4×10^7 gamma 2×10^8 beta	[1] [3]	[7,8] [9] [4]	Separate Testing Engineering Analysis (See Note 4)	None (See Note 5)
	AGING	Not Required	<40 years	(See Note 1)	[4,6]	Separate Testing and Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	None

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. FSAR Figure 5-2-14, Section 5.2.3.2 and Table 14-10-4.
2. SER prepared by NRR Equipment Qualification Branch for Monticello Nuclear Plant, dated June 3, 1981.
3. Assumed Conservative Surface Dose.

(Continued Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature and operating time, including margin. 3. Radiation shielding and shielding mounts protect penetrations from direct spray impingement. Also, engineering analysis demonstrated similarity of spray condition to submergence testing of penetration cables.	4. Beta radiation evaluation demonstrated that the beta exposure to the penetration assembly is less than 10% of the gamma radiation qualification level. 5. Currently available information does not provide sufficient data to evaluate beta radiation shielding for the penetration cables. Actual beta radiation shielding mechanisms are currently being investigated. Engineering judgement based on experience with similar cables indicates the cables are qualified for the conservatively assumed beta exposure.	4. EDS File No. 3, Rev. 1, "Penetrations," EDS Job No. 0910-001-451. 5. "Qualification Report for F01 Penetration Assemblies," G.E. Report dated April 30, 1971. 6. Wyle Test Reports #44114-1 and #44114-2, September, 1978. 7. Letter, G.G. Sherwood (G.E.) to NRC, dated December 12, 1977. 8. "LOCA Test of Power Cables," FIRL Report #F-C3125. 9. "Electrical Penetration Assemblies Prototype Testing Qualification Report," GE Proposition No. EPASTQR, March 16, 1970.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

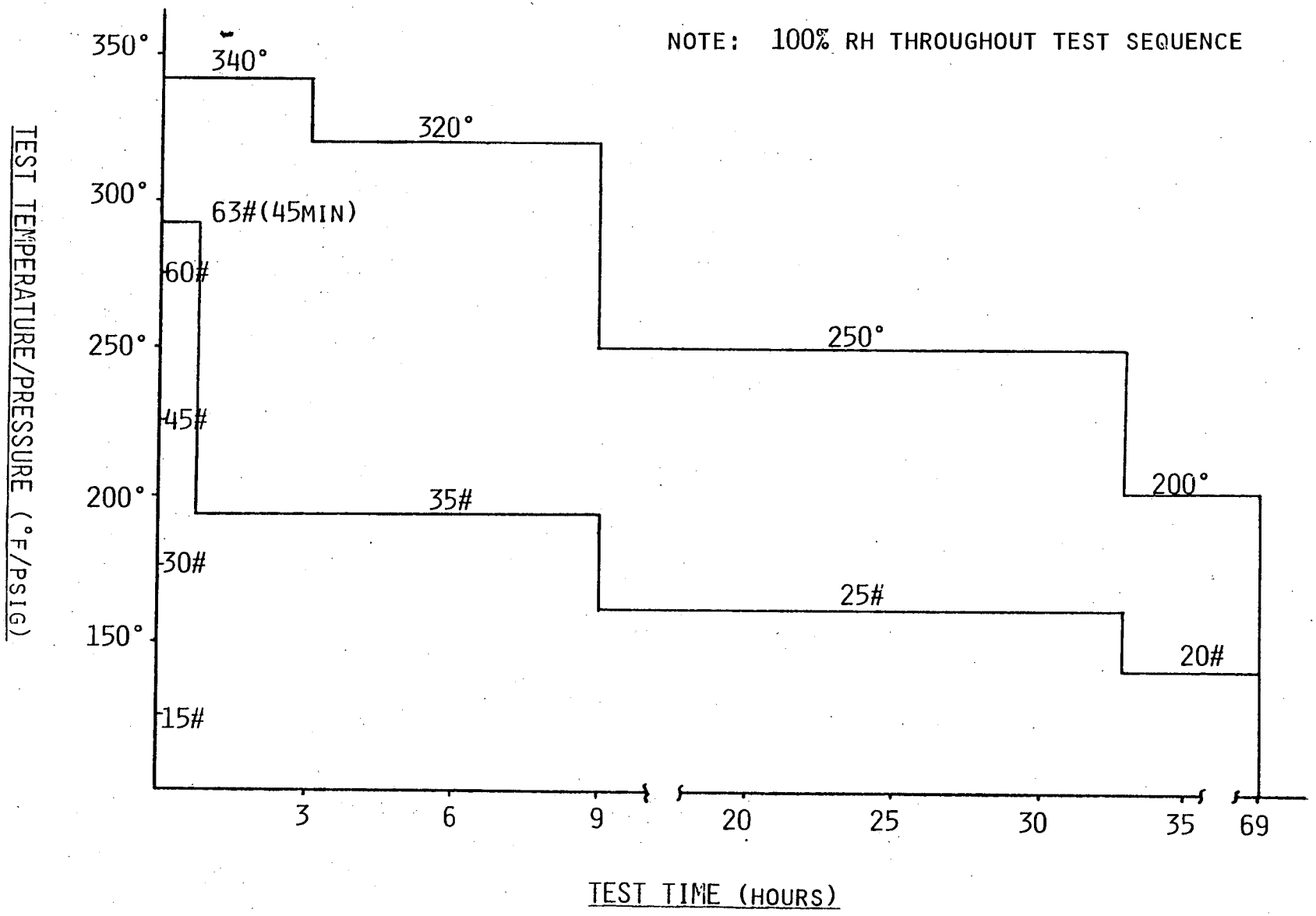
PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

