



Commonwealth Edison

One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

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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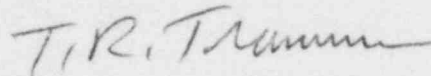
A046
11

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	QUALIFICATION	QUALIFICATION	QUALIFICATION	COMP
PARAMETER	PLT DES	QUALIFICATION	METHOD	NUMBER
			DOCUMENT REFERENCE	REMARKS
TEMP DEG F	122	130	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL. : REFER TO ENVIRONMENTAL QUALIFICATION BINDER : A12E7C
PRESS PSIG	0	0	TYPE TEST	TEST REPORT 4A. : NO. EQDP-ESE-4 FOR COMPLETE DOCUMENTATION : 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-O.
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	

SARGENT & LUNDY ENGINEERS
COMPONENT QUALIFICATION DIVISION

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DATE : 20 SEP 84

AA2E10

SPEC. NUM.: F/L2702

SYSTEM : AB

SAFETY CAT: A

FUNCTION : BORIC ACID TANK LEVEL

ENVR ZONE : A12A

COMP/EQUIP: DIFFERENTIAL PRESSURE TRANSMITTER

MANUF. : PARTON

MODEL SUPP: 752

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT			QUALIFICATION	QUALIFICATION		COMP
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT	REFERENCE	NUMBER
TEMP DEG F	128	130 MAX	TYPE TEST	WESTINGHOUSE EQUIP. QUAL.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER	AA2E10
PRESS PSIG	0	0	TYPE TEST	TEST REPORTS E04A & E04B	NO. EQDP ESE-4 FOR COMPLETE DOCUMENTATION	
REL HUMID %	90	95	TYPE TEST		ASSOCIATED WITH THIS EQUIPMENT.	
RADIATION	1E05	1E05	TYPE TEST		DESIGN RADIATION BASED ON POINT SPECIFIC	
CHEM SPRAY	N/A	N/A	N/A		CALCULATION DIT-BB-NFLD-11-0.	
OPE TME MN	CONT.	CONT.	TEST/ANALYSIS			
QUAL. LIFE	40 YRS.	5 YRS.	TEST/ANALYSIS			
SUBMERGENCE	N/A	N/A	N/A			

SARGENT & LUNDY ENGINEERS
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DATE : 20 SEP 84

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	REMARKS	COMP NUMBER
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE		
TEMP DEG F	130	348	TYPE TEST	WESTINGHOUSE EQUIP. QUAL. TEST REPORT HQ2A/HQ5A. 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			

SARGENT & LUNDY ENGINEERS
COMPONENT QUALIFICATION DIVISION

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DATE : 20 SEP 84

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	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 HQ2A/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.
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	CONT.	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	NUMBER
DOCUMENT	REFERENCE	REMARKS		
TEMP DEG F	122	122	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL. REFER TO ENVIRONMENTAL QUALIFICATION BINDER AC3A21
				TEST REPORT AO2A. EQDP AE-2 FOR COMPLETE DOCUMENTATION PACKAGE
PRESS PSIG	0	0	TYPE TEST	ASSOCIATED WITH THIS EQUIPMENT.
REL HUMID %	90	95	TYPE TEST	
RADIATION	1E07	1E07	TYPE TEST	
CHEM SPRAY	N/A	N/A	N/A	WESTINGHOUSE LETTER CAW-7940 ADDRESSES QUALIFIED LIFE AT 122 DG/F, AMBIENT.
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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DATE : 20 SEP 84

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		COMP	
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT	REFERENCE	REMARKS	NUMBER
TEMP DEG F	130	420 MAX	TYPE TEST	WESTINGHOUSE EQUIPMENT QUAL.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER	AC3D13	
PRESS PSIG	0	57	TYPE TEST	TEST REPORT H03A/H06A.	NO. EQDP-HE-3/6 FOR COMPLETE DOCUMENTATION		
REL HUMID %	90	100	TYPE TEST		PACKAGE ASSOCIATED WITH THIS EQUIPMENT.		
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				

SARGENT & LUNDY ENGINEERS
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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

