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Director of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555



Prairie Island Nuclear Generating Plant  
Docket No 50-282 License No. DPR-42  
Docket N 50-306 License No. DPR-60

Response to IE Bulletin 79-01B Safety Evaluation Report

This letter transmits our response to the Safety Evaluation Report (SER) for Environmental Qualification of Safety-Related Electrical Equipment at the Prairie Island facility. As requested in the SER dated May 12, 1981, this represents an item-by-item re-evaluation of all discrepancies noted. This submittal includes 1) a detailed response to the NRC evaluation; 2) updated summary sheets; 3) summary sheets for TMI action plan equipment required by Supplement 3 to Bulletin 79-01B dated October 27, 1980; 4) proposed corrective actions for outstanding items; and 5) justification for continued operation.

The attached Appendix A contains the updated and TMI action plan equipment summary sheets. The updates address items noted in the SER as well as our continuing review of the environmental qualification effort.

The following topics deal with specific issues addressed by the NRC evaluation, proposed corrective action and justifications for continued operation.

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## Specific Issues Addressed In SER

### Submergence

The maximum containment flood level is to elevation 705 ft. 9 in. based on a LOCA and to approximately 700 ft. based on an HELB. The following is a review of all components specified as being below flood level.

Letdown Isolation Valves, Open Position Indication (CV-31325, CV-31326, CV-31327, CV-31347, CV-31348 and CV-31349) - Environmentally qualified limit switches and electrical conduit seals have been installed on control valves associated with Unit 2. Unit 1 work will be completed during the September/October 1981 outage. To our knowledge, submergence tests have not been performed on these limit switches. The location of these valves is such that containment isolation will have occurred prior to having reached flood level. LOCA procedures do not require using letdown during the mitigation of the accident; therefore there is no need to open the valves after containment isolation is reset. Additionally, the other train of letdown containment isolation provides control room status indication, is outside of containment and in a mild environment. We will continue investigating these items for submergence qualification, but have concluded that failure will not adversely affect any other safety function or mislead the operator.

Accumulator Pressure Transmitters, (PT-21164, PT-21165, PT-21166, PT-21167, PT-21168, PT-21169, PT-21170, PT-21171) - These transmitters are located halfway between the floor level and the maximum flood level. In order for the transmitters to be submerged following a LOCA, it will be necessary to empty the reactor coolant system, accumulators, boric acid tank and the refueling water storage tank. Since the accumulators will have been emptied, the need for indication will no longer exist. Failure due to submergence will not adversely affect any safety function or mislead the operator. These transmitters are not environmentally qualified. When replaced with qualified units, they will be relocated above flood level.

Containment Sump Transmitters (LT-16796, LT-16811, LT-16909, LT-16910) - These transmitters will be replaced with environmentally qualified narrow range and wide range containment water level transmitters in accordance with the requirements of NUREG-0737, 11.F.1. They will be installed by January 1, 1982, and be qualified for the required service condition, including submergence.

Accumulator Isolation Valves (MV-32071, MV-32072, MV-32174, MV-32175) - The limit switches associated with these valves are located below flood level. The breakers, however for these valves are locked open to prevent inadvertent closure. Since the valves can not change position, failure of the limit switches due to submergence will not mislead the operator or adversely affect any safety function.



Cold Leg Safety Injection Valves (MV-32171, MV-32172, MV-32068, MV-32070) - As with the accumulator valves, breakers are locked open. Failure of limit switches due to submergence will not mislead the operator or adversely affect any safety function.

Ancillary Components (Control and Instrument Cable, Terminal Strips and GE Epoxy Varnish) - These components are associated with the instruments discussed above and do not present any unaddressed submergence questions.

Flooding in the Auxiliary Building is discussed in the FSAR Section I.4.4.4. The FSAR evaluated two systems, main feedwater and fire protection, located in the auxiliary building for flooding potential since they have access to large water volumes and/or large flow rates. Conclusions were as follows:

The total volume of water in the feedwater system would not flood the Class I areas of the Auxiliary Building to a level sufficient to endanger any equipment required for safe reactor shutdown.

The maximum (4000 gpm) discharge from a ruptured fire protection line would raise the water level in various building sumps at a rate of .13 in/min permitting an operator sufficient time to isolate the broken line before flood damage occurred.

In addition no potential equipment damage was found due to water cascading between floors.

These findings were recently reviewed for applicability by Fluor Power Services, (Report on Equipment Environments Outside Containment Activity 000 288).

#### Chemical Spray

The chemical concentration of chemical spray as referenced in FSAR Section 6.4 is 2100 ppm boric acid concentration from the RWST with caustic addition of 30 w/% NaOH to assure a pH of 10.5 in the spray and a pH greater than 7 in the recirculation water. The chemical concentration specification in the November, 1980, submittal was in error. The attached component evaluation sheets reflect the correct specification. A few components have been identified for which the available qualification information does not completely envelope the specification. Resolution of these items will be included in a supplemental report by January 1, 1982.

#### Display Instrumentation

The SER requested a complete list of all display instrumentation mentioned in the LOCA and HELB emergency procedures. Table I contains this listing for current procedures. Each instrument listed

has been identified as 1) located in a harsh environment and summary sheets provided; 2) not located in a harsh environment; 3) located in a harsh environment and not considered safety related. For each instrument identified as (3) above, justification is provided for not considering it safety related and for not misleading the operator or adversely affecting the mitigation of the consequence of the accident.

#### Radiation (Inside and Outside Containment)

The SER response has been revised to include radiation source terms specified in NUREG-0737, II.B.2. NUREG-0737 specifies source terms to be used in conjunction with Commission Order and Memorandum dated May 23, 1980 (LLI-80-21) for both inside and outside containment. The one-year integrated dose at containment center line is  $4.87 \times 10^7$  rads. Radiation doses specified on the component data sheets include the normal dose and reflect the specified equipment operating times. Beta affects are also addressed for all in-containment equipment.

#### Service Conditions Inside Containment

For the purposes of this evaluation steam saturation temperature corresponding to the total building pressure during a double-ended pipe rupture LOCA is used. Peak temperature is 289.8°F corresponding to 42.8 psig as obtained from FSAR Figure 14.3-23a. Specific curves are provided for each component located in containment. The containment spray system is not subject to a disabling single component failure.

#### Service Conditions Outside Containment

Calculations have been performed to determine the environmental service conditions for all areas outside of containment that are subject to a potential HELB. The environmental conditions which result from the rupture were calculated using the computer program Contempt 4/Mod 2. Service condition profiles are provided with the evaluation sheets for each component located in an area subject to a potential HELB. The calculations are included in our central file on environmental qualification.

#### Aging

Our November 1, 1980, letter indicated that this phase of our response was outstanding and that review was in progress. The component evaluation sheets contained herein now reflect the evaluation of existing equipment in accordance with Section 7 of the DOR Guidelines. Aging evaluation methods consisted of

identifying all age susceptible materials and establishing a qualified life based on current test and material data using the Arrhenius technique. In cases where insufficient material data is available (i.e., Barton Model 386 Transmitters for pressurizer level) the equipment will be replaced.

We are also establishing a comprehensive preventative maintenance and surveillance program to detect age related degradation. The objectives of this effort are to:

1. Establish procedures to identify and detail all maintenance, inspection and replacement schedules necessary to insure the qualification of safety related equipment.
2. Supplement existing procedures to insure that an ongoing program is established to review surveillance and maintenance records for identification of potential age-related degradation.

#### Summary of Proposed Corrective Actions for Outstanding Items and Justification for Continued Operation

The SER did not identify deficiencies the NRC Staff felt required immediate corrective action. We have addressed the deficiencies identified by the SER and have concluded, as in NSP's response to the Staff's Equipment Evaluation Report dated April 1, 1981, that interim operation will not endanger public health and safety.

Information presented by the NRC Staff during the July 7 through 10, 1981 Meetings in Bethesda indicated that corrective action and justification for continued operation should be presented on an item by item basis. Corrective action, as indicated on the updated summary sheets, and justification for continued operation for items not specifically addressed elsewhere is summarized as follows:

Terminal Blocks and Epoxy Varnish - Qualification testing is scheduled to be completed in late 1981 to early 1982. Preliminary LOCA and radiation tests to  $5 \times 10^7$  Rads have given us confidence that the qualification test will be successful.

Motor Control Centers - We are actively investigating replacement, relocation and qualification of motor control centers (MCC's). The MCC's are required for 1) operation of safeguards chiller units following a HELB and 2) closure of the steam supply motor isolation valves to the turbine driven auxiliary feedwater (TDAFW) pumps in the event of a break in the steam supply line. Failure of the safeguards chiller units presents only a slow and gradual heatup in affected areas. This can be easily identified and supplemented with portable ventilation equipment. In the case of the TDAFW pump steam line break, emergency procedures have been revised to address this accident.

Foxboro Letter (3/21/81) Potential Deficiency Affecting Foxboro Transmitters - IE Circular 31-06 identified potential deficiencies relating to Teflon insulation and a capacitor used in Foxboro transmitters. This affects our steam pressure, feed-water flow and pressurizer pressure transmitters. Preliminary inspection of some units indicates that only the pressurizer pressure transmitters contain the subject capacitor. A detailed inspection of all units will be made during the next refueling outages. Replacement circuit boards have been ordered and will be installed as outage schedules permit. Since the potential failure mode was identified as a gradual decrease in output current, interim operation will not endanger public health and safety.

SI Flow Transmitters - These instruments are exposed to accident radiation. Since qualification information is not available, the transmitters will be relocated. In the interim it is felt that comparable radiation qualification of similar models by the same manufacturer gives confidence that the equipment will work in accident environments.

Control Valve Limit Switches - We have completed the replacement of solenoid valves with qualified units as identified on the summary sheets. Not all limit switches associated with these control valves have been replaced, however, most of them are located on Unit 1 and the work will be completed during the September/October 1981 outage. Additionally, some DC sources for these valves must be relocated to panels outside of containment. We have reviewed the function of the outstanding work and completion schedule and concluded that interim operation will not endanger public health and safety.

Wide Range RCS Pressure and Incore Thermocouple Junction Boxes - These instruments provide control room indication and inputs to subcooling margin instrumentation. Operating procedures and subcooling programs address interim operation using qualified inputs.

Steam Generator Level - Qualified wide range level transmitters will be installed by January 1, 1982. In the interim other qualified and diverse instrumentation is available to the operator to insure an adequate heat sink.

Containment Level Indication - Qualified narrow and wide range instrumentation will be installed by January 1, 1982. Present units have some environmental qualification documentation available and other diverse instruments are available to the operator to evaluate containment leakage. Interim operation will not endanger public health and safety.



As indicated in this response, we have several documentation studies, and qualification programs in progress, and are continuing to review and update both the summary sheets and the central file. Supplement 3 to 79-01B imposed additional reporting requirements for TMI Action Plan Equipment. A supplemental report will be provided by January 1, 1982 to address these items.

In summary, NSP is striving to resolve all environmental qualification issues and is proceeding on an expedited schedule to provide adequate documentation or replace equipment. We have reviewed all outstanding items and concluded that interim operation will not endanger public health and safety.

*L.O. Mayer*

L.O. Mayer, Manager  
Nuclear Support Services

Attachments: Table 1 - Display Instrumentation  
Appendix A - Component Summary Sheets

CC: J G Keppler  
NRC Resident Inspector  
G Charnoff

TABLE 1

DISPLAY INSTRUMENTATION

TABLE I  
DISPLAY INSTRUMENTATION  
LOCA & HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided		
				Not In Harsh Environment		
		In Cont	Out Cont			In Harsh Environment Not Considered Safety-Related
						Comments
Pressurizer Pressure	21146, 21147, 21148, 21149 (21154, 21155, 21156, 21157)	X		X		
Pressurizer Level	24041, 24042, 24043, (24046, 24047, 24048)	X		X		
Containment Pressure	21186, 21187, 21188, 21189, 21190, 21191, (21192, 21193, 21194, 21195, 21196, 21197)		X		X	Required for LOCA/HELB in containment. Installing qualified wide range in- strument by 1/1/82 for TMI Lessons Learned. Failure of instruments due to harsh environment in auxi- liary building will not mislead the operator nor will it adversely affect the mitigation of the accident.
Containment Temperature	15452, 15453, 15608, (15455, 15454, 15609)	X			X	Used, along with many other diverse instruments, for initial identification and trending of an acci- dent. Failure will not mislead the operator.
Containment Humidity	28075 (28076)	X			X	Same As Above

TABLE I

## DISPLAY INSTRUMENTATION

## LOCA &amp; HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided		
		In Cont	Out Cont	Not In Harsh Environment		
				In Harsh Environment		
				Not Considered Safety-Related		
			Comments			
Containment Radiation	R7 (29012, (29037) R2 29027 (29035) R11/R12 29029, 29028 (29030, 29031)	X X	 X X			Instruments are located both inside and outside containment and are used for initial trending and identification of a LOCA. Also , qualified high range in containment monitors will be installed by 1/1/82 for TMI Lessons Learned. Failure of non qualified instruments will not mislead operator.
Containment Sump A Level	LA 16792 (LA 16808)	X			X	Used with other instruments for initial trending and identification of leak. Failure will not mislead the operator or adversely affect mitigation of the accident.
Containment Sump C Level	LA 16797 (LA 16812)	X			X	Same As Above
Containment Sump B Level	LA 16909, 16796 (LA 16910, 16811)	X X		X X		
Containment Fan Coil Unit Cond. Leak Detection	24180 (24210) 24181 (24211) 24182 (24212) 24183 (24213)	X X X X			X X X X	Used with other instruments for initial trending and identification of leak. Failure will not mislead the operator or adversely affect mitigation of the accident.



TABLE I  
DISPLAY INSTRUMENTATION  
LOCA & HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided			
		In Cont	Out Cont			Not In Harsh Environment	
						In Harsh Environment	
						Not Considered Safety-Related	
						Comments	
Pressurizer Relief Tank Temp and Press	TE 15186 (15217) PT 21145 (21153)	X				X	Used with other instruments for initial trending and identification of leak. Failure will not mislead the operator or adversely affect mitigation of the accident.
Steam Exclusion Actuation	TE-15297 thru 15695 TE-15297 thru 15299 TE-15407 thru 15409		X		X		
Steam Generator Pressure	PT-21202, 21201, 21200 (PT-21208, 21207, 21206) PT-21203, 21204, 21205 (PT-21209, 21210, 21211)		X	X			
RCS Temperature	TE-15331, 15332, 15333, 15334 (15314, 51315, 15322, 15323)	X		X			
Feedwater Flow To Steam Generator	FT-23021, 23022, 23023, 23024 (23025, 23026, 23027, 23028)		X	X			
Steam Flow	FT-23013, 23014, 23015, 23016 (23017, 23018, 23019, 23020)	X		X			
Condenser Air Ejector Radiation Monitor	R-15 RE-29024 (29025)		X		X		

TABLE I  
DISPLAY INSTRUMENTATION  
LOCA & HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided		
		In Cont	Out Cont	Not In Harsh Environment		
				In Harsh Environment		
				Not Considered Safety-Related		
			Comments			
Stm Gen Blowdown Radiation Monitor	R-19 RE-29019 (29023)		X		X	
Turbine Trip Status	Stop Valves CV-31182, 31183 (31162, 31163)		X		X	
Reactor Trip Status	52/RTA, 52/RTB		X		X	
SI Flow	FT-23073, 23074 (23075, 23076)		X	X		
Aux Feedwater Flow to Stm Gen	FT-23122, 23127 (23129, 23128)		X	X		
Safety Equipment Monitor Lights						
-SI Ready	Panels 44102,	X	X	X	X	
-SI Active	44103, 44104					
-Containment Isolation	(44513, 44514, 44515)					
Pressurizer Spray Valve	CV-31225, 31224 (31228, 31229)	X				X
						Reactor Coolant Pumps are secured at 1750 psig RCS pressure, preventing spray actuation.
Pressurizer PORV's	CV-31231, 31232 (31233, 31234)	X		X		
Safeguards Electrical	Bus Voltage & Breaker Status		X		X	

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LOCA & HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided			
				Not In Harsh Environment			
				In Harsh Environment			
		In Cont	Out Cont	Not Considered Safety-Related Comments			
Steam Dump Actuation PORV & Stm Dump	CV-31084, 31089 (31102, 31107) CV-31085, 31086 31090, 31091 (31103, 31104, 31108, 31109) CV-31100, 31101 (31110, 31119)		X	X			FSAR transient analysis assumes safety valves pro- vide initial pressure controls. Long term cool- down can be accomplished without signal converters. Failure will not mislead operator or adversely affect mitigation of the accident.
			X			X	
			X			X	
			X			X	
SI Pump Opera- tion	Breaker Status 15-1, 16-5 (26-3, 25-5)		X		X		
Condensate Pump Trip	Breaker Status 13-7, 14-6, 14-7 (23-5, 24-3, 24-4)		X		X		
Feedwater Pump Trip	Breaker Status 11-3, 12-3 (21-3, 22-3)		X		X		
Aux Feedwater Pump Status	Breaker Status 16-1 (26-0) MV-32264 (32265)		X		X		
			X		X		
Aux Feedwater Flow to Steam Generator	FT-23127, 23122 (23129, 23128)		X		X		
Stm Gen Level	LT-24080, 24081, 24082, 24083, 24084, 24085, 24086, 24087 (24092, 24093, 24094, 24095, 24088, 24089, 24090, 24091)	X		X			

TABLE I  
DISPLAY INSTRUMENTATION  
LOCA & HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided		
				Not In Harsh Environment		
				In Harsh Environment		
		In Cont	Out Cont	Not Considered Safety-Related Comments		
Main and Bypass Feedwater Con- trol Valves	CV-31127, 31128, 31369, 31370 (31135, 31136, 31371, 31372)		X		X	The feedwater to contain- ment motor isolation valves are environmentally quali- fied and indicated on the containment isolation sta- tus panel. Failure of CV's to close will not mislead the operator or adversely affect mitigation of the accident.
Reactor Power	NIS Power Range NIS Intr Range NIS Source Range	X			X	Used for short term reactor trip. Other diverse and qualified instruments are provided to verify reactor trip and heat removal. Failure will not mislead the operator or adversely affect the mitigation of the accident.
Cont Spray Pump Status	Breaker Status 15-9, 16-01 (26-01, 25-9)		X		X	
Chilled Water Supply/Return for Cont. Fan Coil Units	CV-39402, 39412, 39404, 39410, (39416, 39424, 39414, 39422)		X		X	
Cont Fan Coil Unit Speed	MCC 1X1, 1X2 (2X1, 2X2)		X		X	
Component Cool- ing Pumps Status	Breaker Status 15-5, 16-3 (26-5, 25-3)		X		X	
Diesel Clg Wtr Pump Status	12 (22) Pump SP-28240 (28241)		X		X	



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LOCA & HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided		
		In Cont	Out Cont		Not In Harsh Environment	In Harsh Environment Not Considered Safety-Related Comments
Shield Bldg Recirc Fan Dsch Damper	MD-32241, 32217 (32220, 32223)		X		X	Not in harsh environment for required service.
Shield Bldg Vent Recirc Damper	MD-32215, 32218 (32221, 32224)		X		X	Not in harsh environment for required service.
Shield Bldg Recirc Fan	Breaker Status 1M1, 1M2		X		X	Not in harsh environment for required service.
Aux. Bldg Special Vent Fan	Breaker Status 1M1, 1M2					Not in harsh environment for required service.
Cont Room Clean-up Fans	Breaker Status 1M1, 1M2		X	X		Only MCC's in harsh environment.
Cont Purge Supply Fan	Breaker Status 121		X		X	Not in harsh environment for required service.
121, 122 Sfgrds Chillers	Breaker Status 1MA1, 1MA2		X	X		
CRDM Shroud Clg Coil Isol Vlvs	CV-39405, 39406, 39407, 39408, (39417, 39418, 39419, 39420)		X		X	
Sfgrds Bus Load Shedding/Restoration	Buses 15, 16 (25, 26)		X		X	
Diesel Generator Status	D1, D2 SP-28240, 28241		X		X	
Diesel Generator Breaker Status	Bus 26 Bkr 2 Bus 16 Bkr 7		X		X	
RWST Level	LT 24056, 24066 (24063, 24046)		X		X	

TABLE I

## DISPLAY INSTRUMENTATION

## LOCA &amp; HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided			
		In Cont	Out Cont				Not In Harsh Environment
							In Harsh Environment
							Comments
Condensate Storage Tank Level	LT 24001 (24002)		X		X		
Boric Acid Tank Level	LT-24027 thru 24035		X		X		
Subcooling Margin Motor	1 (2) PT-709, 710 Incore T/C	X		X			
Re-establish charging letdown seal water rtr, przr heater	Various	X	X	X	X	X	These operations are addressed by procedures for plant cooldown following recovery from HELB. Malfunction will not adversely mislead operator or affect the mitigation of the accident.
Station Air Comp	Breaker Status 1A1, 1A2		X		X		
Incore Thermocouple	Ref Junct Box 15456, 15457, 15458, 15459 (15610, 15611, 15612, 15613)	X		X			
Radiation Monitor S/G Secondary	R-15 RE-29024, 29025 (29019, 29023)		X		X		
Low Head Injection Flow	FT-23060, 23069 (23061, 23070)		X		X		
Turbine Bldg Roof Exhaust Fans	Breaker Status 1F1, 1F2 (2F1, 2F2)		X		X		

TABLE I  
DISPLAY INSTRUMENTATION  
LOCA & HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided		
					Not In Harsh Environment	
					In Harsh Environment	
		Not Considered Safety-Related				
		In Cont	Out Cont			Comments
SI Test Line to RWST Isol Vlv	MV-32202, 32203 (32204, 32205)		X		X	
RHR Pump Status	Breaker Status (4160V) 15-4, 16-4 26-4, 25-4		X		X	
Component Cool- ing Flow to SI Pumps	FI-18252, 18253 (18268, 18269)		X	X		
Component Cool- ing Flow to RHR Pumps	FI-18251, 18252 (18266, 18267)		X		X	
RHR Pump Dsch Press	PT-21160, 21161 (21162, 21163)		X		X	
Off Site Elec- trical Power Status	Plant Substation Status		X		X	
Control Room Radiation Monitor	R-23 (RE-29021) R-24 (RE-29022) R-1 (RE-23006)		X		X	
Control Room Outside Air Supply Damper	CD-34177, 34145 34142, 34176		X		X	
Containment i me Recirc Fan	Breaker Status 1L1, 1L2 (2L1, 2L2)		X		X	Recirc Fan qualification addressed in Response.
Fan Coil Unit Cooling Water Radiation Monitor	R-16 RE-29002 R-38 RE-29051		X		X	