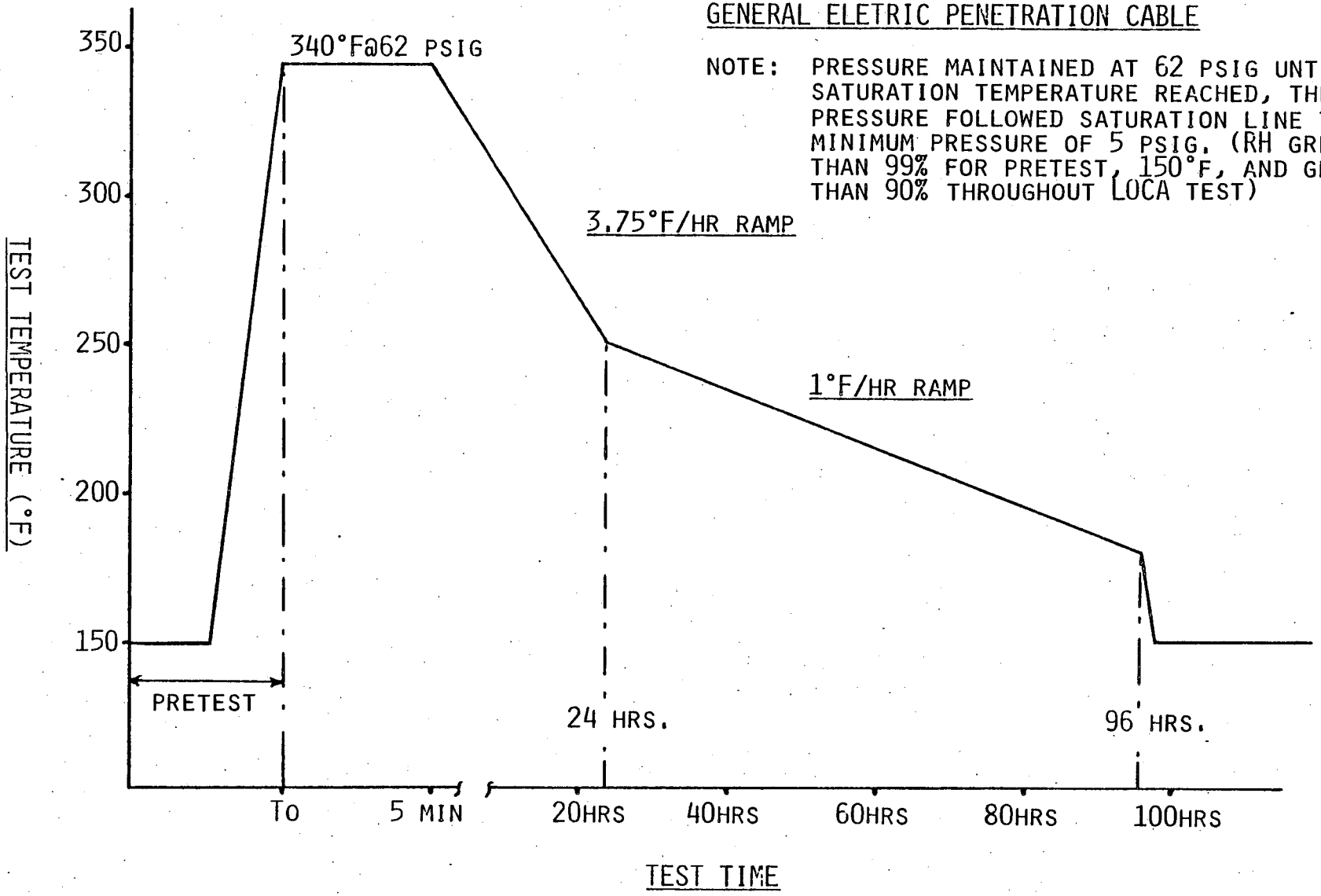
GENERAL ELECTRIC CONTAINMENT PENETRATIONS

NOTE: 100% RH THROUGHOUT TEST SEQUENCE



GENERAL ELETRIC PENETRATION CABLE

NOTE: PRESSURE MAINTAINED AT 62 PSIG UNTIL SATURATION TEMPERATURE REACHED, THEN PRESSURE FOLLOWED SATURATION LINE TO MINIMUM PRESSURE OF 5 PSIG. (RH GREATER THAN 99% FOR PRETEST, 150°F, AND GREATER THAN 90% THROUGHOUT LOCA TEST)



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Field Splices MANUFACTURER: Raychem MODEL No.: WCSF-N FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA, Demo.: NA LOCATION: Containment FLOOD LEVEL ELEV.: 922' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	30 hours	30 days	[5]	[2]	Simultaneous Testing	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.1)	(See Attached Test Profile)	[3]	[2]	Simultaneous Testing	None
	PRESSURE (PSIG)			[1]	[2]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[6]	[2]	Simultaneous Testing	None
	CHEMICAL SPRAY	Demineralized Water	H_3BO_3 + NaOH pH: 9.5-11.0	[3]	[2]	Simultaneous Testing	None
	RADIATION (RADS)	3.3×10^7 gamma 2.0×10^8 beta	2×10^8 gamma	[4] [7]	[2] [8]	Simultaneous Testing Engineering Judgement (See Note 2)	None
	AGING	Not Required	> 40 years	(See Note 1)	[2] [9] [8]	Simultaneous Testing and Engineering Analysis (See Note 3)	None
	SUBMERGENCE	NA	Submerged	NA	[2]	Sequential Testing	None

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. Monticello FSAR Figure 5-2-14.
2. FIRL Report F-C4033-3, January, 1975.
3. SER Prepared by NRR EQ Branch for Monticello, June 3, 1981.