ENVIRONMENT			QUALIFICATION	COMP		
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	REMARKS	NUMBER
TEMP DEG F	130	340	TYPE TEST	NAMCO CONTROL'S REPORT	REFER TO ENVIRONMENTAL QUALIFICATION BINDER	AC3D02
				QTR-105, REV. 1	NO. EQ-BB015 FOR COMPLETE DOCUMENTATION	
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	TYPE TEST			
		PH 10 TO 11				
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	
SUBMERGENCE	N/A	N/A	N/A		PARTS. REPLAC. INTERVAL FOR ELAS. COMP. IS	
					DEPENDENT ON AMBIENT TEMP.SEE CQD-010001,TAB E	

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

SARGENT & LUNDY ENGINEERS
COMPONENT QUALIFICATION DIVISION

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COMMONWEALTH EDISON COMPANY - BYRON/BRAIDWOOD STATION
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DATE : 20 SEP 84

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

ENVIRONMENT		QUALIFICATION		QUALIFICATION	REMARKS	COMP
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE		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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REVISION : 1

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		COMP	
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT	REFERENCE	REMARKS	NUMBER
TEMP DEG F	122	130	TYPE TEST	1)AETC REPORT NO. 15281	REFER TO ENVIRONMENTAL QUALIFICATION BINDER	AF3E29	
				REV. 2, DATED 10/14/83.	NO. EQ-BB019 FOR COMPLETE DOCUMENTATION		
PRESS PSIG	2.42	0	TYPE TEST	2)AETC RETEST REPORT NO.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.		
				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				

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 CUNDITIONS

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

SARGENT & LUNDY ENGINEERS
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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		COMP
PARAMETER	PLT DES:	QUALIFICATION:	METHOD	DOCUMENT	REFERENCE	NUMBER
TEMP DEG F	122	130	TYPE TEST	1)AETC'S TEST REPORT NO.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER	AG3E04
				15281,REV. 2 - 10/14/83	NO. EQ-BB016 FOR COMPLETE DOCUMENTATION	
PRESS PSIG	2.42	AMBIENT	TYPE TEST	2)AETC'S RETESTING REPORT	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
				NO. 18987-84N, DATED		
REL HUMID %	90	90	TYPE TEST	DECEMBER, 1983		
RADIATION	1E07	1E07	TYPE TEST			
CHEM SPRAY	N/A	N/A	N/A		EQUIPMENT NOT REQUIRED TO FUNCTION POST HELB	
					PIT DES CONDITIONS ARE THOSE UNDER WHICH	
OPE TME MN	CONT.	CONT.	TYPE TEST		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	CONY.	CONT.	TYPE TEST		
QUAL. LIFE	40 YRS.	18.6 YRS.	TYPE TEST		
SUBMERGENCE	N/A	N/A	N/A		
				EQUIPMENT NOT REQUIRED TO FUNCTION POST HELB PLT DES CONDITIONS ARE THOSE UNDER WHICH EQUIPMENT MUST OPERATE.	

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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		REMARKS	COMP NUMBER
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT	REFERENCE		
TEMP DEG F	122	130	TYPE TEST	1)AET'S TEST REPORT NO.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER	AG3E6N	
				15281, REV. 2- 10/14/83	NO. EQ-BB020 FOR COMPLETE DOCUMENTATION		
PRE PSIG	2.42	0	TYPE TEST	2)AET'S RETESTING REPORT NO.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.		
				18987-84N, DATED			
REL HUMID %	90	90	TYPE TEST	DECEMBER, 1983.			
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				

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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		QUALIFICATION		QUALIFICATION		REMARKS	COMP NUMBER
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT	REFERENCE		
TEMP DEG F	122	130	TYPE TEST	1)AET'S TEST REPORT NO.	REFER TO ENVIRONMENTAL QUALIFICATION BINDER	AG3E33	
				15281, REV. 2- 10/14/83	NO. EQ-BB017 FOR COMPLETE DOCUMENTATION		
PRESS PSIG	2.42	AMBIENT	TYPE TEST	2)AET'S RETESTING REPORT NO.	PACKAGE ASSOCIATED WITH THIS EQUIPMENT.		
				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		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				