TABLE I

## DISPLAY INSTRUMENTATION

## LOCA &amp; HELB EMERGENCY PROCEDURES

Display Instrumentation	Plant Identification	Device Location		Harsh Environment, Summary Sheets Provided		
				Not In Harsh Environment		
		In Cont	Out Cont	In Harsh Environment Not Considered Safety-Related		
				Comments		
Post LOCA Hydro- gen Sample Valves	MV-32271, 32273 (32290, 32292)	X		X		
	CV-31925, 31927 (31926, 31928)		X		X	
			X		X	
Post LOCA Hydro- gen Control Air Supply	MV-32274, 32276 (32293, 32295)		X	X		
Containment Purge to Annulus	MV-32271, 32272 (32290, 32292)	X		X		
		X		X		
	MV-31923, 31929 (31924, 31930)		X		X	
			X		X	



APPENDIX A

COMPONENT SUMMARY SHEETS

## MASTER LIST

5/7/80

SYSTEM: Auxiliary Feedwater (AF)

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM Aux FW (AF) PLANT ID NO.: See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-00  FUNCTION: Feed Water to Stm Gen  ACCURACY: SPEC. NR DEMON. NR  SERVICE: 11,12,21,22 S/G  LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	Locked Open Not Required	16 Days	2	3	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	5	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	5	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	7	3	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rads Y	2 x 10 <sup>8</sup> Rads Y	4	5	TYPE TEST	NONE
	AGING	40 yrs	40 yrs	6	3	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Tech Spec's Section 3.4 para A.7
- 3) Limitorque Corp. Test Report No. B0003, Nov. 13, 1974
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) WCAP's 7410-L, Dec. 1970 & WCAP 7744 of Aug. 1971
- 6) Plant Design Life
- 7) FSAR Appendix I, Paragraph I.11.1

## NOTES:

- 1) Includes Items: MV-32242, MV-32243, MV-32248, MV-32249
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

## MASTER LIST

SYSTEM: Chemical Volume Control (VC)

A.2.i

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Chm Vol Cntl (VC) PLANT ID NO.: See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-00  FUNCTION: Cntmt Isol RCP Seal Wtr Return  ACCURACY: SPEC. NR DEMON. NR  SERVICE: CVCS  LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	5 Minutes	16 Days	7	2	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	6	2	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad γ	2 x 10 <sup>8</sup> Rads γ	3	4	TYPE TEST	NONE
	AGING	40 Years	40 Years	5	2	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	None

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Limitorque Corp. Test Report No. B0003, Nov. 13, 1974
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) WCAP's 7410-L, Dec. 1970 & WCAP's 7744 Aug. 1971
- 5) Plant Design Life
- 6) FSAR Appendix I, Paragraph I.11.1
- 7) Engineering Evaluation

## NOTES:

- 1) Includes Items: MV-32166 & MV-32194
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Chem Vol Cntl (VC) PLANT ID NO.: MV-32199 & MV-32210 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL NUMBER: SMB-00 FUNCTION: Cntmt Isol ACCURACY: SPEC. NR DEMON. NR SERVICE: Excess Letdown Line Unit 1 & 2 LOCATION: Containment FLOOD LEVEL ELFV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	5 Minutes	30 Days	8	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ	3	4	TYPE TEST ENG. ANAL.	See Note 3
			2.00 x 10 <sup>8</sup> Rad β	9	7		
	AGING	40 Years	40 Years	6	4	TYPE TEST	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Nuclear Power Station, Qualification Type Test Report Limitorque Valve Actuators for PWR Service Project # 600456, December 9, 1975
- 5) FSAR Table 5.4-4.
- 6) Plant Design Life
- 7) EDS Calculation File No. 0910-204EQ-01

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar Boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

NOTES:

- 8) Engineering Evaluation
- 9) DOR Guidelines

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Chm Vol Cntl(VC) PLANT ID NO.: See Note 1 & 2 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA180  FUNCTION: Letdown Isol Valves Open Position Indication ACCURACY: SPEC. NR DEMON. NR  SERVICE: Letdown System 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706 ABOVE FLOOD LEVEL: No	OPERATING TIME	2 Hours	30 Days	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ	2.04 x 10 <sup>8</sup> Rad γ	3	4	TYPE TEST ENG. ANAL.	See Note 5
		2.0 x 10 <sup>8</sup> Rad β	2.00 x 10 <sup>8</sup> Rad β	9	8		
	AGING	40 Years	40 Years	7	4	TYPE TEST	See Note 3
	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) PSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) PSAR Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) ACME Cleveland Development Co. Test Plan 8-31-77
- 5) PSAR Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) EDS Calculation File No. 0910-204EQ-01

## NOTES:

- 1) Switches for valves: CV-31325, 31326, 31327, 31347, 31348, 31349
- 2) Valves for Unit 2 (CV-31347, 31348, 31349) are completed. Valves for Unit 1 (CV-31325, 31326, 31327) will have the conax seal installed during the fall of '81 outage.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

9) DOR Guidelines

NOTES:

- 4) Consists of: 0.38 molar Boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide ( $NaOH$ ) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Chm Vol Cntl (VC) PLANT ID NO.: See Note 1 & 2 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA180  FUNCTION: Letdown Isol Valves Closed Position Indication ACCURACY: SPEC. NR DEMON. NR  SERVICE: Letdown  LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: No	OPERATING TIME	2 Hours	30 Days	5	6	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	6	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	6	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad B	2.04 x 10 <sup>8</sup> Rad Y 2.00 x 10 <sup>8</sup> Rad B	3 9	6 8	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	7	6	TYPE TEST	See Note 3
	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Table 5.4-4
- 5) Engineering Evaluation
- 6) Acme Cleveland Development Co., Test Plan 8-31-77.
- 7) Plant Design Life
- 8) EDS Calculation File No. 0910-204EQ-01
- 9) DOR Guidelines

## NOTES:

- 1) Switches for valves: CV-31325, 31326, 31327, 31347, 31348, 31349
- 2) Valves for Unit 2 (CV-31347, 31348, 31349) are completed. Valves for Unit 1 (CV-31325, 31326, 31327) currently have D 2400X's but will be replaced with EA180's and a conax seal during the fall of '81 outage.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

NOTES:

- 4) Consists of: 0.28 molar Boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## MASTER LIST

SYSTEM: Cooling Water (CL)

A.3.1

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cooling Water (CL) PLANT ID NO.: See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-000  FUNCTION: Fan Coil Unit Clg Wtr Return  ACCURACY: SPEC.   NR DEMON. NR  SERVICE: See Note 2  LOCATION: Containment FLOOD LEVEL ELEV: 706  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	5 Minutes	16 Days	9	6	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	6	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH/ pH 7.85	2	4	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 10	4 8	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	7	6	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap 6 Para 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) WCAP 7410-L Dated Dec. 1970 & WCAP 7744 Dated August 1971
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Limitorque Corp. Test Report No. B0003, Nov. 13, 1974
- 7) Plant Design Life
- 8) EDS Calculation File No. 0910-204EQ-01
- 9) Engineering Evaluation

## NOTES:

- 1) Includes Items: MV-32132, MV-32135, MV-32138, MV-32141, MV-32147, MV-32150, MV-32153, MV-32156
- 2) Fan Coil Units - 11, 12, 13, 14, 21, 22, 23, 24
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 4) Consists of: 1.5% solution by weight boric acid (H<sub>3</sub>BO<sub>3</sub>) buffered to a pH of 7.85 with sodium hydroxide (NaOH). See introductory letter, this response.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

10) DOR Guidelines

NOTES:

5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## APPENDIX A

## MASTER LIST

Rev. 5  
8/14/81SYSTEM: Containment Air Handling (ZC)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
117 2	Motor (11, FCU)	X	
127-2	Motor (12, FCU)	X	
117-3	Motor (13, FCU)	X	
127-3	Motor (14, FCU)	X	
217-2	Motor (21, FCU)	X	
227-2	Motor (22, FCU)	X	
217-3	Motor (23, FCU)	X	
227-3	Motor (24, FCU)	X	
116-18	Motor (11, DRF)	X	
126-18	Motor (12, DRF)	X	
116-19	Motor (13, DRF)	X	
126-32	Motor (14, DRF)	X	
216-18	Motor (21, DRF)	X	
226-18	Motor (22, DRF)	X	
216-19	Motor (23, DRF)	X	
226-32	Motor (24, DRF)	X	
SV-33371	Solenoid Valve	X	
SV-33372	Solenoid Valve	X	
SV-33373	Solenoid Valve	X	
SV-33374	Solenoid Valve	X	



APPENDIX A  
MASTER LIST

Rev. 4  
10/24/80

SYSTEM: Containment Air Handling (ZC)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
SV-33375	Solenoid Valve	X	
SV-33376	Solenoid Valve	X	
SV-33377	Solenoid Valve	X	
SV-33378	Solenoid Valve	X	
CD-34072	Limit Switches	X	
CD-34074	Limit Switches	X	
CD-34076	Limit Switches	X	
CD-34078	Limit Switches	X	
SV-33389	Solenoid Valve	X	
SV-33390	Solenoid Valve	X	
SV-33391	Solenoid Valve	X	
SV-33392	Solenoid Valve	X	
SV-33393	Solenoid Valve	X	
SV-33394	Solenoid Valve	X	
SV-33395	Solenoid Valve	X	
SV-33396	Solenoid Valve	X	
CD-34080	Limit Switches	X	
CD-34082	Limit Switches	X	
CD-34084	Limit Switches	X	
CD-34086	Limit Switches	X	

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Air Handling PLANT ID NO.: (ZC) See Note 2 COMPONENT: Motor  MANUFACTURER: Westinghouse  MODEL NUMBER: L1054-1760/875  FUNCTION: Cnt Heat Removal  ACCURACY: SPEC. NR DEMON. NR  SERVICE: 11,12,13,14,21, 22,23 & 24 Fan Coil Units LOCATION: Containment  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Months	20 Months	2	5	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	324°F peak	1	5	TYPE TEST	NONE
	PRESSURE (PSIG)		80 psig peak	1	5	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	6	5	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 9.5	3	5	TYPE TEST	See Note 4
	RADIATION	4.81 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	4 8	5 9	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	7	5	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14 Figure 14.3-23a, Amendment 12
- 2) FSAR Table 7.5-2
- 3) FSAR Sect. 6.4.3
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) WCAP 7829 April 1972
- 6) FSAR Table 5.4-4
- 7) Plant Design Life
- 8) DOR Guidelines
- 9) EDS Calculation File No. 0910-204EQ-01

## NOTES:

- 1) 20 Months-Limited by bearing qualification
- 2) Includes Motors: 117-2, 127-2, 117-3, 127-3, 217-2, 227-2, 217-3, 227-3.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 4) Consists of: 1.43% by weight of boric acid (H<sub>3</sub>BO<sub>3</sub>) buffered with sodium hydroxide to a pH value of 9.5. See Introductory Letter, this response.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

NOTES:

- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Air Handling PLANT ID NO.: (ZC) See Note 1 COMPONENT: Motor  MANUFACTURER: Joy/Reliance  MODEL NUMBER: 600277-69  FUNCTION: Post Loca H <sub>2</sub> Control  ACCURACY: SPEC. NR DEMON. NR  SERVICE: 11, 12, 13, 14 & 21, 22, 23, 24 Dome Recirc Fans LOCATION: Containment  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Months	1 Year	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	350°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		85 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 2
	RADIATION	4.8 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.0 x 10 <sup>9</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 8	4 9	TYPE TEST ENG. ANAL.	See Note 4
	AGING	40 Years	40 Years	7	4	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14 Figure 14.3-23a, Amendment 12
- 2) FSAR Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Joy Manufacturing Report #X-604 April 6, 1977
- 5) FSAR Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) DOR Guidelines

## NOTES:

- 1) Includes Motors: 116-18, 126-18, 116-19, 126-32, 216-18, 226-18, 216-19, 226-32.
- 2) Consists of: .28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 3) Establish Plant Preventive Maintenance Program to maintain qualification.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

9) EDS Calculation File No.0910-204EQ-01

NOTES:

4) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.



## SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Air Handling PLANT ID NO.: (ZC) See Note 1 COMPONENT: Solenoid Valve  MANUFACTURER: ASCO  MODEL NUMBER: NP-8321A1E  FUNCTION: Gap & Dome Vent Dampers  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Fan Coil Units #11, 12, 13, 14 LOCATION: Containment  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	5 Minutes	1 Year	5	8	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 3
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	6, 8 10	TYPE TEST ENG. ANAL.	See Note 4
	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14 Figure 14.3-23a, Amendment 12
- 2) FSAR Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chp. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) ASCO Test Report No. AQS-21678/TR-Rev-A
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981
- 9) DOR Guidelines

## NOTES:

- 1) Includes items: SV 33371, SV 33372, SV 33373, SV 33374, SV 33375, SV 33376, SV 33377, SV 33378
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Consists of: 0.28 molar Boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

10) EDS Calculation File No. 0910-204EQ-01

NOTES:

4) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Air Handling PLANT ID NO.: (2C) See Notes 1 & 3 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA-180  FUNCTION: Damper position indication (Dome) ACCURACY: SPEC. NR DEMON. NR  SERVICE: See Note 2  LOCATION: Containment FLOOD LEVEL ELEV: 706  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	5 Minutes	30 Days	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 5
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 8	4 9	TYPE TEST ENG. ANAL.	See Note 6
	AGING	40 Years	40 Years	7	4	TYPE TEST	See Note 4
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- FSAR Section 14 Figure 14.3-23a, Amendment 12
- FSAR Sect. 6.4.3
- Design Review of Plant Shielding-Part I, January 1981
- ACME - Cleveland Dev. Co. Test Plan 8-31-77
- FSAR Table 5.4-4
- Engineering Evaluation - Dome switch needed to operate Gap Damper.
- Plant Design Life
- DOR Guidelines

## NOTES:

- Switches for Valves: CD34072, CD34074, CD34076,, CD34078, CD34080, CD34082, CD34084, CD34086  
Closed switch
- Fan Coil Units #11, 12, 13, 14  
#21, 22, 23, 24
- Unit 1 (CD34072, 34074, 34076, 34078) will have the conax seals installed during the fall of '81 outage. All work in Unit 2 (CD34080, 34082, 34084, 34086) has been completed.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 5) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 6) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Air Handling PLANT ID NO.: (2C) See Note 1 COMPONENT: Solenoid Valve  MANUFACTURER: Asco  MODEL NUMBER: NP-8321A1E  FUNCTION: Vent Damper  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Unit 2 Fan Coil Units 21, 22, 23, 24 LOCATION: Containment  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	5 Minutes	1 Year	5	6	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 3
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	6, 8 10	TYPE TEST ENG. ANAL.	See Note 4
	AGING	40 Years	11 Years	7	6	ENG. ANAL.	See Note 2
FLOOD LEVEL ELEV: 706'	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- FSAR Section 14 Figure 14.3-23a, Amendment 12
- FSAR Sect. 6.4.3
- Design Review of Plant Shielding, Part I, January 1981
- FSAR Table 5.4-4
- Engineering Evaluation
- Thermal Aging Evaluation of Asco NP Series Solenoid Valves  
EDS Report #04-0910-13 June 1981
- Plant Design Life
- Asco Test Report No. AQS-2167E/TR-Rev.A

## NOTES:

- Valves include: SV33389, SV33390, SV33391, SV33392  
SV33393, SV33394, SV33395, SV33396
- Establishing Plant Preventive Maintenance Program to maintain qualification.
- Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204BQ-01

NOTES:

- 4) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## APPENDIX A

## MASTER LIST

Rev. 1  
5/7/80SYSTEM: Containment Hydrogen Control (HC)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
MV-32271	Valve Operator	X	
MV-32273	Valve Operator	X	
MV-32274	Valve Operator		X
MV-32276	Valve Operator		X
MV-32290	Valve Operator	X	
MV-32292	Valve Operator	X	
MV-32293	Valve Operator		X
MV-32295	Valve Operator		X
SV-33990	Solenoid Valve		X
SV-33991	Solenoid Valve		X
SV-33992	Solenoid Valve		X
SV-33993	Solenoid Valve		X

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Hydrogen Con- PLANT ID NO.: trol (HC) See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limatorque  MODEL NUMBER: SMB-000  FUNCTION: Sampling & Venting  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Cnt Bldg 1 & 2  LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	30 Days	6	2	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	7	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	7	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	2	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	3	2	TYPE TEST	See Note 3
	RADIATION	9.2 x 10 <sup>6</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad B	2.04 x 10 <sup>8</sup> Rad Y 2.00 x 10 <sup>8</sup> Rad B	4 10	2 9	TYPE TEST ENG. ANAL.	See Note 4
	AGING	40 Years	40 Years	8	2	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) Nuclear Power Station, Qualification Type Test Report, Limatorque Valve Actuators for PWR Services, Project Number 600456, December 9, 1975.
- 3) FSAR Chap. 6 Section 6.4.3
- 4) Design Review of Plant Shielding, Part I, January 1981
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) WCAP 7410-L-Section 1970
- 8) Plant Design Life

## NOTES:

- 1) Items include: MV-32271, MV-32273, MV-32290, MV-32292
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5

A.5.1

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) EDS Calculation File No. 0910-204EQ-01
- 10) DOR Guidelines

NOTES:

- 4) Analysis demonstrated that Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Hydrogen Con- PLANT ID NO.: trol (HC) See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limatorque  MODEL NUMBER: SMB-000  FUNCTION: Sampling & Venting  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Annulus 1 & 2  LOCATION: Annulus FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	24 Hours	30 Days	1	3	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	4	2	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	4	2	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	3	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	1.8 x 10 <sup>6</sup> Rad γ @ 24 hours	2.04 x 10 <sup>8</sup> γ	5	3	TYPE TEST	NONE
	AGING	40 Years	40 Years	6	3	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering Evaluation based on containment LOCA environment.
- 2) Westinghouse WCAP 7410-L dated December, 1970
- 3) Nuclear Power Station, Qualification Type Test Report Limatorque Valve Actuators for PWR Service Project #600456, December 9, 1975.
- 4) FSAR, Appendix G, Figure G.3-4 & 5
- 5) Design Review of Plant Shielding, Part I, January 1981
- 6) Plant Design Life

## NOTES:

- 1) Items include: MV-32293, MV-32295, MV-32274, MV-32276
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Hydrogen Con- PLANT ID NO.: trol (HC) SV-33990, SV-33991 COMPONENT: Solenoid Valves  MANUFACTURER: Asco  MODEL NUMBER: NP-8320A194E  FUNCTION: Air Supply/Vent  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Post-loca  LOCATION: Annulus Unit 1 FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	24 Hours	1 Year	1	6	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300° peak	4	2, 6	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	4	2, 6	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	2, 6	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	1.8 x 10 <sup>6</sup> Rad γ @ 24 hrs	1.5 x 10 <sup>8</sup> Rad γ	3	2	TYPE TEST	NONE
	AGING	40 Years	11 Years	5	6	ENG. ANAL.	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering evaluation base on containment LOCA Environment
- 2) ASCO Test Report No. AQS-21678/TR-Rev. A
- 3) Design Review of Plant Shielding, Part I, January 1981
- 4) FSAR, Appendix G, Figure G.3-4 & 5
- 5) Plant Design Life
- 6) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Hydrogen Con- PLANT ID NO.: trol (HC) SV-33992, SV-33993 COMPONENT: Solenoid Valve  MANUFACTURER: Asco  MODEL NUMBER: NP-8320A194E  FUNCTION: Air Supply/Vent  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Post-loca  LOCATION: Annulus Unit 2 FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	24 Hours	1 Year	1	6	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300° peak	4	2, 6	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	4	2, 6	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	2, 6	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	1.8 x 10 <sup>6</sup> Rad Y @ 24 hours	1.5 x 10 <sup>8</sup> Rad Y	3	2	TYPE TEST	NONE
	AGING	40 Years	11 Years	5	6	ENG. ANAL.	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering evaluation based on containment LOCA environment
- 2) ASCO Test Report No. AQS-21678/TR-Rev. A
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) PSAR, Appendix G, Figure G.3-4 & 5
- 5) Plant Design Life
- 6) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.

## APPENDIX A

## MASTER LIST

Rev. 4  
10/24/80SYSTEM: Containment Purge (ZP)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
SV-33440	Solenoid Valve		X
SV-33441	Solenoid Valve		X
SV-33515	Solenoid Valve		X
SV-33516	Solenoid Valve		X
CV-31310	Limit Switch		X
CV-31311	Limit Switch	X	
CV-31312	Limit Switch		X
CV-31313	Limit Switch	X	
CV-31569	Limit Switch		X
CV-31570	Limit Switch	X	
CV-31621	Limit Switch		X
CV-31622	Limit Switch		X
CV-31624	Limit Switch		X
CV-31625	Limit Switch		X
CV-31314	Limit Switch		X
CV-31315	Limit Switch	X	
CV-31316	Limit Switch		X
CV-31317	Limit Switch	X	
CV-31574	Limit Switch		X
CV-31575	Limit Switch	X	

## MASTER LIST

SYSTEM: Containment Purge (ZP) CONT.