(Continued on Next Page)

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. Currently available information does not provide sufficient data to evaluate Beta Radiation shielding for the splice. Actual Beta Radiation shielding mechanisms are currently being investigated. Engineering Judgement based on experience with similar insulation materials indicates these splices are qualified for the conservatively assumed beta exposure.

3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.

REFERENCES

4. Monticello FSAR Table 14-10-4.

5. Monticello FSAR Figure 5-2-15.

6. Monticello FSAR Section 5.2.3.2.

7. Assumed conservative surface dose.

8. EDS File #54, "Raychem Splices," Monticello, Job #0910-001-451.

9. "Heat Aging Study of WCSF Compount," Raychem Engineering Division Report Number 2001, August 10, 1978.

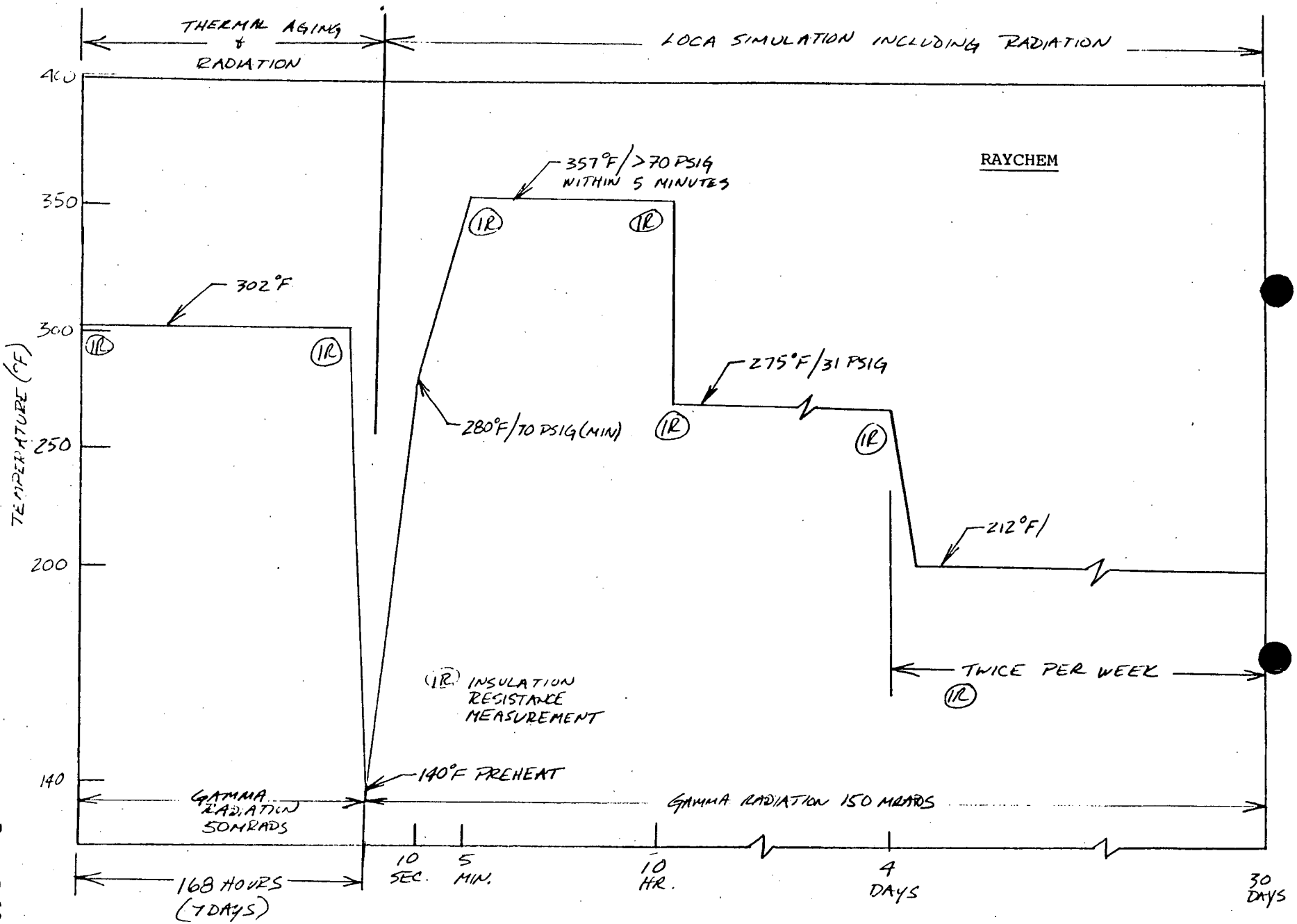
COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81



TEMPERATURE/PRESSURE PROFILE FOR SIMULATION OF LOSS-OF-COOLANT ACCIDENT ENVIRONMENT.

