



Commonwealth Edison

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September 27, 1984

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

Subject: Byron Generating Station Units 1 and 2
Braidwood Generating Station Units 1 and 2
Environmental Qualification of Equipment
NRC Docket Nos. 50-454/455 and 50-456/457

References (a): September 10, 1984 letter from T. R. Tramm
to H. R. Denton.

(b): August 22, 1984 letter from B. J. Youngblood
to D. L. Farrar.

(c): December 6, 1983 letter from T. R. Tramm
to H. R. Denton.

Dear Mr. Denton:

This letter provides additional information regarding the environmental qualification of equipment at Byron and Braidwood stations. NRC review of this information is necessary to close Outstanding Item 7 of the Byron SER.

Attachment A to this letter contains revised pages for the updated Equipment Environmental Qualification Report (EEQR) which was provided in reference (b) in response to question 6 of reference (a). The following pages have been revised to address NRC comments: 6, 18, 58, 80, 95, 104, 125, 242, 244, 246, 248, 250, 260, 262, 264, 266, 283, 287, 301, 311, 325, 361, 385, and 396. For consistency, page 54 was also revised.

The following information has been provided to the NRC in a conference call and is repeated here for the record:

1. No data sheets are included in the EEQR for cable splices. Splicing qualifications are addressed within the various cable and equipment qualification programs.
2. All of the equipment qualification information required for maintenance and surveillance of an item will be ready by the time of the first required surveillance or maintenance.

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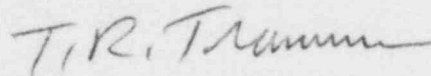
AOAG
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3. In reference (c), the response to the NRC's comment in draft SER section 3.11.4.2 indicated that the acceptance criteria for the environmental qualification tests had been reviewed for 22 out of 28 binders. That review has now been completed as part of the binder reformatting.

Please address further questions regarding this matter to this office.

One signed original and fifteen copies of this letter and the attachment are provided for NRC review.

Very truly yours,



T. R. Tramm
Nuclear Licensing Administrator

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Attachments

9243N

ATTACHMENT A

Revised Pages for Equipment Environmental
Qualification Report - September 20, 1984

SARGENT & LUNDY ENGINEERS
 COMPONENT QUALIFICATION DIVISION

PROJECT NUMBER: 4391-00
 REVISION : 1

COMMONWEALTH EDISON COMPANY - BYRON/BRAIDWOOD STATION
 QUALIFICATION DATA SHEET (UNITS 1 & 2)

PAGE : 6 OF 477
 DATE : 20 SEP 84

A12E7C

SPEC. NUM.: F/L2702

SYSTEM : SI

SAFETY CAT: A

FUNCTION : CONTAINMENT PRESSURE, RWCT LEVEL

ENVR ZONE : A12

COMP/EQUIP: DIFFERENTIAL PRESSURE TRANSMITTER

MANUF. : BARTON

MODEL SUPP: 752

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	PLT DES	QUALIFICATION	QUALIFICATION METHOD	QUALIFICATION DOCUMENT REFERENCE	REMARKS	COMP NUMBER
TEMP DEG F	122	130	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL. TEST REPORT 4A.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQDP-ESE-4 FOR COMPLETE DOCUMENTATION	A12E7C
PRESS PSIG	0	0	TYPE TEST		PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	70	95	TYPE TEST			
RADIATION	1E05	1E05	TYPE TEST		DESIGN RADIATION BASED ON POINT SPECIFIC CALCULATION DIT-BB-NSLD-11-0.	
CHEM SPRAY	N/A	N/A	N/A			
OPE TME MN	CONT.	CONT.	TEST/ANALYSIS			
QUAL. LIFE	40 YRS.	5 YRS.	TEST/ANALYSIS			
SUBMERGENCE	N/A	N/A	N/A			

