

**DUQUESNE LIGHT COMPANY
BEAVER VALLEY POWER STATION UNIT NO. 1**

**Environmental
Qualification Documentation Report
for
NRC SER 90 Day Response 1983**

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I. INTRODUCTION

1.0 Purpose of This Report

This document is submitted to the NRC for the Duquesne Light Company (DLC) Beaver Valley Power Station Unit #1 as the 90-Day Response to the NRC SER of December 16, 1982. Because previous submittals provided to the NRC have contained large amounts of information, no attempt has been made in this submittal to transmit the same material again. This report is intended to provide a qualification program information update to the NRC of what has been completed and what actions are being instituted for the future.

2.0 Scope of Review

Only the equipment items that were identified on the October 15, 1981, 79-01B Master List have been addressed in this resubmittal. The recent NRC SER Review had assigned various equipment item evaluation categories as identified below:

- | | |
|-------|---|
| I.a | Equipment Qualified |
| I.b | Equipment Qualification Pending Modification |
| II.a | Equipment Qualification Not Established |
| II.b | Equipment Not Qualified |
| II.c | Equipment Satisfies All Requirements Except
Qualified Life or Replacement Schedule Justified |
| III.a | Equipment Exempt From Qualification Review |
| III.b | Equipment Not in The Scope of The Qualification
Review |
| IV. | Documentation Not Made Available |

All of the original plant equipment has been responded to in this submittal; with the exception of those in Sections I.a, III.a and III.b of the NRC SER review.

3.0 Overview of Report Contents

This document is divided into four sections. Section I, "Introduction" defines the intent and scope of this report.

Section II, "Methodology Used for Evaluations" provides a discussion on the methods and assumptions employed for the evaluation process. Only equipment items originally included in the 79-01B October 15, 1981 Submittal have been reviewed in this report. Documentation for those equipment items that were replaced, modified, added, or removed since October 15, 1981 Submittal, are not a part of this report but are maintained in the Duquesne Light Company Equipment Qualification File.

Section III is the "Executive Summary" that includes an overview of the response in a tabulated form providing a comparison between the DLC review and the NRC reviews. It contains a summary status and the planned action for qualification for each item.

Section IV includes the review sheets for all equipment items listed as Categories I.b, II.a, and II.c in the SER. The SER did not identify any equipment as belonging in Category II.b. The System Component Evaluation Worksheets (SCEWS) have not been included in this submittal because they had been issued to the NRC previously in the October 15, 1981 Submittal.

II. EVALUATION METHODOLOGY AND PROGRAM SPECIFICS

1.0 Background

The evaluation process used to assign a final qualification status to each equipment item included the investigation of all the previous reviews performed on that item since the 79-01B Submittal of October 15, 1981. The equipment items of 79-01B submittal have been reviewed three times since their original submittal. The initial review was performed by Duquesne Light Company, the second review and independent assessment by EDS, Nuclear, and the third review by Franklin Research Center.

2.0 Evaluation Structure

The findings of these previous reviews are noted in Sections 3.0 A,B & C of each Tab in this report and the result of the current review performed is listed in Section 3.0 D. Section 1.0 of the format contains equipment identification information.

A brief overview of the current status of each equipment item is noted in Section 2.0. In Section 4.0, a comparison of the qualification category assigned by both the recent NRC and DLC review is presented. In the event of a difference in the NRC and DLC evaluations, an explanation has been provided.

Section 5.0 of the Review Sheets provides a discussion and proposed action on all deficiencies/concerns raised by the NRC Review. In some cases, reference is made to Duquesne Light Company's Equipment Qualification Files.

In some of the tabs, the final section if required, is an Action Plan to qualify each equipment item by either replacement, modification, testing, relocation, analysis, or other means.

3.0 Program Review To Date

The current DLC review of the 79-01B October 15, 1981 Submittal indicates a number of changes of qualification categories assigned to equipment items as compared to the NRC review. There are presently 14 items believed to be qualified by DLC in Category I.a instead of 5 items as evaluated by the NRC. The number of equipment items in Category I.b "Equipment Qualification Pending Modification" has reduced from 40 to 35 while Cat. II.a "Equipment Qualification Not Established" is reduced to 9 from 30. The equipment items which require the most attention, those in categories I.b and II.a, have decreased in number from 70 to 44. This information is presented in summary form in Table I at the end of this section.

4.0 Service Conditions

The environmental service conditions used for this evaluation are the same ones listed in 79-01B October 15, 1981 Submittal.

The FSAR value for the chemical concentration is 15000 ppm, Boric Acid solution, and a lower value of Boric Acid solution was utilized for qualification testing purposes. This was noted as qualification deficiencies.

An analysis for the resulting pH for various Boric acid concentrations does not indicate any significant change in the pH value. The actual pH values changed by 3.9% and 3.5% when the Boric acid concentration was doubled for NaOH concentration of 0.1 wt. % and 0.2 wt. % respectively. Hence, the different concentrations of Boric acid would have minimal difference in the resulting pH value.

5.0 Changes in Equipment Since 79-01B Oct. 15, 1981 Submittal

Equipment items which have been replaced, modified, or added since October 15, 1981 Submittal are not included in this report. They will be listed in the 90-Day Response to the NRC Rulemaking by May 20, 1983.

6.0 Walkdown Report for Qualification Integrity of Safety-Related Electrical Equipment

A physical walkdown was conducted at Beaver Valley Unit #1 to review the installation mounting, location, and traceability of the installed equipment to what was reported. Experienced groups of personnel from Duquesne Light Company participated in the surveys conducted in the first half of 1982. The survey contained physical inspections and photographing of pull boxes, equipment supports and attachments, solenoid valves, penetrations, transmitters, limit switches, etc.

The walkdown was conducted in the areas of the reactor containment, safeguards, primary auxiliary building, diesel generator building and the auxiliary feed pump area.

7.0 Program Specifics

A. Equipment Replaced During 2nd Refueling Outage

Equipment items (DLC TAB #/FRC #) 23/55, 31/77, 36/26, 36/27, 36/28, 37/24, 37/25, 38/58 and 46/61 have been replaced by qualified equipment during the DLC 2nd Refueling Outage of 1982 and qualification documentation for the replacement equipment is located in the Duquesne Light Company EQ File.

B. Equipment Scheduled for Replacement

Equipment items (DLC Tab#/FRC#) 14/38, 15/36, 16/48, 16/49, 17/41, 19/47, 19/91, 21/40, 25/2, 25/90, 32/74, 40/39, 40/43, 41/37, 41/42, 42/44 are scheduled for replacement. Westinghouse Corporation has been issued a purchase order #CC520 on Dec. 19, 1980, for these equipment items. Some of the items have now been received at the site. Qualification documents are currently being reviewed and installation will then be completed at the next available outage as soon as the qualification of the equipment has been established.

C. Cables

The cables used at the Beaver Valley Power Station Unit 1, which are located both inside and outside containment, are Kerite, Cerro (Rockbestos), Okonite, and Continental. All cables are currently qualified for harsh environment applications except the Continental and Vulkene Model 57275. Continental cables are used inside the Viking penetrations and Duquesne Light Company plans to conduct a retesting program on the Continental cable to alleviate the chemical spray and radiation concerns.

Some of the G.E. Vulkene SIS wires were replaced during previous outages and any remaining wire that is mainly located inside MCCs and in locally mounted junction boxes for air operated valves, will be replaced within the time frame allotted by the NRC Rulemaking.

D. Conduit Seals

The initial method, contemplated by DLC used to seal the limit switches, was shown on sheet 4-11 & 12 of the 79-01B Oct. 15, 1981 Submittal. However, test results of the Chico ceramic sealing compound used by this method indicated that the seal did not prevent moisture leakage through the stranded conductors. As a result, the sealing method could not satisfy the requirements.

Duquesne Light Company is presently investigating Conax, in addition to several other sealing methods including RayChem, Bisco, and Dow Corning's RTV compound.

Conduit seals are used only at the equipment feed-through connections and are not an integral portion of the equipment. The connected equipment items are qualified, however, their overall qualification depends on the qualification of the external seals.

E. Limitorque Motor Operators

The most significant problem with the Limitorque Motor Operators is the identification of specific materials and motor brake design data so that the aging evaluation and qualified life/replacement cycle can be determined. Duquesne Light Company has evaluated the qualified life of the identifiable materials on certain valve operators and all indicators point to a greater than 40 year life span, provided that periodic lubrication replacement occurs. Action is being taken to identify all degradable materials through the manufacturer to remove the NRC quoted deficiencies.

In response to IE circular 79-04, a comprehensive walkdown of all Limitorque Motor Operators was conducted in 1979 to identify all the Limitorque's in the plant. The report was submitted to the NRC on March 16, 1979.

Excerpts from various test reports indicate that all Limitorque Operators belong to the generic family with the same materials of construction but of different sizes. For example, Test Report B0037 Section 2.0.1 identifies that the entire line of valve actuators including the electric motor types SMB/SB/SBD/SMC/HBC, is a generic family. All are constructed of similar materials with physical size varying as a function of ratings. Duquesne Light Company is in the process of obtaining any additional information from the manufacturer to establish the applicability of specific test reports to each motor operator that has a traceability question.

TABLE I
SUMMARY OF EQUIPMENT ITEMS IN EACH CATEGORY

TAB NUMBERS LISTED ARE DLC/NRC							NUMBER OF EQUIP. ITEMS			
							DLC REVIEW	NRC REVIEW	DIFFER- ENCE	
I.a	EQUIPMENT QUALIFIED						14	5	+9	
	2/69	22/52	23/55	27/50	29/81	31/77				
	33/73	46/62	46/61	1/70*	3/68*	4/71*				
	5/76*	30/78*								
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION						35	40	-5	
	5/72	6/75	7/79	10/29	10/30	10/31				
	10/32	10/33	10/34	10/35	11/59	13/57				
	14/38	15/36	17/41	18/83	19/47	19/91				
	21/40	22/53	25/90	27/51	32/74	36/26				
	36/27	36/28	37/24	37/25	38/58	39/84				
	40/39	40/43	41/37	41/42	42/44					
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED						9	30	-21	
	16/49	20/46	25/2	25/3	25/4					
	25/5	45/10	45/12	45/15						
II.b	EQUIPMENT NOT QUALIFIED						0	0	0	
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED						14	8	+6	
	8/80	26/56	35/65	35/66	35/67	44/22				
	44/23	44/88	45/11	45/13	45/14	45/89				
	47/63	48/64								
III.a	EQUIPMENT EXEMPT FROM QUALIFICATIONS						10	3	+7	
	28/6	28/7	28/8	28/9	28/45					
	28/54	28/60	45/16*	43/17*	43/82*					
III.b	EQUIPMENT NOT IN THE SCOPE OF REVIEW						8	5	+3	
	24/1	43/20	43/18*	43/19*	43/21*	43/85*				
	43/86	43/87*								
IV.	DOCUMENTATION NOT MADE AVAILABLE						0	0	0	
TOTAL							=	90	91	-1

* Equipment items not reviewed by DLC and assigned the same qualification category as NRC Review.

Equipment item 16/48 has been combined with Equipment item 16/49.

III EXECUTIVE SUMMARY

79- 01B TAB#	FRC TAB#	EQUIPMENT MANUFACTURER	QUAL. DLC	CATEGORY NRC/FRC	PLANNED ACTION
1	70	Kerite	-	I.a	None (qual by NRC Review)
2	69	Cerro	I.a	II.a	None (qual by DLC Review)
3	68	Okonite	-	I.a	None (qual by NRC Review)
4	71	Okonite	-	I.a	None (qual by NRC Review)
5	72	Continental	I.b	I.b	Retest for chemical spray and radiation
6	75	Viking	I.b	II.a	Retest penetration for higher radiation dosage
7	79	Buchanan	I.b	I.b	Retest
8	80	Penn Union	II.c	II.a	Conduct aging analysis and determine replacement cycle
9	76	Rockbestos	-	I.a	None (qual by NRC Review)
10	29	ASCO NP8320A184E	I.b	I.b	Install qualified seal at conduit interface
10	30	ASCO NP8320A188E	I.b	I.b	Install qualified seal at conduit interface
10	31	ASCO NP8320A186E	I.b	I.b	Install qualified seal at conduit interface
10	32	ASCO NP8320A186E	I.b	I.b	Install qualified seal at conduit interface
10	33	ASCO NP8320A186E	I.b	I.b	Install qualified seal at conduit interface
10	34	ASCO NP831654E	I.b	I.b	Install qualified seal at conduit interface
10	35	ASCO NP8316A74E	I.b	I.b	Install qualified seal at conduit interface

III EXECUTIVE SUMMARY

79- 01B TAB#	FRC TAB#	EQUIPMENT MANUFACTURER	QUAL. DLC	CATEGORY NRC/FRC	PLANNED ACTION
11	59	NAMCO	I.b	I.b	Install qualified conduit seals at interface
13	57	NAMCO	I.b	I.b	Install qualified conduit seals at interface
14	38	Fischer & Porter	I.b	I.b	Replace with qualified Barton Lot 5 transmitters
15	36	Barton	I.b	II.a	Replace with qualified Barton Lot 5 transmitter
16	48	Barton 386	-	I.b	None (exempt from qualification)
16	49	Barton 764LOT2	II.a	II.a	Investigate test program anomaly. Obtain procedures for soldering
17	41	Gems	I.b	I.b	Replace with qualified transmitter
18	83	Mason-Neilan	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
19	47	Fischer & Porter	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
19	91	Fischer & Porter	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
20	46	Barton	II.a	II.a	Perform aging analysis. Obtain soldering procedures for connectors
21	40	Barton 386	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
22	53	Sostman Wide Range	I.b	II.a	Review qualification of new RTDs of RDF Corp.
22	52	Sostman Narrow Range	I.a	II.a	None (units are considered qualified)
23	55	Trinity	I.a	I.b	Replaced with Conax during 2RFO
24	1	Limitorque SMB-0	III.b	II.a	None (not in the scope of review)