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Terminal Board MANUFACTURER: General Electric MODEL No.: CR 151 D3 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Various FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.14)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	5.0×10^6	[2]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	40 years	(See Note 1)	[3]	Engineering Analysis (See Note 4)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. 40, Rev. 2, "GE Terminal Board," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The literature search indicated that none of these materials are susceptible to significant thermal degradation at the specified normal operating temperature.	These terminal blocks are to be either qualified by testing or replaced by fully qualified terminal blocks. JUSTIFICATION FOR CONTINUED OPERATION These terminal blocks are installed in protective enclosures. Engineering judgement, based on the method of installation, relative lack of severity of the accident environment, and testing of similar equipment indicates that these terminal boards will function as needed in the postulated accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: EA 080-21100 FUNCTION: Position Indication SERVICE: CV-7956 ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	180 days		(See Note 4)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)	194	[1]	[3]	Engineering Analysis (See Note 5)	None
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Engineering Analysis (See Note 6)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	2×10^6	[2]		Engineering Analysis (See Note 3)	None
	AGING	Not Required	<40 years	(See Note 1)		Engineering Analysis (See Note 2)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. EDS File No. EER-25, "NAMCO Limit Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 5. This switch designated to withstand 90°C (194°F). The maximum accident temperature is 212°F and lasts only a few seconds. Thermal capacitance of the switch housing is sufficient to protect internal components from this spike. Therefore, this switch is temperature qualified. 6. Qualification based on the ability of this unit to withstand requirements of NEMA std. 1, 4, and 13. Engineering judgement indicates this switch will function for the humidity condition of 100%.	Adequate documentation does not exist for complete qualification. This equipment will be replaced with a qualified unit. JUSTIFICATION FOR CONTINUED OPERATION Justification for continued operation is based on operating experience, data on construction materials and similarity to qualified installed units. Engineering judgement indicates this equipment will function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.
PLANT: Monticello Nuclear Plant
DOCKET No.: 50-263
REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: D2400XST FUNCTION: Position Indication SERVICE: CV-7440 ACCURACY: Spec.: NA, Demo.: NA LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	OPERATING TIME	180 days		(See Note 4)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)	194	[1]	[3]	Engineering Analysis (See Note 5)	None
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Engineering Analysis (See Note 6)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	2×10^6	[2]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. EDS File No. EER-25, "NAMCO Limit Switch", Monticello Nuclear Plant, EDS Job No. 0910-001-451

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 5. This switch designated to withstand 90°C (194°F). The maximum accident temperature is 212°F and lasts only a few seconds. Thermal capacitance of the switch housing is sufficient to protect internal components from this spike. Therefore, this switch is temperature qualified. 6. Qualification based on the ability of this unit to withstand requirements of NEMA std. 1, 4, and 13. Engineering judgement indicates this switch will function for the humidity condition of 100%.	Adequate documentation does not exist for complete qualification. This equipment will be replaced with a qualified unit. JUSTIFICATION FOR CONTINUED OPERATION Justification for continued operation is based on operating experience, data on construction materials and similarity to qualified installed units. Engineering judgement indicates this equipment will function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: EA 170-14100 FUNCTION: Position Indication SERVICE: CV-7440 ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Components	OPERATING TIME	180 days		(See Note 4)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 3)	194	[1]	[3]	Engineering Analysis (See Note 5)	None
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Engineering Analysis (See Note 6)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	2×10^6	[2]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	<40 years	(See Note 1)	[3]	Engineering Analysis (See Note 2)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. EDS File No. EER-25, "NAMCO Limit Switch", "Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period. 5. This switch designated to withstand 90°C (194°F). The maximum accident temperature is 212°F and lasts only a few seconds. Thermal capacitance of the switch housing is sufficient to protect internal components from this spike. Therefore, this switch is temperature qualified. 6. Qualification based on the ability of this unit to withstand requirements of NEMA std. 1, 4, and 13. Engineering judgement indicates this switch will function for the humidity condition of 100%.	Adequate documentation does not exist for complete qualification. This equipment will be replaced with a qualified unit. JUSTIFICATION FOR CONTINUED OPERATION Justification for continued operation is based on operating experience data on construction materials and similarity to qualified installed units. Engineering judgement indicates this equipment will function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: D1200G FUNCTION: Position Indication SERVICE: CV3305 to 3314 (incl) ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	180 Days		(See Note 4)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B. 3)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	2×10^6	[2]	[3]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 years	(See Note 1)	[3]	Engineering Analysis (See Note 2)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. EDS File No. EER-25, "NAMCO Limit Switch", Monticello Nuclear Plant, EDS Job No. 0910-001-451.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	Adequate documentation does not exist for complete qualification. This equipment will be replaced with a qualified unit. JUSTIFICATION FOR CONTINUED OPERATION Justification for continued operation is based on operating experience data on construction materials and similarity to qualified installed units. Engineering judgement indicates this equipment will function during the postulated accident.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: SL5-C3L FUNCTION: Position Indication SERVICE: CV-2384 ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes___ no ___	OPERATING TIME	180 days	> 200 days	See Note 4	[3,4]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)	See Attached Profile	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		See Attached Profile		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	2×10^6	[2]	[4]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	> 40 years	(See Note 1)	[3,4]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. BWR Owners' Group Equipment Qualification Summary, Report No. QSR-014-11-01 and QSR-014-A-02.

(Continued on Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	4. EDS File No. EER-25, "NAMCO Limit Switch", Monticello Nuclear Plant, EDS Job No. 0910-001-451.