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Purge (ZP) PLANT ID NO.: SV-33440 COMPONENT: Solenoid Valve MANUFACTURER: Asco MODEL NUMBER: NP-831655E FUNCTION: Cnt Vacuum Breaker ACCURACY: SPEC. NR DEMON. NR SERVICE: Cnt Unit 1 LOCATION: Annulus FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	5 Minutes	1 Year	1	6	ENG. ANALYSIS	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	2	4, 6	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	2	4, 6	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	4, 6	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	3.1 x 10 <sup>5</sup> Rad Y @ 1 hour	1.5 x 10 <sup>8</sup> Rads Y	3	4	TYPE TEST	NONE
	AGING	40 Years	11 Years	5	6	ENG. ANALYSIS	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering evaluation based on containment LOCA environment.
- 2) FSAR, Appendix G, Figure 6.3-4 & 5
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Asco Test Report No. AQS-21678/TR-Rev. A
- 5) Plant Design Life
- 6) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUAL. %		
SYSTEM: Cnt Purge (ZP) PLANT ID NO.: See Note 1 COMPONENT: Solenoid Valve  MANUFACTURER: Asco  MODEL NUMBER: NP-831654E  FUNCTION: Cnt Vacuum Breaker  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Cnt Unit 2  LOCATION: Annulus  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	5 Minutes	1 Year	1	6	ENG. ANALYSIS	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	3	2, 6	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	3	2, 6	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	2, 6	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$3.1 \times 10^5$ Rad $\gamma$ @ 1 hour	$1.5 \times 10^8$ Rads $\gamma$	4	2	TYPE TEST	NONE
	AGING	40 Years	11 Years	5	6	ENG. ANALYSIS	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering evaluation based on containment LOCA environment
- 2) ASCO Test Report No. AQS-21678/TR-Rev. A
- 3) FSAR, Appendix G, Figure G.3-4 & 5
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) Plant Design Life
- 6) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Valves Include: SV-33515 & SV-33516
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Purge (ZP) PLANT ID NO.: See Notes 1 & 2 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA 180  FUNCTION: Closed Indication  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Purge Exh 1 & 2 Purge Supply 1 & 2 LOCATION: Cnt  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	30 Days	5	6	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	6	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	6	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 8	6 9	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	7	6	TYPE TEST	See Note 3
	SUB-MERGENCE	N/A	N/A	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Acme-Cleveland Development Co. Test Plan 8-31-77
- 7) Plant Design Life
- 8) DOR Guidelines
- 9) EDS Calculation File No. 0910-204BQ-01

## NOTES:

- 1) Switches for Valves: CV-31311, CV-31315, CV-31634, CV-31636 (Closed Indication Switch)
- 2) One of the valves for Unit 2 (CV-31636) has been completed. The valves for Unit 1 (CV-31311 & CV-31634) and the other valve for Unit 2 (CV-31315) currently have model D2400X switches but will be replaced with model EA 180's and a conax seal during the fall of '81 (Unit 1) and spring of '82 (Unit 2) outages.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

NOTES:

- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 4) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_2BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

A.6.3.a

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Purge (ZP) PLANT ID NO.: See Notes 1 & 2 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA 180  FUNCTION: Open Indication  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Purge Exh 1 & 2 Purge Supply 1 & 2 LOCATION: Cnt  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	30 Days	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 8	4 9	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	7	4	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Acme-Cleveland Development Co. Test Plan 8-31-77
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) DOR Guidelines
- 9) EDS Calculation File No. 0910-204EQ-01

## NOTES:

- 1) Switches for Valves: CV-31311, CV-31315, CV-31634, CV-31636 (Open Indication Switch)
- 2) One of the valves for Unit 2 (CV-31636) has been completed. The valves for Unit 1 (CV-31311 & CV-31634) and the other valve for Unit 2 (CV-31315) currently have model EA 180 switches but will be replaced with model EA 180's and a conax seal during the fall of '81 (Unit 1) and spring of '82 (Unit 2) outages.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

NOTES:

- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 4) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_2BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

A.6.5

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Purge (ZP) PLANT ID NO.: See Note 1 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA 170  FUNCTION: Position Indicator  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Unit 1 Cnt Purge LOCATION: Annulus 1 FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	2 Hours	200 Hours	1	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	200°F peak	2	4	TYPE TEST	NONE
	PRESSURE (PSIA)		14.7 psig peak	2	4, 5	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	4	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	5.0 x 10 <sup>5</sup> Rad γ @ 2 hours	2.07 x 10 <sup>8</sup> Rad γ	3	4	TYPE TEST	NONE
	AGING	40 Years	See Note 3	6	4	TYPE TEST	See Note 2&3
SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

## NOTES:

- 1) Engineering Evaluation
- 2) FSAR, Appendix G, Figure G.3-4 & 5
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) ACME-Cleveland Development Co.-Qualification of Namco Controls Limit Switch-Model EA-170, Rev. 1 Dated 7/24/78
- 5) Letter from Robert Kantner (NAMCO) to Paul T. Roska (NSP) dated November 18, 1980.
- 6) Plant Design Life

- 1) Limit switches for valves: CV-31310, CV-31312, CV-31569, CV-31621, CV-31622, CV-31633.
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) The qualification documentation for Aging pertaining to these components is currently being evaluated for inclusion in the bulletin. (See Doc. Ref. #4)

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Purge (ZP) PLANT ID NO.: See Notes 1 & 2 COMPONENT: Limit Switch  MANUFACTURER: Nanco  MODEL NUMBER: EA 180  FUNCTION: Position Indicated  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Cntmt Purge Unit 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	30 Days	1	6	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	2	6	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	2	6	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	6	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	3	6	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	4 8	6 9	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	7	6	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	N/A	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering Evaluation
- 2) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 3) FSAR Chap. 6 Sec. 6.4.3
- 4) Design Review of Plant Shileding-Part I, January 1981
- 5) FSAR 5 Table 5.4-4
- 6) Acme-Cleveland Development Co., Test Plan 8-31-77
- 7) Plant Design Life
- 8) DOR Guidelines
- 9) EDS Calculation: File No. 0910-204EQ-01

## NOTES:

- 1) Limit switches for valves: CV-31313, CV-31317, CV-31570, CV-31575
- 2) Valves for Unit 2 (CV-31317 & CV-31575) have been completed. Valves for Unit 1 (CV-31313, CV-31570) currently have model D2400X switches but will be replaced with EA 180's and a conax seal during the fall of '81 outage.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

NOTES:

- 4) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_2BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide (NaOH) to a pH of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Purge (ZP) PLANT ID NO.: See Note 1 COMPONENT: Limit Switch  MANUFACTURER: Honeywell (Micro Switch) MODEL NUMBER: BZ-2RW899-A2  FUNCTION: Position Indicator  ACCURACY: SPEC. NR DEMON. NR  SERVICE: U-1 & 2 Cnt Purge LOCATION: Annulus 1 & 2  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	2 Hours	Continuous	1	5	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	180°F peak	2	5	TYPE TEST	NONE
	PRESSURE (PSIG)		See Note 4	2	N/A	N/A	See Note 2&4
	RELATIVE HUMIDITY (%)	100%	See Note 4	1	N/A	N/A	See Note 4
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	5.0 x 10 <sup>5</sup> Rad γ @ 2 hours	1.3 x 10 <sup>8</sup> Rad γ	3	4	TYPE TEST	NONE
	AGING	40 Years	5 Years 25 million oper	7	4, 5	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering Evaluation
- 2) FSAR, Appendix G, Figure G.3-4 & 5
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Nuclear Radiation and Switch Applications  
October 7, 1974
- 5) Honeywell Catalog 50, p. E-2
- 6) Engineering Test Laboratory, Technical Bulletin No. 6,  
Issue No. 2, Application of Switches in Space Vehicles
- 7) Plant Design Life

## NOTES:

- 1) CV-31625, CV-31630, & CV-31631, CV-31624
- 2) Switches will operate satisfactorily up to an altitude of 25,000 ft., which is approximately 5.92 psia, a partial vacuum compared to standard mean sea level pressure.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 4) The qualification documentation pertaining to these components is currently being evaluated for inclusion in the bulletin.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
3/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Purge (ZP) PLANT ID NO.: SV-33441 COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL NUMBER: NP-831655E FUNCTION: Cntm Vacuum Breaker ACCURACY: SPEC. NR DEMON. NR SERVICE: Cntm Unit 1 LOCATION: Annulus FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	5 Minutes	1 Year	1	6	ENG. ANALYSIS	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	3	2, 6	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	3	2, 6	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	2, 6	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	3.1 x 10 <sup>5</sup> Rad γ @ 1 hour	1.5 x 10 <sup>8</sup> Rads γ	4	2	TYPE TEST	NONE
	AGING	40 Years	11 Years	5	6	ENG. ANALYSIS	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering Evaluation based on containment LOCA environment.
- 2) ASCO Test Report No. AQS-21678/TR-Rev. A
- 3) FSAR, Appendix G, Figure G.3-4 & 5
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) Plant Design Life
- 6) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cnt Purge (2P) PLANT ID NO.: See Note 1 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA 170  FUNCTION: Position Indication  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Unit 2  LOCATION: Annulus 2 FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	2 Hours	200 Hours	1	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	200°F peak	2	4	TYPE TEST	NONE
	PRESSURE (PSIG)		14.7 psig peak	2	5	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	4	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$5.0 \times 10^5$ Rad Y @ 2 hours	$2.07 \times 10^8$ Rad Y	3	4	TYPE TEST	NONE
	AGING	40 Years	See Note 3	6	4	TYPE TEST	See Note 2&3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering Evaluation
- 2) PSAR, Appendix G, Figure G.3-4 & 5
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Acme-Cleveland Development Co.-Qualification of NAMCO Controls Limit Switch-Model EA-170, Rev. 1 Dated 7/24/78
- 5) Letter from Robert Kantner (NAMCO) to Paul T. Roska (NSP) dated November 18, 1980.
- 6) Plan. Design Life

## NOTES:

- 1) Limit Switches Valves: CV-31314, CV-31316, CV-31574, CV-31627, CV-31628, CV-31635
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) The qualification documentation for Aging pertaining to these components is currently being evaluated for inclusion in the bulletin. (See Doc. Ref. #4)

## APPENDIX A

## MASTER LIST

Rev. 2  
8/14/81SYSTEM: Containment Spray (CS)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
15-9	Motor (#11)		X
16-01	Motor (#12)		X
26-01	Motor (#21)		X
25-9	Motor (#22)		X
MV-32096	Valve Operator		X
MV-32097	Valve Operator		X
MV-32103	Valve Operator		X
MV-32105	Valve Operator		X
MV-32108	Valve Operator		X
MV-32109	Valve Operator		X
MV-32114	Valve Operator		X
MV-32116	Valve Operator		X

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Contmt Spray (CS) PLANT ID NO.: See Notes 1 & 2 COMPONENT: Motor  MANUFACTURER: Elec Machinery Mfg. Co.  MODEL NUMBER: None  FUNCTION: Motor for Contmt Spray Pump ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11,12,21, 22 Containment Spray Pumps LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Year	4	2, 3	ENG. EVAL.	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	2.8 x 10 <sup>6</sup> Rad Y @ 1 Year	10 <sup>8</sup> Rad Y	1	2, 3	ENG. EVAL.	See Note 3
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Design Review of Plant Shielding-Part I, January 1981
- 2) Letter March 25, 1980, Mr. B. Bondow - E-M to Mr. J. Sorenson - NSP.
- 3) NSC Letter to NSP-Dated 9/29/80-Component Aging Evaluation
- 4) Engineering Evaluation
- 5) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"

## NOTES:

- 1) Includes Motors: 15-9, 16-01, 26-01, 25-9.
- 2) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (See Doc. Ref. #5)
- 3) An Engineering Analysis is being performed to substantiate Documentation Reference 2.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
 SOCKET: 50-282 & 50-306

Rev. 5  
 8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALITY METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cont Spray (CS) PLANT ID NO.: See Notes 1 2 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-0  FUNCTION: Suction from RHR  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11,12,21, 22 Containment Spray Pumps LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Years	3	2	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	2.8 x 10 <sup>6</sup> Rad Y @ 1 Year	2 x 10 <sup>8</sup> Rad Y	1	2	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Design Review of Plant Shielding-Part I, January 1981
- 2) Westinghouse WCAP's 7744 of August, 1971 and 7410-L of December, 1970.
- 3) Engineering Evaluation
- 4) Fluor Power Services Project No. 21-7450-288;  
 "Report on Equipment Environments Outside Containment"

## NOTES:

- 1) Valves Include: MV-32096, MV-32097, MV-32108 & MV-32109.
- 2) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (See Doc. Ref. #4)



## SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cntmt Spray (CS) PLANT ID NO.: See Notes 1 & 2 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-0  FUNCTION: Spray Isol  ACCURACY: SPEC. NR DEMON. NR Disch Valve SERVICE: #11,12,21, 22 CS Pumps LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Years	3	2	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$2.8 \times 10^6$ Rad Y @ 1 Year	$2 \times 10^8$ Rad Y	1	2	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Design Review of Plant Shielding-Part I, January 1981
- 2) Westinghouse WCAP's 7410-L of December 1970 and 7744 of August, 1971
- 3) Engineering Evaluation
- 4) Fluor Power Services Project No. 21-7450-288; "Report on Equipment Environments Outside Containment"

## NOTES:

- 1) Valves Included: MV-32103, MV-32105, MV-32114 & MV-32116.
- 2) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (See Doc. Ref. #4)



## MASTER LIST

SYSTEM: Instrumentation & Protection (Accum. 11, 12, 21 & 22)

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. & Prot. PLANT ID NO.: See Note 1 COMPONENT: Pressure Transmitter  MANUFACTURER: Foxboro  MODEL NUMBER: ELIGM-SAD1  FUNCTION: Accum. Pres  ACCURACY: SPEC. 25% DEMON.  SERVICE: Accum. #11, 12, 21 & 22 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: No	OPERATING TIME	5 Minutes	See Note 2	4	N/A	N/A	See Note 2
	TEMP Deg. F	See Attached Environmental Profile	See Note 2	1	N/A	N/A	See Note 2
	PRESSURE (PSIG)		See Note 2	1	N/A	N/A	See Note 2
	RELATIVE HUMIDITY (%)	100%	See Note 2	5	N/A	N/A	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 2	2	N/A	N/A	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Radsβ	See Note 2	3 7	N/A	N/A	See Note 2
	AGING	40 Years	See Note 2	6	N/A	N/A	See Note 2
	SUB-MERGENCE	See Note 2	See Note 2	N/A	N/A	N/A	See Note 2

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6, Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 7, Table 7.5.2
- 5) FSAR Chap. 5, Table 5.4-24
- 6) Plant Design Life
- 7) DOR Guidelines

## NOTES:

- 1) Includes items: PT-21164, 21165, 21166, 21167, 21168, 21169, 21170 & 21171.
- 2) Not environmentally qualified. Foxboro NE 10 Series transmitters will be installed and located above flood elevation. The NE 10 Series transmitters are being qualified to IEEE-323, 1974 by the joint utility qualification program effort.

## MASTER LIST

SYSTEM: Instrumentation & Protection (Containment Sump)

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. & Prot. PLANT ID NO.: See Note 1 COMPONENT: Level Transmitter  MANUFACTURER: Magnetrol  MODEL NUMBER: A-153-FEP/VPXY-TD  FUNCTION: Cntmt Sump Level Ind.  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Cntmt Sump "B" Units 1 & 2 LOCATION: Containment  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: No	OPERATING TIME	3 Hours	4 Hours	4	5	TYPE TEST	See Note 2
	TEMP Deg. F	See Attached Environmental Profile	275°F peak	1	5	TYPE TEST	See Note 2
	PRESSURE (PSIG)		30 psig & 100 psig	1	5	TYPE TEST	See Note 2
	RELATIVE HUMIDITY (%)	100%	100%	6	5	TYPE TEST	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5		2			See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rads β		3 8			See Note 2
	AGING	40 Years		7			See Note 2
	SUB-MERGENCE		4 Hours		5		See Note 2

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6, Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 7, Table 7.5-2
- 5) Magnetrol Test Report 9306, April 26, 1972.  
Performed by Acton Environmental Testing Corp.
- 6) FSAR Chap. 5, Table 5.4-4
- 7) Plant Design Life
- 8) DOR Guidelines

## NOTES:

- 1) Includes: 16796, 16811, 16909, 16910
- 2) Narrow and wide range containment sump level instruments will be installed by January 1, 1982. Instruments will provide Control Room indication and will be qualified to IEEE-323-1974.

## APPENDIX A

## MASTER LIST

Rev. 1  
5/7/80SYSTEM: Instrumentation & Protection (Feedwater)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
23021	Flow Transmitter		X
23022	Flow Transmitter		X
23023	Flow Transmitter		X
23024	Flow Transmitter		X
23025	Flow Transmitter		X
23026	Flow Transmitter		X
23027	Flow Transmitter		X
23028	Flow Transmitter		X
MV-32023	Valve Operator		X
MV-32024	Valve Operator		X
MV-32028	Valve Operator		X
MV-32029	Valve Operator		X



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. & Prot. PLANT ID NO.: (FW) See Note 1 COMPONENT: Flow Transmitter  MANUFACTURER: Foxboro  MODEL NUMBER: EI3DH (MCA)  FUNCTION: Stm Gen FW Init (Loop A & B)  ACCURACY: SPEC. DEMON.  SERVICE: Feedwater  LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	30 Minutes	2 Hours	3	2, 5	SIMULT. TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	350°F peak	1	2, 5	SIMULT. TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	2, 5	SIMULT. TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	7	2, 5	SIMULT. TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rads Y	NOT REQUIRED	4	N/A	N/A	NONE
	AGING	40 Years	12yrs-elastomer 40yrs-elec-tronics	6	5	MATHEMATI-CAL ANAL.	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) WCAP 8541 of July, 1975.
- 3) Engineering Evaluation
- 4) Design Review of Plant Shielding-Part I, Janaury 1981
- 5) EDS Report No. 04-0910-07, June 1981
- 6) Plant Design Life
- 7) PSAR Appendix I, Paragraph I.11.1

## NOTES:

- 1) Includes: 23021, 23022, 23023, 23024, 23025, 23026, 23027 & 23028
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

A.10.1

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF.*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. & Prot. PLANT ID NO.: (FW) See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-3  FUNCTION: FW & Contmt Isol  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11, 12, 21 & 22 Stm Generator LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	5 Minutes	7 Days	6	2	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	2	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	2	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	2	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad Y	2 x 10 <sup>8</sup> Rad Y	3	2	TYPE TEST	NONE
	AGING	40 Years	40 Years	4	2	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Westinghouse WCAP's 7410-L of December, 1970 and 7744 of August, 1971.
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Plant Design Life
- 5) FSAR Appendix I, Paragraph I.11.1
- 6) Engineering Evaluation

## NOTES:

- 1) Valves Include: MV-32023, MV-32024, MV-32028, MV-32029
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

## APPENDIX A

## MASTER LIST

Rev. 4  
10/24/80SYSTEM: Instrumentation & Protection (R.C.)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
None	Accelerometer	X	
None	Charge Amp	X	
15331	RTD (wide)	X	
15332	RTD (wide)	X	
15333	RTD (wide)	X	
15334	RTD (wide)	X	
15314	RTD (wide)	X	
15315	RTD (wide)	X	
15322	RTD (wide)	X	
15323	RTD (wide)	X	
21101	Reactor Pressure (wide)	X	
21102	Reactor Pressure (wide)	X	
21152	Reactor Pressure (wide)	X	
21159	Reactor Pressure (wide)	X	
15456	Incore Thermocouple Ref Junction Box	X	
15457	Incore Thermocouple Ref Junction Box	X	
15458	Incore Thermocouple Ref Junction Box	X	
15459	Incore Thermocouple Ref Junction Box	X	
15610	Incore Thermocouple Ref Junction Box	X	
15611	Incore Thermocouple Ref Junction Box	X	

## APPENDIX A

## MASTER LIST

Rev. 4  
10/24/80SYSTEM: Instrumentation & Protection (R.C.) CONT.

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
15612	Incore Thermocouple Ref Junction Box	X	
15613	Incore Thermocouple Ref Junction Box	X	
21146	Pressurizer Pressure	X	
21147	Pressurizer Pressure	X	
21148	Pressurizer Pressure	X	
21150	Pressurizer Pressure	X	
21154	Pressurizer Pressure	X	
21155	Pressurizer Pressure	X	
21156	Pressurizer Pressure	X	
21157	Pressurizer Pressure	X	
24041	Pressurizer Level	X	
24042	Pressurizer Level	X	
24043	Pressurizer Level	X	
24046	Pressurizer Level	X	
24047	Pressurizer Level	X	
24048	Pressurizer Level	X	

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Coolant PLANT ID NO.: None	OPERATING TIME	See Note 2	See Note 1	4	N/A	N/A	See Note 1
COMPONENT: Accelerometer	TEMP Deg. F	See Attached Environmental Profile	See Note 1	1	N/A	N/A	See Note 1
MANUFACTURER: Endevco	PRESSURE (PSIG)		See Note 1	1	N/A	N/A	See Note 1
MODEL NUMBER: 2273 AM20	RELATIVE HUMIDITY (%)	100%	See Note 1	3	N/A	N/A	See Note 1
FUNCTION: Rlf Valve Monitoring	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 1	6	N/A	N/A	NONE
ACCURACY: SPEC. NR DEMON. NR	RADIATION	3.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 1	2 7	N/A	N/A	See Note 1
SERVICE: Pressure Relief Unit 1 & 2 LOCATION: Containment	AGING	40 Years	See Note 1	5	N/A	N/A	See Notes 1&3
FLOOD LEVEL ELEV: 706 ABOVE FLOOD LEVEL: Yes	SUB- MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) Design Review of Plant Shielding-Part I, January, 1981
- 3) FSAR Chapter 5, Table 5.4-4
- 4) Engineering Evaluation
- 5) Plant Design Life
- 6) FSAR Chap. 6 Section 6.4.3
- 7) DOR Guidelines

## NOTES:

- 1) Babcock & Wilcox in charge of qualification program. Test presently scheduled to be completed by end of second quarter, 1982.
- 2) Valve monitoring system to be qualified for post accident conditions up to 30 days.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.