III EXECUTIVE SUMMARY

79- 01B TAB#	FRC TAB#	EQUIPMENT MANUFACTURER	QUAL. DLC	CATEGORY NRC/FRC	PLANNED ACTION
25	2	Limitorque SMB-00	II.a	II.a	Perform aging analysis, replace (MOV-CH-310) with qualified operator
25	3	Limitorque SMB-00	II.a	II.a	Identify materials of construction, establish similarity and perform aging analysis
25	4	Limitorque SMB-00	II.a	II.a	Identify materials of construction, establish similarity and perform aging analysis
25	5	Limitorque SMB-00	II.a	II.a	Identify materials of construction, establish similarity and perform aging analysis
25	90	Limitorque SMB-00	I.b	I.b	Review qualification documents and replace
26	56	G.E.	II.c	II.a	Perform aging analysis on the lead splice, lead cable insulation, bearings, and lubricant
27	50	Endevco	I.a	I.b	The acclerometer is qualified
27	51	Unholtz Dickie	I.b	I.b	Retest the accoustical monitoring system or procure a different system
28	6	Limitorque SMB-00	III.a	II.a	None (exempt from qualification)
28	7	Limitorque SMB-00	III.a	II.a	None (exempt from qualification)
28	8	Limitorque SMB-2	III.a	II.a	None (exempt from qualification)
28	9	Limitorque SMB-1	III.a	II.a	None (exempt from qualification)

III EXECUTIVE SUMMARY

79- 01B TAB#	FRC TAB#	EQUIPMENT MANUFACTURER	QUAL. DLC	CATEGORY NRC/FRC	PLANNED ACTION
28	45	Fischer & Porter 50EP1041	III.a	I.b	None (exempt from qualification)
28	54	Control Prod.	III.a	II.a	None (exempt from qualification)
28	60	Westinghouse S070F67868	III.a	II.a	None (exempt from qualification)
29	81	Marathon	I.a	I.b	None (qual by DLC Review)
30	78	Okonite	-	I.a	None (qual by NRC Review)
31	77	Kerite	I.a	I.b	Replaced during 2nd RFO with qualified item
32	74	Vulkene	I.b	I.b	Replace during 3rd RFO
33	73	Vulkene	I.a	II.a	None (qual by DLC Review)
35	65	Allis Chalmer	II.c	II.a	Perform aging analysis of control transformer
35	66	Allis Chalmer	II.c	II.a	Perform aging analysis of control transformer
35	67	Allis Chalmer	II.c	II.a	Perform aging analysis of control transformer
36	26	ASCO HP8320A26	I.b	I.b	Replaced during 2nd RFO with qualified equipment. Install qualified seal at conduit interface
36	27	ASCO HP8320A26	I.b	I.b	Replaced during 2nd RFO with qualified equipment. Install qualified seal at conduit interface
36	28	ASCO HP8320A26	I.b	I.b	Replaced during 2nd RFO with qualified equipment. Install qualified seal at conduit interface
37	24	ASCO LB831654	I.b	I.b	Replaced during 2nd RFO with qualified equipment. Install qualified seal at conduit interface

III EXECUTIVE SUMMARY

79- 01B TAB#	FRC TAB#	EQUIPMENT MANUFACTURER	QUAL. DLC	CATEGORY NRC/FRC	PLANNED ACTION
37	25	ASCO LB831654	I.b	I.b	Replaced during 2nd RFO with qualified equipment. Install qualified seal at conduit interface
38	58	NAMCO D2400X	I.b	I.b	Limit switches replaced during 2RFO with qualified equipment. Install qualified seals at conduit interface
39	84	NAMCO EA740	I.b	I.b	Install qualified seals at conduit interface
40	39	Fischer & Porter	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
40	43	Fischer & Porter	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
41	37	Fischer & Porter	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
41	42	Fischer & Porter	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
42	44	Fischer & Porter	I.b	I.b	Replace with qualified Barton Lot 5 transmitter
43	16	Limitorque	-	III.a	None (exempt from qual.)
43	17	Limitorque	-	III.a	None (exempt from qual.)
43	18	Limitorque	-	III.b	None (not in scope of review)
43	19	Limitorque	-	III.b	None (not in scope of review)
43	20	Limitorque SMB-00	III.b	II.c	None (exempt from qual.)
43	21	Limitorque	-	III.b	None (not in scope of review)
43	82	Limitorque	-	III.a	None (exempt from qualification)
43	85	Limitorque	-	III.b	None (not in scope of review)
43	86	Limitorque	III.b	II.a	None (same as equipment number 43/20)
43	87	Limitorque	-	III.b	None (not in scope of review)

III EXECUTIVE SUMMARY

79- 01B TAB#	FRC TAB#	EQUIPMENT MANUFACTURER	QUAL. DLC	CATEGORY NRC/FRC	PLANNED ACTION
44	22	Limitorque (SMB-2T)	II.c	II.c	Perform aging analysis
44	23	Limitorque (SMB-00)	II.c	II.c	Perform aging analysis
44	88	Limitorque SMB-00	II.c	II.c	Perform aging analysis
45	10	Limitorque SMB-00	II.a	II.a	Obtain traceability documents and motor brake details
45	11	Limitorque SMB-00	II.c	II.c	Perform aging analysis and identify motor brake details
45	12	Limitorque SMB-00	II.a	II.a	Obtain traceability documents and motor brake details
45	13	Limitorque SMB-00	II.c	II.c	Perform aging analysis and identify motor brake details
45	14	Limitorque SMB-00	II.c	II.c	Perform aging analysis and identify motor brake details
45	15	Limitorque SMB-00	II.a	II.a	Obtain traceability documents and motor brake details
45	89	Limitorque SMB-00	II.c	II.c	Perform aging analysis and identify motor brake details
46	61	Louis Allis	I.a	I.b	None (motors were replaced by qualified equipment during 2nd RFO)
46	62	Louis Allis	I.a	II.a	None (qualified by DLC Review)
47	63	Westinghouse	II.c	II.a	Analyze motor constituent parts for thermal, radiation, and wear aging
48	64	Westinghouse	II.c	II.a	Analyze constituent parts for thermal, radiation, and wear aging

DLC TAB # 1

FRC TAB # 70

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 1
FRC NUMBER (S): 70
EQUIP DESCRIPTION: Electrical Cable
EQUIP MARK NO (S): N/A
MANUFACTURER: Kerite
MODEL NUMBER(S): 5000V Kerite Insulation

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

THE EQUIPMENT IS CONSIDERED QUALIFIED

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	X	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 2
FRC NUMBER (S): 69
EQUIP DESCRIPTION: Electric Cable
EQUIP MARK NO (S): NFB-65
MANUFACTURER: Cerro Wire and Cable Company
(The Rockbestos Company)
MODEL NUMBER(S): Silicone Rubber Insulation

2.0 BRIEF OVERVIEW OF STATUS

As stated in the DLC 30-day response a letter from the manufacturer states the insulation of the cable shipped was silicone rubber and that the silicone rubber insulation was manufactured by either Dow-Corning or General Electric, which are both qualified for application in this plant. Cerro Wire and Cable Co. Test Reports FC-2750 and FC-2875 have both of these compounds specifically stated. Therefore, since the manufacturer provided distinct material information on the insulation compound of the cable shipped, which matches the test reports' insulation compound, the similarity has been established.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not reviewed.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification not established.

DEFICIENCIES/CONCERNS: Similarity between installed cables and test specimens not established. Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		X
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The difference in qualification was due to being able to establish similarity between the cable installed and the cables tested.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Documentation of Qualification Inadequate.

DISCUSSION/PROPOSED ACTION: The establishment of similarity between cables installed and cables tested removed this deficiency. NRC/FRC has Cerro Wire and Cable Co. Test Reports FC-2750 and FC-2857 which resolves this matter.

- B. DEFICIENCY CONCERN: Similarity between Installed Cable and Test Specimen not Established.

DISCUSSION/PROPOSED ACTION: A letter from the manufacturer dated 1-14-83, has given the description of the cable shipped as a 1/C 500 MCM, Silicone Rubber Asbestos Braid, Silicone Finish. The letter also states that both GE and Dow Corning manufacture a methyl-phenyl-vinyl compound used for cable insulation commonly referred to as silicone rubber. Both compounds are used interchangeably by the Cerro Wire and Cable Co. Both of these compounds were covered by Cerro Wire and Cable Co. test reports FC-2750 and FC-2857 and have a determined qualified life. Therefore, the identification of the cable installed insulation can be traced to test reports.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. MANUFACTURER TRACEABILITY DOCUMENTS
(Reference Letter from P.Moore, The Rockbestos Company to J.E. Livingston, Schneider Consulting Engineers, dated January 14, 1983. This letter is in the DLC EQ File - IV.B.1/2).
2. SUPPLEMENTARY ANALYSIS
(Extended Life Analysis in Duquesne Light Company EQ File - IV.B.1/2).
3. AGING EVALUATION
(Thermal Aging Analysis in Duquesne Light Company EQ File - IV.B.1/2).

DLC TAB # 3

FRC TAB # 68

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 3
FRC NUMBER (S): 68
EQUIP DESCRIPTION: Electrical Cable
EQUIP MARK NO (S): N/A
MANUFACTURER: Okonite
MODEL NUMBER(S): 600V Okonite Insulation

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT IS CONSIDERED QUALIFIED

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	X	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC TAB # 4

FRC TAB # 71

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 4
FRC NUMBER (S): 71
EQUIP DESCRIPTION: Electrical Cable
EQUIP MARK NO (S): N/A
MANUFACTURER: Okonite
MODEL NUMBER(S): Okonite Insulation

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT IS CONSIDERED QUALIFIED

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	X	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 5
FRC NUMBER (S): 72
EQUIP DESCRIPTION: Instrument Cable
EQUIP MARK NO (S): N/A
MANUFACTURER: Continental Wire & Cable Corporation
MODEL NUMBER(S): Silicone Rubber Insulation

2.0 BRIEF OVERVIEW OF STATUS

The available test data is insufficient to demonstrate complete qualification of this cable. A re-testing program enveloping the required parameters is being developed per specification BVS-685.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified

DEFICIENCIES/CONCERNS: 1. The cable was tested to acidic rather than caustic pH level.
2. Radiation qualification does not envelope radiation environment inside the crane wall.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified

DEFICIENCIES/CONCERNS: 1. Specified operating time not enveloped by test.
2. Beta and Gamma Radiation.
3. Chemical Spray.
4. Thermal Aging.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: 1. Radiation.
2. Qualification Time.
3. Chemical Spray.
4. Aging Degradation Evaluation
5. Qualified Life and Replacement Schedule.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: 1. Radiation.
2. Qualification Time.
3. Chemical Spray.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Criteria regarding radiation not satisfactory.

DISCUSSION/PROPOSED ACTION: The cable is required to withstand 1×10^8 Rad dosage and was tested to 1×10^7 Rad. The re-testing program will incorporate the required dosage level.

B. DEFICIENCY CONCERN: Qualification time not adequate.

DISCUSSION/PROPOSED ACTION: Re-testing program is being initiated to test the cable for the proper time duration.

- C. DEFICIENCY CONCERN: Criteria regarding chemical spray not satisfactory.

DISCUSSION/PROPOSED ACTION: An independent review of important properties of silicone rubber presented in "Chemical Engineer's Handbook" reveals that it has fair to good acid and alkali resistance. The re-testing program will take this into consideration.

- D. DEFICIENCY CONCERN: Aging degradation evaluation.

DISCUSSION/PROPOSED ACTION: A thermal aging analysis for the insulation material shows greater than 50 years qualified life. The radiation aging phenomenon will be taken into account during testing.

- E. DEFICIENCY CONCERN: Qualified life and replacement schedule.

DISCUSSION/PROPOSED ACTION: Based on the thermal aging analysis, the cables have a qualified life of greater than 50 years and replacement is not anticipated.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981)
2. AGING EVALUATION (Reference Thermal Aging Analysis in DLC EQ file - IV.B.1/5)
3. SPECIFICATION FOR EQ TESTING - SPEC BVS-685

8.0 DLC ACTION PLAN

Because DLC believes this cable is qualifiable, it plans to conduct a re-testing program to alleviate chemical spray and radiation concerns as soon as a test plan is developed and a testing laboratory selected. The testing of the equipment is expected to be underway by 1984.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 6
FRC NUMBER (S): 75
EQUIP DESCRIPTION: Electrical Penetration
EQUIP MARK NO (S): N/A
MANUFACTURER: Viking Industries
MODEL NUMBER(S): Type I, II, III, IV, V, VIII, and IX

2.0 BRIEF OVERVIEW OF STATUS

Although the penetrations were previously tested to lower radiation dosage level, more recently conducted supplemental analysis related to radiation threshold values for various materials used in these penetrations has revealed that they are qualifiable. It is currently anticipated that retesting of these penetrations will be underway by 1984.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

DEFICIENCIES/CONCERNS: Aging analysis had not been conducted yet to determine qualified life.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: 1. Aging degradation not evaluated adequately.
2. Qualified life and replacement schedule not established.
3. Criteria regarding radiation not satisfied.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Radiation qualification was not established in previous testing, however, a radiation analysis indicates materials will not seriously degrade from DBE radiation exposure.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

DLC has proceeded with the development of a test plan to re-test the penetration sample which had been tested previously. This test is expected to provide full qualification status.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Aging Degradation Not Evaluated Adequately.

DISCUSSION/PROPOSED ACTION: Thermal aging analysis on degradable materials identified to date indicates that the equipment has a qualified life of greater than 50 years prior to DBE. The re-test is expected to demonstrate that radiation aging effects will not limit the units qualified life to less than 40 years.

- B. DEFICIENCY CONCERN: Qualified Life and Replacement Schedule Not Established.

DISCUSSION/PROPOSED ACTION: Based on the thermal aging analysis of the degradable parts identified to date, it has been determined that the life of penetrations exceed the plant life (40 years) and replacement is not currently expected for this equipment or its constituent parts. If the radiation aging during the re-test results in a shorter qualified life, the replacement schedule will be re-evaluated.

- C. DEFICIENCY CONCERN: Criteria Regarding Radiation Not Established.

DISCUSSION/PROPOSED ACTION: The penetration assemblies were subjected to 40 years accumulated gamma radiation exposure of 1.11×10^5 Rads. An additional analysis has enabled DLC to extend the qualification level to 1×10^7 Rads. However, re-testing will be conducted to envelope the required plant parameters.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. MANUFACTURER TRACEABILITY DOCUMENTS (Reference DLC EQ File IV.B.1/6)
2. SUPPLEMENTAL ANALYSIS (Reference DLC EQ File IV.B.1/6)
3. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 30-Day 1983 Response)
4. AGING EVALUATION (Reference DLC EQ File IV.B.1/6)
5. COMMUNICATION WITH A/E ON RADIATION (Reference DLC EQ File IV.B.1/6)

8.0 DLC ACTION PLAN

A re-test of the Viking Electrical penetration will be conducted by an independent testing laboratory to demonstrate the penetration's ability to withstand higher radiation levels. The testing is expected to be underway by 1984.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 7
FRC NUMBER (S): 79
EQUIP DESCRIPTION: Terminal Blocks (for Control and Instrumentation)
MANUFACTURER: Buchanan
MODEL NUMBER(S): 0511 and 0211

2.0 BRIEF OVERVIEW OF STATUS

Viking Test Report 5450-4643 has qualified the Buchanan 0511 terminal blocks only. DLC will test these terminal blocks to demonstrate qualification of the Buchanan 0211, 0511 terminal blocks.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Radiation/thermal aging.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Radiation/thermal aging.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Similarity between test and installed equipment, aging evaluation inadequate, qualified life or replacement schedule not established.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Thermal aging, similarity between equipment tested and installed equipment.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Similarity between tested and installed equipment.