COMPONENT EVALUATION WORKSHEET

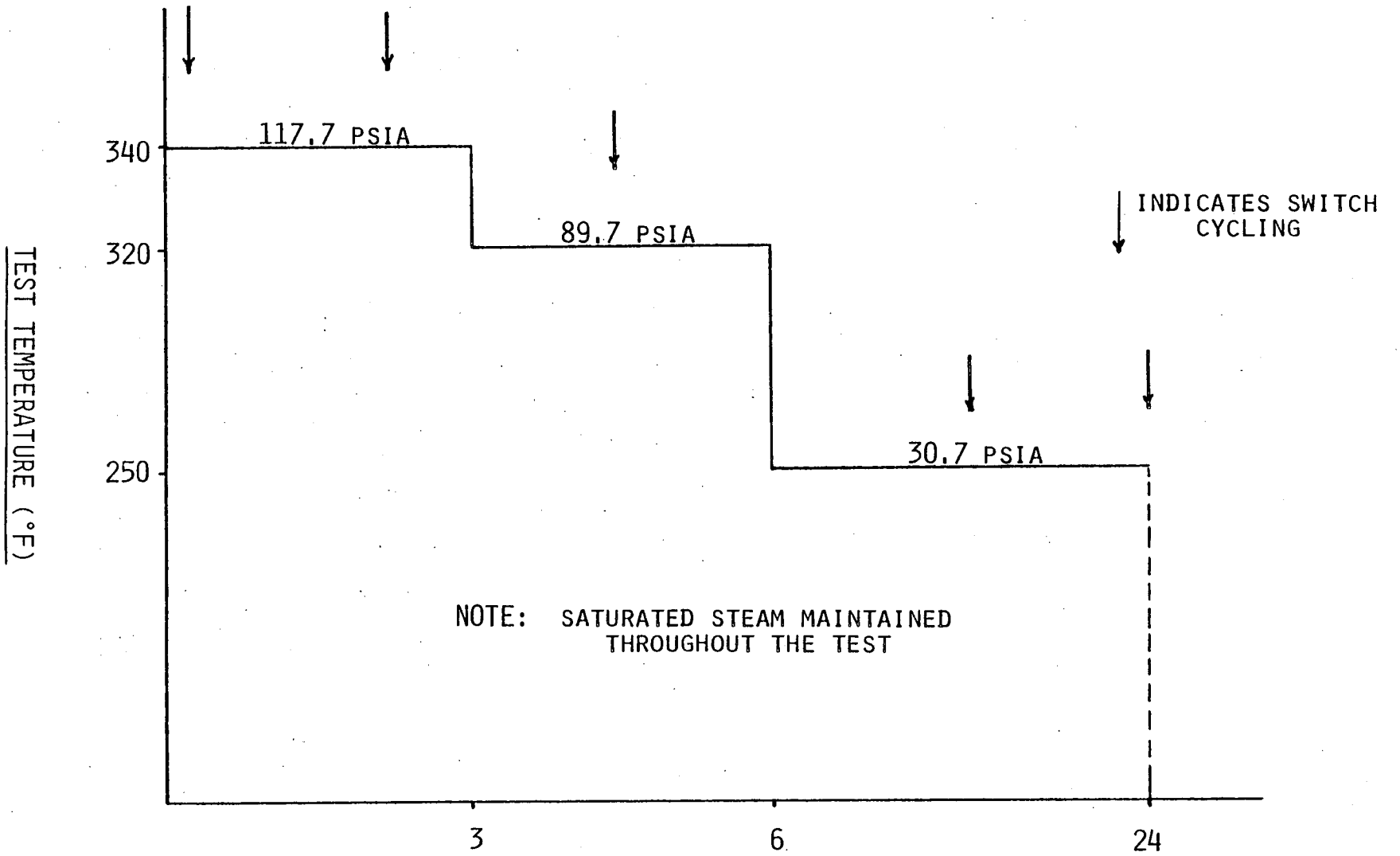
UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

NAMCO LIMIT SWITCH - SL SERIES



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Limit Switch MANUFACTURER: NAMCO MODEL No.: SL3-B2W FUNCTION: Position Indication SERVICE: AO2-86(A-D) ACCURACY: Spec.: NA, Demo.: NA LOCATION: Steam Tunnel FLOOD LEVEL ELEV.: 935' ABOVE FLOOD LEVEL: yes x, no ___	OPERATING TIME	180 days	> 200 days	See Note 4	[3,4]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.7)	(See Attached Profile)	[1]	[3]	Simultaneous Testing	None
	PRESSURE (PSIG)		(See Attached Profile)		[3]	Simultaneous Testing	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Simultaneous Testing	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	2×10^6	[2]	[4]	Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 years	(See Note 1)	[3,4]	Simultaneous Testing & Engineering Analysis (See Note 2)	None
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR, Table 14-10-4.
3. BWR Owners' Group Equipment Qualification Summary, Report No. QSR-014-A-01 & QSR-014-A-02.

(Continued on Next Page)

NOTES	NOTES	REFERENCES (Continued)
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the required operating time. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	4. EDS File No. EER-25, "NAMCO Limit Switch", Monticello Nuclear Plant, EDS Job No. 0910-001-451.