A.1.1.1



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Coolant PLANT ID NO.: None COMPONENT: Charge Amp  MANUFACTURER: Unholz-Dickey  MODEL NUMBER: 22CA-2TR  FUNCTION: Rlf Valve Monitoring  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Pressure Relief Units 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	See Note 2	See Note 1	4	N/A	N/A	See Note 1
	TEMP Deg. F	See Attached Environmental Profile	See Note 1	1	N/A	N/A	See Note 1
	PRESSURE (PSIG)		See Note 1	1	N/A	N/A	See Note 1
	RELATIVE HUMIDITY (%)	100%	See Note 1	3	N/A	N/A	See Note 1
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 1	6	N/A	N/A	NONE
	RADIATION	3.0 x 10 <sup>7</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad B	See Note 1	2 7	N/A	N/A	See Note 1
	AGING	40 Years	See Note 1	5	N/A	N/A	See Notes 1&3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) Design Review of Plant Shielding-Part I, January 1981
- 3) FSAR Chapter 5 Table 5.4-4
- 4) Engineering Evaluation
- 5) Plant Design Life
- 6) FSAR Chap. 6 Section 6.4.3
- 7) DOR Guidelines

## NOTES:

- 1) Babcock & Wilcox in charge of qualification program. Testing presently scheduled to be completed by end of second quarter, 1982.
- 2) Valve monitoring system to be qualified for post accident conditions up to 30 days.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. & Prot. PLANT ID NO.: See Note 1 COMPONENT: RTD  MANUFACTURER: W/SSTMN  MODEL NUMBER: 11901B  FUNCTION: RCS Temp. probe  ACCURACY: SPEC. 5% DEMON. 2-3%  SERVICE: RCS 1 & 2  LOCATION: Containment FLOOD LEVEL ELEV: 706  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	3 Days	2 Weeks	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	120°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		66 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 10.0	2	4	TYPE TEST	See Note 3
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	5.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	4 8	TYPE TEST ENG. ANAL.	See Note 4
	AGING	40 Years	12 Years	7	4	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) WCAP 9157, Sept. 1977
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) EDS Calculation File No. 0910-204EQ-01
- 9) DOR Guidelines

## NOTES:

- 1) Includes: 15331, 15332, 15334, 15315, 15322, 15323, 15333
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Consists of: 1.146% boric acid (H<sub>3</sub>BO<sub>3</sub>) by weight buffered with 17% sodium hydroxide (NaOH). See Introductory Letter, this response.
- 4) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. & Prot. PLANT ID NO.: 15314 COMPONENT: RTD MANUFACTURER: Rosemount MODEL NUMBER: 176 K S FUNCTION: RCS Temp Wide ACCURACY: SPEC. 5% DEMON. 2-3% SERVICE: RCS 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	3 Days	2 Weeks	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	320°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		66 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 10.0	2	4	TYPE TEST	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	5.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	4 8	TYPE TEST ENG. ANAL.	See Note 3
	AGING	40 Years	12 Years	7	4	TYPE TEST	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) WCAP 9157, Sept. 1977
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) EDS Calculation File No. 0910-204EQ-01
- 9) DOR Guidelines

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 1.146% boric acid (H<sub>3</sub>BO<sub>3</sub>) by weight buffered with 17% sodium hydroxide (NaOH). See Introductory Letter, this response.
- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reac Clnt Sys PLANT ID NO.: (RCS) 21101 & 21152 COMPONENT: Press Xmtr  MANUFACTURER: Foxboro  MODEL NUMBER: E11GH  FUNCTION: RCS Wide Range  ACCURACY: SPEC. 25% DEMON.  SERVICE: Unit 1 RCS  LOCATION: Containment FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	30 Days	See Note 1	5	N/A	N/A	See Note 1
	TEMP Deg. F	See Attached Environmental Profile	See Note 1	1	N/A	N/A	See Note 1
	PRESSURE (PSIG)		See Note 1	1	N/A	N/A	See Note 1
	RELATIVE HUMIDITY (*)	100%	See Note 1	4	N/A	N/A	See Note 1
	CHEM CAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0 - 10.5	See Note 1	2	N/A	N/A	See Note 1
	RADIATION	3.0 x 10 <sup>7</sup> RadsY 2.0 x 10 <sup>8</sup> RadsB	See Note 1	3 7	N/A	N/A	See Note 1
	AGING	40 Years	See Note 1	6	N/A	N/A	See Note 1
	SUB-MERGENCE	NOT EQUIPED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) DOR Guidelines

## NOTES:

- 1) Transmitters are not environmentally qualified. Qualified Rosemount transmitters, model 1153GD9, will be installed by January 1, 1982 (P.O. # MQ 05003). These transmitters are being qualified to IEEE-323, 1974 by the Joint Utility Qualification Program effort. These instruments will provide wide range RCS pressure indication in the control room and input to the subcooling meter. Plant ID numbers will be: 1-PT-709 & 1-PT-710.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reac Clnt Sys PLANT ID NO.: (RCS) 21102 & 21159 COMPONENT: Press Xmtr MANUFACTURER: Rosemount MODEL NUMBER: 1153 HAG FUNCTION: RCS Wide Range ACCURACY: SPEC. 25% DEMON. SERVICE: Unit 2 RCS LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	30 Days	See Note 1	5	N/A	N/A	See Note 1
	TEMP Deg. F	See Attached Environmental Profile	See Note 1	1	N/A	N/A	See Note 1
	PRESSURE (PSIG)		See Note 1	1	N/A	N/A	See Note 1
	RELATIVE HUMIDITY (%)	100%	See Note 1	4	N/A	N/A	See Note 1
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0 - 10.5	See Note 1	2	N/A	N/A	See Note 1
	RADIATION	3.0 x 10 <sup>7</sup> RadsY 2.0 x 10 <sup>8</sup> Radsβ	See Note 1	3 7	N/A	N/A	See Note 1
	AGING	40 Years	See Note 1	6	N/A	N/A	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) DOR Guidelines

## NOTES:

- 1) Transmitters are not environmentally qualified. Qualified Rosemount transmitters, model 1153GA9, will be installed by January 1, 1982 (P.O. # MQ 05003). These instruments will provide wide range RCS pressure indication in the control room and input to the subcooling meter. Plant ID numbers will be: 2-PT-709 and 2-PT-710.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Rac Clnt Sys PLANT ID NO.: (RCS) See Note 1 COMPONENT: Incore Thermocouple Ref Junc Box MANUFACTURER: ETI  MODEL NUMBER: K81  FUNCTION: Temperature Indication  ACCURACY: SPEC, DEMON.  SERVICE: Subclg Meter  LOCATION: Cont 1 & 2 FLOOD LEVEL ELEV: 706 ABOVE FLOOD LEVEL: Yes	OPERATING TIME	30 Days	See Note 2	6	N/A	N/A	See Note 2
	TEMP Deg. F	See Attached Environmental Profile	See Note 2	1	N/A	N/A	See Note 2
	PRESSURE (PSIG)		See Note 2	1	N/A	N/A	See Note 2
	RELATIVE HUMIDITY (%)	100%	See Note 2	4	N/A	N/A	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 2	2	N/A	N/A	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 2	3 7	N/A	N/A	See Note 2
	AGING	40 Years	See Note 2	5	N/A	N/A	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Plant Design Life
- 6) Engineering Evaluation
- 7) DOR Guidelines

## NOTES:

- 1) Inst Number: 15456, 15457, 15458, 15459, 15610, 15611, 15612, 15613
- 2) Not environmentally qualified. New Incore Thermocouple Ref. Junction Boxes will be installed in an area not subjected to a harsh environment.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reac Cnt Sys PLANT ID NO.: (RCS) See Notes 1 & 3 COMPONENT: Press Trans MANUFACTURER: Foxboro MODEL NUMBER: ELIGM-SAE 1 (MCA/RRW) FUNCTION: Pzr Press ACCURACY: SPEC. DEMON. SERVICE: Pzr LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	2 Hours	5	4, 8	TYPE TEST & ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	350°F peak	1	4, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		60 psig peak	1	4, 8	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	6	4, 8	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4, 8	TYPE TEST & ENG. ANAL.	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ	3	4, 8	TYPE TEST & ENG. ANAL.	See Note 5
			2.0 x 10 <sup>8</sup> Rad β	10	9		
	AGING	40 Years	33yrs-elastomer 14yrs-elec-tronics	7	8	MATHEMATICAL ANAL.	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) WCAP 8541 "Seismic & Environmental Testing of Foxboro Transmitters", July 1975
- 5) FSAR Chap. 7 Page 7.5-7
- 6) FSAR Chap. 5 Table 5.4-4
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-07, June 1981

## NOTES:

- 1) Includes: 21146, 21147, 21148, 21150, 21154, 21155, 21156, 21157
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) This model transmitter is being qualified to IEEE-323, 1974 by the Joint Utility Qualification Program effort.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) EDS Calculation File No. 0910-204EQ-01
- 10) DOR Guidelines

NOTES:

- 4) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide ( $NaOH$ ) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
2/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reac Cnt Sys PLANT ID NO.: (RCS) See Notes 1 & 2 COMPONENT: Level Trans.  MANUFACTURER: Barton  MODEL NUMBER: P386-351  FUNCTION: Pzr Liquid Level  ACCURACY: SPEC. 25% DEMON. 13.5%  SERVICE: Pzr 1 & 2  LOCATION: Containment FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	24 Hours	5	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	288°F peak	1	4	TYPE TEST	See Note 2
	PRESSURE (PSIG)		60 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	6	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 9.25	2	4	TYPE TEST	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 8	4, 9 10	TYPE TEST ENG. ANAL.	See Note 3
	AGING	40 years	See Note 2	7	N/A	N/A	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) WCAP 7410L - December, 1970
- 5) FSAR Chap. 7 Page 7.5-7
- 6) FSAR Chap. 5 Table 5.4-4
- 7) Plant Design Life
- 8) DOR Guidelines
- 9) EDS Report No. 04-0910-07, June 1981
- 10) EDS Calculation File No. 0910-204EQ-01

## NOTES:

- 1) Includes: 24041, 24042, 24043, 24046, 24047, 24048
- 2) Qualified life could not be established. Intend to purchase and install Barton, Model 764 transmitters. Barton is presently qualifying this model to IEEE-323, 1974.
- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## APPENDIX A

## MASTER LIST

Rev. 4  
10/24/80SYSTEM: Main & Aux Steam & Steam Dump (MS)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
SC 35084	Signal Converter		X
SC 35085	Signal Converter		X
SC 35028	Signal Converter		X
SC 35029	Signal Converter		X
SV 33201	Solenoid Valve		X
SV 33202	Solenoid Valve		X
SV 33255	Solenoid Valve		X
SV 33256	Solenoid Valve		X
SV 33261	Solenoid Valve		X
SV 33265	Solenoid Valve		X
SV 33266	Solenoid Valve		X
MV 32016	Valve Operator		X
MV 32017	Valve Operator		X
MV 32019	Valve Operator		X
MV 32020	Valve Operator		X
CV 31098	Limit Switch		X
CV 31099	Limit Switch		X
CV 31084	Limit Switch		X
CV 31089	Limit Switch		X
CV 31116	Limit Switch		X



## MASTER LIST

SYSTEM: Main & Aux Steam & Steam Dump (MS) CONT.

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Main & Aux Stm/ PLANT ID NO.: Stm Dump SC35084, SC35029 (MS) COMPONENT: Signal Converter  MANUFACTURER: Fisher Controls  MODEL NUMBER: 546  FUNCTION: S/G Rlf  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #1 Stm Gen  LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	3 Days	See Note 1	2	N/A	N/A	See Note 1
	TEMP Deg. F	See Attached Environmental Profile	See Note 1	3	N/A	N/A	See Note 1
	PRESSURE (PSIG)		See Note 1	3	N/A	N/A	See Note 1
	RELATIVE HUMIDITY (%)	100%	See Note 1	1	N/A	N/A	See Note 1
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad Y	NOT REQUIRED	4	N/A	N/A	NONE
	AGING	40 Years	See Note 1	5	N/A	N/A	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Appendix I Para I.11.1
- 2) Engineering Evaluation
- 3) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) Plant Design Life

## NOTES:

- 1) See Introductory Letter, this response.

A.12.1

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Main & Aux Stm/ PLANT ID NO.: Stm Dump SC 35085 SC 35028 (MS) COMPONENT: Signal Converter  MANUFACTURER: FSR  MODEL NUMBER: 546  FUNCTION: S/G Rlf  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #12 Stm Gen  LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	3 Days	See Note 1	2	N/A	N/A	See Note 1
	TEMP Deg. F	See Attached Environmental Profile	See Note 1	3	N/A	N/A	See Note 1
	PRESSURE (PSIG)		See Note 1	3	N/A	N/A	See Note 1
	RELATIVE HUMIDITY (%)	100%	See note 1	1	N/A	N/A	See Note 1
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad γ	NOT REQUIRED	4	N/A	N/A	NONE
	AGING	40 Years	See Note 1	5	N/A	N/A	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Appendix I Para I.11.1
- 2) Engineering Evaluation
- 3) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) Plant Design Life

## NOTES:

- 1) See Introductory Letter, this response.

A.12.2

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Main & Aux Stm/ PLANT ID NO.: Stm Dump See Note 1 (MS) COMPONENT: Solenoid Valve MANUFACTURER: Asco MODEL NUMBER: NP-8316E35E FUNCTION: MSIV's ACCURACY: SPEC. NR DEMON. NR SERVICE: #11 & #12 Stm Gen LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	1 Year	2	7	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	4	3, 7	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	4	3, 7	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	3, 7	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$< 10^3$ Rad Y	$1.5 \times 10^8$ Rad Y	5	3, 7	TYPE TEST & ENG. ANAL.	NONE
	AGING	40 Years	11 Years	6	7	ENG. ANAL.	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Appendix I, Para I.11.1
- 2) Engineering Evaluation
- 3) ASCO Test Report No. AQS-21678/TR-Rev. A
- 4) Fluor Power Services Project No. 21-7450-28R;  
"Report on Equipment Environments Outside Containment"
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) Plant Design Life
- 7) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Items include: SV-33201, SV-33202, SV-33255, SV-33256
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Main & Aux Stm/ PLANT ID NO.: Stm Dump See Note 1 (MS) COMPONENT: Solenoid Valve MANUFACTURER: ASCO MODEL NUMBER: NP-8316E35E FUNCTION: MSIV's & Cnt Isol ACCURACY: SPEC. NR DEMON. NR SERVICE: #21 & #22 Stm Gen LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	1 Year	2	7	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	4	3, 7	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	4	3, 7	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	3, 7	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$< 10^3$ Rad $\gamma$	$1.5 \times 10^8$ Rad $\gamma$	5	3, 7	TYPE TEST & ENG. ANAL.	NONE
	AGING	40 Years	11 Years	6	7	ENG. ANAL.	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Appendix I, Para I.11.1
- 2) Engineering Evaluation
- 3) ASCO Test Report No. AQS-21678/TR-Rev. A
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) Plant Design Life
- 7) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Items include: SV-33260, SV-33261, SV-33265, SV-33266
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Main & Aux Stm PLANT ID NO.: Stm Dump See Note 1 (MS) COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL NUMBER: SMB-00 FUNCTION: Stm Supl to Stm Drvn Aux Feed Pump ACCURACY: SPEC. NR DEMON. NR SERVICE: 11 & 12 Stm Aux Feed Pmp LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	16 Days	3	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	5	2	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	5	2	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	4	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$< 10^3$ Rad Y	$2 \times 10^8$ rad Y	6	2	TYPE TEST	NONE
	AGING	40 Years	40 Years	7	4	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Appendix I, Para I.11.1
- 2) Westinghouse WCAP's 7410-L of Dec 1970 & 7744 of Aug 1971
- 3) Engineering Evaluation
- 4) Limitorque Corp. Test Report No. B0003, Nov. 13, 1974
- 5) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 6) Design Review of Plant Shielding-Part I, January 1981
- 7) Plant Design Life

## NOTES:

- 1) Valves include: MV 32016, MV 32017, MV 32019, MV 32020
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Main & Aux Stm PLANT ID NO.: Stm Dump See Notes 1 & 3 (MS) COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA-180  FUNCTION: Open & Closed Indication  ACCURACY: SPEC. NR DEMON. NR  SERVICE: MSIV's & PO Reliefs LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	3 Days	30 Days	2	3	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	5	3	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	5	3	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	3	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad Y	2.74 x 10 <sup>8</sup> RadY	6	3	TYPE TEST	NONE
	AGING	40 Years	40 Years	4	3	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- FSAR Appendix I, Para I.11.1
- Engineering Evaluation
- Acme - Cleveland Development Co. Test Plan 8-31-77
- Plant Design Life
- Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- Design Review of Plant Shielding-Part I, January 1981

## NOTES:

- Switches for Valves:
  - MSIV's: CV 31098, CV 31099, CV 31116, CV 31117
  - S/G PO Reliefs: CV 31084, CV 31102
- Establishing Plant Preventive Maintenance Program to maintain qualification.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

NOTES:

- 3) Valves for Unit 1 (31098, 31099 & 31084) and Unit 2 (31102, 31116 & 31117) currently have model D2400X switches but will be replaced with model EA-180's during the fall of 1981 outage (Unit 1) and the spring of 1982 outage (Unit 2).

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Main & Aux Stm PLANT ID NO.: Stm Dump See Notes 1 & 3 (MS) COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA-180  FUNCTION: Open & Closed Indication  ACCURACY: SPEC. NR DEMON. NR  SERVICE: 12 & 22 S/G PO Reliefs LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	3 Days	30 Days	2	3	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	5	3	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	5	3	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	3	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad Y	2.04 x 10 <sup>8</sup> RadY	5	3	TYPE TEST	NONE
	AGING	40 Years	40 Years	4	3	TYPE TEST	See Note 2
SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) PSAR Appendix I, Para I.11.1
- 2) Engineering Evaluation
- 3) Acme - Cleveland Development Co. Test Plan 8-31-77
- 4) Plant Design Life
- 5) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 6) Design Review of Plant Shielding-Part I, January 1981

## NOTES:

- 1) Limit switches for valves: CV 31089, CV 31107
- 2) Establishing Plant Preventive Maintenance Program to Maintain qualification.
- 3) The valve for Unit 1 (CV 31089) and Unit 2 (CV 31107) currently have model D2400X switches but will be replaced with model EA-180's.

A.12.7

## APPENDIX A

## MASTER LIST

Rev. 4  
10/24/80SYSTEM: Main Steam/Steam Generator (Instrumentation & Protection)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
23013	Flow Transmitter	X	
23014	Flow Transmitter	X	
23015	Flow Transmitter	X	
23016	Flow Transmitter	X	
23017	Flow Transmitter	X	
23018	Flow Transmitter	X	
23019	Flow Transmitter	X	
23020	Flow Transmitter	X	
21200	Pressure Transmitter		X
21201	Pressure Transmitter		X
21202	Pressure Transmitter		X
21203	Pressure Transmitter		X
21204	Pressure Transmitter		X
21205	Pressure Transmitter		X
21206	Pressure Transmitter		X
21207	Pressure Transmitter		X
21208	Pressure Transmitter		X
21209	Pressure Transmitter		X
21210	Pressure Transmitter		X
21211	Pressure Transmitter		X



APPENDIX A  
MASTER LIST

Rev. 4  
10/24/80

SYSTEM: Main Steam/Steam Generator (Instrumentation & Protection) CONT.

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
24080	Level Transmitter	X	
24081	Level Transmitter	X	
24082	Level Transmitter	X	
24083	Level Transmitter	X	
24084	Level Transmitter	X	
24085	Level Transmitter	X	
24086	Level Transmitter	X	
24087	Level Transmitter	X	
24088	Level Transmitter	X	
24089	Level Transmitter	X	
24090	Level Transmitter	X	
24091	Level Transmitter	X	
24092	Level Transmitter	X	
24093	Level Transmitter	X	
24094	Level Transmitter	X	
24095	Level Transmitter	X	

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. & Prot. PLANT ID NO.: See Note 1 COMPONENT: Stm Flow Trans  MANUFACTURER: Barton  MODEL NUMBER: 384  FUNCTION: Steam Flow  ACCURACY: SPEC. DEMON.  SERVICE: Main Stm Containment, LOCATION: Unit 1  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	30 Minutes	See Note 2	5	N/A	N/A	See Note 2
	TEMP Deg. F	See Attached Environmental Profile	See Note 2	1	N/A	N/A	See Note 2
	PRESSURE (PSIG)		See Note 2	1	N/A	N/A	See Note 2
	RELATIVE HUMIDITY (%)	100%	See Note 2	4	N/A	N/A	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 2	2	N/A	N/A	See Note 2
	RADIATION	9.2 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 2	3 7	N/A	N/A	See Note 2
	AGING	40 years	See Note 2	6	N/A	N/A	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) DOR Guidelines

## NOTES:

- 1) Include: 23013, 23014, 23015, 23016
- 2) Will be replaced during the fall 1981 refueling outage. Replacement will be with Rosemount Model 1153 HD6 which is being qualified to IEEE-323, 1974 by the Joint Utility Qualification Program. (P.O. #MQ 05003).

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. & Prot. PLANT ID NO.: See Note 1 COMPONENT: Stm Flow Trans  MANUFACTURER: Rosemount  MODEL NUMBER: 1153HA6  FUNCTION: Steam Flow  ACCURACY: SPEC. DEMON.  SERVICE: Main Stm Containment, LOCATION: Unit 2  FLOOD LEVEL ELEV: 706  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	30 Minutes	30 Minutes	5	7, 8	SIMULT. TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	350°F peak	1	7, 8	SIMULT. TEST	NONE
	PRESSURE (PSIG)		120.3 psig peak	1	7, 8	SIMULT. TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	7, 8	SIMULT. TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 10.5	2	8	SIMULT. TEST	See Note 3
	RADIATION	9.2 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	4.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	7, 8 10	SIMULT. TEST ENG. ANAL.	See Note 4
	AGING	40 Years	40 Years	6	7	MATH ANALYSIS	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) EDS Report No. 04-0910-07, June 1981
- 8) RMT Report No. 3788, March 28, 1978
- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

## NOTES:

- 1) Include: 23017, 23018, 23019, 23020
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Consists of: 15000 ppm boron as boric acid (H<sub>3</sub>BO<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 4) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. Prot. PLANT ID NO.: See Note 1 COMPONENT: Stm Press Trans  MANUFACTURER: Foxboro  MODEL NUMBER: EllGM (MCA)  FUNCTION: Stm Press Indicator  ACCURACY: SPEC. DEMON. 8%  SERVICE: #21 Main Steam LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	2 Hours	3	2, 7	SIMULT. TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	350°F peak	4	2, 7	SIMULT. TEST	NONE
	PRESSURE (PSIG)		60 psig peak	4	2, 7	SIMULT. TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	2, 7	SIMULT. TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	M/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad Y	NOT REQUIRED	5	N/A	N/A	NONE
	AGING	40 Years	5yrs-elastomers 15yrs-elec-tronics	6	7	MATHEMATICAL ANAL.	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Chap. 7 Pg 7.5-12
- 2) WCAP 8541 of July 1975
- 3) Engineering Evaluation
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) Plant Design Life
- 7) EDS Report No. 04-0910-07, June 1981, Revision

## NOTES:

- 1) Include: 21206, 21207, 21208
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

A.13.4

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. Prot. PLANT ID NO.: See Note 1 COMPONENT: Stm Press Trans  MANUFACTURER: Foxboro  MODEL NUMBER: Ellgm (MCA)  FUNCTION: Stm Press Indicator  ACCURACY: SPEC. DEMON. 8%  SERVICE: Main Steam 12, 22 LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	2 Hours	3	2, 7	SIMULT. TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	350°F peak	4	2, 7	SIMULT. TEST	NONE
	PRESSURE (PSIG)		60 psig peak	4	2, 7	SIMULT. TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	2, 7	SIMULT. TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad Y	NOT REQUIRED	5	N/A	N/A	NONE
	AGING	40 Years	12yrs-elastomer 40yrs-elec-tronics	6	7	MATHEMATICAL ANAL.	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Chap. 7 Pg 7.5-12
- 2) WCAP 954i of July 1975
- 3) Engineering Evaluation
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) Plant Design Life
- 7) EDS Report No. 04-0910-07, June 1981

## NOTES:

- 1) Include: 21203, 21204, 21205, 21209, 21210, 21211
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Instr. Prot. PLANT ID NO.: See Note 1 COMPONENT: Stm Press Trans  MANUFACTURER: Foxboro  MODEL NUMBER: EllGM (MCA)  FUNCTION: Stm Press Indicator  ACCURACY: SPEC. DEMON. 8%  SERVICE: Main Steam 11  LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	2 Hours	3	2, 7	SIMULT. TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	350 <sup>C</sup> F peak	4	2, 7	SIMULT. TEST	NONE
	PRESSURE (PSIG)		60 psig peak	4	2, 7	SIMULT. TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	2, 7	SIMULT. TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	M/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad Y	NOT REQUIRED	5	N/A	N/A	NONE
	AGING	40 Years	7yrs-elastomers 2lyrs-elec-tronics	6	7	MATHEMATI-CAL ANAL.	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Chap. 7 Pg 7.5-12
- 2) WCAP 8541 of July 1975
- 3) Engineering Evaluation
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) Plant Design Life
- 7) EDS Report No. 04-0910-07, June 1981

## NOTES:

- 1) Include: 21200, 21201, 20202
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

## SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Inst. Prot. PLANT ID NO.: See Note 1 COMPONENT: Stm Level Trans  MANUFACTURER: Foxboro  MODEL NUMBER: EL3DH-SAM 1  FUNCTION: Stm Gen Level Indication  ACCURACY: SPEC. 25% DEMON.  SERVICE: Stm Gen  LOCATION: Containment FLOOD LEVEL: ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	30 Days	See Note 2	5	N/A	N/A	See Note 2
	TEMP Deg. F	See Attached Environmental Profile	See Note 2	1	N/A	N/A	See Note 2
	PRESSURE (PSIG)		See Note 2	1	N/A	N/A	See Note 2
	RELATIVE HUMIDITY (%)	100%	See Note 2	4	N/A	N/A	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 2	2	N/A	N/A	See Note 2
	RADIATION	3.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 2	3 7	N/A	N/A	See Note 2
	AGING	40 Years	See Note 2	6	N/A	N/A	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) DOR Guidelines

## NOTES:

- 1) Includes: 24080, 24081, 24082, 24083, 24084, 24085, 24086, 24087, 24088, 24089, 24090, 24091, 24092, 24093, 24094, 24095
- 2) Not environmentally qualified. Foxboro NE 10 Series transmitters will be installed by January 1, 1982 to provide wide range level indication. The NE 10 Series transmitters are being qualified to IEEE-323, 1974 by the Joint Utility Qualification Program. Plant ID No's will be 1LT-487, 1LT-488, 2LT-487, 2LT-488.