DISCUSSION/PROPOSED ACTION: DLC foreign - int record 8700-1.35-156A lists 0511 terminal blocks as being installed in BVPS #1, which establishes traceability between the installed and tested terminal blocks. The results are documented in Viking Test Report #5450-4643 for the 0511 blocks. Further tests are being conducted by DLCO on the Viking penetrations which will demonstrate qualification of the 0211 and 0511 blocks. Franklin Research Center had successfully tested similar, but not identical, terminal blocks in a different qualification test, NQ0511 and NQ0211. Those terminal blocks were designed specifically for containment use.

B. DEFICIENCY CONCERN: Aging.

DISCUSSION/PROPOSED ACTION: Further tests to establish aging qualification.

C. DEFICIENCY CONCERN: Qualified Life or Replacement Cycle.

DISCUSSION/PROPOSED ACTION: Upon completion of the scheduled testing, the replacement cycle if required for these terminal blocks will be established.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981 Submittal)
2. FRC FINAL REPORT F-C5143 (DLC EQ File VB1.1.6*)

8.0 DLC ACTION PLAN

Results of the DLC terminal block test should establish qualification of Buchanan 0511 and 0211 terminal blocks. This test will establish traceability between the test specimens and the installed items and address any aging concerns.

* See Section 5.0(A)

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 8
FRC NUMBER (S): 80
EQUIP DESCRIPTION: Terminal Block
EQUIP MARK NO (S): Not Applicable
MANUFACTURER: Teledyne-Penn Union
MODEL NUMBER(S): Series 1000

2.0 BRIEF OVERVIEW OF STATUS

Penn Union Series 1000 Terminal Blocks are qualified for inside containment use. The noted deficiencies in the Franklin Technical Evaluation Report have been adequately addressed.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Similarity between tested and installed equipment, steam exposure inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.c) Equipment satisfies all the requirements except qualified life or replacement schedule justified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		X
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The deficiencies noted by the FRC/NRC SER have been adequately addressed and the terminal blocks are qualified with the exception of qualified life or replacement schedule evaluation. The test report, currently in the DLC EQ File as well as the physical plant walkdown has eliminated the traceability concern.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Similarity - between tested equipment and installed equipment.

DISCUSSION/PROPOSED ACTION: A review of the Viking Penetration drawings and a walkdown report of the plant indicated that no terminal blocks have been found in the plant that are longer than the 8 point terminal blocks. The DLC Test Report dated 3-25-80 tested 4 point and 8 point Penn Union Terminal Blocks and the DLCO test report is considered applicable to the terminal blocks installed. The plant walkdown indicated that the common approach inside containment was to run wire straight through from the penetration cabinet to the equipment without the use of any intermediate terminal blocks.

B. DEFICIENCY CONCERN: Steam Exposure Inadequate.

DISCUSSION/PROPOSED ACTION: DLCO Test Report dated 3-25-80 states that a steam test was performed for 24 hours and no distortions or loss of insulation resistance were observed. Additional analysis that was conducted demonstrates that the test profile is more severe than the plant profile.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. SUPPORT DOCUMENTS (Reference Viking Penetration Equipment, Drawings and Walkdown Report).
2. JUSTIFICATION FOR CONTINUED OPERATION - (30-Day 1983 Response).
3. DLC TEST REPORT (Reference DLC EQ File VB1.16.1)
4. SUPPLEMENTAL ANALYSIS (Reference DLC EQ File IV.B.1/8)

8.0 DLC ACTION PLAN

Aging analysis is being conducted on these terminal blocks and the replacement schedule will be established.

DLC TAB # 9

FRC TAB # 76

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 9
FRC NUMBER (S): 76
EQUIP DESCRIPTION: Electrical Cable
EQUIP MARK NO (S): N/A
MANUFACTURER: Rockbestos
MODEL NUMBER(S): Firewall SIS

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT IS CONSIDERED QUALIFIED

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	X	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC TAB # 10
FRC TAB # 29,30,31,32,
33,34,35

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 10
FRC NUMBER (S): 29,30,31,32,33,34,35
EQUIP DESCRIPTION: Solenoid Valves
EQUIP MARK NO (S): See Attached Table 10-1
MANUFACTURER: ASCO
MODEL NUMBER(S): See Attached Table 10-1

2.0 BRIEF OVERVIEW OF STATUS

Duquesne Light Company is continuing in its efforts to find a qualified conduit/solenoid valve interface seal and will install the qualified seal when available.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: Aging, qualification method, qualification information being developed. A qualified conduit seal is needed.

B. EDS REVIEW

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification
DEFICIENCIES/CONCERNS: Effect of chemical spray (conduit seal).

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification
DEFICIENCIES/CONCERNS: The solenoid valve itself is qualified. The effects of chemical spray on the conduit seal is currently being addressed.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Chemical Spray.

DISCUSSION/PROPOSED ACTION: The migration of steam into the solenoid housing will be eliminated by the installations of a qualified conduit seal system.

B. DEFICIENCY CONCERN: Electrical Interface (Conduit Seal).

DISCUSSION/PROPOSED ACTION: Duquesne Light Company is investigating three different conduit seal systems. When a qualified seal system is found, it will be installed at the first opportunity.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

8.0 DLC ACTION PLAN

All attempts are being made by Duquesne Light Company to qualify and install the conduit seals within the time frame allotted by the recent NRC Rulemaking.

TABLE 10-1

ASCO MODEL NUMBER	ITEM MARK NUMBER	LOCATION	FRC/NRC		DLCO	
			ITEM NO.	STATUS	ITEM NO.	STATUS
NP-8320A184E	SOV-LM-101A	CONTAINMENT	29	I.b	10	I.b
	SOV-LM-101B	OUTSIDE CRANEWALL				
NP-8320A188E	SOV-SS-000A	CONTAINMENT	30	I.b	10	I.b
NP-8320A186E	SOV-CC-103A1	CONTAINMENT	31	I.b	10	I.b
	SOV-CC-103B1	OUTSIDE CRANEWALL				
	SOV-CC-103C1					
	SOV-CC-105D1					
	SOV-CC-105E1					
	SOV-CC-107D1					
	SOV-CC-107E1					
	SOV-CC-110D					
	SOV-CC-110E3					
	SOV-CC-111A2					
	SOV-CC-111D1					
NP-8320A186E	SOV-CV-102-1	CONTAINMENT	32	I.b	10	I.b
	SOV-DA-100A	OUTSIDE CRANEWALL				
	SOV-DG-108B					
	SOV-DG-109A2					
NP-8320A186E	SOV-SI-101-2	CONTAINMENT	33	I.b	10	I.b
NP-831654E	SOV-CH-200A1	CONTAINMENT	34	I.b	10	I.b
	SOV-CH-200B1					
	SOV-CH-200C1					
	SOV-RC-456-1					
	SOV-RC-456-2					
NP-8316A74E	SOV-RC-455C1	CONTAINMENT	35	I.b	10	I.b
	SOV-RC-455C2					
	SOV-RC-455D1					
	SOV-RC-455D2					

ABBREVIATIONS: I.b = Equipment Qualification Pending Modification

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 11
FRC NUMBER (S): 59
EQUIP DESCRIPTION: Limit Switch
EQUIP MARK NO (S): LMS-CC-105D1; LMS-CC-111D1; LMS-CH-200A,B,C;
LMS-RC-455C,D; LMS-RC-456; LMS-S1-101-2
MANUFACTURER: NAMCO
MODEL NUMBER(S): EA18011302

2.0 BRIEF OVERVIEW OF STATUS

The limit switch itself is qualified; however, its associated conduit seal was tested during the second refueling outage and it failed. Duquesne Light Company is continuing in its effort to find a qualified seal and to install it at the first opportunity. It is noted that NRC/FRC has exempted LMS-SI-865A,B,C from qualification review because this equipment does not provide a safety function or mitigate the consequences of a design basis accident.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified 4 years.
DEFICIENCIES/CONCERNS: Electrical interface (conduit seal).

B. EDS REVIEW

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: Electrical interface (conduit seal),
traceability.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending
Modification.
DEFICIENCIES/CONCERNS: Inadequate steam exposure.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Electrical interface (conduit seal).

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Inadequate Steam Exposure

DISCUSSION/PROPOSED ACTION: Water migrating into housing from steam exposure will be eliminated by conduit seal. DLC will install a qualified seal when a qualified seal becomes available.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

8.0 DLC ACTION PLAN

All attempts are being made by Duquesne Light Company to qualify and install the conduit seals within the time frame allotted by the recent NRC Rulemaking.

DLC TAB # 12

EQUIPMENT NO LONGER ASSIGNED

TO THIS TAB NUMBER

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 13
FRC NUMBER (S): 57
EQUIP DESCRIPTION: Limit Switches
EQUIP MARK NO (S): LMS-DA-100A LMS-CC-110D
LMS-DG-108A LMS-CC-111A2
LMS-DG-109A2 LMS-CV-102-1
LMS-CC-103A1,B1,C1 LMS-CC-105E1
LMS-CC-107D1,E1 LMS-CC-110E3
MANUFACTURER: NAMCO
MODEL NUMBER(S): EA740-20100 and EA740-20000

2.0 BRIEF OVERVIEW OF STATUS

The original NAMCO Limit Switches which were installed have a qualified life, however, qualification of an interface conduit seal has not at this time been demonstrated. Duquesne Light Company is continuing in its efforts to find a qualified seal and will install the qualified seal when available. LMS-CC-110E3 was included in Duquesne Light Co. review but was not addressed by NRC/FRC review.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: Electrical interface (conduit seal).

B. EDS REVIEW

QUALIFICATIONS STATUS: Acceptable.
DEFICIENCIES/CONCERNS: Electrical interface (conduit seal)
traceability.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending
Modification.
DEFICIENCIES/CONCERNS: Inadequate steam exposure.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Electrical interface (conduit seal).

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Inadequate Steam Exposure.

DISCUSSION/PROPOSED ACTION: A qualified conduit seal will prevent steam from migrating into housing. DLCO to continue its efforts to find a qualified seal and install the qualified seal system when available.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

3.0 DLC ACTION PLAN

All attempts are being made by Duquesne Light Company to qualify and install the conduit seals within the time frame allotted by the recent NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 14
FRC NUMBER (S): 38
EQUIP DESCRIPTION: Flow Transmitter
EQUIP MARK NO (S): FT-MS-474, 475, 484, 485, 494, 495
MANUFACTURER: Fischer & Porter
MODEL NUMBER (S): 10B2496PBBABDBNS

2.0 BRIEF OVERVIEW OF STATUS

Although the Fischer & Porter Transmitters have a reasonable chance of being qualified for non LOCA, MSLB, and HELB affected areas, they have incurred failures during tests because of steam entry into their electronics. They are apparently able to operate for a few minutes in a steam environment. The previously committed date of June 1982 was unable to be realized, because qualification documentation for the replacement Barton Transmitters had not been received or reviewed to assure qualification. It is currently anticipated that the replacement of the F & P Transmitters can be accomplished within the time frame allotted by the NRC Rulemaking.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified; will be Replaced.
DEFICIENCIES/CONCERNS: Qualification does not meet the one hour margin requirement of NUREG-0588.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified; Replace Device.
DEFICIENCIES/CONCERNS: The device is not qualified for the specified integrated radiation dose.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Aging degradation evaluation and the qualified life/replacement cycle are not addressed. Steam exposure and radiation criteria is not adequate. Test duration margin and the criteria regarding test failures is not satisfactory.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: The qualification level for radiation, qualification time, chemical spray as well as the DOR Guideline margins and aging evaluation requirements are not satisfactory.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

7.0 DLC ACTION PLAN

DLC is actively pursuing the appropriate qualification documentation for the replacement Barton Transmitters which have been received at the Beaver Valley Power Station, but not installed pending the receipt of qualification documentation from the supplier. It is anticipated that they will be installed within the time frame allotted by the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 15
FRC NUMBER (S): 36
EQUIP DESCRIPTION: Flow Transmitter
EQUIP MARK NO (S): FT-SI-961, 962, 963
MANUFACTURER: ITT Barton
MODEL NUMBER (S): 386

2.0 BRIEF OVERVIEW OF STATUS

These instruments will be replaced with Barton transmitters pending receipt of adequate qualification documentation from the supplier.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Chemical spray, submergence and post accident time requirements. The existing transmitters will be replaced with qualified transmitters.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Similarity between equipment installed and test specimen, aging analysis, inadequate test duration, chemical spray, submergence and qualified life.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.
DEFICIENCIES/CONCERNS: Similarity between equipment installed and test specimen, aging analysis, inadequate test duration, chemical spray, submergence and instrument accuracy.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: The transmitters will be installed as soon as qualification documentation has been received and qualification evaluated successfully.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

Because qualification could not be established for the original plant flow transmitters, it was decided that replacement with qualified transmitters would be necessary, hence the difference in qualification categories.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

Several of the deficiencies pointed out by the NRC/FRC review had been recognized by DLC in its original 79-01B submittal to the NRC and it was for these reasons that DLC decided to initiate their replacement.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)

8.0 DLC ACTION PLAN

- 1) The equipment will be replaced with Barton Transmitters within the time frame allotted by the NRC Rulemaking.
- 2) The new Barton Models are apparently not qualified for submergence. As a result, the new transmitters are to be located at least two feet above their present level to avoid the submergence problem.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 16
FRC NUMBER (S): 48
EQUIP DESCRIPTION: Level Transmitters
EQUIP MARK NO (S): LT-RC-459
MANUFACTURER: ITT Barton
MODEL NUMBER(S): 386 (Temporary Replacement)

2.0 BRIEF OVERVIEW OF STATUS

The Barton Model 386 is the original transmitter installed. This transmitter was replaced several years ago by the Barton 764, Lot 2 transmitter. However, the Model 386 was re-installed as a temporary replacement for the 764, Lot 2 Model which had developed a calibration problem and had been sent to the vendor for repair. DLC received the 764, Lot 2 transmitter back from the vendor and has since installed it in the plant. Therefore, Model 764, Lot 2 is now associated with this mark number. (Refer to DLC Tab #16/FRC Tab #49) and the Model 386 is exempt from this qualification review.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Chemical spray, aging, margins and replacement schedule.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Received.
DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Traceability, aging degradation, qualified life not established; test duration inadequate, chemical spray and instrument accuracy.