COMPONENT EVALUATION WORKSHEET

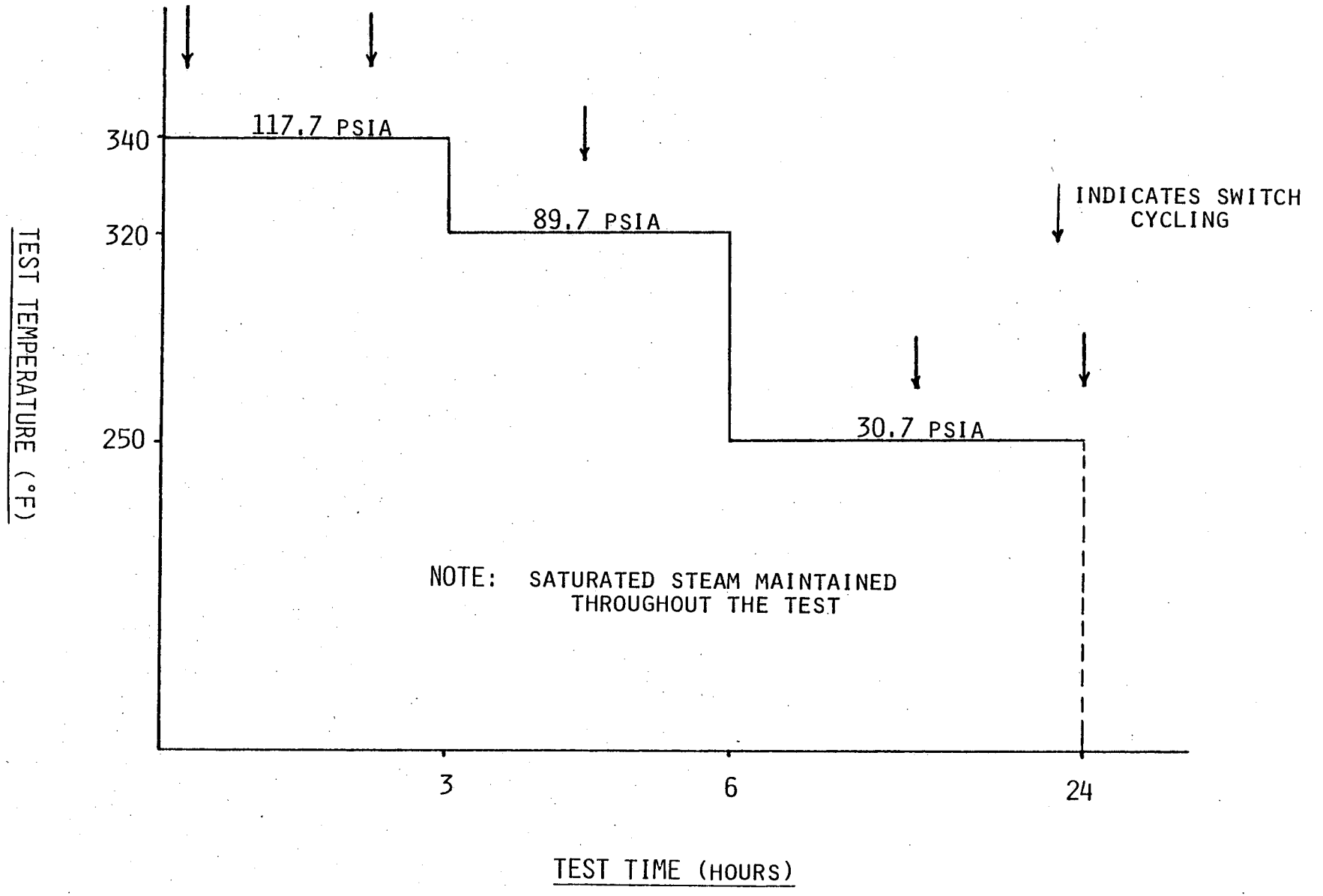
UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

NAMCO LIMIT SWITCH - SL SERIES



EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: See Below COMPONENT: Limit Switch MANUFACTURER: Micro Switch MODEL No.: BZE6-2RN FUNCTION: Position Indication SERVICE: AO2451 (A&B), AO2561 (A&B) ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	180 Days	>180 Days	(See Note 2)	[3]	Engineering Analysis (See Note 7)	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.3)	>214°F	[1]	[3]	Engineering Analysis (See Note 6)	None
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[3]	Engineering Analysis (See Note 5)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	1.0×10^7	[2]	[3,4]	Sequential Testing & Engineering Analysis (See Note 4)	None
	AGING	Not Required	>40 Years	(See Note 1)	[3]	Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. 29, Rev. 2, "Micro Switch Limit Switch," Monticello Nuclear Plant, EDS Job No. 0910-001-451.
4. Micro Switch Engineering Report 15027-1, "Permanent Effects of Gamma Radition on Various Switches."

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.

3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.

NOTES

4. Reference [4] indicated the BZ switching block internal to the BZE6-2RN limit switch was not susceptible to radiation damage from a gamma dose less than 1.0×10^7 rads. For the remaining components of this switch, all radition susceptible materials were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this switch.

5. This limit switch is a sealed unit designed to provide protection against splashing water and will also withstand a limited steam exposure. Engineering judgement indicates this switch will function for the humidity condition of 100%.

6. The maximum postulated accident at this location causes the temperature to rise to 214°F then quickly fall to below 140°F. Because this switch has a thick cast aluminum housing, the temperature sensitive materials internal to the switch will be effectively shielded from temperature spike.

NOTES

7. The operating time condition was evaluated by using the Arrhenius method (see note 3). Margin was included by using the highly-conservative assumption that the temperature remains at 140°F for the entire 180 day post accident period.

CORRECTIVE ACTION

This limit Switch will be tested or replaced.

JUSTIFICATION FOR CONTINUED OPERATION

Engineering judgement, based on discussions with the vendor, qualifications of similar switches, and the short duration of the harsh portion of the postulated accident indicates that this switch will be able to perform its intended function as needed.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: See Below COMPONENT: Limit Switch MANUFACTURER: Micro Switch MODEL No.: BZE6-2RQ2 FUNCTION: Position Indication SERVICE: AO - 2377, 2378, 2379, 2380, 2381, 2383, 2386, 2387, 2896 ACCURACY: Spec.: NA Demo.: NA LOCATION: Torus Compartment	OPERATING TIME	180 Days	>180 Days	(See Note 2)	[3]	Engineering Analysis (See Note 7)	None
	TEMPERATURE (^{O}F)	(See Environmental Profile B.3)	>214°F	[1]	[3]	Engineering Analysis (See Note 6)	None
	PRESSURE (PSIG)		>17 PSIA		[3]	Engineering Analysis (See Note 5)	None
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5	3×10^6	[2]	[3,4]	Sequential Testing & Engineering Analysis (See Note 4)	None
	AGING	Not Required	>40 years	(See Note 1)	[3]	Engineering Analysis (See Note 3)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.
3. EDS File No. 29, Rev. 2, "Micro Switch Limit Switch," Monticello Nuclear Plant, EDS Job #0910-001-451.
4. Micro Switch Engineering Report 15027-1, "Permanent Effects of Gamma Radiation on Various Switches."

NOTES

1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B.