## APPENDIX A

## MASTER LIST

Rev. 5  
8/14/81SYSTEM: Reactor Coolant (RC)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
SV-33761	Solenoid Valve	X	
SV-33762	Solenoid Valve	X	
SV-33763	Solenoid Valve	X	
SV-33764	Solenoid Valve	X	
MV-32195	Valve Operator	X	
MV-32196	Valve Operator	X	
MV-32197	Valve Operator	X	
MV-32198	Valve Operator	X	
CV-31231	Limit Switch	X	
CV-31232	Limit Switch	X	
CV-31233	Limit Switch	X	
CV-31234	Limit Switch	X	
SV-37035	Solenoid Valve	X	
SV-37036	Solenoid Valve	X	
SV-37037	Solenoid Valve	X	
SV-37038	Solenoid Valve	X	
SV-37039	Solenoid Valve	X	
SV-37040	Solenoid Valve	X	
SV-37091	Solenoid Valve	X	
SV-37092	Solenoid Valve	X	

APPENDIX A  
MASTER LIST

Rev. 5  
8/14/81

SYSTEM: Reactor Coolant (RC) CONT.

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# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-262 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Coolant PLANT ID NO.: See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limatorque  MODEL NUMBER: SMB-00  FUNCTION: Press Relief Isoi Valve  ACCURACY: SPEC. NR DEMON. NR  SEPVICE: Pzr 1 & 2  LOCATION: Containment FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	16 Days	6	7	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	7	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.85	2	4	TYPE TEST	See Note 3
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ	2.04 x 10 <sup>8</sup> Rad γ	3	4	TYPE TEST ENG. ANAL.	See Note 4
		2.0 x 10 <sup>8</sup> Rad β	2.00 x 10 <sup>6</sup> Rad β	9	10		
	AGING	40 Years	40 Years	8	7	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) WCAP 7410-L-December 1970;  
WCAP 7744-August 1971
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Limatorque Corp. Report No. B0003, Nov. 13, 1974
- 8) Plant Design Life

## NOTES:

- 1) Valves Include: MV 32195, MV 32196, MV 32197  
MV 32198
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Consists of: 1.5% solution by weight boric acid (H<sub>3</sub>BO<sub>3</sub>) buffered to a pH of 7.85 with sodium hydroxide (NaOH). See Introductory Letter, this response.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

A.14.1.a

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Coolant PLANT ID NO.: (RC) SV-33763 & SV-33764 COMPONENT: Solenoid Valve  MANUFACTURER: Asco  MODEL NUMBER: NP831654E  FUNCTION: Pzr Relief Valve  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Pzr Unit 2  LOCATION: Containment FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	1 Year	5	8	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	6, 8 10	TYPE TEST ENG. ANAL.	See Note 3
	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Asco Test Report No. AQS-21678/TR-Rev-A
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981
- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value 10.5.
- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Coolant PLANT ID NO.: (RC) See Notes 1 & 2 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA-180  FUNCTION: Position Indication Pzr Relief Valve ACCURACY: SPEC. NR DEMON. NR  SERVICE: Pzr Unit 1 & 2  LOCATION: Containment FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	30 Days	5	6	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	6	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	6	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6	TYPE TEST	See Note 4
	RADIATION	$9.2 \times 10^6$ Rad $\gamma$ $2.0 \times 10^8$ Rad $\beta$	$2.04 \times 10^8$ Rad $\gamma$ $2.00 \times 10^8$ Rad $\beta$	3	6	TYPE TEST ENG. ANAL.	See Note 5
				8	9		
	AGING	40 Years	40 Years	7	6	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Acme-Cleveland Development Co. Test Plan 8/31/77
- 7) Plant Design Life
- 8) LOR Guidelines

## NOTES:

- 1) Switches for valves: CV-31231, CV-31232, CV-31233, CV-31234.
- 2) Will install Conax fittings to hermetically seal switch during next outage for those items (CV-31231 & CV-31232) in Unit One. Items in Unit 2 (CV-31233 & CV-31234) have been completed P.O. #05427.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

9) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide ( $NaOH$ ) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Coolant PLANT ID NO.: (RC) SV-33761 & SV-33762 COMPONENT: Solenoid Valve  MANUFACTURER: Asco  MODEL NUMBER: NP-831654E  FUNCTION: Pzr Relief Valve  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Pzr Unit 1  LOCATION: Containment FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	1 Year	5	8	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	6, 8 10	TYPE TEST & ENG. ANAL.	See Note 3
	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Asco Test Report AQS-21678/TR-Rev. A
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EOS Calculation File No. 0910-204EQ-01

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 0  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Cool int PLANT ID NO.: (RC) See Note 1 COMPONENT: Solenoid Valve MANUFACTURER: Target Rock Corp. MODEL NUMBER: 80B-001 FUNCTION: RX Vessel Head Vent ACCURACY: SPEC. DEMON. SERVICE: Unit 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	7 Days	See Note 2	5	N/A	N/A	See Note 2
	TEMP Deg. F	See Attached Environmental Profile	See Note 2	4	N/A	N/A	See Note 2
	PRESSURE (PSIG)		See Note 2	4	N/A	N/A	See Note 2
	RELATIVE HUMIDITY (%)	100%	See Note 2	3	N/A	N/A	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.5-10.5	See Note 2	2	N/A	N/A	See Note 2
	RADIATION	3.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 2	1 8	N/A	N/A	See Note 2
	AGING	40 Years	See Note 2	6	N/A	N/A	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Design Review of Plant Shielding-Part I, January 1981
- 2) FSAR Chapter 6 Section 6.4.3
- 3) FSAR Chapter 5 Table 5.4-4
- 4) FSAR Section 14 Figure 14.2-23a, Amendment 12
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) Target Rock Corp. Environmental Test Report #1857
- 8) DOR Guidelines

## NOTES:

- 1) Valves include: SV-37035, SV-37037, SV-37039, SV-37036, SV-37038, SV-37040, SV-37091, SV-37093 SV-37095, SV-37092, SV-37094 & SV-37096
- 2) The qualification documentation pertaining to these components is currently being evaluated for inclusion in the bulletin. (See Doc. Ref #7)

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 0  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Coolant PLANT ID NO.: (RC) 1-PT-729 & 2-PT-729 COMPONENT: Pressure Transmitter  MANUFACTURER: Rosemount  MODEL NUMBER: 1153GA9  FUNCTION: RX Vessel Head Vent Leak Detection ACCURACY: SPEC. DEMON.  SERVICE: Unit 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	7 Days	30 Days	5	7, 8	SIMULT. TEST ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	350°F peak	1	7, 8	SIMULT. TEST ENG. ANAL.	NONE
	PRESSURE (PSIG)		120.3 psig peak	1	7, 8	SIMULT. TEST ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	7	SIMULT. TEST	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH/ Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	7	SIMULT. TEST	NONE
	RADIATION	3.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	4.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 10	7, 8 9	SEQUENTIAL TEST ENG. ANAL.	See Note 3
	AGING	40 Years	35 Years	6	8	MATH. ANAL.	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chapter 6 Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chapter 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) Rosemount Report #3788, March 28, 1978
- 8) EDS Report No. 04-0910-07, June 1, 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) EDS Calculation File No. 0910-204EQ-01
- 10) DOR Guidelines

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## MASTER LIST

10/24/80

SYSTEM: Radiation Monitoring (RD)

[illegible]



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
 LOCKER: 50-282 & 50-306

Rev. 5  
 8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Rad Monitoring PLANT ID NO.: (RD) See Notes 1 & 2 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA-180  FUNCTION: Containment Isolation  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Rad Monitoring Unit 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	30 Days	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ	2.04 x 10 <sup>8</sup> Rad γ	3	4	TYPE TEST ENG. ANAL.	See Note 5
		2.0 x 10 <sup>8</sup> Rad β	2.00 x 10 <sup>8</sup> Rad β	8	9		
	AGING	40 Years	40 Years	7	4	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Acme-Cleveland Development Co. Test Plan 8-31-77
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) DOR Guidelines

## NOTES:

- 1) Switches for Valves: CV 31019, CV 31092, CV 31643, CV 31129 (open indication switches)
- 2) Will install Conax fittings to hermetically seal switch during the fall '81 outage for items in Unit 1 (CV-31019 & CV-31092). Items in Unit 2 (CV-31643 & CV-31129) have been completed.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

9) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Consists of: 0.28 molar boric (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide ( $NaOH$ ) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Rad Monitoring PLANT ID NO.: (RD) See Notes 1 & 2 COMPONENT: Limit Switches MANUFACTURER: Namco MODEL NUMBER: EA-180 FUNCTION: Containment Isolation ACCURACY: SPEC. NR DEMON. NR SERVICE: Rad Monitoring Unit 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	30 Days	5	6	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	6	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	6	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad B	2.04 x 10 <sup>8</sup> Rad Y 2.00 x 10 <sup>8</sup> Rad B	3 8	6 9	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	7	6	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Acme-Cleveland Development Co. Test Plan 8-31-77
- 7) Plant Design Life
- 8) DOR Guidelines

## NOTES:

- 1) Switches for Valves: CV 31019, CV 31092, CV 31643, CV 31129 (closed indication switches)
- 2) Valves for Unit 2 (CV-31643 & CV-31129) have been completed. Valves for Unit 1 (CV-31019 & CV-31092) currently have Model D2400X switches but will be replaced with EA-180's and a conax seal during the fall of '81 outage.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.

A.15.2

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

9) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Consists of: 0.28 molar born (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide ( $NaOH$ ) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

APPENDIX A  
MASTER LIST

Rev. 1  
5/7/80

SYSTEM: Reactor Hot Sampling (SM)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
SV-33655	Solenoid Valve	X	
SV-33661	Solenoid Valve	X	
SV-33738	Solenoid Valve	X	
SV-33739	Solenoid Valve	X	
SV-33740	Solenoid Valve	X	
SV-33741	Solenoid Valve	X	
CV-31296	Limit Switch	X	
CV-31298	Limit Switch	X	
CV-31300	Limit Switch	X	
CV-31303	Limit Switch	X	
CV-31305	Limit Switch	X	
CV-31307	Limit Switch	X	
CV-31637	Limit Switch	X	
CV-31638	Limit Switch	X	
CV-31639	Limit Switch	X	
CV-31640	Limit Switch	X	



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Rctr Hot Smplng PLANT ID NO.: (SM) SV33655 COMPONENT: Solenoid Valve  MANUFACTURER: Asco  MODEL NUMBER: NP-8320A186E  FUNCTION: Containment Isolation  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11 Reactor Coolant Sample Line LOCATION: Containment  FLOOD LEVEL ELEV: 706  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	1 Year	5	8	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad β	3 9	6, 8 10	TYPE TEST & ENG. ANAL.	See Note 3
	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Asco Test Report No. AQS-21678/TR-Rev. A.
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 3) Analysis demonstrated that the Delta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Rctr Hot Smplng PLANT ID NO.: (SM) SV33661	OPERATING TIME	24 Hours	1 Year	5	8	ENG. ANAL.	NONE
COMPONENT: Solenoid Valve	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
MANUFACTURER: Asco	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
MODEL NUMBER: NP-8320A186E	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
FUNCTION: Containment Isolation	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /N~ pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 2
ACCURACY: SPEC. NR DEMON. NR	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	6, 8 10	TYPE TEST ENG. ANAL.	See Note 3
SERVICE: #21 Reactor Coolant Sample Line LOCATION: Containment	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 1
FLOOD LEVEL ELEV: 706 ABOVE FLOOD LEVEL: Yes	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Asco Test Report No. AQS-21678/TR-Rev. A.
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Rctr Hot Smping PLANT ID NO.: (SM) SV-33738, SV-33739 COMPONENT: Solenoid Valve  MANUFACTURER: Asco  MODEL NUMBER: NP-8320A182E  FUNCTION: Containment Isolation  ACCURACY: SPEC. DEMON.  SERVICE: #11, #12 SG Sample Line LOCATION: Containment  FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	1 Year	5	8	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	6, 8 10	TYPE TEST & ENG. ANAL.	See Note 3
	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Asco Test Report No. AQS-21678/TR-Rev. A.
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Rctr Hot Smplg PLANT ID NO.: (SM) See Note 1 COMPONENT: Solenoid Valve	OPERATING TIME	24 Hours	1 Year	5	8	ENG. ANAL.	NONE
MANUFACTURER: Asco	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
MODEL NUMBER: NP-8320A182E	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
FUNCTION: Containment Isolation	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 4
ACCURACY: SPEC. DEMON.	RADIATION	9.2 x 10 <sup>6</sup> Rad Y	1.5 x 10 <sup>8</sup> Rad Y	3	6, 8	TYPE TEST & ENG. ANAL.	See Note 5
		2.0 x 10 <sup>8</sup> Rad B	2.0 x 10 <sup>8</sup> Rad B	9	10		
SERVICE: See Note 2	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 3
LOCATION: Containment	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706'							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Asco Test Report No. AQS-21678/TR-Rev. A.
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Valves include: SV33740 & SV33741
- 2) #21 & 22 Steam Generator Sample Lines.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 4) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204BQ-01

NOTES:

- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Retr Hot Smping PLANT ID NO.: (SM) See Note 1 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: D 2400X  FUNCTION: Closed Position Switches  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11 & #21 P2  LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	See Note 2	1	N/A	N/A	See Note 2
	TEMP Deg. F	See Attached Environmental Profile	See Note 2	2	N/A	N/A	See Note 2
	PRESSURE (PSIG)		See Note 2	2	N/A	N/A	See Note 2
	RELATIVE HUMIDITY (%)	100%	See Note 2	3	N/A	N/A	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 2	4	N/A	N/A	See Note 2
	RADIATION	2.6 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 2	5 6	N/A	N/A	See Note 2
	AGING	40 Years	See Note 2	7	N/A	N/A	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering Evaluation
- 2) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 3) FSAR Chapter 5, Table 5.4-4
- 4) FSAR Chapter 6, Section 6.4.3
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) DOR Guidelines
- 7) Plant Design Life

## NOTES:

- 1) Includes the switches on the following valves: CV-31296, CV-31298, CV-31300, CV-31303, CV-31305 & CV-31307.
- 2) Installation of qualified Valcor Valves, which have their own indication features, will be done by the fall of '81 (Unit 1) and spring of '82 (Unit 2) outages.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Rctr Hot Smplng PLANT ID NO.: (SM) See Notes 1 & 3 COMPONENT: Limit Switch	OPERATING TIME	2 Hours	30 Days	5	7	TYPE TEST.	NONE
MANUFACTURER: Namco	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	7	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	7	TYPE TEST	NONE
MODEL NUMBER: EA-180	RELATIVE HUMIDITY (%)	100%	100%	4	7	TYPE TEST	NONE
FUNCTION: Closed Position Switches	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	7	TYPE TEST	See Note 5
ACCURACY: SPEC. NR DEMON. NR	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 8	7 9	TYPE TEST ENG. ANAL.	See Note 6
SERVICE: See Note 2	AGING	40 Years	40 Years	6	7	TYPE TEST.	See Note 4
LOCATION: Containment	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) Acme-Cleveland Development Co. Test Plan 8-31-77
- 8) DOR Guidelines

## NOTES:

- 1) Switches for Valves: (V31637, CV31638, CV31639, CV31640)
- 2) 11, 12, 21 & 22 Steam Generator Sample Lines.
- 3) Limit Switches for Unit 2 (CV-31639 & CV-31640) have been completed. Limit Switches for Unit 1 (CV-31637 & CV-31638) currently have D2400X switches but will be replaced with EA-180's and a conax seal during the fall of '81 outage.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 5) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide ( $NaOH$ ) a pH value of 10.5.
- 6) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF <sup>1</sup>		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Reactor Hot Smplng PLANT ID NO.: (SM) See Note 1 COMPONENT: Limit Switch	OPERATING TIME	2 Hours	See Note 2	1	N/A	N/A	See Note 2
MANUFACTURER: Nanco	TEMP Deg. F	See Attached Environmental Profile	See Note 2	2	N/A	N/A	See Note 2
	PRESSURE (PSIG)		See Note 2	2	N/A	N/A	See Note 2
MODEL NUMBER: EA 180	RELATIVE HUMIDITY (%)	100%	See Note 2	3	N/A	N/A	See Note 2
FUNCTION: Open Position Switches	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 2	4	N/A	N/A	See Note 2
ACCURACY: SPEC. NR DEMON. NR	RADIATION	2.5 x 10 <sup>5</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad B	See Note 2	5 6	N/A	N/A	See Note 2
SERVICE: #11 & #21 Pwr	AGING	40 Years	See Note 2	7	N/A	N/A	See Note 2
LOCATION: Containment	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) Engineering Evaluation
- 2) PSAR Section 14, Figure 14.3-23a, Amendment 12
- 3) PSAR Chapter 5, Table 5.4-4
- 4) PSAR Chapter 6, Section 6.4.3
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) DOR Guidelines
- 7) Plant Design Life

## NOTES:

- 1) Includes the following valves: CV-31296, CV-31295, CV-31300, CV-31303, CV-31305 & CV-31307
- 2) Installation of qualified Valcor Valves, which have their own indication features, will be done by the fall of '81 (Unit 1) and spring of '82 (Unit 2) outages.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Retr Hot Smping PLANT ID NO.: (SM) See Notes 1 & 3 COMPONENT: Limit Switch  MANUFACTURER: Namco  MODEL NUMBER: EA-180  FUNCTION: Open Position Switches  ACCURACY: SPEC. NR DEMON. NR  SERVICE: See Note 2  LOCATION: Containment FLOOD LEVEL ELFV: 706  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	30 Days	6	4	TYPE TEST.	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 5
	RADIATION	9.2 x 10 <sup>6</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad Y 2.00 x 10 <sup>8</sup> Rad β	3 8	4 9	TYPE TEST EVC. ANAL.	See Note 6
	AGING	40 Years	40 Years	7	4	TYPE TEST.	See Note 4
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) PSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) PSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Acme-Cleveland Development Co. Test Plan 8-31-77
- 5) PSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) DOR Guidelines

## NOTES:

- 1) Switches for Valves: CV-31637, CV-31638, CV-31639, CV-31640
- 2) #11, 12, 21 & 22 Steam Generator Sample Lines.
- 3) Limit Switches for Unit 2 (CV-31639 & CV-31640) have been completed. Limit Switches for Unit 1 (CV-31637 & CV-31638) currently have EA-180 switches but will be replaced with EA-180's and a conax seal during the fall of '81 outage.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 5) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 6) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## MASTER LIST

1/9/81

SYSTEM: Residual Heat Removal (RH)

[illegible]



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 2  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Residual Heat PLANT ID NO.: Removai (RH) See Notes 1 & 2 COMPONENT: Motor  MANUFACTURER: Westinghouse  MODEL NUMBER: (Class B) HSD-P  FUNCTION: RHR Pump Motor  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11,12,21,22 RHR Pumps LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Year	3	1	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$3.3 \times 10^7$ Rad Y	$2 \times 10^8$ Rad Y	2	1	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) WCAP-8754 Rev. 1
- 2) Design Review of Plant Shielding-Part 1, January 1981
- 3) Engineering Evaluation
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"

## NOTES:

- 1) Includes Motors: 15-4, 16-4, 25-4, 26-4
- 2) These components are located in an area (695'-Aux Bldg) for which the only harsh environmental parameter is Accident Radiation. All other parameters will be addressed in the mild environment submittal. (Doc. Ref. #4)

A.17.1

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Residual Heat PLANT ID NO.: Removal (RH) See Notes 1, 2 & 3 COMPONENT: Limit Switches  MANUFACTURER: Namco  MODEL NUMBER: EA-170  FUNCTION: Open/Closed Indication  ACCURACY: SPEC. NR DEMON. NR  SERVICE: RHR Flow  LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Years	4	3	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$3.3 \times 10^7$ Rad Y	$2.07 \times 10^8$ RadY	2	3	TYPE TEST	NONE
	AGING	N/A	NOT REQUIRED	N/A	N/A	N/A	N/A
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Design Review of Plant Shielding-Part I, January 1981
- 3) Acme-Cleveland Development Co.-Qualification of Namco Controls Limit Switch-Model EA-170 Rev. 1 Dated 7/24/78
- 4) Engineering Evaluation

## NOTES:

- 1) Switches for Valves: CV-31235, CV-31236, CV-31237, CV-31238, CV-31239 & CV-31240
- 2) Valves for Unit 2 (CV-31238, CV-31239 & CV-31240) are complete. Valves for Unit 1 (CV-31235, CV-31236, CV-31237) currently have model D2400X switches but will be replaced with model EA-170's during the fall of '81 outage.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

NOTES:

- 3) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is Accident Radiation. All other parameters will be addressed in the mild environment submittal. (Doc. Ref. #4)

APPENDIX A  
MASTER LIST

Rev. 1  
5/7/80

SYSTEM: Safety Injection (SI)

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
MV-32069	Valve Operator	X	
MV-32070	Valve Operator	X	
MV-32071	Valve Operator	X	
MV-32072	Valve Operator	X	
MV-32073	Valve Operator		X
MV-32074	Valve Operator		X
MV-32075	Valve Operator		X
MV-32076	Valve Operator		X
MV-32077	Valve Operator		X
MV-32078	Valve Operator		X
MV-32081	Valve Operator		X
MV-32082	Valve Operator		X
MV-32083	Valve Operator		X
MV-32084	Valve Operator		X
MV-32085	Valve Operator		X
MV-32162	Valve Operator		X
MV-32185	Valve Operator		X
MV-32186	Valve Operator		X
MV-32187	Valve Operator		X
MV-32188	Valve Operator		X

## APPENDIX A

## MASTER LIST

Rev. 1  
5/7/80SYSTEM: Safety Injection (SI) CONT.