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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

ENVIRONMENT		QUALIFICATION		QUALIFICATION	COMP	
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT REFERENCE	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	C2AD10
PRESS PSIG	50	57	TYPE TEST		PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	100	100	TYPE TEST			
RADIATION	2E08	2.0E08	TYPE TEST			
CHEM SPRAY	SEE	1.33GPM	TYPE TEST		CHEM SPRAY (PLT DES)	
	REMARKS:	10.5 PH				
OPE TME MN	CONT.	CONT.	TEST/ANALYSIS		3000 PPM H3BO4	
QUAL. LIFE	40 YRS.	23.4 YRS.	TEST/ANALYSIS		30 % NaOH	
					PH 8.5-10.5	
SUBMERGENCE	N/A	N/A	N/A		15 GPM/SQ.FT.	

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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

MODEL SUPP: DRWG. NO. 21204

FOR PLANT DESIGN REFERENCE REFER TO TABLE OF PLANT ENVIRONMENTAL CONDITIONS

ENVIRONMENT		QUALIFICATION:		QUALIFICATION		REMARKS	COMP NUMBER
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT	REFERENCE		
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	0.19GPM/SFT	TYPE TEST			CHEM SPRAY (PLT DES)	
	REMARKS:	PH 10.7					
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				

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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	COMP
PARAMETER	PLT DES	QUALIFICATION	METHOD	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	: HO2A/H05A. AND ASCO TEST : NO. EQDP HE-2/5 FOR COMPLETE DOCUMENTATION
REL HUMID %	: 100	: 100/STEAM	: TYPE TEST	: REPORT NO. AQR-67368 REV. 0. : PACKAGE ASSOCIATED WITH THIS EQUIPMENT. : DATED 03/02/82.
RADIATION	: 2E08	: 2.05E08	: TYPE TEST	
CHEM SPRAY	: SEE	: 0.7 GPM/	: TYPE TEST	: CHEM SPRAY (PLT. DES.)
	: REMARKS	: SQ. FT.		
OPE TME MN	: SHORT	: CONT.	: 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	: 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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C6AC08

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	DOCUMENT REFERENCE	REMARKS	COMP
						NUMBER
TEMP DEG F	320 MAX	348	TYPE TEST	WESTINGHOUSE QUAL. TEST REP. REFER TO ENVIRONMENTAL QUALIFICATION BINDER		C6AC08
PRESS PSIG	50	56	TYPE TEST	HO2A/HO5A. 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	03/02/82.		
CHEM SPRAY	SEE REMARKS	0.7 GPM/50-FT. CONT.	TYPE TEST		CHEM SPRAY (PLT. DES.)	
OPE TME MN	SHORT		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			.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
TEMP DEG F	:	:	INTERIM JUSTIFICATION SUBMITTED TO NRC,	C6AA14
PRESS PSIG	:	:	CECO LETTER 01/10/84 ATTACHMENT C.	:
REL HUMID %	:	:	:	:
RADIATION	:	:	VALVES ARE IN CLOSED POSITION DURING POWER	:
CHEM SPRAY	:	:	OPERATION & POWER IS DISCONNECTED INSURING	:
OPE TME MN	:	:	NON-OPERABILITY OF THE VALVES.	:
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		REMARKS	COMP NUMBER
PARAMETER	PLT DES	QUALIFICATION	METHOD	DOCUMENT	REFERENCE		
TEMP DEG F	320	420	TYPE TEST	ITT BARTON REPORT NO.		REFER TO ENVIRONMENTAL QUALIFICATION BINDER	CGAE6H
				R3-7649, REV. 3 DATED		NO. EQ-BB063 FOR COMPLETE DOCUMENTATION	
PRESS PSIG	50	75	TYPE TEST	10/05/82		PACKAGE ASSOCIATED WITH THIS EQUIPMENT.	
REL HUMID %	100	100	TYPE TEST				
RADIATION	2E08	2E08	TYPE TEST				
CHEM SPRAY	15 GPM	5.9 GPH/	TYPE TEST				
	/SQ.FT.	SQ.FT.					
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				