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SARGENT & LUNDY ENGINEERS
COMPONENT QUALIFICATION DIVISION

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AC3C05

SPEC. NUM.: F/L2702

SYSTEM : RY,PS

SAFETY CAT: A

FUNCTION : CONTAINMENT ISOLATION

ENVR ZONE : A13C

COMP/EQUIP: SOLENOID OPERATED VALVE

MANUF. : ASCO

MODEL SUPP: NP8320A183E

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP	
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	NUMBER	
TEMP DEG F	130	348	TYPE TEST	WESTINGHOUSE EQUIP. QUAL. TEST REPORT H02A/H05A. AND ASCO TEST REPORT NO. AQR-67368 REV. O. DATED 03/02/82.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQDP-HE-2/5 FOR COMPLETE DOCUMENTATION PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	AC3C05
PRESS PSIG	0	56	TYPE TEST			
REL HUMID %	90	100/STEAM	TYPE TEST			
RADIATION	1E07	2.05E08	TYPE TEST			
CHEM SPRAY	N/A	0.7 GPM/ SQ.FT.	N/A			
OPE TME MN	SHORT	CNT.	TEST/ANALYSIS			
QUAL. LIFE	40 YRS.	40 YRS.	TEST/ANALYSIS		40 YEARS LIFE IS BASED UPON REPLACING THE ELASTOMERS & SOLENOID COILS BASED ON AMBIENT TEMPERATURE.	
SUBMERGENCE	N/A	N/A	N/A			

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AC3C07

SPEC. NUM.: F/L2702
 SYSTEM : RY,SI,RE,CC,CV
 SAFETY CAT: A
 FUNCTION : CONTAINMENT ISOLATION
 ENVR ZONE : A13C
 COMP/EQUIP: SOLENOID OPERATED VALVE
 MANUF. : ASCO
 MODEL SUPP: NP831654E

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT PARAMETER	PLT DES	QUALIFICATION	QUALIFICATION METHOD	QUALIFICATION DOCUMENT REFERENCE	REMARKS	COMP NUMBER
TEMP DEG F	130	348	TYPE TEST	WESTINGHOUSE EQUIP. QUAL. TEST REPORT H02A/H05A. AND ASCO TEST REPORT NO. AQR-67368 REV. 0, DATED 03/02/82.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQDP-HE-2/5 FOR COMPLETE DOCUMENTATION PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	AC3C07
PRESS PSIG	0	56	TYPE TEST			
REL HUMID %	90	100/STEAM	TYPE TEST			
RADIATION	1E07	2.05E08	TYPE TEST			
CHEM SPRAY	N/A	0.7 GPM/ SQ. FT. CONT.	N/A			
OPE TME MN	SHORT		TEST/ANALYSIS			
QUAL. LIFE	40 YRS.	40 YRS.	TEST/ANALYSIS		40 YEARS LIFE IS BASED UPON REPLACING THE ELASTOMERS & SOLENOID COILS BASED ON AMBIENT TEMPERATURE.	
SUBMERGENCE	N/A	N/A	N/A			

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AC3A21

SPEC. NUM.: F/L2702

SYSTEM : CV,RH,SI

SAFETY CAT: A

FUNCTION : CENTRIFUGAL CHARGING, SAFETY INJECTION,
RESIDUAL HEAT REMOVAL

ENVR ZONE : A13C

COMP/EQUIP: LARGE PUMP MOTOR

MANUF. : WESTINGHOUSE

MODEL SUPP: LIFE LINED,TYPE LAC,MODEL HSDP & VSWI

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	COMP		
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	REMARKS	NUMBER
TEMP DEG F	122	122	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL. TEST REPORT AO2A.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER : EODP AE-2 FOR COMPLETE DOCUMENTATION PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	AC3A21
PRESS PSIG	0	0	TYPE TEST			
REL HUMID %	90	95	TYPE TEST			
RADIATION	1E07	1E07	TYPE TEST		WESTINGHOUSE LETTER CAW-7940 ADDRESSES QUALIFIED LIFE AT 122 DG/F, AMBIENT.	
CHEM SPRAY	N/A	N/A	N/A			
OPE TME MN	CONT.	CONT.	TEST/ANALYSIS			
QUAL. LIFE	40 YRS.	5 YRS.	TEST/ANALYSIS			
SUBMERGENCE	N/A	N/A	N/A			