D. DLC REVIEW

QUALIFICATIONS STATUS: (N/A) Model 386, Equipment Exempt From Qualification

DEFICIENCIES/CONCERNS: This transmitter has been replaced by the Model 764, Lot 2 and should be evaluated as a part of FRC Tab 49/79-01B Tab 16.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

Model 386 was installed temporary replacement to Barton Model 764, Lot 2, which developed a calibration problem, and was sent to the manufacturer for repairs. This transmitter was repaired and returned to DLC. Transmitter (764, Lot 2) was re-installed after it had been repaired.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: All Deficiencies.

DISCUSSION/PROPOSED ACTION: This transmitter is replaced by Model 764, Lot 2, and will be incorporated as a part of FRC Tab #49/79-01B Tab 16.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
- VOIDED
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981) - VOIDED

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 16
FRC NUMBER (S): 49
EQUIP DESCRIPTION: Level Transmitter
EQUIP MARK NO (S): LT-FW-474, 475, 476, 484, 485, 486*,
494, 495, 496,
LT-RC-460*, 461*
LT-RC-459**
MANUFACTURER: ITT Barton
MODEL NUMBER(S): 764, Lot 2

2.0 BRIEF OVERVIEW OF STATUS

These transmitters located inside containment, require additional manufacturer's review of test anomalies and are expected to be qualified. Currently pending is the soldering of their pin connectors and conducting an aging evaluation. The qualification program for these transmitters was developed to address NUREG-0588 Cat II. NUREG 0588 Cat II requires that the materials susceptible to degradation be established. Evaluation of the qualified life of the equipment and its constituent parts and determination of the replacement schedule will be performed.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: Thermal Aging, Chemical Spray.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Inadequate Operating Time and Chemical Spray.

* Omitted in the FRC Technical Evaluation Report.

** LT-RC-459 Mark Number from FRC Tab Number 48 has been added to this FRC Tab #49 because it has the same manufacturer, model, and location as the other level transmitters.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established

DEFICIENCIES/CONCERNS: Aging, qualified life and replacement schedule not established and test anomaly.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Aging Qualified life or replacement schedule not established and calibration shift anomaly.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	X
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Aging Degradation.

DISCUSSION/PROPOSED ACTION: Aging was not a requirement since the Qualification Program was developed to address IEEE 323-1971, however, ITT Barton has been contacted to determine the materials of construction. Based on this information, aging degradation will be evaluated.

- B. DEFICIENCY CONCERN: Qualified life or replacement cycle not established.

DISCUSSION/PROPOSED ACTION: Qualified life and replacement cycle will be established based on aging analysis evaluation.

- C. DEFICIENCY CONCERN: Test Failures: Calibration.

DISCUSSION/PROPOSED ACTION: Out of four (4) transmitters tested, one had a deviation in calibration occurrence. The investigation conducted by Westinghouse on this zero calibration drift is currently being sought for a more detailed DLC review. At this time, the cause is not able to be determined. It could have been a result of the now known pin connector problem which requires soldering for its corrective action, or it could possibly relate to an oxidation problem of the zeroing potentiometer.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)
2. TEST REPORT WCAP 9885 - (Located in DLC EQ File IV.B.1/16)

8.0 DLC ACTION PLAN

It is known, however, that the Lot 2 transmitters require their connection pin to be soldered and DLC is attempting to obtain the necessary procedures to accomplish this change.

The aging analysis is being conducted on these transmitters and the replacement schedule will be established accordingly.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 17
FRC NUMBER (S): 41
EQUIP DESCRIPTION: Level Transmitter
EQUIP MARK NO (S): LT-RS-151A & B
MANUFACTURER: GEMS
MODEL NUMBER (S): XM-59342 (original transmitter)
XM-36479 (replacement transmitter)

2.0 BRIEF OVERVIEW OF STATUS

The original GEM level transmitters, that were located inside containment, were replaced during the Second Refueling Outage with a unit presumed to be qualified. The replacement's qualification has not been able to be established, and as a result, it will have to be replaced as soon as another qualified level transmitter can be obtained.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualification Not Established.

DEFICIENCIES/CONCERNS: Improper test sequence, installed transmitter different from test specimen, qualification time, pressure, aging, margin, qualification information being developed.

B. EDS REVIEW

QUALIFICATIONS STATUS: Qualification Not Established.

DEFICIENCIES/CONCERNS: Similarity, envelope, aging, operating time.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Similarity, aging, qualified life or replacement schedule, aging degradation, peak temperature/pressure enveloping, chemical spray, submergence, functional testing criteria.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: The original GEM transmitters reviewed by FRC was replaced in 1982, however, it also must be replaced because of lack of complete qualification.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981).

7.0 DLC ACTION PLAN

DLC will replace the newly installed level transmitter with ones that are fully qualified. A vendor search is being performed for the best available units to replace them within the time frame allotted by the recent NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 18
FRC NUMBER (S): 83
EQUIP DESCRIPTION: Level Transmitter
EQUIP MARK NO (S): LT-RC-470
MANUFACTURER: Mason-Neilan
MODEL NUMBER(S): 12522

2.0 BRIEF OVERVIEW OF STATUS

Based on its operating function, this instrument is required to meet the requirements of Reg. Guide 1.97, Category 3. The function of this instrument is to provide pressurizer relief tank level indication and thereby serve as a back-up to the pressurizer PORV flow indicator. The Category 3 requirements require that the level transmitter be shown to have its manufacturer's design parameters exceed the worst case service conditions.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Modification (to be replaced).
DEFICIENCIES/CONCERNS: Standard commercial grade, with no qualification documentation.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Standard commercial grade with no qualification documentation.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Qualification documentation deficient.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Qualification documentation not available.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXLMPY FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Qualification document deficient.

DISCUSSION/PROPOSED ACTION: DLC agrees that the documentation is not sufficient to support qualification and had previously stated that level transmitter to be replaced.

B. DEFICIENCY CONCERN: NUREG-0737, II.f.1; accident monitoring/pressure level.

DISCUSSION/PROPOSED ACTION: This referenced NUREG-0737 item is not applicable to the pressurizer relief tank level measurement.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)

8.0 DLC ACTION PLAN

Level transmitters will be replaced with Barton level 5 transmitters within the time frame allotted by the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 19
FRC NUMBER (S): 47
EQUIP DESCRIPTION: Pressure Transmitter
EQUIP MARK NO (S): PT-RS-152A, 152B
MANUFACTURER: Fischer & Porter
MODEL NUMBER (S): 50EP1071BCXB

2.0 BRIEF OVERVIEW OF STATUS

Although the Fischer & Porter Transmitters have a reasonable chance of being qualified for non LOCA, MSLB, and HELB affected areas, they have incurred failures during tests because of steam entry into their electronics located inside containment. They are apparently able to operate for several minutes in a steam environment. The previously committed date of June 1982 was unable to be realized because qualification documentation for the replacement Barton Transmitters had not been received or reviewed to assure qualification. It is currently anticipated that the replacement of the Fisher & Porter transmitters can be accomplished within the time frame allotted by the NRC Rulemaking.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified; will be Replaced.
DEFICIENCIES/CONCERNS: Qualification documentation not available.
Commercial grade units.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified; Replace Device.
DEFICIENCIES/CONCERNS: The device is not qualified for the specified integrated radiation dose.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Qualification documentation not available.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Qualification documents not available. The equipment will be replaced within the time frame allotted by the NRC Rulemaking.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal) DATED OCTOBER 15, 1981
2. SCEW SHEETS (Reference 79-01B DLC Submittal) DATED OCTOBER 15, 1981

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal).

7.0 DLC ACTION PLAN

DLC is actively pursuing the appropriate qualification documentation for the replacement Barton Transmitters which have been received at the Beaver Valley Power Station but not installed pending the receipt and review of qualification documentation from the supplier. It is anticipated that they will be installed within the time frame allotted by the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 19
FRC NUMBER (S): 91
EQUIP DESCRIPTION: Pressure Transmitter
EQUIP MARK NO (S): PT-RC-472
MANUFACTURER: Fischer & Porter
MODEL NUMBER (S): 50EP1031

2.0 BRIEF OVERVIEW OF STATUS

Although the Fischer & Porter Transmitters have a reasonable chance of being qualified for non LOCA, MSLB, and HELB affected areas, they have incurred failures during tests because of steam entry into their electronics located inside containment. They are apparently able to operate for several minutes in a steam environment. The previously committed date of June 1982 was unable to be realized because qualification documentation for the replacement Barton Transmitters had not been received or reviewed to assure qualification. It is currently anticipated that the replacement of the Fisher & Porter transmitters can be accomplished within the time frame allotted by the NRC Rulemaking.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified; will be Replaced.
DEFICIENCIES/CONCERNS: Qualification documentation not available.
Commercial grade units.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified; Replace Device.
DEFICIENCIES/CONCERNS: The device is not qualified for the specified integrated radiation dose.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Qualification documentation not available.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Qualification documents not available. The equipment will be replaced within the time frame allotted by the NRC Rulemaking.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal) DATED OCTOBER 15, 1981
2. SCEW SHEETS (Reference 79-01B DLC Submittal) DATED OCTOBER 15, 1981

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal).

7.0 DLC ACTION PLAN

DLC is actively pursuing the appropriate qualification documentation for the replacement Barton Transmitters which have been received at the Beaver Valley Power Station but not installed pending the receipt and review of qualification documentation from the supplier. It is anticipated that they will be installed within the time frame allotted by the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 20
FRC NUMBER (S): 46
EQUIP DESCRIPTION: Pressure Transmitters
EQUIP MARK NO (S): PT-RC-402, 403, 455, 456, 457
MANUFACTURER: ITT Barton
MODEL NUMBER(S): 763, Lot 2

2.0 BRIEF OVERVIEW OF STATUS

These transmitters, located inside containment, require additional review of test anomalies and are expected to be qualified. Currently pending is the soldering of their pin connectors and conducting an aging evaluation. The qualification program for these transmitters was developed to address NUREG-0588 Cat II. NUREG 0588 Cat II requires that the materials susceptible to aging effects should be identified and their replacement schedule be established. Evaluation of the qualified life of the equipment and its constituent parts and determination of the replacement schedule will be performed.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: Aging.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Acceptable.
DEFICIENCIES/CONCERNS: Time margins and chemical spray.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established
DEFICIENCIES/CONCERNS: Aging degradation, qualified life and test anomalies.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established

DEFICIENCIES/CONCERNS: Aging, qualified life and replacement schedule not established and test anomaly.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	X
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Aging Degradation (thermal only).

DISCUSSION/PROPOSED ACTION: Qualification Program was developed to address IEEE 323-71. However, ITT Barton has been contacted to determine the degradable materials.

B. DEFICIENCY CONCERN: Qualified Life or Replacement Schedule Not Established.

DISCUSSION/PROPOSED ACTION: ITT Barton has been contacted to identify the materials of construction and based on this information the aging analysis will be performed and qualified life established.

C. DEFICIENCY CONCERN: Test Anomalies, Damage to the Insulation of the Lead Wire.

DISCUSSION/PROPOSED ACTION: One difficulty experienced was the fact that the external lead wire was damaged due its environmental exposure, however, the accuracy requirements were satisfied after this wire was repaired.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)
2. TEST REPORT WCAP 9885 - (Located in DLC EQ File IV.B.1/20)

8.0 DLC ACTION PLAN

It is known that the Lot 2 transmitters require their connection pin to be soldered and DLC is attempting to obtain the necessary procedures to accomplish this change. ITT Barton has been contacted to determine the materials of construction. The aging analysis will be conducted based on the manufacturer's information and establish qualified life and replacement schedule will be formulated accordingly.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 21
FRC NUMBER (S): 40
EQUIP DESCRIPTION: Level Transmitter
EQUIP MARK NO (S): LT-FW-477, 487, 497
MANUFACTURER: ITT Barton
MODEL NUMBER (S): 386

2.0 BRIEF OVERVIEW OF STATUS

Model 386 transmitters located inside containment will be replaced with Barton, Lot 5 transmitters pending receipt of adequate qualification documentation from the supplier.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Chemical spray, aging, margin, replacement schedule. The existing transmitters will be replaced with qualified transmitters.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Similarity and qualified life.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b.) Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Traceability, aging, qualified life not established, test duration, chemical spray and instrument accuracy.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b.) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: The replacement transmitters will be installed as soon as qualification documentation has been received and qualification evaluated successfully.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

Several of the deficiencies pointed out by the NRC/FRC review had been recognized by DLC in its original 79-01B submittal to the NRC and it was for these reasons that DLC decided to initiate their replacement.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)

8.0 DLC ACTION PLAN

The equipment will be replaced with Barton transmitters within the time frame allotted by the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 22
FRC NUMBER (S): 52
EQUIP DESCRIPTION: Narrow Range Temperature Resistance Bulb
EQUIP MARK NO (S): TRB-RC-412B, 412D, 422B, 422D, 432B, 432D,
MANUFACTURER: Sostman
MODEL NUMBER (S): 11834B-1

2.0 BRIEF OVERVIEW OF STATUS

The applicable test report Westinghouse WCAP-9157 has a minor deficiency in that the spray duration was not identified for the Sostman RTDs. This is not viewed as a significant concern.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

DEFICIENCIES/CONCERNS: The RTD's were qualified for radiation level of 1×10^8 , which limits the qualified life. The Sostman RTDs will be replaced with qualified units.

B. EDS REVIEW

QUALIFICATIONS STATUS: Qualification not accepted.

DEFICIENCIES/CONCERNS: Similarity between tested and installed not documented. Aging analysis, chemical spray, radiation, operating time did envelope the service conditions.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Inadequate qualification documents, qualified life, aging degradation, spray function testing and instrument accuracy criteria.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		X
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

Sostman RTDs: Test results (WCAP9157) indicate during the radiation test, a radiation level of 1×10^8 Rads was used. The narrow range RTDs are qualified for 40 years of normal operation and also meet the 30-second requirement for a trip function.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Documented evidence of qualification lacking.