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
MV-32190	Valve Operator		X
MV-32191	Valve Operator		X
MV-32163	Valve Operator		X
MV-32206	Valve Operator		X
MV-32207	Valve Operator		X
MV-32167	Valve Operator	X	
MV-32168	Valve Operator	X	
MV-32170	Valve Operator	X	
MV-32171	Valve Operator	X	
MV-32172	Valve Operator	X	
MV-32173	Valve Operator	X	
MV-32174	Valve Operator	X	
MV-32175	Valve Operator	X	
MV-32176	Valve Operator		X
MV-32177	Valve Operator		X
MV-32178	Valve Operator		X
MV-32179	Valve Operator		X
MV-32180	Valve Operator		X
MV-32181	Valve Operator		X
MV-32184	Valve Operator		X



APPENDIX A  
MASTER LIST

Rev. 1  
5/7/80

SYSTEM: Safety Injection (SI) CONT.

COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
MV-32064	Valve Operator	X	
MV-32065	Valve Operator	X	
MV-32067	Valve Operator	X	
MV-32068	Valve Operator	X	
MV-32208	Valve Operator		X
MV-32209	Valve Operator		X
15-1	Motor (#11)		X
16-5	Motor (#12)		X
26-3	Motor (#21)		X
25-5	Motor (#22)		X
23073	Flow Transmitter		X
23074	Flow Transmitter		X
23075	Flow Transmitter		X
23076	Flow Transmitter		X

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

A.18.1

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Notes 1 & 2 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-00  FUNCTION: SI Pump Suct  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11,12,21 & 22 SI Pumps LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Year	4	2	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	1.8 x 10 <sup>6</sup> Rad Y @ 1 Year	2.0 x 10 <sup>8</sup> Rad Y	3	2	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Westinghouse WCAP's 7410-L of December, 1970 &  
7744 of August, 1971
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Engineering Evaluation

## NOTES:

- 1) Valves Included: MV-32163, MV-32162, MV-32190, MV-32191
- 2) These components are located in an area (695' - Aux) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (See Doc. Ref. #1)

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Notes 1 & 2 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-00  FUNCTION: FR RHR Exch  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11,12,21 & 22 SI Pumps LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Years	3	2	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	1.8 x 10 <sup>6</sup> Rad Y @ 1 Year	2.0 x 10 <sup>8</sup> Rad Y	4	2	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Westinghouse WCAP's 7410-L of December, 1970 &  
7744 of August, 1971
- 3) Engineering Evaluation
- 4) Design Review of Plant Shielding-Part I, January 1981

## NOTES:

- 1) Valves Included: MV-32206, MV-32207, MV-32208, MV-32209
- 2) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (See Doc. Ref. #1)

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) MV-32174 & MV-32175 COMPONENT: Valve Operator Limit Switches MANUFACTURER: Limitorque  MODEL NUMBER: SMB-3  FUNCTION: #21 Accum Isol & #22 Accum Isol ACCURACY: SPEC. NR DEMON. NR  SERVICE: #21 & 22 Accum LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: No	OPERATING TIME	5 Minutes	7 Days	6	7	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	7	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	7	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	NaOH/H <sub>3</sub> BO <sub>3</sub> pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 2
	RADIATION	$9.2 \times 10^6$ Rad $\gamma$ $2.0 \times 10^8$ Rad $\beta$	$2.04 \times 10^8$ Rad $\gamma$ $2.00 \times 10^8$ Rad $\beta$	3	4	TYPE TEST ENG. ANAL.	See Note 3
				9	10		
	AGING	40 Years	40 Years	8	4	TYPE TEST	See Note 1
	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chapter 6 Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Nuclear Power Station, Qualification Type Test Report, Limitorque Valve Actuators for PWR Services, Project # 600456, December 9, 1975.
- 5) FSAR Chapter 5, Table 5.4-4
- 6) Engineering Evaluation
- 7) WCAP 7410-L-December, 1970; WCAP 7744 - August 1971

## NOTES:

- 1) Establishing Plant Prevent Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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8/14/81

\*DOCUMENTATION REFERENCES:

- 8) Plant Design Life
- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

A.18.4

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Notes 1 & 2 COMPONENT: Valve Operator	OPERATING TIME	1 Year	> 1.1 Years	3	2	TYPE TEST	NONE
MANUFACTURER: Limitorque	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
MODEL NUMBER: SMB-1	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FUNCTION: RHR Suction	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
ACCURACY: SPEC. NR DEMON. NR	RADIATION	$1.8 \times 10^6$ Rad Y @ 1 Year	$2.0 \times 10^8$ Rad Y	4	2	TYPE TEST	NONE
SERVICE: Cntmt Sump "B" Units 1 & 2 LOCATION: Aux Bldg	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Westinghouse WCAP's 7410-L of December, 1970 &  
7744 of August, 1971
- 3) Engineering Evaluation
- 4) Design Review of Plant Shielding-Part I, January 1981

## NOTES:

- 1) Valves Included: MV-32077, MV-32078, MV-32178,  
MV-32179, MV-32180, MV-32181,  
MV-32075, MV-32076.
- 2) These components are located (695' - Aux Bldg) in  
an area for which the only harsh environmental  
parameter is accident radiation. All other  
parameters will be addressed in the mild  
environment submittal. (See Doc. Ref. #1)

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-00  FUNCTION: Cold Leg Injection  ACCURACY: SPEC. NR DEMON. NR  SERVICE: RCS 1 & 2  LOCATION: Annulus FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	16 Days	4	5	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	3	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	3	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	5	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	TYPE TEST	NONE
	RADIATION	3.1 x 10 <sup>5</sup> Rad γ @ 1 Hour	2.0 x 10 <sup>8</sup> Rad γ	2	3	TYPE TEST	NONE
	AGING	40 Years	40 Years	6	5	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Design Review of Plant Shielding-Part I, January 1981
- 3) Westinghouse WCAP's 7410-L of December, 1970 &  
7744 of August, 1971
- 4) Engineering Evaluation
- 5) Limitorque Corp. Report No. B0003, Nov. 13, 1974
- 6) Plant Design Life

## NOTES:

- 1) Valves Included: MV-32177 & MV-32073
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Note 1 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL NUMBER: SMB-00 FUNCTION: SI to RX Vessel ACCURACY: SPEC. NR DEMON. NR SERVICE: RX 1 & 2 LOCATION: Annulus FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	16 Days	4	5	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	3	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	3	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	4	5	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	3.1 x 10 <sup>5</sup> Rad Y @ 1 Hour	2.0 x 10 <sup>8</sup> Rad Y	2	3	TYPE TEST	NONE
	AGING	40 Years	40 Years	6	5	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Design Review of Plant Shielding-Part I, January 1981
- 3) Westinghouse WCAP's 7410-L of December, 1970 &  
7744 of August, 1971
- 4) Engineering Evaluation
- 5) Limitorque Corp. Report No. B0003, Nov. 13, 1974
- 6) Plant Design Live

## NOTES:

- 1) Valves Include: MV-32176 & MV-32074
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

## SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Notes 1 & 2 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-0  FUNCTION: PR RWST Suct  ACCURACY: SPEC. NR DEMON. NR  SERVICE: RHR Pumps #11,12,21 & 22 LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD IE/EL: NR	OPERATING TIME	1 Year	> 1.1 Years	4	1	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$1.8 \times 10^6$ Rad Y @ 1 Year	$2.0 \times 10^8$ Rad Y	2	1	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Westinghouse WCAP's 7410-L of December, 1970 & 7744 of August, 1971.
- 2) Design Review of Plant Shielding-Part I, January 1981
- 3) Fluor Power Services Project No. 21-7450-288; "Report on Equipment Environments Outside Containment"
- 4) Engineering Evaluation

## NOTES:

- 1) Valves Include: MV-32084, MV-32085, MV-32187, MV-32188
- 2) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (See Doc. Ref. #3)



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) MV-32071 & MV-32072 COMPONENT: Valve Operator Limit Switches MANUFACTURER: Limitorque MODEL NUMBER: SMB-1 FUNCTION: Accum Isol ACCURACY: S.F.C. NR DEMON. NR SERVICE: Accumulator 11 & 12 LOCATION: Containment FLOOD LEVEL ELEV: 706 ABOVE FLOOD LEVEL: No	OPERATING TIME	5 Minutes	7 Days	6	7	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	329°F peak	1	7	TYPE TEST	NONE
	PRESSURE (PSIG)		90 psig peak	1	7	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	7	TYPE TEST	NONE
	CHEMICAL SPRAY	NaOH/H <sub>3</sub> BO <sub>3</sub> pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 9	4 10	TYPE TEST ENG. ANAL.	See Note 3
	AGING	40 Years	40 Years	8	4	TYPE TEST	See Note 1
	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Nuclear Power Station, Qualification Type Test Report, Limitorque Valve Actuators for PWR Services, Project # 500456, December 9, 1975
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Limitorque Corp. Report No. 600198, January 2, 1969

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

- 8) Plant Design Life
- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204BQ-01

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Note 1 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL NUMBER: SMB-00 FUNCTION: Cold Leg Injection ACCURACY: SPEC. NR DEMON. NR SERVICE: RCS 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: No	OPERATING TIME	LOCKED OPEN	30 Days	N/A	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	6	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	6	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	NaOH/H <sub>3</sub> BO <sub>3</sub> pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 3
	RADIATION	4.81 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 8	4 9	TYPE TEST ENG. ANAL.	See Note 4
	AGING	40 Years	40 Years	7	4	TYPE TEST	See Note 2
	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Section 6.4.3
- 3) Design Review of Plant Shielding-Part II, Table C.5
- 4) Nuclear Power Station, Qualification Type Test Report, Limitorque Valve Actuators for PWR Services, Project # 600456, December 9, 1975
- 5) FSAR Chap. 5 Table 5.4-4
- 6) WCAP 7410-L-December 1970 & WCAP 7744 - August 1971
- 7) Plant Design Life

## NOTES:

- 1) Valves Include: MV-32171, MV-32173, MV-32070, MV-32068
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

- 8) DOR Guidelines
- 9) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Note 1 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-1  FUNCTION: Lo Head Rx Vessel Injection  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Unit 1 & 2  LOCATION: Containment FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	7 Days	6	7	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	329°F peak	1	7	TYPE TEST	NONE
	PRESSURE (PSIG)		90 psig peak	1	7	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	7	TYPE TEST	NONE
	CHEMICAL SPRAY	NaOH/H <sub>3</sub> BO <sub>3</sub> pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 3
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	4 10	TYPE TEST ENG. ANAL.	See Note 4
	AGING	40 Years	40 Years	8	4	TYPE TEST	See Note 2
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Nuclear Power Station, Qualification Type Test Report, Limitorque Valve Actuators for PWR Services, Project # 600456, December 9, 1975
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Limitorque Corp. Report No. 600198, January 2, 1969

## NOTES:

- 1) Valves Include: MV-32167, MV-32168, MV-32064, MV-32065
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 8) Plant Design Life
- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) MV-32170 & MV-32067 COMPONENT: Valve Operator	OPERATING TIME	24 Hours	30 Days	6	4	TYPE TEST	NONE
MANUFACTURER: Limitorque	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	7	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	7	TYPE TEST	NONE
MODEL NUMBER: SMB-00	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
FUNCTION: Rx Vessel Injection Line Isol	CHEMICAL SPRAY	NaOH/H <sub>3</sub> BO <sub>3</sub> pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 2
ACCURACY: SPEC. NR DEMON. NR	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 9	4 10	TYPE TEST ENG. ANAL.	See Note 3
SERVICE: 1 & 2 Rx Vsl	AGING	40 Years	40 Years	8	4	TYPE TEST	See Note 1
LOCATION: Containment	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Nuclear Power Station, Qualification Type Test Report, Limitorque Valve Actuators for PWR Service, Project # 600456, December 9, 1975
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

A.18.11

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

- 7) WCAP 7410-L-December 1970 & WCAP 7744 - August 1971
- 8) Plant Design Life
- 9) DOR Guidelines
- 10) WDS Calculation File No. 0910-204EQ-01

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) MV-32069 & MV-32172 COMPONENT: Valve Operator MANUFACTURER: Limitorque MODEL NUMBER: SMB-0C FUNCTION: Rx Vessel Injection ACCURACY: SPEC. NR DEMON. NR SERVICE: Rx Vsl 1 & 2 LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: No	OPERATING TIME	24 Hours	30 Days	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	7	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	7	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	NaOH/H <sub>3</sub> BO <sub>3</sub> pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4	TYPE TEST	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 9	4 10	TYPE TEST ENG. ANAL.	See Note 3
	AGING	40 Years	40 Years	8	4	TYPE TEST	See Note 1
	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Section 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Nuclear Power Station, Qualification Type Test Report, Limitorque Valve Actuators for PWR Service, Project # 690456
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) WCAP 7410-L-December 1970 & WCAP 7744 - August 1971
- 8) Plant Design Life

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

A.18.12

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
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\*DOCUMENTATION REFERENCES:

NOTES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

A.18.12.a

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Notes 1 & 2 COMPONENT: Valve Operator  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-00  FUNCTION: SI Suct BAST  ACCURACY: SPEC. NR DEMON. NR  SERVICE: #11,12,21 & 22 SI Pumps LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Years	4	2	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$1.8 \times 10^6$ Rad Y @ 1 Year	$2.0 \times 10^8$ Rad Y	3	2	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288  
"Report on Equipment Environments Outside Containment"
- 2) WCAP's 7410-L of December 1970 & 7744 of August, 1971
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Engineering Evaluation

## NOTES:

- 1) Valves Include: MV-32184, MV-32185, MV-32186  
MV-32081, MV-32082, MV-32083.
- 2) These components are located in an area (695' - (Aux Bldg) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (See Doc. Ref. #1)

3.18.13



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Notes 1 & 2 COMPONENT: Motor  MANUFACTURER: Westinghouse  MODEL NUMBER: HSD-P  FUNCTION: SI Pump Motor  ACCURACY: SPEC. NR DEMON. NR  SERVICE: SI Pumps #11,12,21 & 22 LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Year	3	2	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$1.8 \times 10^6$ Rad Y @ 1 Year	$2 \times 10^8$ Rad Y	1	2	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Design Review of Plant Shielding-Part I, January 1981
- 2) WCAP-8754 Rev. 1
- 3) Engineering Evaluation
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"

## NOTES:

- 1) Includes Motors: 15-1, 16-5, 26-3, 25-5
- 2) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is radiation. All other parameters will be addressed in the mild environment submittal. (See Doc. Ref. #4)

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Safety Injection PLANT ID NO.: (SI) See Notes 1 & 2 COMPONENT: Flow Trans  MANUFACTURER: Barton  MODEL NUMBER: 332  FUNCTION: Flow Indication  ACCURACY: SPEC. 25% DEMON. 13.5%  SERVICE: #11,12,21 & 22 SI Pumps LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	See Note 2	2	N/A	TYPE TEST	See Note 2
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	1.8 x 10 <sup>6</sup> Rad γ @ 1 Year	See Note 2	1	N/A	N/A	See Note 2
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- Design Review of Plant Shielding-Part I, January 1981
- Engineering Evaluation
- Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"

## NOTES:

- Include: 23073, 23074, 23075 & 23076
- These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is accident radiation. These transmitters are to be relocated to a mild environment during the fall of '81 outage for Unit 1 (23073 & 23074) and spring of '82 outage for Unit 2 (23075 & 23076). They will be included in the mild environment submittal. (See Doc. Spec. #3)

A.18.15

## MASTER LIST

SYSTEM: Station & Instrument Air (SA)

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Sta & Ins Air PLANT ID NO.: (SA) SV-33281 COMPONENT: Solenoid Valve	OPERATING TIME	24 Hours	1 Year	2	7	ENG. ANAL.	NONE
MANUFACTURER: Asco	TEMP Deg. F	See Attached Environmental Profile	300°F peak	4	3, 7	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	4	3, 7	TYPE TEST & ENG. ANAL.	NONE
MODEL NUMBER: NP-8321A1E	RELATIVE HUMIDITY (%)	100%	100%	1	3, 7	TYPE TEST & ENG. ANAL.	NONE
FUNCTION: Cnt Isol	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
ACCURACY: SPEC. NR DEMON. NR	RADIATION	$< 10^3$ Rad Y	$1.5 \times 10^8$ Rad Y	5	3, 7	TYPE TEST & ENG. ANAL.	NONE
SERVICE: Unit 1 Cntmt	AGING	40 Years	11 Years	6	7	ENG. ANAL.	See Note 1
LOCATION: Aux Bldg	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: NR							
ABOVE FLOOD LEVEL: NR							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Appendix I Para I.11.1
- 2) Engineering Evaluation
- 3) Asco Test Report No. AQS-21678/TR-Rev. A
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) Plant Design Life
- 7) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.



## SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Sta & Ins Air PLANT ID NO.: (SA) SV-33282 COMPONENT: Solenoid Valve	OPERATING TIME	24 Hours	1 Year	5	8	ENG. ANAL.	NONE
MANUFACTURER: Asco	TEMP Deg. F	See Attached Environmental Profile	300 <sup>C</sup> F peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	6, 8	TYPE TEST & ENG. ANAL.	NONE
MODEL NUMBER: NP-8321A1E	RELATIVE HUMIDITY (%)	100%	100%	4	6, 8	TYPE TEST & ENG. ANAL.	NONE
FUNCTION: Cnt Isol	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	6, 8	TYPE TEST & ENG. ANAL.	See Note 2
ACCURACY: SPEC. NR DEMON. NR	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	6, 8 10	TYPE TEST & ENG. ANAL.	See Note 3
SERVICE: Cnt Unit 1 Air	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 1
LOCATION: Containment	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706'							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.2-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Asco Test Report No. AQJ-21678/TR Rev. A
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid in solution with .06% molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
 SOCKET: 50-282 & 50-306

Rev. 5  
 8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Sta & Ins Air PLANT ID NO.: (SA) SV-33283 COMPONENT: Solenoid Valve	OPERATING TIME	24 Hours	1 Year	3	7	ENG. ANAL.	NONE
MANUFACTURER: Asco	TEMP Deg. F	See Attached Environmental Profile	300°F peak	4	2, 7	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	4	2, 7	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	1	2, 7	TYPE TEST & ENG. ANAL.	NONE
MODEL NUMBER: NP-8321A1E	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FUNCTION: Cnt Isol	RADIATION	$< 10^3$ Rad Y	$1.5 \times 10^8$ Rad Y	5	2, 7	TYPE TEST & ENG. ANAL.	NONE
ACCURACY: SPEC. NR DEMON. NR	AGING	40 Years	11 Years	6	7	ENG. ANAL.	See Note 1
SERVICE: Cnt Air Unit 2	SUB- MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
LOCATION: Aux Bldg							
FLOOD LEVEL ELEV: 706'							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Appendix I Para I.11.1
- 2) Asco Test Report No. AQS-21678/TR-Rev. A
- 3) Engineering Evaluation
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) Plant Design Life
- 7) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Sta & Ins Air PLANT ID NO.: (SA) SV-33284 COMPONENT: Solenoid Valve MANUFACTURER: Asco MODEL NUMBER: NP-832,44E FUNCTION: Cnt Isol ACCURACY: SPEC. NR DEMON. NR SERVICE: Cnt Unit 2 Air LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	1 Year	6	8	ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	300°F peak	1	4, 8	TYPE TEST & ENG. ANAL.	NONE
	PRESSURE (PSIG)		70 psig peak	1	4, 8	TYPE TEST & ENG. ANAL.	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4, 8	TYPE TEST & ENG. ANAL.	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4, 8	TYPE TEST & ENG. ANAL.	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.5 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	4, 8 10	TYPE TEST & ENG. ANAL.	See Note 3
	AGING	40 Years	11 Years	7	8	ENG. ANAL.	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.2-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Asco Test Report No. AQS-21678/TR-Rev. A
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) EDS Report No. 04-0910-13, June 1981

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 3) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

A.19.4.a

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Sta & Ins Air PLANT ID NO.: (SA) See Notes 1 & 2 COMPONENT: Limit Switch  MANUFACTURER: Natico  MODEL NUMBER: EA-180  FUNCTION: Open Indication  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Unit 1 & 2 Air  LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	2 Hours	30 Days	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	4	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>2</sub> pH 10.5	2	4	TYPE TEST	See Note 4
	RADIATION	0.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 8	4 9	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	7	4	TYPE TEST	See Note 3
SUB-MERGENCE		NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.2-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Atme-Cleveland Development Co. Test Plan 8-31-77
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Plant Design Life
- 8) DOR Guidelines

## NOTES:

- 1) Switches for Valves: CV-31741 & CV-31743  
(Open Indication Switches)
- 2) Limit Switch on CV-31743 (Unit 2) has had the conax seal installed. CV-31741 (Unit 1) will have the conax seal installed during the fall '81 outage.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

9) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide ( $NaOH$ ) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-232 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Sta & Ins Air PLANT ID NO.: (SA) See Notes 1 & 2 COMPONENT: Limit Switch	OPERATING TIME	2 Hours	30 Days	5	6	TYPE TEST	NONE
MANUFACTURER: Namco	TEMP Deg. F	See Attached Environmental Profile	340°F peak	1	6	TYPE TEST	NONE
	PRESSURE (PSIG)		70 psig peak	1	6	TYPE TEST	NONE
MODEL NUMBER: EA-180	RELATIVE HUMIDITY (%)	100%	100%	4	6	TYPE TEST	NONE
FUNCTION: Closed Indication	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>2</sub> pH 10.5	2	6	TYPE TEST	See Note 4
ACCURACY: SPEC. NR DEMON. NR	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.04 x 10 <sup>8</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	3 8	6 9	TYPE TEST ENG. ANAL.	See Note 5
SERVICE: Unit 1 & 2 Air	AGING	40 Years	40 Years	7	6	TYPE TEST	See Note 3
LOCATION: Containment	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706'							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.2-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Chap. 5 Table 5.4-4
- 5) Engineering Evaluation
- 6) Acme-Cleveland Development Co. Test Plan 8-31-77
- 7) Plant Design Life
- 8) DOR Guidelines

## NOTES:

- 1) Switches for Valves: CV-31741 & CV-31743  
(Closed Indication Switches)
- 2) The Valve for Unit 2 (CV-31743) has been completed. The Valve for Unit 1 (CV-31741) currently has a model D24C0X switch but will be replaced with an EA-180 switch & conax seal during the fall of '81 outage.
- 3) Establishing Plant Preventive Maintenance Program to maintain qualification.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 9) EDS Calculation File No. 0910-204BQ-01

NOTES:

- 4) Consists of: 0.28 molar boron (3000 ppm) as boric acid ( $H_3BO_3$ ) in solution with .064 molar sodium thiosulfate ( $Na_2S_2O_3$ ) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## MASTER LIST

SYSTEM: Steam Generator Blowdown (SB)

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-292 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: S/G Blowdown (SB) PLANT ID NO.: See Note 1 COMPONENT: Valve Operators  MANUFACTURER: Limitorque  MODEL NUMBER: SMB-00  FUNCTION: Stm Gen Iso.  ACCURACY: SPEC. NR DEMON. NR  SERVICE: See Note 2  LOCATION: Containment FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	5 Minutes	16 Days	6	4	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	7	TYPE TEST	NONE
	PRESSURE (PSIG)		60 psig peak	1	7	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.85	2	7	TYPE TEST	See Note 4
	RADIATION	9.2 x 10 <sup>6</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	7 10	TYPE TEST ENG. ANAL.	See Note 5
	AGING	40 Years	40 Years	8	4	TYPE TEST	See Note 3
	SUB-MERGENCE	NOT REQUIRED	N/A	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.2-23a, Amendment 12
- 2) FSAR Chap. 6, Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Limitorque Corp. Report No. B0003, Nov. 13, 1974
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) WCAP 7410-L-Dec. 1970; WCAP 7744-Aug. 1972

## NOTES:

- 1) Valves Include: MV-32043, MV-32040, MV-32046  
MV-32049
- 2) Blowdown lines 11, 12, 21 & 22 Stm Gen
- 3) Establishing a Plant Preventive Maintenance Program to maintain qualification.