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AC3D13

SPEC. NUM.: F/L2702

SYSTEM : SI,CV,CC,PS,RE,RY,SI

SAFE. CAT: A

FUNCTION : VALVE POSITION INDICATION/INTERLOCK

ENVR ZONE : A13C

COMP/EQUIP: LIMIT SWITCH

MANUF. : NAMCO

MODEL SUPP: 180XX303

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP	
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	NUMBER	
TEMP DEG F	130	420 MAX	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL. TEST REPORT H03A/H06A.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQDP-HE-3/6 FOR COMPLETE DOCUMENTATION PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	AC3D13
PRESS PSIG	0	57	TYPE TEST			
REL HUMID %	90	100	TYPE TEST			
RADIATION	1E07	2E08	TYPE TEST			
CHEM SPRAY	N/A	N/A	N/A			
OPE TME MN	CONT.	CONT.	TEST/ANALYSIS			
QUAL. LIFE	40 YRS.	14 YRS.	TEST/ANALYSIS			
SUBMERGENCE	N/A	N/A	N/A			

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AC3D02

SPEC. NUM.: F/L2794-1,F/L2794-3,F/L-2793,F/L2795

SYSTEM : IA,SI,CS,RF

SAFETY CAT: A

FUNCTION : PROVIDE VALVE POSITION INDICATION

ENVR ZONE : A13C

COMP/EQUIP: LIMIT SWITCH

MANUF. : NAMCO CONTROLS

MODEL SUPP: EA180 SERIES.

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

PARAMETER	ENVIRONMENT PLT DES	QUALIFICATION QUALIFICATION	METHOD	QUALIFICATION DOCUMENT REFERENCE	REMARKS	COMP NUMBER
TEMP DEG F	130	340	TYPE TEST	NAMCO CONTROL'S REPORT QTR-105, REV. 1	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQ-BB015 FOR COMPLETE DOCUMENTATION	AC3D02
PRESS PSIG	0	80 PSIG	TYPE TEST	DATED 08/28/80.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	90	100	TYPE TEST			
RADIATION	1E07	2.04E08	TYPE TEST			
CHEM SPRAY	N/A	0.15GPM/FT SQ PH 10 TO 11	TYPE TEST			
OPE TME MN	CONT.	CONT.	TYPE TEST			
QUAL. LIFE	40 YRS.	40 YEARS*	TYPE TEST		*40 YRS. QUAL. BASED ON PERFORMING LUBRICATION EVERY 4.5 YRS. & REPLACEMENT OF ELASTOMERIC PARTS. REPLAC. INTERVAL FOR ELAS. COMP. IS DEPENDENT ON AMBIENT TEMP. SEE CQD-010001, TAB E	
SUBMERGENCE	N/A	N/A	N/A			

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AD3A13

SPEC. NUM.: F/L2794-1
 SYSTEM : VQ
 SAFETY CAT: A
 FUNCTION : ISOLATION
 ENVR ZONE : A13D
 COMP/EQUIP: HYDRAULIC OPERATOR
 MANUF. : BORG WARNER
 MODEL SUPP: 85450

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	REMARKS	COMP
PARAMETER	PLT DES	QUALIFICATION	DOCUMENT REFERENCE	NUMBER
		METHOD		
TEMP DEG F	:	:	INTERIM JUSTIFICATION SUBMITTED TO NRC.CECO	AD3A13
	:	:	LETTER 01/10/84. ATTACHMENT C.	:
PRESS PSIG	:	:	VALVES ARE IN CLOSED POSITION DURING POWER	:
REL HUMID %	:	:	OPERATION & POWER IS DISCONNECTED INSURING	:
	:	:	NON-OPERABILITY OF THE VALVES.	:
RADIATION	:	:		:
CHEM SPRAY	:	:		:
OPE TME MN	:	:		:
QUAL. LIFE	:	:		:
SUBMERGENCE	:	:		:

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AF3E28

SPEC. NUM.: F/L2783

SYSTEM : VA

SAFETY CAT: A

FUNCTION : COOLER AUTO CONTROL

ENVR ZONE : A13F

COMP/EQUIP: TEMPERATURE SWITCH

MANUF. : UNITED ELECTRIC

MODEL SUPP: C303D-103

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

PARAMETER	ENVIRONMENT	PLT DES	QUALIFICATION	QUALIFICATION METHOD	QUALIFICATION DOCUMENT REFERENCE	REMARKS	COMP NUMBER
TEMP DEG F	122		122	TYPE TEST	1)AETC REP. NO. 15281 REV. 2) DATED 10/14/83.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQ-BB021 FOR COMPLETE DOCUMENTATION	AF3E28
PRESS PSIG	2.42		0	TYPE TEST	2)AETC RETEST REP. NO. 18987-84N, DATED 12/21/83.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	90		90	TYPE TEST			
RADIATION	1E06		1E07	TYPE TEST			
CHEM STRAY	N/A		N/A	N/A		EQUIPMENT NOT REQUIRED TO FUNCTION POST HELD PLT DES CONDITIONS ARE THOSE UNDER WHICH EQUIPMENT MUST OPERATE.	
OPE TME MN	CONT.		CONT.	TYPE TEST			
QUAL. LIFE	40 YRS.		8.9 YRS.	TYPE TEST			
SUBMERGENCE	N/A		N/A	N/A			

SARGENT & LUNDY ENGINEERS
 COMPONENT QUALIFICATION DIVISION

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COMMONWEALTH EDISON COMPANY - BYRON/BRAIDWOOD STATION
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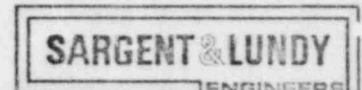
AF3E29

SPEC. NUM.: F/L2783
 SYSTEM : VA
 SAFETY CAT: A
 FUNCTION: HVAC CONTROLS
 ENVR ZONE : A13F
 COMP/EQUIP: SEL SWITCH
 MANUF. : WES.
 MODEL SUPP: OT2

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	NUMBER
TEMP DEG F	122	130	TYPE TEST	1)AETC REPORT NO. 15281 REV. 2, DATED 10/14/83.	AF3E29
PRESS PSIG	2.42	0	TYPE TEST	2)AETC RETEST REPORT NO. 18987-84N, DATED 12/21/83.	
REL HUMID %	90	90	TYPE TEST		
RADIATION	1E06	1E07	TYPE TEST		
CHEM SPRAY	N/A	N/A	N/A	EQUIPMENT NOT REQUIRED TO FUNCTION PCST HELB PLT DES CONDITIONS ARE THOSE UNDER WHICH EQUIPMENT MUST OPERATE.	
OPE TME MN	CONT.	CONT.	TYPE TEST		
QUAL. LIFE	40 YRS.	18.6 YRS.	TYPE TEST		
SUBMERGENCE	N/A	N/A	N/A		

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SARGENT & LUNDY ENGINEERS
COMPONENT QUALIFICATION DIVISION

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COMMONWEALTH EDISON COMPANY - BYRON/BRAIDWOOD STATION
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AF3E30

SPEC. NUM.: F/L2783

SYSTEM : VA

SAFETY CAT: A

FUNCTION : MAINTAIN CONTINUITY & INTEGRITY OF CLASS 1E CIRCUITS

ENVR ZONE : A13F

COMP/EQUIP: 1-PLEX WIRE

MANUF. : G.E.

MODEL SUPP: SIS SINGLE PLEX

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	REMARKS	COMP		
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	REMARKS	NUMBER
TEMP DEG F	122	130	TYPE TEST	1)AET'S TEST REPORT NO. 15281, REV. 2- 10/14/83	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQ-BB020 FOR COMPLETE DOCUMENTATION	AF3E30
PRESS PSIG	2.42	0	TYPE TEST	2)AET'S RETESTING REPORT NO. 18987-84N, DATED DECEMBER, 1983.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	90	90	TYPE TEST			
RADIATION	1E06	1E07	TYPE TEST			
CHEM SPRAY	N/A	N/A	N/A		EQUIPMENT NOT REQUIRED TO FUNCTION POST HELD PLT DES CONDITIONS ARE THOSE UNDER WHICH EQUIPMENT MUST OPERATE.	
OPE TME MN	CONT.	CONT.	TYPE TEST			
QUAL. LIFE	40 YRS.	40 YRS.	TYPE TEST			
SUBMERGENCE	N/A	N/A	N/A			

SARGENT & LUNDY ENGINEERS
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AF3E6T

SPEC. NUM.: F/L2783

SYSTEM : VA

SAFETY CAT: A

FUNCTION : MAINTAIN CLASS 1E CIRCUITS AND PROVIDE 600V ELECTRIC
ISOLATION BETWEEN ADJACENT TERMINALS.