DISCUSSION: Test report WCAP-9157 did not provide detailed qualification data for spray density and duration. Because chemical spray was performed for a portion of the test with no unsatisfactory test results and the fact the RTD assemblies have a rugged metal construction, this qualification concern is not significant.

- B. DEFICIENCY CONCERN: Aging degradation evaluation and qualified life based on dose rate.

DISCUSSION/PROPOSED ACTION: Narrow range RTD qualified for 40 years.

- C. DEFICIENCY CONCERN: Criteria regarding spray density and duration not stated.

DISCUSSION/PROPOSED ACTION: Chemical spray solution with a pH of 8.7 although slightly below the 10.5 required for the first hour is not a significant concern because of the material used in manufacture of RTD.

- D. DEFICIENCY CONCERN: Criteria regarding function testing and instrument accuracy information not included regarding worse case error under design basis accident condition.

DISCUSSION/PROPOSED ACTION: RTDs were not calibrated during radiation exposure, however, they were operational during the entire LOCA simulation.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)
2. AGING EVALUATION - (located in DLC EQ File IV.B.1/22)

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 22
FRC NUMBER (S): 53
EQUIP DESCRIPTION: Wide Range Temperature Resistance Bulb
EQUIP MARK NO (S): TRB-RC-412B, 413, 420, 423, 430, 433
MANUFACTURER: Sostman
MODEL NUMBER (S): 11901B-2

2.0 BRIEF OVERVIEW OF STATUS

The applicable test report Westinghouse WCAP-9157 has a minor deficiency in that the spray duration was not identified for the Sostman RTDs. Although this is not viewed as a significant concern, the existing wide range Sostman RTDs are scheduled for replacement.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

DEFICIENCIES/CONCERNS: The RTD's were qualified for radiation level of 1×10^8 , which limits the qualified life. The Sostman RTDs will be replaced with qualified units.

B. EDS REVIEW

QUALIFICATIONS STATUS: Qualification not accepted.

DEFICIENCIES/CONCERNS: Similarity between tested and installed not documented. Aging analysis, chemical spray, radiation, operating time did envelope the service conditions.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification not established.

DEFICIENCIES/CONCERNS: Inadequate qualification documents, qualified life, aging degradation, spray function testing and instrument accuracy criterion.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment qualification pending modification.

DEFICIENCIES/CONCERNS: DLC is currently awaiting qualification test report documentation for the wide range replacement RTDs prior to installing the replacements.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

Sostman RTDs: Test results (WCAP9157) indicate during the radiation test, a radiation level of 1×10^8 Rads was used. The dose rate was used to qualify the wide range application for approximately 12 years of normal operation plus 2 weeks of monitoring following a secondary system line break. Spray duration not stated in test report. DLC has categorized it I.b because their replacement is being scheduled.

Replacement RTDs (wide range):

Documentation being secured for assessment prior to replacement.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Documented evidence of qualification lacking.

DISCUSSION: Test report WCAP-9157 did not provide detailed qualification data for spray density and duration. Because chemical spray was performed for a portion of the test with no unsatisfactory test results and the fact the RTD assemblies have a rugged metal construction, this qualification concern is not significant.

- B. DEFICIENCY CONCERN: Aging degradation evaluation and qualified life based on dose rate.

DISCUSSION/PROPOSED ACTION: The wide range RTD qualified for 12 years but is being replaced.

- C. DEFICIENCY CONCERN: Criteria regarding spray density and duration not stated.

DISCUSSION/PROPOSED ACTION: Chemical spray solution with a pH of 8.7 although slightly below the 10.5 required for the first hour is not a significant concern because of the material used in manufacturer of RTD.

- D. DEFICIENCY CONCERN: Criteria regarding function testing, and instrument accuracy information not included regarding worse case error under design basis accident condition.

DISCUSSION/PROPOSED ACTION: RTDs were not calibrated during radiation exposure, however, they were operational during the entire LOCA simulation.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)
2. AGING EVALUATION - (located in DLC EQ File IV.B.1/22)

8.0 DLC ACTION PLAN

DLC is awaiting the test report which will be evaluated before installing the new wide range RTD manufactured by RDF Corporation.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 23
FRC NUMBER (S): 55
EQUIP DESCRIPTION: Temperature Detector (RTD)
EQUIP MARK NO (S): TRB-RS-150A, B
MANUFACTURER: Electric Thermometer Trinity Inc.

2.0 BRIEF OVERVIEW OF STATUS

During the Second Refueling Outage, the Electric Thermometer Trinity RTD's were replaced with Conax resistance temperature detectors.

Qualification documentation for the Conax is currently filed in the Duquesne Light Company EQ File 2024. The Conax qualification documentation has been reviewed and is considered qualified for its application.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: No Qualification Documentation Available.

DEFICIENCIES/CONCERNS: As a result of the lack of documentation, DLC committed to replacement of the RTDs with qualified equipment.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Acceptable.

DEFICIENCIES/CONCERNS: Item should be replaced if it cannot be removed from master list.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment: Qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	See 5.0(A)	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Documented Evidence of Qualification Inadequate.

DISCUSSION/PROPOSED ACTION: The Electric Thermometer Trinity Inc., was replaced during the Second Refueling Outage in 1982 with Conax RTDs. Qualification documentation for the Conax RTD is located in the Duquesne Light Company EQ File 2024. No further action is required.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal) - Voided
2. SCEW SHEETS (Reference 79-01B DLC Submittal) - Voided

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR INTERIM OPERATION - (Reference 79-01B Submittal, October 15, 1981)

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 23
FRC NUMBER (S): 55
EQUIP DESCRIPTION: Temperature Detector (RTD)
EQUIP MARK NO (S): TRB-RS-150A, B
MANUFACTURER: Electric Thermometer Trinity Inc.

2.0 BRIEF OVERVIEW OF STATUS

During the Second Refueling Outage, the Electric Thermometer Trinity RTD's were replaced with Conax resistance temperature detectors.

Qualification documentation for the Conax is currently filed in the Duquesne Light Company EQ File 2024. The Conax qualification documentation has been reviewed and is considered qualified for its application.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: No Qualification Documentation Available.

DEFICIENCIES/CONCERNS: As a result of the lack of documentation, DLC committed to replacement of the RTDs with qualified equipment.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Acceptable.

DEFICIENCIES/CONCERNS: Item should be replaced if it cannot be removed from master list.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment Qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	See 5.0(A)	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Documented Evidence of Qualification Inadequate.

DISCUSSION/PROPOSED ACTION: The Electric Thermometer Trinity Inc., was replaced during the Second Refueling Outage in 1982 with Conax RTDs. Qualification documentation for the Conax RTD is located in the Duquesne Light Company EQ File 2024. No further action is required.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal) - Voided
2. SCEW SHEETS (Reference 79-01B DLC Submittal) - Voided

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR INTERIM OPERATION - (Reference 79-01B Submittal, October 15, 1981)

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 24
FRC NUMBER (S): 1
EQUIP DESCRIPTION: Motor Operators
EQUIP MARK NO (S): VS-D-5-5B, 3B
MANUFACTURER: Limitorque
MODEL NUMBER (S): SMB-0

2.0 BRIEF OVERVIEW OF STATUS

The Limitorque actuators located inside containment are mounted on the containment purge system's isolation valves. These isolation valves are normally closed except for modes 5 and 6. Because they are administratively controlled in accordance with the Technical Specifications and are not required to operate during an accident condition, they are considered exempt from qualification requirements.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified, NRC exclusion taken.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Inadequate aging degradation, qualified life and inadequate duration for temperature, pressure exposure.

D. DLC REVIEW

QUALIFICATIONS STATUS: (III.b) Equipment not in the scope of qualification.

DEFICIENCIES/CONCERNS: This equipment item should not have been reviewed by the NRC because it is considered exempt from qualification.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		X
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

Although DLC has always contended that these isolation valves are exempt because of their non-accident mitigating function, the NRC chose to evaluate their qualification status. DLC continues to state that they are exempt from qualification and would prefer that the NRC address the exemption situation first before examining the qualification status.

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981) - Exempted
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981) - Exempted

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 25
FRC NUMBER (S): 2,3
EQUIP DESCRIPTION: Motor Operators
EQUIP MARK NO (S): MOV-CH-310, MOV-RC-535, MOV-RC-536, MOV-RC-537
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

2.0 BRIEF OVERVIEW OF STATUS

Limitorque Test Reports 600198 and WCAP 7410L and 7744 are currently being investigated with the original supplier for their applicability. Test reports did not identify materials. The identification of these materials of construction for the Limitorque motor operators is being pursued with Westinghouse and Limitorque in order to conduct an independent aging evaluation. Limitorque has stated that the valves have a qualified life of at least 40 years.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

DEFICIENCIES/CONCERNS: MOV-CH-310 not qualified for submergence, modify MCC for submergence and replace valve MOV-CH-310.

B. EDS REVIEW

QUALIFICATIONS STATUS: Acceptable.

DEFICIENCIES/CONCERNS: 1. Similarity of tested equipment to installed equipment.
2. Perform chemical spray analysis.
3. Provide a thermal aging analysis.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Inadequate documentation, similarity between tested and installed equipments, aging degradation, qualified life/replacement schedule.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Similarity, aging degradation and qualified life.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	X
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Documented evidence of qualification is inadequate.

DISCUSSION/PROPOSED ACTION: Applicability of the test reports 600198 and WCAP 7410L and 7744 to these operators is being pursued thru Westinghouse and Limitorque.

- B. DEFICIENCY CONCERN: Adequate similarity between installed equipment and test specimen not established.

DISCUSSION/PROPOSED ACTION: Tested model appears to be similar to the installed equipment as outlined by various abstracts in the test reports from Limitorque (DLC Tab 25). Manufacturer is also being contacted to confirm applicable test reports to various operators.

- C. DEFICIENCY CONCERN: Aging degradation evaluation is inadequate.

DISCUSSION/PROPOSED ACTION: Preliminary analysis shows that the qualified life of the identified susceptible material is greater than 40 years. Manufacturers are being contacted to identify additional degradable materials of construction.

- D. DEFICIENCY CONCERN: Qualified life or replacement schedule not established.

DISCUSSION/PROPOSED ACTION: Preliminary analysis shows that qualified life of identified materials is greater than 40 years, however, periodic replacement of the operator's lubricant will be necessary.

- E. DEFICIENCY CONCERN: Motor brake assembly not identified.

DISCUSSION/PROPOSED ACTION: The manufacturer is being contacted to provide design and materials type of details on the motor brake.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal and 30-Day 1983 Response)
2. AGING EVALUATION (Reference DLC EQ File - IV.B.1/25)

8.0 DLC ACTION PLAN

The motor operator for MOV-CH-310 has been purchased on P.O. CC520 and will be replaced on receipt of equipment and qualification documentation from Westinghouse. Continued efforts to identify materials of construction for operators MOV-RC-535,536,537 and demonstrate traceability are being conducted.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 25
FRC NUMBER (S): 4,5
EQUIP DESCRIPTION: Motor Operators
EQUIP MARK NO (S): MOV-CH-378, MOV-SI-865A,B,C
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-003

2.0 BRIEF OVERVIEW OF STATUS

Limitorque Test Reports 600198 and WCAP 7410L and 7744 are currently being investigated with the original supplier for their applicability. Test reports did not identify materials. The identification of these materials of construction for the Limitorque motor operators is being pursued with Westinghouse and Limitorque in order to conduct an independent aging evaluation. Limitorque has stated that the valves have a qualified life of at least 40 years.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: None.

B. EDS REVIEW

QUALIFICATIONS STATUS: Acceptable.
DEFICIENCIES/CONCERNS: 1. Similarity of tested equipment to installed equipment.
2. Perform chemical spray analysis.
3. Provide a thermal aging analysis.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.
DEFICIENCIES/CONCERNS: Similarity between tested and installed equipments, aging degradation, qualified life/replacement schedule.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Similarity, aging degradation and qualified life.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	X
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Adequate similarity between equipment and test specimen not established.

DISCUSSION/PROPOSED ACTION: Tested model appears to be similar to the installed equipment as outlined by various abstracts in the test reports from Limitorque. Manufacturers are also being contacted to confirm applicable test reports to various operators.

- B. DEFICIENCY CONCERN: Aging Degradation Evaluation is Inadequate.

DISCUSSION/PROPOSED ACTION: Preliminary analysis shows that the qualified life of the identified susceptible materials is greater than 40 years for thermal aging analysis of identified materials. Manufacturers are being contacted to identify any additional degradable materials.

C. DEFICIENCY CONCERN: Qualified Life of Identified Materials.

DISCUSSION/PROPOSED ACTION: Qualified life of identified materials is greater than 40 years, however, periodic replacement of the operator's lubricant will be necessary.

D. DEFICIENCY CONCERN: Motor Brake Assembly Not Identified.

DISCUSSION/PROPOSED ACTION: The manufacturer is being contacted to provide design and material type of details on the motor brake.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (30-Day 1983 Response)
2. AGING ANALYSIS (Reference DLC EQ File - IV.B.1/25)

8.0 DLC ACTION PLAN

DLC is attempting to establish similarity of the installed equipment to equipment tested. An independent aging evaluation will be conducted for any known degradable materials present in the unit and a replacement schedule will be established.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 25
FRC NUMBER (S): 90
EQUIP DESCRIPTION: Motor Operators
EQUIP MARK NO (S): MOV-SI-842
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

2.0 BRIEF OVERVIEW OF STATUS

DLC has committed to replacement of the inside containment isolation valve operator with an operator of Class H insulation on the motor windings.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: MOV-SI-842 will be replaced with an operator supplied with Class H insulation.

B. EDS REVIEW

QUALIFICATIONS STATUS: Acceptable.
DEFICIENCIES/CONCERNS: 1. Similarity of tested equipment to installed equipment.
2. Perform chemical spray analysis.
3. Provide a thermal aging analysis.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Inadequate documentation, similarity between tested and installed equipments, aging degradation, qualified life/replacement schedule.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Similarity, aging degradation and qualified life. Inadequate qualification documents.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Documented evidence of qualification is inadequate.

DISCUSSION/PROPOSED ACTION: Documentation supplied with the replacement equipment will remedy this situation.

- B. DEFICIENCY CONCERN: Adequate similarity between equipment and test specimen not established.

DISCUSSION/PROPOSED ACTION: Documentation supplied with the replacement equipment will remedy this situation.