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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8/14/81

\*DOCUMENTATION REFERENCES:

- 8) Plant Design Life
- 9) DOR Guidelines
- 10) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Consists of: 1.5% solution by weight boric acid ( $H_3BO_3$ ) buffered to a pH of 7.85 with sodium hydroxide (NaOH). See Introductory Letter, this response.
- 5) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

## MASTER LIST

SYSTEM: Component Cooling (CC)

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Component Cooling PLANT ID NO.: (CC) See Notes 1 & 2 COMPONENT: Flow Switches  MANUFACTURER: Barton  MODEL NUMBER: 288A  FUNCTION: Flow Indication  ACCURACY: SPEC. D'MON.  SERVICE: 11,12,21 & 22 SI Pumps LOCATION: Aux Bldg  FLOOD LEVEL ELEV: NR  ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Year	> 1.1 Years	1	2	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	1.8 x 10 <sup>6</sup> Rad Y @ 1 Year	3.0 x 10 <sup>6</sup> Rad Y	3	2	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Engineering Evaluation
- 2) Barton Test Report No. R3-288A-1, October, 1979
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"

## NOTES:

- 1) Include: 18252, 18253, 18268 and 18269
- 2) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (See. Doc. Ref. #4)

## MASTER LIST

SYSTEM: D.C. Distribution

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF		
SYSTEM: D.C. Dist. PLANT ID NO.: See Note 1 COMPONENT: D.C. Dist. Panels  MANUFACTURER: Creiger Elc. Mfg. Co.  MODEL NUMBER:  FUNCTION: Power to D.C. Auxiliaries  ACCURACY: SPEC. NR DEMON. NR  SERVICE: D.C. Safegrds  LOCATION: Aux Bldg FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes	OPERATING TIME	24 Hours	See Note 2	3	N/A	N/A	NONE
	TEMP Deg. F	See Attached Environmental Profile	See Note 2	1	N/A	N/A	See Note 2
	PRESSURE (PSIG)		See Note 2	1	N/A	N/A	See Note 2
	RELATIVE HUMIDITY (%)	100%	See Note 2	4	N/A	N/A	See Note 2
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 2	2	N/A	N/A	See Note 2
	RADIATION	9.2 x 10 <sup>6</sup> Rad Y 2.0 x 10 <sup>8</sup> Rad B	See Note 2	3 6	N/A	N/A	See Note 2
	AGING	40 Years	See Note 2	5	N/A	N/A	See Note 2
	SUB-MERGENCE	NOT REQUIRED	N/A	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) FSAR Sect. 5.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) FSAR Appendix I, Paragraph I.11.1
- 5) Plant Design Life
- 6) DOR Guidelines

## NOTES:

- 1) D.C. Dist Panels 153, 163, 253, 263
- 2) Not environmentally qualified. New DC Distribution panels have been installed outside containment to supply loads needed for accident mitigation. Relocation of critical loads will be completed by the fall of 1981 for Unit 1 and the spring of 1982 for Unit 2. Aging qualification will be addressed as part of the mild environment effort.



## MASTER LIST

SYSTEM: 480V Misc Aux (EB)

[illegible]

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: 480V Misc Aux PLANT ID NO.: (EB) See Note 1 COMPONENT: Motor Control Center MANUFACTURER: General Electric MODEL NUMBER: 1700 Line Control Center FUNCTION: 480 Volt MCC ACCURACY: SPEC. NR DEMON. NR SERVICE: Safeguards LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	Continuous	See Note 3	3	N/A	N/A	See Note 3
	TEMP Deg. F	See Attached Environmental Profile	See Note 3	5	N/A	N/A	See Note 3
	PRESSURE (PSIG)		See Note 3	5	N/A	N/A	See Note 3
	RELATIVE HUMIDITY (%)	100%	See Note 3	1	N/A	N/A	See Note 3
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$< 10^3$ Rem Y	See Note 3	2	N/A	N/A	See Note 3
	AGING	40 Years	See Note 3	4	N/A	N/A	See Note 2&3
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- FSAR Appendix I, Para. I.11.1
- Design Review of Plant Shielding-Part I, January 1981
- Engineering Evaluation
- Plant Design Life
- Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"

## NOTES:

- MCC's: 11A1, 11A2, 21A1, 21A2, 1M1, 1MA2
- Establishing Plant Preventive Maintenance Program to maintain qualification.
- See Introductory Letter, this response.

A.23.1

# APPENDIX A

## MASTER LIST

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ANCILLARY COMPONENTS			
PLANT IDENTIFICATION NUMBER	GENERIC NAME	LOCATION	
		INSIDE PRIMARY CONTAINMENT	OUTSIDE PRIMARY CONTAINMENT
Bussman Type HEB-A	Fuse Holder		X
Mobil DTE-Hvy Med	Lubricating Oil		X
Chevron SRI-2	Lubricating Grease	X	X
Gen. Elec. Type 74010/74010A	Epoxy Varnish	X	X
Allen-Bradley 1492-CN3	Terminal Block/ Strip/Box	X	X
Okor te 604-92-1571	Splice Kit	X	X
Okonite	Power Cable	X	X
Kerite	Power & Control Cable	X	X
Barton Insulated Wire	Power, Control, Signal and Instrument Cable	X	X
D.G. O'Brien	Containment Electric Penetrations	X	X
Kerite D-S-1001 D-S-1002	Splice Kits Jacket and Insulating Material	X	X
Conax N-11001-48	Seal Assembly	X	
Raychem	Splice	X	X

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/10/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Electrical PLANT ID NO.: Type HEB-A COMPONENT: Fuse Holder  MANUFACTURER: Bussman  MODEL NUMBER: Type HEB-A  FUNCTION: Fuse Holder  ACCURACY: SPEC. NR DEMON. NR  SERVICE: MSIV's  LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL: NR	OPERATING TIME	1 Hour	5 Hours	7	2	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	400°F peak	4	2, 3	TYPE TEST	NONE
	PRESSURE (PSIG)		14.7 psig peak	4	2, 3	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	Immersion	1	2, 3	TYPE TEST	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	< 10 <sup>3</sup> Rad Y	3.5 x 10 <sup>8</sup> Rad Y	5	3	TYPE TEST	NONE
	AGING	40 Years	40 Years	6	3	TYPE TEST	See Note 1
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Appendix I, Para I.11.1
- 2) MIL-STD-202D 14 April 1969
- 3) NSC Letter to NSP - Dated 9/29/80  
Component Aging Evaluation
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 5) Design Review of Plant Shielding-Part I, January 1981
- 6) Plant Design Life
- 7) Engineering Evaluation

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.

A.24.1



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Various PLANT ID NO.: See Note 1 COMPONENT: Lubricating Oil  MANUFACTURER: Mobil  MODEL NUMBER: DTE-Hvy Med  FUNCTION: Lubrication  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Various  LOCATION: Aux Bldg FLOOD LEVEL ELEV: NR ABOVE FLOOD LEVEL NR	OPERATING TIME	1 Year	> 1.1 Year	4	3	TYPE TEST	NONE
	TEMP Deg. F	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	PRESSURE (PSIG)		NOT REQUIRED	N/A	N/A	N/A	NONE
	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	RADIATION	$2.5 \times 10^6$ Rad Y @ 1 Year	$2 \times 10^8$ Rad Y	2	3	TYPE TEST	NONE
	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) Design Review of Plant Shielding-Part I, January 1981
- 3) Letter from J.M. Allen, Mobil Oil, to Mr. Joel Sorenson, NSD, February 7, 1980
- 4) Engineering Evaluation

## NOTES:

- 1) These components are located in an area (695' - Aux Bldg) for which the only harsh environmental parameter is accident radiation. All other parameters will be addressed in the mild environment submittal. (Doc. Ref. #1)



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Various PLANT ID NO.: None	OPERATING TIME	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
COMPONENT: Lubricating Grease	TEMP Deg. F	See Attached Environmental Profile	350°F peak	1, 6	3, 4, 5	TYPE TEST	NONE
MANUFACTURER: Chevron	PRESSURE (PSIG)		NOT REQUIRED	1, 6	N/A	N/A	NONE
MODEL NUMBER: SRI-2	RELATIVE HUMIDITY (%)	NOT REQUIRED	NOTE REQUIRED	N/A	N/A	N/A	NONE
FUNCTION: Lubrication	CHEMICAL SPRAY	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
ACCURACY: SPEC. NR DEMON. NR	RADIATION	5.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	2 7	3, 4, 5 8	TYPE TEST ENG. ANAL.	See Note 1
SERVICE: Various	AGING	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	See Note 2
LOCATION: Aux Bldg/Cnt	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) Design Review of Plant Shielding-Part I, January 1981
- 3) Chevron USA, Inc. - Mr. D.R. Jones, Correspondence with Mr. Al Smith, NSP, October 30, 1979
- 4) WCAP 7829 dated April 1972
- 5) Letter from Mr. R.E. Shoults, Westinghouse to Mr. G.A. Reed, Wis-Minn Power, January 19, 1977
- 6) Fluor Power Services Project No. 21-7450-288; "Report on Equipment Environments Outside Containment"
- 7) DOR Guidelines
- 8) EDS Calculation File No. 0910-204EQ-01

## NOTES:

- 1) Analysis showed that the total gamma plus Beta dose to the grease is less than the gamma qualification.
- 2) Plant Preventive Maintenance Schedule has been established for greasing safety related components.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: All Terminals PLANT ID NO.: None	OPERATING TIME	CONTINUOUS	See Note 1	7	N/A	N/A	See Note 1
COMPONENT: Epoxy Varnish	TEMP Deg. F	See Attached Environmental Profile	500°F peak	1, 2	6	TYPE TEST	See Note 1
MANUFACTURER: General Electric	PRESSURE (PSIG)		See Note 1	1, 2	N/A	N/A	See Note 1
MODEL NUMBER: 74010/74010A	RELATIVE HUMIDITY (%)	100%	Water Resistant	9	7	TYPE TEST	See Note 1
FUNCTION: Insulation	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	10% H <sub>2</sub> SO <sub>4</sub> 20% NaOH	3	7	TYPE TEST	See Note 1
ACCURACY: SPEC. NR DEMON. NR	RADIATION	5.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	1.0 x 10 <sup>9</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	4 12	6 11	TYPE TEST ENG. ANAL.	See Note 1&2
SERVICE: All Terminal	AGING	40 Years	See Note 1	5	N/A	N/A	See Note 1
LOCATION: Aux Bldg/Cnt	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706							
ABOVE FLOOD LEVEL: No							

## \*DOCUMENTATION REFERENCES:

- 1) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 2) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 3) FSAR Chapter 6, Section 6.4.3
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) Plant Design Life
- 6) C.E., H.C. Lauroesch Correspondence to J. King, G.E. on August 7, 1978

## NOTES:

- 1) Terminal strips coated with G.E. Epoxy varnish are going to be tested. Preliminary Radiation and LOCA testing to 50 x 10<sup>6</sup> Rads has been successful. (See Doc. Ref. 10)
- 2) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

NOTES:

- 7) G.E., "Insulating Materials Product Data 74010A Epoxy Resin and 74010 Epoxy Catalyst", March 24, 1964 and "Effect of Radiation on Materials".
- 8) Letter from G.E. to A. Smith (NSP dated November 21, 1978 (Attachment)
- 9) FSAR Chapter 5, Table 5.4-4
- 10) EDS Report 04-0910-13, June 1981
- 11) EDS Calculation File No. 0910-204EQ-01
- 12) DOR Guidelines

A.24.4.a

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Various PLANT ID NO.: None	OPERATING TIME	Continuous	See Note 1	7	N/A	N/A	See Note 1
COMPONENT: Terminal Block/Strip/ Box	TEMP Deg. F	See Attached Environmental Profile	See Note 1	1, 4	N/A	N/A	See Note 1
MANUFACTURER: Allen-Bradley	PRESSURE (PSIG)		See Note 1	1, 4	N/A	N/A	See Note 1
MODEL NUMBER: 1492-CD3	RELATIVE HUMIDITY (%)	100%	See Note 1	5	N/A	N/A	See Note 1
FUNCTION: Electrical Connections	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 1	2	N/A	N/A	See Note 1
ACCURACY: SPEC. NR DEMON. NR	RADIATION	5.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 1	3 9	N/A	N/A	See Note 1
SERVICE: Various	AGING	40 Years	See Note 1	6	N/A	N/A	See Note 1
LOCATION: Aux Bldg/Cnt	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 5) FSAR Chapter 5, Table 5.4-4
- 6) Plant Design Life
- 7) Engineering Evaluation
- 8) EDS Report 04-0910-13, June 1981
- 9) DOR Guidelines

## NOTES:

- 1) Terminal strips coated with G.E. Epoxy varnish are going to be tested. Preliminary Radiation and LOCA tests to 5.0 x 10<sup>6</sup> Rads have been successful. (See Document Ref. 8)



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cable PLANT ID NO.: None COMPONENT: Splice Kit MANUFACTURER: Okonite MODEL NUMBER: 604-92-1571 FUNCTION: Cable Splice ACCURACY: SPEC. NR DEMON. NR SERVICE: Splices LOCATION: Various FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: No	OPERATING TIME	2 Months	3 Months	6	4, 7	TYPE TEST	NONE
	TEMP Deg. F	See Attached Environmental Profile	346°F peak	1, 9	4	TYPE TEST	NONE
	PRESSURE (PSIG)		113 psig peak	1, 9	4	TYPE TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4, 7	TYPE TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> pH 10.5	2	4, 7	TYPE TEST	See Note 2
	RADIATION	4.81 x 10 <sup>7</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 10	4 11	TYPE TEST ENG. ANAL.	NONE
	AGING	40 Years	40 Years	8	4	TYPE TEST	See Note 1
	SUB-MERGENCE	Possible During Accident Conditions	6 Months	Assumed	4	TYPE TEST	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Okonite Company Test Procedure sent to Mr. Albrecht - NSP on April 20, 1978
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Okonite Company Letter to NSP (A. Smith)  
Dated 8-31-78

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Consists of: 0.28 molar boron (3000 ppm) as boric acid (H<sub>3</sub>BO<sub>3</sub>) in solution with .064 molar sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 10.5



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

- 8) Plant Design Life
- 9) Fluor Power Services Project No. 21-7450-268;  
"Report on Equipment Environments Outside Containment"
- 10) DOR Guidelines
- 11) EDS Calculation File No. 0910-204EQ-01

NOTES:

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Various PLANT ID NO.: None COMPONENT: Electrical Cable  MANUFACTURER: Okonite  MODEL NUMBER: Okonite/Neoprene  FUNCTION: Provide current & potential to electrical equipment ACCURACY: SPEC. NR DEMON. NR  SERVICE: Various  LOCATION: Aux Bldg/Cnt FLOOD LEVEL ELEV: 706'  ABOVE FLOOD LEVEL: Yes/No	OPERATING TIME	2 Months	1 Year	6	4, 10	SEQUENTIAL TEST & ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	346°F peak	1, 7	4	SEQUENTIAL TEST	NONE
	PRESSURE (PSIG)		104 psig peak	1, 7	4	SEQUENTIAL TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	5	4	SEQUENTIAL TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 10.5	2	4	SEQUENTIAL TEST	See Note 4
	RADIATION	4.81 x 10 <sup>7</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	2.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 9	4 10	SEQUENTIAL TEST & ENG. ANAL.	See Note 2
	AGING	40 Years	> 40 Years	8	4, 10	SEQUENTIAL TEST & ENG. ANAL.	See Note 1&3
	SUB-MERGENCE	Possible During Accident Conditions	18 Months in 90°C water while energized	Assumed	4	SEQUENTIAL TEST	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) Class IE Cables for Nuclear Generating Stations  
IEE Trans. on Power Apparatus & Systems PAS-03(4)  
August, 1974
- 5) FSAR Chap. 5 Table 5.4-4
- 6) Engineering Evaluation
- 7) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) Evaluation of the shielding capacity of the cable jacket shows that the sum of the Gamma and Beta dose to cable insulation is less than the total gamma qualification level.

A.24.7

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

- 8) Plant Design Life
- 9) DOR Guidelines
- 10) EDS Qualification of Electrical Cable, NSP/PI,  
Calculation File No. 0910-205-Okonite-01

NOTES:

- 3) The cable insulation and jacket materials have been identified and evaluated. Type test data has been extrapolated using the Arrhenius equation. This evaluation has shown that the cable materials show no potential for thermal degradation in 40 years.
- 4) Consists of: Boric acid ( $H_3BO_3$ ) buffered with sodium hydroxide (NaOH) to a pH value of 10.5.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cable PLANT ID NO.: None COMPONENT: Power & Control Cable	OPERATING TIME	2 Months	1 Year	7	4, 6	SIMULT. TEST & ENG. ANAL.	NONE
MANUFACTURER: Kerite	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1, 9	6	SIMULT. TEST	NONE
	PRESSURE (PSIG)		82 psig peak	1, 9	6	SIMULT. TEST	NONE
MODEL NUMBER: FR Insulation/FR Jacket ETK Insulation/FR Jacket	RELATIVE HUMIDITY (%)	100%	100%	5	6	SIMULT. TEST	NONE
FUNCTION: Electrical Power	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	Buffered H <sub>3</sub> BO <sub>3</sub> pH 10.5	2	4, 6	SIMULT. TEST & ENG. ANAL.	See Note 3&4
ACCURACY: SPEC. NR DEMON. NR	RADIATION	4.81 x 10 <sup>7</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	1.0 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 12	6 11	SEQUENTIAL TEST & ENG. ANAL.	See Note 5
SERVICE: Various	AGING	40 Years	See Note 2	10	N/A	N/A	See Note 1&2
LOCATION: Aux Bldg/Cnt	SUB-MERGENCE	Possible During Accident Conditions	24 Hours	Assumed	8	SEPARATE TEST	NONE
FLOOD LEVEL ELEV: 706							
ABOVE FLOOD LEVEL: Yes/No							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) EDS Calculation File No. 0910-205-Kerite;  
Job No. 0910-205-451
- 5) FSAR Chap. 5 Table 5.4-4
- 6) FIRC Report F-C2737, April 15, 1970
- 7) Engineering Evaluation
- 8) Kerite Company's Report KPT-LVC-1 of April 13, 1977  
(Confidential proprietary to the Kerite Company)

## NOTES:

- 1) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 2) The aging characteristics of this cable are currently being evaluated. Additional qualification information is being obtained from the vendor.
- 3) To supplement the simultaneous chemical spray testing, the chemical resistance of the insulation and jacket materials has been evaluated and considered acceptable.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

- 9) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 10) Plant Design Life
- 11) EDS Calculation File No. 0910-204EQ-01
- 12) DOR Guidelines

NOTE:

- 4) Consists of: 1.5% solution of boric acid ( $H_3BO_3$ ) in distilled water, buffered to a pH of 10.5.
- 5) Evaluation of the shielding capability of the cable jacket shows that the sum of the Gamma and Beta dose to cable insulation is less than the total gamma qualification level.



## SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Cable PLANT ID NO.: None COMPONENT: Control Cable  MANUFACTURER: Boston Insulated Wire & Cable MODEL NUMBER: Bostrad 7  FUNCTION: Electrical Power  ACCURACY: SPEC. NR DEMON. NR  SERVICE: Various  LOCATION: Aux Bldg/Cnt  FLOOD LEVEL ELEV: 706  ABOVE FLOOD LEVEL: Yes/No	OPERATING TIME	2 Months	1 Year	7	5, 12	SIMULT. TEST & ENG. ANAL.	NONE
	TEMP Deg. F	See Attached Environmental Profile	316°F peak	1, 9	5	SIMULT. TEST	NONE
	PRESSURE (PSIG)		90 psig peak	1, 9	5	SIMULT. TEST	NONE
	RELATIVE HUMIDITY (%)	100%	100%	6	5	SIMULT. TEST	NONE
	CHEMICAL SPRAY	H <sub>3</sub> PO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 4.0-10.5	2	5, 12	SIMULT. TEST & ENG. ANAL.	See Note 1
	RADIATION	4.81 x 10 <sup>7</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	5.5 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3 11	5 12	SEQUENTIAL TEST & ENG. ANAL.	See Note 3
	AGING	40 Years	> 40 Years	10	5, 8 12	SIMULT. TEST & ENG. ANAL.	See Note 2&4
	SUB-MERGENCE	Possible During Accident Conditions	14 Days	Assumed	4	SEPARATE TEST	NONE

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Chap. 6 Sect. 6.4.3
- 3) Design Review of Plant Shielding-Part I, January 1981
- 4) BIW Report #B901; Sept. 1969
- 5) FIRL Report #F-C3125; September, 1971
- 6) FSAR Chap. 5 Table 5.4-4
- 7) Engineering Evaluation

## NOTES:

- 1) To supplement the simultaneous chemical spray testing, the chemical resistance of the insulation and jacket materials has been evaluated and considered acceptable.
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

- 8) "Comparative Heat Resistance of Hypalon and Neoprene,"  
by K. Whitlock - Elastomers Research Division of  
Dupont.
- 9) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 10) Plant Design Life
- 11) DOR Guidelines
- 12) EDS Calculation File No. 0910-205-BIW-01;  
Job No. 0910-205-451

NOTES:

- 3) Evaluation of the shielding capability of the cable  
jacket shows that the sum of the Gamma and Beta  
radiation dose to cable insulation is less than  
the total gamma qualification level.
- 4) The cable insulation and jacket materials have  
been identified and evaluated. The test data has  
been extrapolated using the Arrhenius Equation.  
This evaluation has shown that the cable  
materials show no potential for thermal degrada-  
tion in 40 years.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Elec. Penetra. PLANT ID NO.: None	OPERATING TIME	See Note 1	48 Hours	1	5	TYPE TEST	NONE
COMPONENT: Elec. Penetrations	TEMP Deg. F	See Attached Environmental Profile	270°F peak	2, 9	5	TYPE TEST	See Note 3
MANUFACTURER: D.G. O'Brien	PRESSURE (PSIG)		52 psig peak	2, 9	5	TYPE TEST	NONE
MODEL NUMBER: S/N Pr-110 (MVP)	RELATIVE HUMIDITY (%)	100%	100%	1	5	TYPE TEST	NONE
FUNCTION: Elec. Connections Cables	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 10.5	3	6	ENG. ANAL.	See Note 4
ACCURACY: SPEC. NR DEMON. NR	RADIATION	5.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3.0 x 10 <sup>8</sup> Rad γ	4 11	7 12	TYPE TEST & ENG. ANAL.	NONE
SERVICE: Elec Components	AGING	40 Years	40 Years	8	10	ENG. ANAL.	See Note 2
LOCATION: Aux Bldg/Cnt	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELV: 70.5'							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) NSP, Prairie Island Specification #188, Rev. 2 February 23, 1971
- 2) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 3) FSAR Chapter 6, Section 6.4.3
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) D.G. O'Brien Test Report #C190QA053 of September 3, 1971
- 6) Letter Mr. C.E. Agan, Fluor-Pioneer to Mr. M.E. Stern, WPS, June 20, 1978
- 7) D.G. O'Brien Report ER-192

## NOTES:

- 1) Must be able to operate 48 hrs in LOCA environment and 1 yr at 140°F, 5.0 psig.
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Available qualification data exceeds FSAR temperature profile (268°F peak). Due to the location of these components in containment, sufficient margin is provided.

A.24.10

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

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\*DOCUMENTATION REFERENCES:

- 8) Plant Design Life
- 9) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 10) EDS Report No. 04-0910-13, June 1981
- 11) DOR Guidelines
- 12) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Consists of: 2100 ppm boric acid ( $H_3BO_3$ )  
buffered with 30% by weight sodium hydroxide  
(NaOH) to a pH value of 10.5.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Elec. Penetra. PLANT ID NO.: None	OPERATING TIME	See Note 1	10 Days	1	5	TYPE TEST	NONE
COMPONENT: Penetration Electrical	TEMP Deg. F	See Attached Environmental Profile	270°F peak	2, 8	5	TYPE TEST	See Note 3
MANUFACTURER: D.G. O'Brien	PRESSURE (PSIG)		52 psig peak	2, 8	5	TYPE TEST	NONE
MODEL NUMBER: S/N Fr-12 (LVP)	RELATIVE HUMIDITY (%)	100%	100%	1	5	TYPE TEST	NONE
FUNCTION: Electrical Connections	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 10.5	3	6	ENG. ANAL.	See Note 4
ACCURACY: SPEC. NR DEMON. NR	RADIATION	5.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3.0 x 10 <sup>8</sup> Rad γ	4 11	7 12	TYPE TEST & ENG. ANAL.	NONE
SERVICE: Elec Components	AGING	40 Years	40 Years	9	10	ENG. ANAL.	See Note 2
LOCATION: Aux Bldg/Cnt	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706'							
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) NSP, Prairie Island Specification #188, Rev. 2 February 23, 1971
- 2) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 3) FSAR Chapter 6, Section 6.4.3
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) D.G. O'Brien Test Report #C190QA059 of February 11, 1972
- 6) Letter Mr. C.E. Agan, Fluor-Pioneer to Mr. M.E. Stern, WPS, June 20, 1978
- 7) D.G. O'Brien Report ER-192

## NOTES:

- 1) Must be able to operate 48 hrs in LOCA environment and 1 yr at 140°F, 19.7 psia.
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Available qualification data exceeds FSAR temperature profile (268°F peak). Due to the location of these components in containment, sufficient margin is provided.

A.24.11



SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 8) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 9) Plant Design Life
- 10) EDS Report No. 04-0910-13, June 1981
- 11) DOR Guidelines
- 12) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Consists of: 2100 ppm boric acid ( $H_3BO_3$ )  
buffered with 30% by weight sodium hydroxide  
(NaOH) to a pH value of 10.5.

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Elec. Penetra. PLANT ID NO.: None	OPERATING TIME	See Note 1	48 Hours	1	5	TYPE TEST	NONE
COMPONENT: Elec. Penetration	TEMP Deg. F	See Attached Environmental Profile	270°F peak	2, 8	5	TYPE TEST	See Note 3
MANUFACTURER: D.G. O'Brien	PRESSURE (PSIG)		52 psig peak	2, 8	5	TYPE TEST	NONE
MODEL NUMBER: S/N Pr-2 (T.I.)	RELATIVE HUMIDITY (%)	100%	100%	1	5	TYPE TEST	NONE
FUNCTION: Inst Connections	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 10.5	3	6	ENG. ANAL.	See Note 4
ACCURACY: SPEC. NR DEMON. NR	RADIATION	5.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	3.0 x 10 <sup>8</sup> Rad γ	4 11	7 12	TYPE TEST & ENG. ANAL.	NONE
SERVICE: Inst	AGING	40 Years	40 Years	9	10	ENG. ANAL.	See Note 2
LOCATION: Aux Bldg/Cnt							
FLOOD LEVEL ELEV: 706'	SUB-MERGENCE	NOT REQUIRED	NOT REQUIRED	N/A	N/A	N/A	NONE
ABOVE FLOOD LEVEL: Yes							

## \*DOCUMENTATION REFERENCES:

- 1) NSP, Prairie Island Specification #188, Rev. 2 February 23, 1971
- 2) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 3) FSAR Chapter 6, Section 6.4.3
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) D.G. O'Brien Test Report #C190QA049 of March 27, 1982
- 6) Letter Mr. C.E. Agan, Fluor-Pioneer to Mr. M.E. Stern, WPS, June 20, 1978
- 7) D.G. O'Brien Report ER-192

## NOTES:

- 1) Must be able to operate 48 hrs in LOCA environment and 1 yr at 140°F, 5.0 psig.
- 2) Establishing Plant Preventive Maintenance Program to maintain qualification.
- 3) Available qualification data exceeds FSAR temperature profile (268°F peak). Due to the location of these components in containment, sufficient margin is provided.

A.24.12

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 8) Fluor Power Services Project No. 21-7450-288;  
"Report on Equipment Environments Outside Containment"
- 9) Plant Design Life
- 10) EDS Report No. 04-0910-13, June 1981
- 11) DOR Guidelines
- 12) EDS Calculation File No. 0910-204EQ-01

NOTES:

- 4) Consists of: 2100 ppm boric acid ( $H_3BO_3$ )  
buffered with 30% by weight sodium hydroxide  
(NaOH) to a pH value of 10.5.

A.24.12.a

## SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 5  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYS. L: Electrical PLANT ID NO.: None	OPERATING TIME	2 Months	1 Year	1	5	TYPE TEST	NONE
COMPONENT: Splice Kits, Jacket & Insulating Material	TEMP Deg. F	See Attached Environmental Profile	325°F peak	1	6	SIMULT. TEST	NONE
MANUFACTURER: Kerite	PRESSURE (PSIG)		82 psig peak	1	6	SIMULT. TEST	NONE
MODEL NUMBER: D-S-1001; D-S-1002	RELATIVE HUMIDITY (%)	100%	100%	2	6	SIMULT. TEST	NONE
FUNCTION: Splice	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 9.5	3	6	SIMULT. TEST	See Note 2
ACCURACY: SPEC. NR DEMON. NR	RADIATION	4.81 x 10 <sup>7</sup> Rad γ 2.00 x 10 <sup>8</sup> Rad β	1.2 x 10 <sup>8</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	4 9	6 8	SIMULT. TEST ENG. ANAL.	See Note 1
SERVICE: Various	AGING	40 Years	40 Years	7	5	TYPE TEST	NONE
LOCATION: Ins/Out/Cnt	SUB-MERGENCE	NOT REQUIRED					NONE
FLOOD LEVEL ELEV: 706'							
ABOVE FLOOD LEVEL:							

## \*DOCUMENTATION REFERENCES:

- 1) FSAR Section 14, Figure 14.3-23a, Amendment 12
- 2) FSAR Appendix I Pg. I.11.1
- 3) FSAR Sect. 6.4.3
- 4) Design Review of Plant Shielding-Part I, January 1981
- 5) LOCA Qualification of Kerite 1000 Volt FR Insulated, FR Jacketed Control Cables

## NOTES:

- 1) Analysis demonstrated that the Beta radiation dose to radiation sensitive internals is less than or equal to 10% of the total qualified gamma dose.
- 2) Consists of: 1.5% solution of boric acid (H<sub>3</sub>BO<sub>3</sub>) buffered with sodium hydroxide (NaOH) to a pH value of 9.5. See Introductory Letter, this response.

A.24.13

SYSTEM COMPONENT EVALUATION WORKSHEET ATTACHMENT

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 1  
8/14/81

\*DOCUMENTATION REFERENCES:

- 6) Qualification Tests of Electrical Cables Under  
Simulated Post-Accident Reactor Containment Service  
Conditions. Final Report F-C2737. April 15, 1970.
- 7) Plant Design Life
- 8) EDS Calculation File No. 0910-204EQ-01
- 9) DOR Guidelines

NOTES:



# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 0  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Various PLANT ID NO.: None COMPONENT: Seal	OPERATING TIME	30 Days	See Note 1	5	N/A	N/A	See Note 1
MANUFACTURER: Conax	TEMP Deg. F	See Attached Environmental Profile	See Note 1	4	N/A	N/A	See Note 1
	PRESSURE (PSIG)		See Note 1	4	N/A	N/A	See Note 1
MODEL NUMBER: N-11001-48	RELATIVE HUMIDITY (%)	100%	See Note 1	3	N/A	N/A	See Note 1
FUNCTION: Seal	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 1	2	N/A	N/A	See Note 1
ACCURACY: SPEC. NR DEMON. NR	RADIATION	3.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 1	1 9	N/A	N/A	See Note 1
SERVICE: Various	AGING	40 Years	See Note 1	6	N/A	N/A	See Note 1
LOCATION: Containment	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE
FLOOD LEVEL ELEV: 706'							
ABOVE FLOOD LEVEL: Yes/No							

## \*DOCUMENTATION REFERENCES:

- 1) Design Review of Plant Shielding Part I-January 1981
- 2) FSAR Chapter 6 Section 6.4.3
- 3) FSAR Chapter 5 Table 5.4-4
- 4) FSAR Section 14 Figure 14.3-23a Amendment 12
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) Conax Report IPS-325
- 8) Conax Report IPS-409
- 9) DOR Guidelines

## NOTES:

- 1) The qualification documentation pertaining to these items is currently being evaluated for inclusion in the bulletin. (See Doc. Ref.'s 7 & 8)

A.24.14

# SYSTEM COMPONENT EVALUATION WORKSHEET

UNIT: Prairie Island 1 & 2  
DOCKET: 50-282 & 50-306

Rev. 0  
8/14/81

EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUALIF METHOD	OUTSTANDING ITEMS
	PARAMETER	SPECIFICATION	QUALIFICATION	SPEC.	QUALIF.		
SYSTEM: Various PLANT ID NO.: None COMPONENT: Splice Kit MANUFACTURER: Raychem MODEL NUMBER: FUNCTION: In Line Splices ACCURACY: SPEC. NR DEMON. NR SERVICE: Various Aux Bldg, LOCATION: Cnt, Annulus FLOOD LEVEL ELEV: 706' ABOVE FLOOD LEVEL: Yes/No	OPERATING TIME	30 Days	See Note 1	5	N/A	N/A	See Note 1
	TEMP Deg. F	See Attached Environmental Profile	See Note 1	4	N/A	N/A	See Note 1
	PRESSURE (PSIG)		See Note 1	4	N/A	N/A	See Note 1
	RELATIVE HUMIDITY (%)	100%	See Note 1	3	N/A	N/A	See Note 1
	CHEMICAL SPRAY	H <sub>3</sub> BO <sub>3</sub> /NaOH pH 7.0-10.5	See Note 1	2	N/A	N/A	See Note 1
	RADIATION	3.0 x 10 <sup>7</sup> Rad γ 2.0 x 10 <sup>8</sup> Rad β	See Note 1	1 10	N/A	N/A	See Note 1
	AGING	40 Years	See Note 1	6	N/A	N/A	See Note 1
	SUB-MERGENCE	See Introductory Letter, This Response		N/A	N/A	N/A	NONE

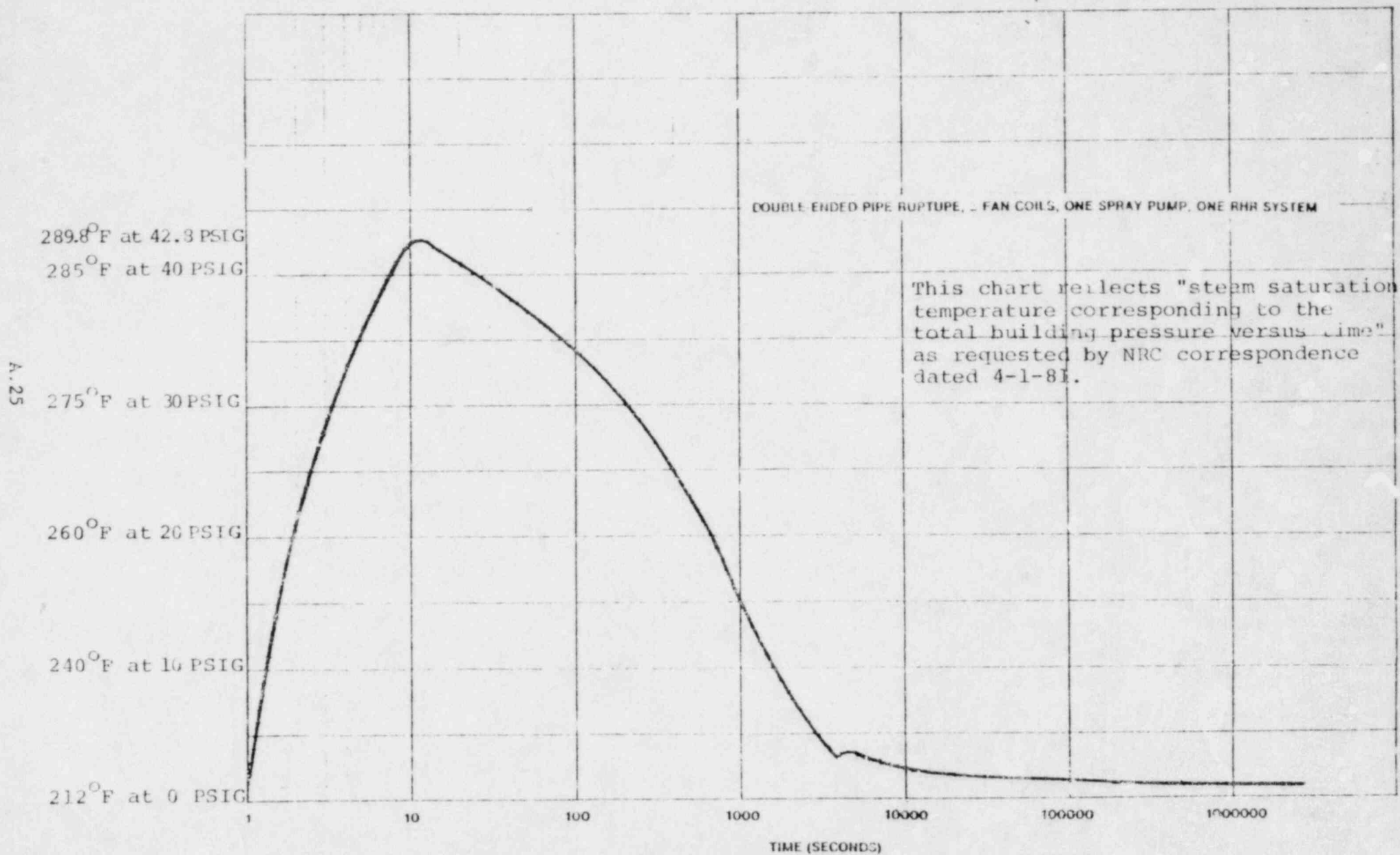
## \*DOCUMENTATION REFERENCES:

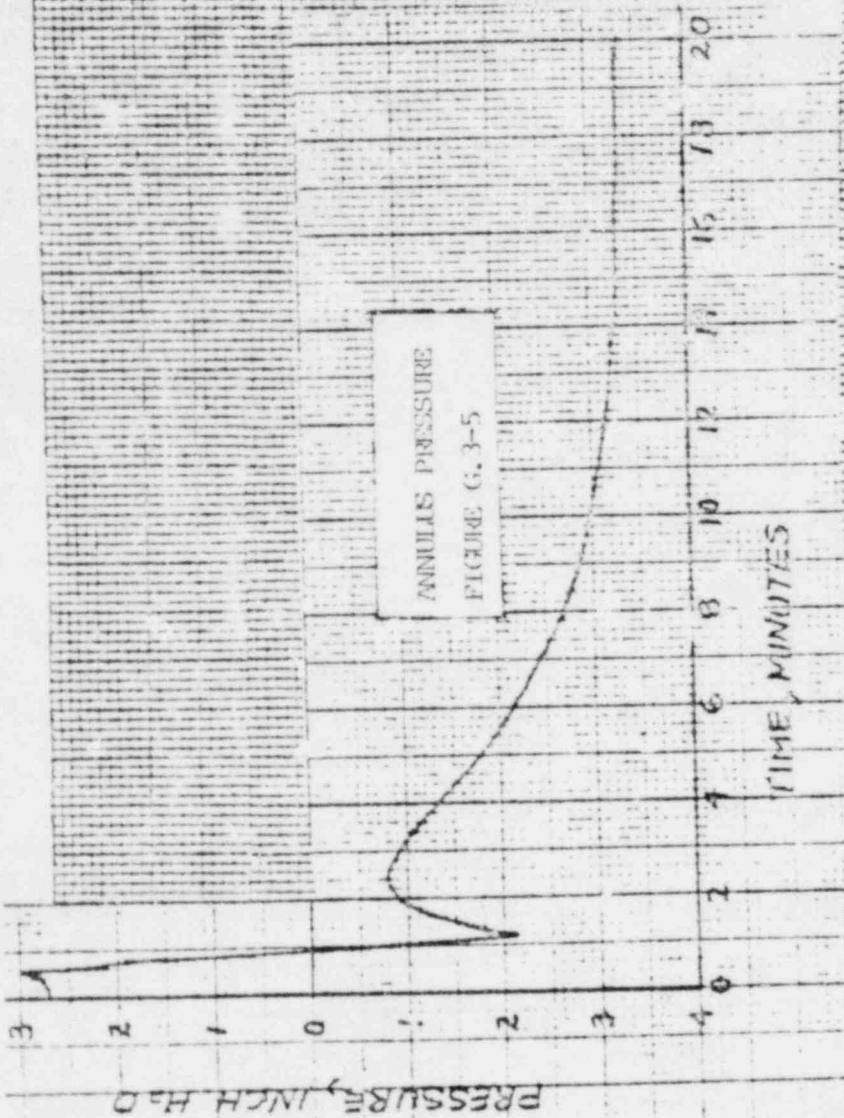
- 1) Design Review of Plant Shielding Part I-January 1981
- 2) FSAR Chapter 6 Section 6.4.3
- 3) FSAR Chapter 5 Table 5.4-4
- 4) FSAR Section 14 Figure 14.3-23a Amendment 12
- 5) Engineering Evaluation
- 6) Plant Design Life
- 7) Raychem EDR Report #5011
- 8) FTRL Final Report F-C4033-3
- 9) Raychem EDR Report #2001

## NOTES:

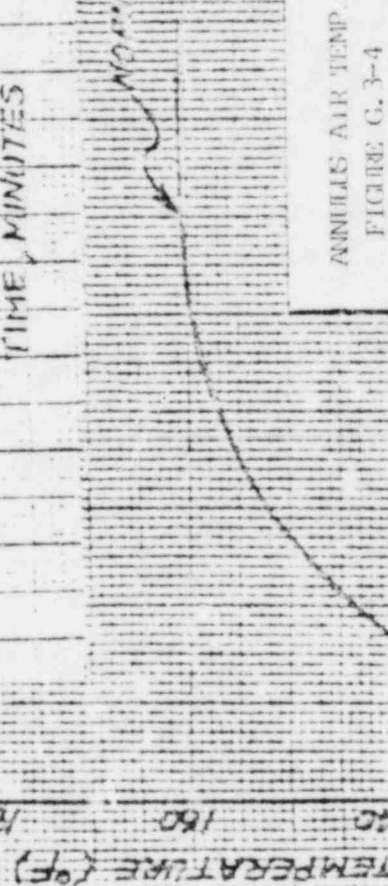
- 1) The qualification documentation pertaining to these items is currently being evaluated for inclusion in the bulletin. (See Doc. Ref.'s 7, 8 & 9)

Containment Temperature & Pressure Transient, Tsat  
(°F) (PSIG)





← NORMAL HEAT TRANSFER COEFFICIENT





AUXILIARY BUILDING ENVIRONMENTAL SERVICE CONDITIONS  
(Reference: Fluor Power Services Project No. 21-7450-288.)