ENVR ZONE : A13F

COMP/EQUIP: TERMINAL BLOCK

MANUF. : G.E.

MODEL SUPP: CR151B2-NUC

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	COMP		
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	REMARKS	NUMBER
TEMP DEG F	122	130	TYPE TEST	1)AET'S TEST REPORT NO. 15281, REV. 2- 10/14/83	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQ-BB017 FOR COMPLETE DOCUMENTATION	AF3E6T
PRESS PSIG	2.42	0	TYPE TEST	2)AET'S RETESTING REPORT NO. 18987-84N, DATED DECEMBER, 1983.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	90	90	TYPE TEST			
RADIATION	1E06	1E07	TYPE TEST			
CHEM SPRAY	N/A	N/A	N/A		EQUIPMENT NOT REQUIRED TO FUNCTION POST HELB PLT DES CONDITIONS ARE THOSE UNDER WHICH EQUIPMENT MUST OPERATE.	
OPE TME MN	CONT.	CONT.	TYPE TEST			
QUAL. LIFE	40 YRS.	40 YRS.	TYPE TEST			
SUBMERGENCE	N/A	N/A	N/A			

SARGENT & LUNDY ENGINEERS
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AG3A24

SPEC. NUM.: F/L2702

SYSTEM : CV

SAFETY CAT: 4

FUNCTION : CENTRIFUGAL CHARGING

ENVR ZONE : A13G

COMP/EQUIP: LARGE PUMP MOTOR

MANUF. : WESTINGHOUSE

MODEL SUPP: LIFE LINE D, TYPE LAC, MODEL HSDP

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS.

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP	
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	NUMBER	
TEMP DEG F	122 MAX	122	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL. TEST REPORT A02A.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER EODP AE-2 FOR COMPLETE DOCUMENTATION PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	AG3A24
PRESS PSIG	C	0	TYPE TEST			
REL HUMID %	90	95	TYPE TEST			
RADIATION	1E07	5E07	TYPE TEST			
CHEM SPRAY	N/A	N/A	NONE		PUMP MOTORS ARE NOT REQUIRED TO OPERATE FOR HELD ACCIDENT WHICH THEY MAY BE SUBJECTED TO.	
OPE TME MN	SHORT	CONTINUOUS	TEST/ANALYSIS		WESTINGHOUSE LETTER CAW-7940 ADDRESSES QUALIFIED LIFE AT 122 DG/F. AMBIENT.	
QUAL. LIFE	40 YRS.	5 YRS.	TEST/ANALYSIS			
SUBMERGENCE	N/A	N/A	N/A			

SARGENT & LUNDY ENGINEERS
 COMMONWEALTH QUALIFICATION DIVISION

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AG3E04

SPEC. NUM.: F/L2783

SYSTEM : VA

SAFETY CAT: A

FUNCTION : MAINTAIN 1E INTEGRITY

ENVR ZONE : A13G

COMP/EQUIP: INDICATOR LIGHT

MANUF. : WESTINGHOUSE

MODEL SUPP: EZC

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	REMARKS	COMP
PARAMETER	PLT DES:QUALIFICATION:	METHOD	DOCUMENT REFERENCE	NUMBER:
TEMP DEG F	122 : 130	TYPE TEST	1)AETC'S TEST REPORT NO. 15281,REV. 2 - 10/14/83	AG3E04
PRESS PSIG	2.42 : AMBIENT	TYPE TEST	2)AETC'S RETESTING REPORT NO. 18987-84N, DATED DECEMBER, 1983	
REL HUMID %	90 : 90	TYPE TEST		
RADIATION	1E07 : 1E07	TYPE TEST		
CHEM SPRAY	N/A : N/A	N/A		
OPE TME MN	CONT. : CONT.	TYPE TEST	EQUIPMENT NOT REQUIRED TO FUNCTION POST HELB PIT DES CONDITIONS ARE THOSE UNDER WHICH EQUIPMENT MUST OPERATE.	
QUAL. LIFE	40 YRS. : 18.5 YRS.	TYPE TEST		
SUBMERGENCE	N/A : N/A	N/A		

SARGENT & LUNDY ENGINEERS
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AG3E32

SPEC. NUM.: F/L2783

SYSTEM : VA

SAFETY CAT: A

FUNCTION :

ENVR ZONE : A13G

COMP/EQUIP: SELECTOR SWITCH

MANUF. : WES.