- C. DEFICIENCY CONCERN: Aging Degradation Evaluation is Inadequate.

DISCUSSION/PROPOSED ACTION: When the documentation for the replacement MOV is reviewed and accepted, an independent aging evaluation will be conducted.

- D. DEFICIENCY CONCERN: Qualified life or replacement schedule not established.

DISCUSSION/PROPOSED ACTION: Typically, the Limitorque's qualified life of identified materials is greater than 40 years. The manufacturer is being contacted to identify any additional degradable materials of construction.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, Oct. 15, 1981 Submittal)

8.0 DLC ACTION PLAN

Motor operator MOV-SI-842 has been purchased on P.O. C.C. 520 and will be replaced on receipt of equipment and qualification documents from Westinghouse.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 26
FRC NUMBER (S): 56
EQUIP DESCRIPTION: Pump Motor
EQUIP MARK NO (S): RS-P-1A and RS-P-1B
MANUFACTURER: General Electric Company
MODEL NUMBER(S): 5K6319XJ20A

2.0 BRIEF OVERVIEW OF STATUS

The equipment, Inside Containment Recirculation Spray Pump, meets all of the qualification requirements except the qualified life and replacement assessment. The aging analysis is currently being conducted for the lead splice and bearing lubrication. Based on this information, the qualified life or replacement schedule can be determined.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: None.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.
DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.
DEFICIENCIES/CONCERNS: Equipment similarity, material aging degradation, qualified life/replacement schedule, duration.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.c) Equipment satisfies all requirements except qualified life or replacement schedule justified.
DEFICIENCIES/CONCERNS: Qualified life and replacement cycle assessment.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		X
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

In the FRC/NRC review, the qualification status is classified as "Qualification Not Established", because of the following deficiencies: equipment similarity, material aging degradation, qualified life/replacement schedule and peak temperature and pressure duration. The recent DLC review has addressed all the concerns except aging analysis for the lead splice, cable insulation, and bearing lubrication which is currently being conducted. The qualification status, therefore, has been determined by DLC to be II.c.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: The similarity between equipment and test specimen is not adequately established.

DISCUSSION/PROPOSED ACTION: This deficiency has been resolved. A Certificate of Compliance from General Electric Company, dated March 27, 1975 clearly identifies the equivalency between the tested model 5K6319XJ1B and the model #5K6319XJ20A and states what differences existed between the two units.

- B. DEFICIENCY CONCERN: Aging degradation is not evaluated adequately.

DISCUSSION/PROPOSED ACTION: Although the deficiency has not been removed, the aging analysis for lead splice and bearing lubricant is being performed.

- C. DEFICIENCY CONCERN: Qualified life or replacement schedule not established.

DISCUSSION/PROPOSED ACTION: Based on the results of the aging analysis, the qualified life and replacement schedule will be determined.

- D. DEFICIENCY CONCERN: Duration criteria regarding temperature/pressure exposure inadequate.

DISCUSSION/PROPOSED ACTION: This deficiency has been removed through an analysis that has established the qualification on duration.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. MANUFACTURER TRACEABILITY DOCUMENTS (Reference - S & W Doc. #8700-1.10-117A)
2. SUPPLEMENTAL ANALYSIS (DLC - EQ File IV.B.1/26)
3. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)

8.0 DLC ACTION PLAN

Duquesne Light Company is presently identifying the lubricant and bearings in order to evaluate aging and determine the replacement cycle.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 27
FRC NUMBER (S): 50
EQUIP DESCRIPTION: Accelerometer
EQUIP MARK NO (S): FE-RC-100A1, A2, B1, B2, C1, C2
FE-RC-101A1, A2, B1, B2, C1, C2
MANUFACTURER: Endevco
MODEL NUMBER(S): 2273AM20

2.0 BRIEF OVERVIEW OF STATUS

Qualification test report 548-8955 results indicates that the Endevco Accelerometer is qualified. However, the Endevco Accelerometer is a component of the Acoustical Monitoring System which includes a non-qualified component (charge amplifier 22CA-2TR).

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Qualification documentation not available,
testing to be conducted by Babcock & Wilcox.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: 1. Qualification information not supplied.
2. Instrumentation for interim operation
lacks qualification documentation.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending
Modification.
DEFICIENCIES/CONCERNS: Evidence of qualification documentation
inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment Qualified.

DEFICIENCIES/CONCERNS: The accelerometer itself is qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		X
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The accelerometer, a component of the Acoustical Monitoring System has been demonstrated to be a qualified component within the overall system.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Documented Evidence of Qualification Inadequate.

DISCUSSION/PROPOSED ACTION: Deficiency removed, equipment was successfully tested (Qualification Test Report 548-8955).

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981)
2. TEST REPORT AETC NUMBER 548-8955 (DLC - EQ File - IV.B.1/27)

8.0 DLC ACTION PLAN

Qualification testing program for the entire Acoustical Monitoring System which had been scheduled for completion in December 1982, has been rescheduled. Babcock and Wilcox has submitted test plan (BAW-1755) August of 1982 to DLC for comment. The test plan (BAW-1755) has not been accepted by the Utility User Group, thereby requiring Babcock and Wilcox to submit a new test program by February 1983.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 27
FRC NUMBER (S): 51
EQUIP DESCRIPTION: Charge Amplifier
EQUIP MARK NO (S): FY-RC-100A1, A2, B1, B2, C1, C2
FY-RC-101A1, A2, B1, B2, C1, C2
MANUFACTURER: Unholtz Dickie
MODEL NUMBER(S): 22CA2TR

2.0 BRIEF OVERVIEW OF STATUS

The qualification test report 548-8955 results indicate the Unholtz Dickie charge amplifier did not function satisfactory during testing at accident conditions. It was concluded that the long term functional capability of the charge amplifier cannot be assumed following a design basis accident. It has been recommended that the Charge Amplifier be relocated outside containment exceeding 200 feet limitation required for proper operation. A new test plan has been required from Babcock and Wilcox including both design change and use of new components.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Qualification documentation not available;
testing to be conducted by Babcock and Wilcox.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: 1. Qualification information not supplied.
2. Alternate instrumentation for interim operation unqualified.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Charge amplifier failed during testing under accident conditions and can only be expected to remain operable for a few minutes after the initiation of a DBE. Modifications will have to be made.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Documented Evidence of Qualification Inadequate.

DISCUSSION/PROPOSED ACTION: Charge amplifier failed during testing under accident conditions. The relocation of the charge amplifier or replacement is being considered.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981)
2. AETL (Report #548-8955 DLC EQ File IV.B.1/27)

8.0 DLC ACTION PLAN

Qualification testing program scheduled for completion in December 1982 has been rescheduled. Babcock and Wilcox has submitted test plan (BAW-1755) August of 1982 to DLC for comment. The test plan (BAW-1755) has not been accepted by the Utility User Group, thereby requiring Babcock and Wilcox to submit a new test program by February 1983. DLC is closely following their developments in order to be able to utilize a qualified monitoring system.

INTRODUCTION FOR: DLC TAB 28
 FRC TABS 6,7,8,9,45,54,60

Equipment Tab Number 28 includes equipment associated with both the cold shutdown and NUREG 0737, TMI Action Plan issues. Duquesne Light Company continues to consider the equipment needed for cold shutdown of the plant exempt from qualification as discussed in the October 15, 1981 Qualification Program Submittal. In regard to the NUREG 0737 items, Duquesne Light Company has continued to review the qualification status for the various equipment that been added, modified, or possibly exempted. Any equipment added as part of NUREG 0737 programs will be identified in the DLC 90-Day Response to the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-0 B TAB NUMBER: 28
FRC NUMBER (S): 6,7,8,9,60
EQUIP DESCRIPTION: Motor Operators (for 6,7,8,60)
Pump Motors (for 9)
EQUIP MARK NO (S): See Table 28-1
MANUFACTURER: See Table 28-1
MODEL NUMBER(S): See Table 28-1

2.0 BRIEF OVERVIEW OF STATUS

This equipment associated with the Residual Heat Removal System is considered exempt from qualification.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Exempt From Qualification.
DEFICIENCIES/CONCERNS:

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.
DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: See Table I.

D. DLC REVIEW

QUALIFICATIONS STATUS: (III.a) Equipment Exempt From Qualification.
DEFICIENCIES/CONCERNS: DLC considers the equipment to be exempt from qualification requirements.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		X
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

With the issuance of Supplement 3 of IEB 79-01B, the NRC has determined the review of environmental qualification for all equipment requirement to achieve and maintain the plant in cold shutdown condition, is not within the scope of this report.

The equipment used in the Residual Heat Removal system can be classified under this category. Beaver Valley Unit 1 is licensed for a Hot Standby basis and is not required to have a Class 1E qualified path to cold shutdown. For this reason, the equipment listed for the RHR system is considered to be exempt from qualification. The recent NRC Rulemaking has continued to defer cold shutdown equipment qualification consideration.

TABLE 28-1

DLC # 28
FRC # 6,7,8,9,60

ITEM: RHR System Components:

FRC TAB #	EQUIPMENT MARK #	EQUIPMENT TYPE	MANUFACTURER	MODEL #	NRC NOTED DEFICIENCY*
6	MOV-CC-112 (SMB Series)	Motor Operators	Limitorque	SMB-000	1
7	MOV-RH-600 and RH-758	Motor Operators	Limitorque	SMB-00	1
8	MOV-RH-720A, B	Motor Operators	Limitorque	SMB-2	1,2,3,4
9	RH-P-1A, 1B	Pump Motors	Westinghouse	SC70F67868	1,2,3,4
60	MOV-RH-700 and RH-701	Motor Operators	Limitorque	SMB-1	1,2,3,4,7, 8,9,10,11, 12

*Legend

1. Documented Evidence of Qualification Adequate
2. Adequate Similarity Between Equipment and Test Specimen Established
3. Aging Degradation Evaluated Adequately
4. Qualified life or Replacement Schedule Established (If Required)
5. Program Established to Identify Aging Degradation
6. Criteria Regarding Aging Simulation Satisfied (If Required)
7. Criteria Regarding Temperature/Pressure Exposure:
 - o Peak Temperature Adequate
 - o Peak Pressure Adequate
 - o Duration Adequate
 - o Required Profile Enveloped Adequately
 - o Steam Exposure (If Required) Adequate
8. Criteria Regarding Spray Satisfied
9. Criteria Regarding Submergence Satisfied
10. Criteria Regarding Radiation Satisfied
11. Criteria Regarding Test Sequence Satisfied
12. Criteria Regarding Test Failures or Severe Anomalies (If Any) Satisfied
13. Criteria Regarding Functional Testing Satisfied
14. Criteria Regarding Instrument Accuracy Satisfied
15. Test Duration Margin (1 hour + Function Time) Satisfied
16. Criteria Regarding Margins Satisfied (NUREG-0588, Cat. I)

DLC

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 28
FRC NUMBER (S): 45
EQUIP DESCRIPTION: Pressure Transmitter
EQUIP MARK NO (S): PT-RC-444
MANUFACTURER: Fischer and Porter
MODEL NUMBER(S): 50EP1041

2.0 BRIEF OVERVIEW OF STATUS

This equipment, the intermediate range pressure transmitter, is exempt from qualification because it is backed-up by redundant wide range pressure transmitters.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Exempt From Qualification.

DEFICIENCIES/CONCERNS:

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (III.a) Equipment Exempt From Qualification.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		X
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The tab referenced above provides input to the subcooling monitor. The pressure inputs consist of PT-RC-444, PT-RC-402, and PT-RC-403. The level of redundancy of the pressure input to the subcooling monitoring is apparent. The two pressure transmitters, PT-RC-402 and PT-RC-403 provide necessary redundancy in the event of the failure of PT-RC-444 (Reference - Attached FRC Tab #45). The failure of the PT-RC-444 would in no way degrade the input to the subcooling monitor. The justification and the failure mode effects analysis contained in the two attachments referenced in FRC Tab #45, are still deemed as applicable and adequate.

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR INTERIM OPERATION - (Reference 30-day 1983 Response)

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 28
FRC NUMBER (S): 54
EQUIP DESCRIPTION: Thermocouples
EQUIP MARK NO (S): TC2,3,5,6,20,22,23 and 24
MANUFACTURER: Control Products Corporation
MODEL NUMBER(S): Not Stated.

2.0 BRIEF OVERVIEW OF STATUS

This equipment, incore thermocouples, is exempt from qualification because they are backed-up by the hotleg and coldleg RTD's.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Exempt From Qualification.

DEFICIENCIES/CONCERNS:

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established

DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (III.a) Equipment Exempt From Qualification.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		X
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The tab referenced above provides input to the subcooling monitor. The temperature indication into the subcooling monitor is supplied by the referenced eight thermocouples, two reactor coolant hotleg wide range RTDs, and two reactor coolant coldleg wide range RTDs. The level of redundancy of the temperature inputs to the subcooling monitor is apparent. The temperature redundancy is provided by two wide range RTDs in the hotleg and by two wide range RTDs in the coldleg. The in-core thermocouples provide a third level of redundancy. The failure of the in-core thermocouples would in no way degrade the input to the subcooling monitor. The justification and the failure modes effects analysis contained in the two attachments reference FRC Tab #54, are still deemed as applicable and adequate.

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR INTERIM OPERATION - (Reference 30-day 1983 Response)

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 29
FRC NUMBER (S): 81
EQUIP DESCRIPTION: Terminal Blocks
EQUIP MARK NO (S): Not Assigned
MANUFACTURER: Marathon
MODEL NUMBER(S): 1500 Series

2.0 BRIEF OVERVIEW OF STATUS

Marathon terminal blocks, Model 1500 Series, are qualified for use outside of containment. Duquesne Light Company EQ File #2064 contains the qualification documentation for this equipment item.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Loose screws - elongation due to thermal expansion.

B. EDS REVIEW

QUALIFICATIONS STATUS: Acceptable.
DEFICIENCIES/CONCERNS: Qualified Line.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment qualification pending modification.
DEFICIENCIES/CONCERNS: Inadequate steam exposure, loose screws and test anomalies.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment Qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		X
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The difference in the qualification assessment was due to the result of an additional test being conducted with more applicable lower temperature requirements. The test conducted at lower temperature level reduced the thermal expansion and loose screw concerns.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Inadequate steam exposure.

DISCUSSION/PROPOSED ACTION: Materials used in construction of terminal blocks have a low affinity for water, therefore, possibility of failure due to steam condensation effects are minimal.

B. DEFICIENCY CONCERN: Loose screws.

DISCUSSION/PROPOSED ACTION: Test results show that screws remained tight during the test. See Section 4.0 of Test Report #16807-82N.