2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.

3. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to show that none of these materials are susceptible to significant thermal degradation at the specification temperature.

NOTES

4. Reference [4] indicated the BZ switching block internal to the BZE6-2RQ2 limit switch was not susceptible to radiation damage from a gamma dose less than 1.0×10^7 rads. For the remaining components of this switch, all radiation susceptible materials were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this switch.

5. Since this switch is not a sealed unit, the pressure spike will not create a pressure differential accross the switch casing. Because the pressure spike is of such a small magnitude and of such a short duration, the material properties will not be affected and the functioning of the switch will not be impaired.

6. The maximum postulated accident at this location causes the temperature to rise to 214°F then quickly fall to below 140°F. Because this switch has a thick cast aluminum housing, the temperature sensitive materials internal to the switch will be effectively shielded from the temperature spike.

NOTES

7. The operating time condition was evaluated by using the Arrhenius method (See Note 3). Margin was included by using the highly-conservative assumption that the temperature remains at 140°F for the entire 180 day post-accident period.

CORRECTIVE ACTION

This limit switch will be tested or replaced.

JUSTIFICATION FOR CONTINUED OPERATION

Engineering judgement, based on discussions with the vendor, qualifications of similar switches, and the short duration of the harsh portion of the postulated accident indicates that this switch will be able to perform its intended function as needed.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: Components PLANT I.D. No.: NA COMPONENT: Banana Plug MANUFACTURER: E. F. Johnson MODEL No.: 108-0302-001 FUNCTION: Electrical Connection for Fenwall Temperature Switches SERVICE: (See Note 9) ACCURACY: Spec.: NA Demo.: NA LOCATION: Various Outside Containment	OPERATING TIME	10 min.	1.5 hours	(See Note 4)	[2]	Engineering Analysis (See Note 7)	None
	TEMPERATURE (^{o}F)	(See Environmental Profile B.7)	315°F	[1]	[2,3]	Separate Testing and Engineering Analysis (See Note 5)	None
	PRESSURE (PSIG)		21.7 psia		[2]	Engineering Analysis (See Note 8)	None
	RELATIVE HUMIDITY (%)	100%	100%	[1]	[2]	Engineering Analysis (See Note 6)	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	1.4×10^4	1×10^6	[4]	[2,3]	Separate Testing and Engineering Analysis (See Note 3)	None
	AGING	Not Required	< 40 years	(See Note 1)	[2]	Separate Testing and Engineering Analysis (See Note 2)	None
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. EDS File No. SER-17, "E.F. Johnson - Banana Plugs", Monticello Nuclear Plant,EDS Job No.0910-001-451.
3. Dupont Zytel Design Handbook.
4. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	NOTES	CORRECTIVE ACTION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. All materials in this equipment susceptible to thermal aging were identified. A literature search was performed to identify the thermal properties of these materials. The Arrhenius method was then used in conjunction with these properties to extrapolate existing test results to encompass the specification temperature. 3. All radiation susceptible materials in this equipment were identified. A literature search was then performed and the results indicated that all identified materials have radiation thresholds greater than the radiation dose specified for this equipment.	4. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 5. All materials in this equipment susceptible to temperature degradation were identified. A literature search was performed and indicated that this equipment will withstand the specification temperature. 6. Qualification based on analysis of the construction and location of the connectors compared to possible effects of high relative humidity. 7. Qualification based on Engineering Analysis comparing components and materials of banana plugs to those of the temperature switches they support. 8. Comparison based on comparison of worst case accident pressure profile to the design of the connectors and their location. Pressure transients of this magnitude will not affect the operation of these connectors.	None. JUSTIFICATION FOR CONTINUED OPERATION These plugs are considered completely qualified based on the analysis presented in Reference 2. The short operating time; rugged, simple construction; and added protection of a junction box housing provide adequate justification for continuous operation in the postulated accident environment. NOTES (Continued) 9. Service: TS 2-121(A-D), -122(A-D), -123(A-D), -124(A-D); TS 13-79(A-D), 13-80(A-D), 13-81(A-D), 13-82(A-D); TS 23-101(A-D), -102(A-D), -103(A-D), -104(A-D).

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: 250 VDC PLANT I.D. No.: MCC D31205 COMPONENT: Motor Control Center MANUFACTURER: General Electric MODEL No.: IC-7700 FUNCTION: NA SERVICE: HPCI Steam Line Isolation Valve Starter ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room EL 896'-3"	OPERATING TIME	8 hours		[2]			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.2)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes ___ no x	SUBMERGENCE	NA		(See Note 2)			None

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. "Postulated Pipe Failures Outside Containment," Monticello Nuclear Plant, Bechtel Job No. 10040-016, August, 1973.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B, 2. The flood level of 900' in this location results from a feed water line break in the steam chase. Reference [3] concluded that this motor control center is not required to operate for this accident condition.	This equipment will be relocated to a mild environment.	Engineering judgement, based on testing of similar equipment, discussion with the vendor, and on a conservative definition of the accident environment indicates these motor control centers will perform their required function during the accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: 250 VDC PLANT I.D. No.: MCC D312 COMPONENT: Motor Control Center MANUFACTURER: General Electric MODEL No.: IC-7700 FUNCTION: NA SERVICE: HPCI System ACCURACY: Spec.: NA, Demo.: NA LOCATION: HPCI Room El 896'-3"	OPERATING TIME	8 hours		[2]			Yes
	TEMPERATURE ($^{\circ}$F)	(See Environmental Profile B.6)	NA	[1]	(See Note 3)	NA	None
	PRESSURE (PSIG)		NA		(See Note 3)	NA	None
	RELATIVE HUMIDITY (%)	100%	NA	[1]	(See Note 3)	NA	None
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes ___ no X	SUBMERGENCE	NA		(See Note 2)			None