MODEL SUPP: OT2

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	NUMBER
TEMP DEG F	122	130	TYPE TEST	1)AETC REPORT NO. 15281 REV. 2, DATED 10/14/83.	AG3E32
PRESS PSIG	2.42	0	TYPE TEST	2)AETC RETEST REPORT NO. . 18987-84N DATED 12/21/83.	
REL HUMID %	90	90	TYPE TEST		
RADIATION	1E07	1E07	TYPE TEST		
CHEM SPRAY	N/A	N/A	N/A		
OPE TME MN	CONT.	CONT.	TYPE TEST		
QUAL. LIFE	40 YRS.	18.6 YRS.	TYPE TEST		
SUBMERGENCE	N/A	N/A	N/A		

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AG3E6N

SPEC. NUM.: F/L2783

SYSTEM : VA

SAFETY CAT: A

FUNCTION : MAINTAIN CONTINUITY & INTEGRITY OF CLASS 1E CIRCUITS

ENVR ZONE : A13G

COMP/EQUIP: 1-PLEX WIRE

MANUF. : G.E.

MODEL SUPP: SIS SINGLE PLEX

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP	
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	NUMBER	
TEMP DEG F	122	130	TYPE TEST	1)AET'S TEST REPORT NO. 15281, REV. 2- 10/14/83	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQ-BB020 FOR COMPLETE DOCUMENTATION	AG3E6N
PRE PSIG	2.42	0	TYPE TEST	2)AET'S RETESTING REPORT NO. 18987-84N, DATED DECEMBER, 1983.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	90	90	TYPE TEST			
RADIATION	1E07	1E07	TYPE TEST			
CHEM SPRAY	N/A	N/A	N/A		EQUIPMENT NOT REQUIRED TO FUNCTION POST HELB PLT DES CONDITIONS ARE THOSE UNDER WHICH EQUIPMENT MUST OPERATE.	
OPE TME MN	CONT.	CONT.	TYPE TEST			
QUAL. LIFE	40 YRS.	40 YRS.	TYPE TEST			
SUBMERGENCE	N/A	N/A	N/A			

SARGENT & LUNDY ENGINEERS
COMPONENT QUALIFICATION DIVISION

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AG3E33

SPEC. NUM.: F/L2783

SYSTEM : VA

SAFETY CAT: A

FUNCTION : HVAC CONTROLS

ENVR ZONE : A13G

COMP/EQUIP: TERMINAL BLOCK

MANUF. : G.E.

MODEL SUPP: CR151B2-NUC

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	PLT DES	QUALIFICATION	METHOD	QUALIFICATION DOCUMENT REFERENCE	REMARKS	COMP NUMBER
TEMP DEG F	122	130	TYPE TEST	1)AET'S TEST REPORT NO. 15281, REV. 2- 10/14/83	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQ-BB017 FOR COMPLETE DOCUMENTATION	AG3E33
PRESS PSIG	2.42	AMBIENT	TYPE TEST	2)AET'S RETESTING REPORT NO. 18987-84N, DATED 12/21/83.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	90	90	TYPE TEST			
RADIATION	1E07	1E07	TYPE TEST			
CHEM SPRAY	N/A	N/A	N/A		EQUIPMENT NOT REQUIRED TO FUNCTION POST HELD PLT DES CONDITIONS ARE THOSE UNDER WHICH EQUIPMENT MUST OPERATE.	
OPE TME MN	CONT.	CONT.	TYPE TEST			
QUAL. LIFE	40 YRS.	40 YRS.	TYPE TEST			
SUBMERGENCE	N/A	N/A	N/A			