C. DEFICIENCY CONCERN: Thermal expansion of 12 point terminal block versus 4 point terminal block.

DISCUSSION/PROPOSED ACTION: A supplemental analysis indicates that the amount of differential expansion of terminal strip and mounting material is insignificant.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. SUPPLEMENTAL ANALYSIS (DLC - EQ File #2064)
2. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981)
3. TEST REPORT (DLC EQ File - VB1.1.2)

DLC TAB # 30

FRC TAB # 78

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 30
FRC NUMBER (S): 78
EQUIP DESCRIPTION: Cable Splice
EQUIP MARK NO (S): N/A
MANUFACTURER: Okonite
MODEL NUMBER(S): T95, T35, Tape

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT IS CONSIDERED QUALIFIED

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	X	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 31
FRC NUMBER (S): 77
EQUIP DESCRIPTION: Cable Splice Kit
EQUIP MARK NO (S): Not Assigned
MANUFACTURER: Kerite
MODEL NUMBER (S): Putty-Biseal 3 Tape

2.0 BRIEF OVERVIEW OF STATUS

The Duquesne Light Company replaced the previously installed splice with a qualified splice. The qualification documentation for the replacement splice is located in Duquesne Light Company EQ File #2025.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.

DEFICIENCIES/CONCERNS: Duquesne Light Co. committed to replace during the Second Refueling Outage because of radiation and temperature service conditions concerns.

B. EDS REVIEW

QUALIFICATIONS STATUS: Acceptable.

DEFICIENCIES/CONCERNS: State model number, peak accident temperature, relative humidity, inadequate thermal evaluation, inadequate qualification method.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.

DEFICIENCIES/CONCERNS: Peak temperature inadequate, criteria regarding radiation unsatisfactory.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment Qualified. Modification Complete.

DEFICIENCIES/CONCERNS: Replaced during Second Refueling Outage, 1982

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	See 5.0(A)	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Peak temperature inadequate and criteria regarding radiation unsatisfactory.

DISCUSSION/PROPOSED ACTION: Equipment item was replaced during Second Refueling Outage, so this concern has been eliminated.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal) - VOIDED
2. SCEW SHEETS (Reference 79-01B DLC Submittal) - VOIDED

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 32
FRC NUMBER (S): 74
EQUIP DESCRIPTION: Control Cable
EQUIP MARK NO (S): Various
MANUFACTURER: G.E.
MODEL NUMBER(S): Vulkene 57275

2.0 BRIEF OVERVIEW OF STATUS

Some of the G.E. Vulkene Model #57275 SIS Wires were replaced during the 2RFO. The remaining SIS wire, mainly inside MCC's and possibly on locally mounted junction boxes for air operated valves will be replaced if found.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Qualification information not available.
Plant modifications to replace SIS Wire.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Applicability of referenced test report, operating time and temperature, analysis for qualification, and radiation.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Documented evidence of qualification is inadequate, radiation, temperature.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Documented evidence of qualification inadequate.

DISCUSSION/PROPOSED ACTION: The referenced test report F-C-3781-1 is for an A-C motor control center manufactured by Allis Chalmer Corporation. The test report did not identify the use of G.E. Vulkene model 57275 cable in Allis Chalmer's MCC. The G.E. Vulkene either has been or will be replaced if it is found in harsh areas of the plant.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)
2. TEST REPORT FC-3781 - (Reference DLC EQ File VB1.6.3)

8.0 DLC ACTION PLAN

Any G.E. Vulkene cable found in the plant will be replaced.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 33
FRC NUMBER (S): 73
EQUIP DESCRIPTION: Electric Cable
EQUIP MARK NO (S): Not Stated
MANUFACTURER: General Electric Company
MODEL NUMBER(S): Vulkene Supreme 57279

2.0 BRIEF OVERVIEW OF STATUS

General Electric SIS Wire Vulkene Supreme Model 57279 has been categorized by DLC as I.a (Equipment Qualified). The noted deficiency of similarity between installed equipment and test specimen has been established.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Inadequate similarity between installed equipment and tested specimen.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment Qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		X
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The difference in qualification category was due to the establishment of similarity between installed equipment and tested specimen.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Inadequate similarity between installed equipment and tested specimen.

DISCUSSION/PROPOSED ACTION: Similarity was established by information collected from plant specific references and the manufacturer's product data sheet WCD-380.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. MANUFACTURER TRACEABILITY DOCUMENTS (DLC EQ File IV.B.1/33)

DLC TAB # 34

NO

EQUIPMENT HAD BEEN ASSIGNED

TO THIS TAB NUMBER

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 35
FRC NUMBER (S): 65, 66, 67
EQUIP DESCRIPTION: 480V MCC's
EQUIP MARK NO (S): MCC-1-E3, E4, E5, E6, and E12
MANUFACTURER: Allis Chalmers

2.0 BRIEF OVERVIEW OF STATUS

No radiation testing was performed, however, a radiation analysis of the materials shows that MCC's are qualified.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: Radiation and aging analysis program on-going.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.
DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.
DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate. Similarity between test equipment and installed equipment, aging evaluation inadequate. Qualified life or replacement schedule not established, criteria regarding radiation not satisfied.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.c) Equipment Satisfies all Requirements Except Qualified Life or Replacement Schedule.
DEFICIENCIES/CONCERNS: Control transformer needs identified as to construction type.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		X
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The difference in qualification category is due to the fact that the overall MCC's, except for the control transformers, are qualified for accident conditions. The radiation values, determined by analysis (letter 17244), exceed the required values. The constituent parts of the control transformer being copper, paper and varnish (Memo #13386.18), are acceptable up to radiation level of 1×10^6 Rads.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Documented Evidence of Qualification Not Established.

DISCUSSION/PROPOSED ACTION: FRC Test #C3781-1 performed shows operability of MCC's under accident conditions, temperature, heat and pressure.

- B. DEFICIENCY CONCERN: Similarity Between Test Equipment and Installed Equipment.

DISCUSSION/PROPOSED ACTION: Wiring modifications were made to installed units. Tested units are similar to installed MCC's except for the epoxy molded control transformer (RE: Telecon Brunner to Dunn 10-29-80).

C. DEFICIENCY CONCERN: Aging Evaluation Inadequate.

DISCUSSION/PROPOSED ACTION: On-going analysis will establish aging degradation of identified constituent parts. Materials identified are as per letter #17244.

D. DEFICIENCY CONCERN: Qualified Life or Replacement Schedule.

DISCUSSION/PROPOSED ACTION: Replacement schedule to be based upon outcome of aging analysis of individual parts.

E. DEFICIENCY CONCERN: Criteria Regarding Radiation not Satisfied.

DISCUSSION/PROPOSED ACTION: A survey conducted of organic material's and radiation exposure experienced by these MCC's, showed that there will be minimal effect on the enclosed materials. The Allis Chalmers-MCC material of construction are qualified by analysis to 1×10^9 Rads, which is greater than required value of 1×10^6 Rads.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)
2. CORRESPONDENCE WITH MANUFACTURER (Reference EQ File - IV.B.1/35 Letter 17244)

8.0 DLC ACTION PLAN

DLC is currently consulting with the control transformer manufacturer for a materials identification in order that an aging evaluation can be performed on this one constituent part to complete the qualification documentation.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 36
FRC NUMBER (S): 26, 27, 28
EQUIP DESCRIPTION: Solenoid Valves
EQUIP MARK NO (S): SOV-BD-100A,B,C, SOV-FW-102, SOV-FW-103A,B
SOV-MS-105A,B
MANUFACTURER: The Automatic Switch Company
MODEL: HP-8320A6, HPX8320A26

2.0 BRIEF OVERVIEW OF STATUS

During the Second Refueling Outage, Duquesne Light Company replaced the previously installed unqualified ASCO Models HP-8320A6 and HPX8320A26 with new qualified ASCO Models NP-8320A187E and NP-8320A189E. Qualification documentation for the replacement solenoid valves is filed in the Duquesne Light Company EQ File #2008 and #2022.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualification Documentation was not Available.
DEFICIENCIES/CONCERNS: As the result of the lack of documentation, Duquesne Light Company committed to replacement of these particular ASCO Solenoid Valves with qualified Solenoid Valves.

B. EDS REVIEW

QUALIFICATIONS STATUS: Acceptable.
DEFICIENCIES/CONCERNS: EDS questioned the original equipment's type of enclosure for 100% humidity environment.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Conduit seal installation.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	See 5.0(A)	
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Documented evidence of qualification inadequate.

DISCUSSION/PROPOSED ACTION: Deficiency of unqualified models was corrected by replacement with qualified models during Second Refueling Outage.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal) - Voided
2. SCEW SHEETS (Reference 79-01B DLC Submittal) - Voided

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B Submittal, October 15, 1981)

8.0 DLC ACTION PLAN

All attempts are being made by Duquesne Light Company to qualify and install the conduit seals within the time frame allotted by the recent NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 37
FRC NUMBER (S): 24 & 25
EQUIP DESCRIPTION: Solenoid Valve
EQUIP MARK NO (S): SOV-CH-204, SOV-SI-884A,B,C
MANUFACTURER: ASCO
MODEL: LB-831654, LB-31924

2.0 BRIEF OVERVIEW OF STATUS

During the Second Refueling Outage, DLCO replaced the previously installed ASCO Model LB-831654 and LB31924 with the qualified ASCO Model NP831655E. Qualification documentation is filed in Duquesne Light Company's EQ File #2044.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: No Qualification Information Available.
DEFICIENCIES/CONCERNS: Radiation test deficiency.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Acceptable.
DEFICIENCIES/CONCERNS: Qualification data and SCEW sheets do not match.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Inadequate documented evidence of qualification.

D. DLC REVIEW

QUALIFICATIONS STATUS: (1.b) Equipment Qualification Pending Modification (a qualified replacement has been installed).

DEFICIENCIES/CONCERNS: Conduit seal installation.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	See 5.0(A)	
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Inadequate documented evidence of qualification.

DISCUSSION/PROPOSED ACTION: The unqualified models were replaced with qualified Model NP-831655E during Second Refueling Outage. Qualification documentation is in DLC EQ File #2044.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981) - Voided
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981) - Voided

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION (Reference 79-01B DLC Submittal, Oct. 15, 1981)

8.0 DLC ACTION PLAN

All attempts are being made by Duquesne Light Company to qualify and install the conduit seals within the time frame allotted by the recent NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 38
FRC NUMBER (S): 58
EQUIP DESCRIPTION: Limit Switches
EQUIP MARK NO (S): LMS-BD-100A, B, C
MANUFACTURER: NAMCO
MODEL NUMBER(S): D2400X

2.0 BRIEF OVERVIEW OF STATUS

The originally installed NAMCO Limit Switches Model D2400X, which are located outside containment, were replaced with a qualified NAMCO Model EA180 Series during the Second Refueling Outage.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: No Qualification Documentation Available.
DEFICIENCIES/CONCERNS: As a result of the lack of documentation, DLCO committed to the replacement of this item.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Acceptable.
DEFICIENCIES/CONCERNS: Recommendation is to replace these switches.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification
DEFICIENCIES/CONCERNS: Documented evidence of qualification inadequate.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: The replacement limit switches are qualified. When a qualified interface seal becomes available, the seal will be installed.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	See 5.0(A)	
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Documentation of Qualification Information Inadequate.

DISCUSSION/PROPOSED ACTION: Deficiency corrected by replacement of these switches during Second Refueling Outage. Documentation for the replacement limit switch is located in the Duquesne Light Company EQ File #2021.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal) - VOIDED
2. SCEW SHEETS (Reference 79-01B DLC Submittal) - VOIDED

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

8.0 DLC ACTION PLAN

All attempts are being made by Duquesne Light Company to qualify and install the conduit seals within the time frame allotted by the recent NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 39
FRC NUMBER (S): 84
EQUIP DESCRIPTION: Limit Switch
EQUIP MARK NO (S): LMS-FW-103A, B
MANUFACTURER: NAMCO
MODEL NUMBER(S): EA740-2000

2.0 BRIEF OVERVIEW OF STATUS

The original NAMCO limit switches, which were installed, had a concern with its electrical interface (conduit seal). DLC is continuing in its efforts to find a qualified seal and will install at the first opportunity.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

DEFICIENCIES/CONCERNS: Electrical interface (conduit seal). A qualified seal will be installed as soon as qualified seal is available.

B. EDS REVIEW

QUALIFICATIONS STATUS: Acceptable.

DEFICIENCIES/CONCERNS: Electrical interface (conduit seal).
Applicability of referenced test report.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending
Modification

DEFICIENCIES/CONCERNS: Inadequate steam exposure.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending
Modification.

DEFICIENCIES/CONCERNS: Electrical interface (conduit seal). A qualified seal is needed to eliminate steam migration into limit switch housing.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Inadequate Steam Exposure.