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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REVISION: 1 DATE: 11/01/81

REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.
3. "Postulated Pipe Failures Outside Containment," Monticello Nuclear Plant, Bechtel Job No. 10040-016, August, 1973.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FRO CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. The flood level of 900' in this location results from a feed water line break in the steam chase. Reference [3] concluded that this motor control center is not required to operate for this accident condition. 3. Accident Profile B.6 indicates the maximum accident temperature and pressure transient at this location is +2°F and +0.4 psig. In addition, this location is isolated from the postulated pipe break by a tank room which will prevent the relative humidity condition from being significantly affected. Thus, the postulated maximum accident for this location is considered non-harsh and qualification for the temperature, pressure and relative humidity parameters is not required.	This equipment will be shielded, relocated, or tested.	Engineering judgement, based on testing of similar equipment, discussion with the vendor, and on a conservative definition of the accident environment indicates these motor control centers will perform their required function during the accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: 250 VDC PLANT I.D. No.: MCC D31104 COMPONENT: Motor Control Center MANUFACTURER: General Electric MODEL No.: IC-7700 FUNCTION: NA SERVICE: RCIC Steam Line Isolation Valve Starter ACCURACY: Spec.: NA Demo.: NA LOCATION: RCIC Room El 896'-3"	OPERATING TIME	8 hours		[2]			Yes
	TEMPERATURE (^{o}F)	(See Environmental Profile B.5)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	NA		(See Note 2)			None
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Section 14-10.1.3.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In the FSAR, this equipment was not assumed to function to mitigate a LOCA. Therefore, qualification to LOCA induced environments (such as radiation) is not required.	This equipment will be relocated to a mild environment.	Engineering judgement, based on testing of similar equipment, discussion with the vendor, and on a conservative definition of the accident environment indicates these motor control centers will perform their required function during the accident environment.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

DOCKET No.: 50-263

REVISION: 1 DATE: 11/01/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: 480 VAC Station Aux. PLANT I.D. No.: MCC 142, MCC 143 (A, B) COMPONENT: Motor Control Center MANUFACTURER: General Electric MODEL No.: DA-7700 FUNCTION: NA SERVICE: NA ACCURACY: Spec.: NA Demo.: NA LOCATION: Turbine Bldg. El 931'	OPERATING TIME	8 hours		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.14)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	Not Required		(See Note 3)			None
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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REFERENCES: 1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses. 3. This equipment will not experience a harsh post accident radiation environment.	This equipment will either be tested or replaced.	Engineering judgement, based on testing of similar equipment, discussion with the vendor, and on a conservative definition of the accident environment indicates these motor control centers will perform their required function during the accident environment.

COMPONENT EVALUATION WORKSHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HVAC PLANT I.D. No.: V-AC-4, V-AC-5 COMPONENT: Fan Motor MANUFACTURER: US Motors MODEL No.: S/N 4152940, S/N 4152941 FUNCTION: Fan Motor SERVICE: RHR Room Cooler ACCURACY: Spec.: NA Demo.: NA LOCATION: RHR Room	OPERATING TIME	180 days		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.4)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.9×10^5		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
FLOOD LEVEL ELEV.: NA ABOVE FLOOD LEVEL: yes ___ no ___	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

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REFERENCES:
1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. In FSAR Section 14-10.1.3, the post-accident cooling capability is evaluated for 180 days. This equipment could be required to operate for that period.	These motors will be replaced.	Continued Operation is justified based on operating experience, discussions with the vendor and similarity to qualified units. Engineering judgement indicates this equipment will perform its required safety function during postulated accident conditions.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REFERENCES		QUALIFICATION METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL.		
SYSTEM: HVAC PLANT I.D. No.: V-AC-8(A,B) COMPONENT: Motor MANUFACTURER: US Motors MODEL No.: F-1323-02-268 FUNCTION: Fan Motor SERVICE: HPCI Room Cooler ACCURACY: Spec.: NA Demo.: NA LOCATION: HPCI Room FLOOD LEVEL ELEV.: 900' ABOVE FLOOD LEVEL: yes x no ___	OPERATING TIME	8 hours		(See Note 2)			Yes
	TEMPERATURE (^{O}F)	(See Environmental Profile B.2)		[1]			Yes
	PRESSURE (PSIG)						Yes
	RELATIVE HUMIDITY (%)	100%		[1]			Yes
	CHEMICAL SPRAY	NA	NA	NA	NA	NA	NA
	RADIATION (RADS)	7.5×10^4		[2]			Yes
	AGING	Not Required		(See Note 1)			Yes
	SUBMERGENCE	NA	NA	NA	NA	NA	NA

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COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

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REFERENCES:

1. "Environmental Effects Due to Pipe Rupture," Monticello Nuclear Plant, EDS Report No. 01-0910-1137, Rev. 0, December 1980.
2. Monticello Nuclear Plant FSAR Table 14-10-4.

NOTES	CORRECTIVE ACTION	JUSTIFICATION FOR CONTINUED OPERATION
1. In the FSAR, aging was not considered an environmental parameter. The effect of aging on this equipment has been evaluated as required by Action Item 4 of IE Bulletin 79-01B. 2. No specific operating time requirement is available for this equipment. The operating time specification was derived from LOCA and HELB analyses.	These motors will be replaced.	Continued Operation is justified based on operating experience, discussions with the vendor and similarity to qualified units. Engineering judgement indicates this equipment will perform its required safety function during postulated accident conditions.

COMPONENT EVALUATION WORKSHEET

UTILITY: Northern States Power Co.

PLANT: Monticello Nuclear Plant

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