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C2AD10

SPEC. NUM.: F/L2702

SYSTEM : RH

SAFETY CAT: A

FUNCTION : VALVE POSITION INDICATION

ENVR ZONE : C 2

COMP/EQUIP: LIMIT SWITCH

MANUF. : NAMCO

MODEL SUPP: EA18012303,EA18011303

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

PARAMETER	ENVIRONMENT PLT DES	QUALIFICATION	QUALIFICATION METHOD	QUALIFICATION DOCUMENT REFERENCE	REMARKS	COMP NUMBER
TEMP DEG F	320 MAX	420 MAX	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL. TEST REPORT H03A/H06A.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQDP-HE-3/6 FOR COMPLETE DOCUMENTATION PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	C2AD10
PRESS PSIG	50	57	TYPE TEST			
REL HUMID %	100	100	TYPE TEST			
RADIATION	2E08	2.0E08	TYPE TEST			
CHEM SPRAY	SEE REMARKS	1.33GPM 10.5 PH	TYPE TEST		CHEM SPRAY (PLT DES)	
OPE TME MN	CONT.	CONT.	TEST/ANALYSIS		3000 PPM H3B04 30 % NaOH	
QUAL. LIFE	40 YRS.	23.4 YRS.	TEST/ANALYSIS		PH 8.5-10.5 .15 GPM/SQ.FT.	
SUBMERGENCE	N/A	N/A	N/A			

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C2AE34

SPEC. NUM.: F/L2702

SYSTEM : RC

SAFETY CAT: A

FUNCTION : COOLANT TEMPERATURE NARROW RANGE RTD'S

ENVR ZONE : C 2

COMP/EQUIP: RESISTANCE TEMPERATURE DETECTOR

MANUF. : RDF

MGDEL SUPP: DRWG. NO. 21204

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP	
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	NUMBER	
TEMP DEG F	320 MAX	420 MAX	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL. TEST REPORT EOSA	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQDP-ESE-5 FOR COMPLETE DOCUMENTATION PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	C2AE34
PRESS PSIG	50	75	TYPE TEST			
REL HUMID %	100	100	TYPE TEST			
RADIATION	1.3E07G	4.16E07G	TYPE TEST			
CHEM SPRAY	SEE REMARKS	0.19GPM/SFT PH 10.7	TYPE TEST		CHEM SPRAY (PLT DES)	
OPE TME MN	SHORT	SHORT	TEST/ANALYSIS		3000 PPM H3BO3 30 % NAOH PH 8.5-10.5 .15 GPM/SQ.FT.	
QUAL. LIFE	40 YRS.	20 YRS.	TEST/ANALYSIS			
SUBMERGENCE	N/A	N/A	N/A			

3306

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C5AD17

SPEC. NUM.: F/L2702

SYSTEM : RY

SAFETY CAT: A

FUNCTION : PRESSURIZER RELIEF VALVE

ENVR ZONE : C 5

COMP/EQUIP: SOLENOID OPERATED VALVE

MANUF. : ASCO

MODEL SUPP: NP8J1654E

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP
PARAMETER	PLT DES:QUALIFICATION:	METHOD	DOCUMENT REFERENCE		NUMBER:
TEMP DEG F	:320 MAX:	348	: TYPE TEST	:WESTINGHOUSE QUAL. TEST REP. :REFER TO ENVIRONMENTAL QUALIFICATION BINDER	:C5AD17:
PRESS PSIG	: 50 :	56	: TYPE TEST	:HD2A/H75A. AND ASCO TEST :NO. EQDP HE-2/5 FOR COMPLETE DOCUMENTATION	:
REL HUMID %	: 100 :	100/STEAM	: TYPE TEST	:REPORT NO. AQR-67368 REV. O. :PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	:
RADIATION	: 2E08 :	2.05E08	: TYPE TEST	:DATED 03/02/82.	:
CHEM SPRAY	: SEE :	0.7 GPM/	: TYPE TEST	:CHEM SPRAY (PLT. DES.)	:
OPE TME MN	: REMARKS: SHORT :	SO. FT. CONT.	: TYPR TEST	:3000 PPM H3BO4	:
QUAL. LIFE	: 40 YRS. :	40 YRS.	: TEST/ANALYSIS:	:30 % NAOH PH 8.5-10.5	:
SUBMERGENCE	: N/A :	N/A	: N/A	:15 GPM/SQ. FT.	:
				:40 YEARS LIFE IS BASED UPON REPLACING THE	:
				:ELASTOMERS & SOLENOID COILS BASED ON AMBIENT	:
				:TEMPERATURE.	:

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CGAC08

SPEC. NUM.: F/L2702

SYSTEM : RE.CV,SI,RY

SAFETY CAT: A

FUNCTION : CONTAINMENT ISOLATION

ENVR ZONE : C 6

COMP/EQUIP: SOLENOID OPERATED VALVE

MANUF. : ASCO

MODEL SUPP: NP831654E

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

PARAMETER	ENVIRONMENT	PLT DES:QUALIFICATION	QUALIFICATION METHOD	DOCUMENT REFERENCE	REMARKS	COMP NUMBER
TEMP DEG F	: 320 MAX	: 348	: TYPE TEST	: WESTINGHOUSE QUAL. TEST REP.	: REFER TO ENVIRONMENTAL QUALIFICATION BINDER	: CGAC08
PRESS PSIG	: 50	: 56	: TYPE TEST	: HO2A/H05A. AND ASCO TEST	: NO. EQDP HE-2/5 FOR COMPLETE DOCUMENTATION	
REL HUMID %	: 100	: 100/STEAM	: TYPE TEST	: REPORT NO. AOR-67368 REV. O.	: PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
RADIATION	: 2E08	: 2.05E08	: TYPE TEST	: 03/02/82.		
CHEM SPRAY	: SEE	: 0.7 GPM/	: TYPE TEST		: CHEM SPRAY (PLT. DES.)	
OPE TME MN	: SHORT	: 50-FT.	: TYPR TEST		: 3000 PPM H3B04	
QUAL. LIFE	: 40 YRS.	: 40 YRS.	: TEST/ANALYSIS		: 30 % NAOH PH 8.5-10.5	
SUBMERGENCE	: N/A	: N/A			: .15 GPM/SQ.FT.	
					: 40 YEARS LIFE IS BASED UPON REPLACING THE	
					: ELASTOMERS & SOLENOID COILS BASED ON AMBIENT	
					: TEMPERATURE.	



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C6AA14

SPEC. NUM.: F/L2794-1

SYSTEM : VQ

SAFETY CAT: A

FUNCTION : ISOLATION

ENVR ZONE : C 6

COMP/EQUIP: HYDRAULIC OPERATOR

MANUF. : BORG WARNER

MODEL SUPP: P/N 85460

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	REMARKS	COMP
PARAMETER	PLT DES	QUALIFICATION	DOCUMENT REFERENCE	NUMBER
		METHOD		
TEMP DEG F	:	:	INTERIM JUSTIFICATION SUBMITTED TO NRC, CECO LETTER 01/10/84 ATTACHMENT C.	C6AA14
PRESS PSIG	:	:		
REL HUMID %	:	:		
RADIATION	:	:	VALVES ARE IN CLOSED POSITION DURING POWER OPERATION & POWER IS DISCONNECTED INSURING NON-OPERABILITY OF THE VALVES.	
CHEM SPRAY	:	:		
OPE TME MN	:	:		
QUAL. LIFE	:	:		
SUBMERGENCE	:	:		

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CGAE6H

SPEC. NUM.: F/L2702,F/L2906

SYSTEM : PC

SAFETY CAT: B

FUNCTION : MONITOR CONTAINMENT FLOOR DRAIN PUMP CHANNELS AGB, AND CONTAINMENT WATER LEVEL

ENVR ZONE : C 6

COMP/EQUIP: DIFFERENTIAL PRESSURE TRANSMITTER

MANUF. : BARTON

MODEL SUPP: 764

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT	QUALIFICATION	QUALIFICATION	QUALIFICATION	QUALIFICATION	REMARKS	COMP
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE		NUMBER
TEMP DEG F	320	420	TYPE TEST	ITT BARTON REPORT NO. R3-7649, REV. 3 DATED 10/05/82	REFER TO ENVIRONMENTAL QUALIFICATION BINDER NO. EQ-BB063 FOR COMPLETE DOCUMENTATION PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	CGAE6H
PRESS PSIG	50	75	TYPE TEST			
REL HUMID %	100	100	TYPE TEST			
RADIATION	2E08	2E08	TYPE TEST			
CHEM SPRAY	.15 GPM/ /SQ. FT.	5.9 GPH/ SQ. FT.	TYPE TEST			
OPE TME MN	CONT.	CONT.	TYPE TEST			
QUAL. LIFE	40 YRS.	40 YRS.	TYPE TEST		QUALIFIED LIFE BASED ON O-RING REPLACEMENT WHEN DISTURBED.	
SUBMERGENCE	N/A	N/A	N/A			