DISCUSSION/PROPOSED ACTION: A qualified conduit seal will prevent steam from migrating into limit switch housing. A qualified conduit seal system will be installed when seal testing has been able to demonstrate qualification.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

8.0 DLC ACTION PLAN

All attempts are being made by Duquesne Light Company to qualify and install the conduit seals within the time frame allotted by the recent NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 40
FRC NUMBER (S): 39, 43
EQUIP DESCRIPTION: Flow Transmitter
EQUIP MARK NO (S): FT-FW-100A,B,C and FT-RW-102A,B
MANUFACTURER: Fischer and Porter
MODEL NUMBER(S): 10B2496PBBABDB

2.0 BRIEF OVERVIEW OF STATUS

Previous review of the qualification status of these transmitters has resulted in a lack of documentation being made available. As a result, these transmitters are scheduled to be replaced within the time frame allotted by the NRC Rulemaking.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Qualification documentation not available.
Commercial grade units.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: The device is not qualified for the specified integrated radiation dose.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Qualification documentation not available.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: The existing equipment's qualification documentation for radiation, temperature and pressure as well as aging evaluation requirements has not been obtained.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

7.0 DLC ACTION PLAN

DLC is actively pursuing the appropriate qualification documentation for the replacement Barton Transmitters which have been received at the Beaver Valley Power Station, but not installed pending the receipt and review of qualification documentation from the supplier. It is anticipated that they will be installed within the time frame allotted by the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 41
FRC NUMBER (S): 37
EQUIP DESCRIPTION: Pressure Transmitter
EQUIP MARK NO (S): PT-LM-100A,B,C, and D
MANUFACTURER: Fischer and Porter
MODEL NUMBER(S): 50EN107BCXB

2.0 BRIEF OVERVIEW OF STATUS

Previous review of the qualification status of these transmitters has resulted in a lack of documentation being made available. As a result, these transmitters are scheduled to be replaced within the time frame allotted by the NRC Rulemaking.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Qualification documentation not available.
Commercial grade units.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified; Replace Device.
DEFICIENCIES/CONCERNS: The device is not qualified for the specified integrated radiation dose.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Qualification documentation not available.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: The existing equipment's qualification documentation for radiation, temperature and pressure as well as aging evaluation requirement has not been obtained.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

7.0 DLC ACTION PLAN

DLC is actively pursuing the appropriate qualification documentation for the replacement Barton Transmitters, which have been received at the Beaver Valley Power Station but not installed pending the receipt and review of qualification documentation from the supplier. It is anticipated that they will be installed within the time frame allotted by the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 41
FRC NUMBER (S): 42
EQUIP DESCRIPTION: Pressure Transmitter
EQUIP MARK NO (S): PT-RS-156A & B
MANUFACTURER: Fischer and Porter
MODEL NUMBER(S): 50EP1071BCXB

2.0 BRIEF OVERVIEW OF STATUS

Previous review of the qualification status of these transmitters has resulted in a lack of documentation being made available. As a result, these transmitters are scheduled to be replaced within the time frame allotted by the NRC Rulemaking.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Qualification documentation not available.
Commercial grade units.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified; Replace Device.
DEFICIENCIES/CONCERNS: The device is not qualified for the specified integrated radiation dose.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Qualification documentation not available.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: The existing equipment's qualification documentation for radiation, temperature and pressure as well as aging evaluation requirement has not been obtained.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

7.0 DLC ACTION PLAN

DLC is actively pursuing the appropriate qualification documentation for the replacement Barton Transmitters, which have been received at the Beaver Valley Power Station but not installed within the time frame allotted by the NRC Rulemaking.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 42
FRC NUMBER (S): 44
EQUIP DESCRIPTION: Pressure Transmitter
EQUIP MARK NO (S): PT-MS-474,475,476,484,485,486,494,495,and 496
MANUFACTURER: Fischer & Porter
MODEL NUMBER(S): 50EP1041

2.0 BRIEF OVERVIEW OF STATUS

Previous review of the qualification status of these transmitters has resulted in a lack of documentation being made available. As a result, these transmitters are scheduled to be replaced within the time frame allotted by the NRC Rulemaking.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Not Qualified.
DEFICIENCIES/CONCERNS: Qualification documentation not available.
Commercial grade units.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Qualified. Replace Device.
DEFICIENCIES/CONCERNS: The device is not qualified for the specified integrated radiation dose.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Qualification documentation not available.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: The existing equipment's qualification documentation for radiation, temperature and pressure as well as aging evaluation requirement has not been obtained.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION	X	X
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

6.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 79-01B, October 15, 1981, Submittal)

7.0 DLC ACTION PLAN

DLC is actively pursuing the appropriate qualification documentation for the replacement Barton Transmitters, which have been received at the Beaver Valley Power Station but not installed pending the receipt and review of qualification documentation from the supplier. It is anticipated that they will be installed within the time frame allotted by the NRC Rulemaking.

DLC TAB # 43

FRC TAB # 16

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 16
EQUIP DESCRIPTION: Motorized Valve Actuator
EQUIP MARK NO (S): MOV-FW-156A
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT EXEMPT FROM QUALIFICATION

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION	X	
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC TAB # 43

FRC TAB # 17

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 17
EQUIP DESCRIPTION: Motorized Valve Actuator
EQUIP MARK NO (S): MOV-RS-155A,B,- 156A,B
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT EXEMPT FROM QUALIFICATION

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION	X	
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC TAB # 43

FRC TAB # 18

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 18
EQUIP DESCRIPTION: Motorized Valve Actuator
EQUIP MARK NO (S): MOV-RW-103A,B,C,D - 106A,B
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT NOT IN THE SCOPE OF PRESENT REVIEW

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW	X	
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC TAB # 43

FRC TAB # 19

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 19
EQUIP DESCRIPTION: Motorized Valve Actuator
EQUIP MARK NO (S): MOV-RW-104A
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT NOT IN THE SCOPE OF PRESENT REVIEW

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW	X	
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 20
EQUIP DESCRIPTION: Motor Operators
EQUIP MARK NO (S): MOV-FW-151A,B*,C,D,E,F
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

* MOV-FW-151B was incorrectly addressed in the FRC TER twice, Tabs #20 and #86,
DLC believes that TAB #86 is not applicable.

2.0 BRIEF OVERVIEW OF STATUS

The Limitorque actuators are located in the auxiliary feed pump room and are not required to operate while subject to harsh environments. Thus, they are considered exempt from the requirements of qualification for harsh environments.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified - Exempt from Qualification.
DEFICIENCIES/CONCERNS:

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.
DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (II.c) Equipment Satisfies all Requirements
Except Qualified Life or Replacement
Schedule.
DEFICIENCIES/CONCERNS: Inadequate aging degradation and qualified
life.

D. DLC REVIEW

QUALIFICATIONS STATUS: (III.b) Equipment not in the scope of the qualification review.

DEFICIENCIES/CONCERNS: This equipment item should not have been reviewed by the NRC, because it is considered exempt from qualification.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED	X	
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		X
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

As discussed in the original 79-01B submittals to the NRC, DLC considers these particular valves to be exempt from qualification requirements.

5.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (79-01B DLC Submittal) - October 15, 1981
2. SCEW SHEETS (79-01B DLC Submittal) - October 15, 1981

DLC TAB # 43

FRC TAB # 21

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 21
EQUIP DESCRIPTION: Motorized Valve Actuator
EQUIP MARK NO (S): MOV-RW-104B,C,D, - 105A,B,C,D
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-000

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT NOT IN THE SCOPE OF PRESENT REVIEW

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW	X	
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC TAB # 43

FRC TAB # 82

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 82
EQUIP DESCRIPTION: Motorized Valve Actuator
EQUIP MARK NO (S): MOV-FW-156B,C
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT EXEMPT FROM QUALIFICATION

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION	X	
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC TAB # 43

FRC TAB # 85

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 85
EQUIP DESCRIPTION: Motorized Valve Actuator
EQUIP MARK NO (S): MOV-MS-105
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-000

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT NOT IN THE SCOPE OF PRESENT REVIEW

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW	X	
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC TAB # 43

FRC TAB # 87

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 43
FRC NUMBER (S): 87
EQUIP DESCRIPTION: Motorized Valve Actuator
EQUIP MARK NO (S): MOV-RW-114A,B
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

NO ADDITIONAL REVIEW WAS CONDUCTED

BECAUSE

EQUIPMENT NOT IN THE SCOPE OF PRESENT REVIEW

2.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW	X	
IV.	DOCUMENTATION NOT MADE AVAILABLE		

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 44
FRC NUMBER (S): 22, 23, 88
EQUIP DESCRIPTION: Motor Operators
EQUIP MARK NO (S): MOV-SI-863A,B, - 864A,B, - 885A,B,C,D, - 890A,B,C
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00, SMB-2T

2.0 BRIEF OVERVIEW OF STATUS

These MOV's are located in the safeguard area of the plant and are qualified for the harsh environment to which they could potentially be exposed. (130°F, 100% R.H. and 0.7 Mrad). Duquesne Light Company has conducted a thermal aging analysis of the Limitorque degradable materials and has found that the materials, except for the lubricant and buna-seal, are expected to have a qualified life greater than forty years. The replacement cycle assessment for the lubricant and buna-seal are currently being conducted by Duquesne Light Company.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

DEFICIENCIES/CONCERNS:

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

DEFICIENCIES/CONCERNS:

C. FRC/NRC

QUALIFICATIONS STATUS: (II.c) Satisfies all requirements except qualified life.

DEFICIENCIES/CONCERNS: Inadequate aging degradation evaluation and qualified life.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.c) Satisfies all requirements except qualified life.

DEFICIENCIES/CONCERNS: Aging evaluation and qualified life.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED	X	X
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Qualified Life/Replacement Schedule.

DISCUSSION/PROPOSED ACTION: Qualified life of identified degradable materials is greater than 40 years. Additional efforts to conduct aging analysis will be performed, at which time an independent assessment qualified life will be completed.

B. DEFICIENCY CONCERN: Inadequate Aging Degradation Evaluation.

DISCUSSION/PROPOSED ACTION: According to the manufacturer, qualified life of identified degradable materials is greater than 40 years. A preliminary independent aging assessment agrees with this 40 year life except for the lubricant which must be replaced periodically.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SLLEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 DLC ACTION PLAN

Duquesne Light Company is continuing its efforts to identify additional degradable materials of construction.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 45
FRC NUMBER (S): 10,12,15
EQUIP DESCRIPTION: Motor Operator
EQUIP MARK NO (S): MOV-CH-289, 381, MOV-SI-836, 367C & D,
MOV-SI-869A & B, MOV-SI-860A & B, MOV-SI-862A & B
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

2.0 BRIEF OVERVIEW OF STATUS

A DLC review of the 79-01B Submittal documents and the NRC/FRC SER has established the status for this equipment as "II.a - Qualification Not Established." Similarity between the tested and installed models is currently being established. In addition, an independent aging analysis re-evaluation needs to be conducted to establish the qualified life and replacement schedule.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

DEFICIENCIES/CONCERNS: Similarity, aging degradation, qualified life or replacement schedule.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.a) Equipment Qualification not Established.

DEFICIENCIES/CONCERNS: Similarity, aging degradation, qualified life or replacement schedule.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	X
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Inadequate similarity between installed equipment and test specimen.

DISCUSSION/PROPOSED ACTION: Deficiency has not been removed yet. Traceability documents are in the process of being obtained from the manufacturer.

- B. DEFICIENCY CONCERN: Aging degradation evaluated inadequately.

DISCUSSION/PROPOSED ACTION: Independent aging analysis will be conducted after receiving additional material information from the manufacturer.

- C. DEFICIENCY CONCERN: Qualified life or replacement schedule not established.

DISCUSSION/PROPOSED ACTION: Independent aging analysis will be conducted after receiving material information from the manufacturer. The qualified life or replacement schedule will be established based on this analysis.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 30-Day 1983 Response)

8.0 DLC ACTION PLAN

DLC is attempting to obtain traceability documents to demonstrate which applicable test reports are pertinent to the equipment. In addition, details of the construction of the motor brake assembly are being obtained.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 45
FRC NUMBER (S): 11,13,14,89
EQUIP DESCRIPTION: Motor Operator
EQUIP MARK NO (S): MOV-CH-373, 370, MOV-CH-115B,C,D,E
MOV-SI-867A,B, MOV-CH-275A,B,C
MANUFACTURER: Limitorque
MODEL NUMBER(S): SMB-00

2.0 BRIEF OVERVIEW OF STATUS

The qualification is based on type testing by similarity. An independent aging analysis is being conducted to evaluate any aging degradation and to determine qualified life and the replacement schedule. Identification of actuators' motor brake assembly is being conducted.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: None.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.c) Equipment satisfies all requirements except Qualified Life or Replacement Schedule Justified.
DEFICIENCIES/CONCERNS: Aging degradation, qualified life or replacement schedule.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.c) Equipment satisfies all requirements except Qualified Life or Replacement Schedule.
DEFICIENCIES/CONCERNS: Aging degradation, qualified life or replacement schedule.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED	X	X
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Aging Degradation Evaluated Inadequately.

DISCUSSION/PROPOSED ACTION: An independent aging analysis is being conducted. It is pending additional material information from the manufacturer.

- B. DEFICIENCY CONCERN: Qualified Life or Replacement Schedule not Established.

DISCUSSION/PROPOSED ACTION: Aging analysis is being conducted. The qualified life and replacement schedule will be established based on this analysis.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION-(Reference 30-Day 1983 Response)

8.0 DLC ACTION PLAN

DLC is currently performing an independent aging evaluation on the equipment and contacting the manufacturer for motor brake assembly details.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 46
FRC NUMBER (S): 61
EQUIP DESCRIPTION: Outside Recirc. Spray Motor
EQUIP MARK NO (S): RS-P-2A, 2B
MANUFACTURER: Louis Allis
MODEL NUMBER(S): 1-279480-001

2.0 BRIEF OVERVIEW OF STATUS

These motors are used for the outside recirculation spray pumps RS-P-2A, 2B. In previous reviews by DLC, it was determined that no documentation exists for the pump motor qualification and the decision was made by DLC to replace them.

As a result, these motors were replaced during the Second Refueling Outage with qualified Siemen-Allis Motors and their qualification documentation is located in the DLC EQ File 2009.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Documentation Incomplete.
DEFICIENCIES/CONCERNS: No Documentation for Post-LOCA Radiation Dose. Motors scheduled to be replaced.

B. EDS REVIEW

QUALIFICATIONS STATUS: Documentation Incomplete.
DEFICIENCIES/CONCERNS: No Qualification Documents Exists. Perform Analysis to Establish Qualification.

C. FRC/NRC

QUALIFICATIONS STATUS: (I.b) Equipment Qualification Pending Modification.
DEFICIENCIES/CONCERNS: Inadequate Documentation.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment Qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED	See 5.0(A)	
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED		
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Inadequate Qualification Documentation.

DISCUSSION/PROPOSED ACTION: These motors were replaced with Siemens-Allis Motors during the Second Refueling Outage. The documentation for this replacement is located in the DLC Equipment File #2009.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal) - VOIDED
2. SCEW SHEETS (Reference 79-01B DLC Submittal) - VOIDED

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 46
FRC NUMBER (S): 62
EQUIP DESCRIPTION: Auxiliary Feedwater Pump Motor
EQUIP MARK NO (S): FW-P-3A, 3B
MANUFACTURER: Louis-Allis
MODEL NUMBER(S): 269319-001

2.0 BRIEF OVERVIEW OF STATUS

This motor, located outside containment and subjected to radiation as its only harsh service condition, has been qualified by analysis and the aging evaluation has been completed.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Documentation Incomplete.
DEFICIENCIES/CONCERNS: No documentation for Post-LOCA radiation dose. Perform additional analysis or replace.

B. EDS REVIEW

QUALIFICATIONS STATUS: Documentation Incomplete.
DEFICIENCIES/CONCERNS: No Qualification Documentation Exists.

C. FRC/NRC

QUALIFICATIONS STATUS: (II.a) Equipment Qualification Not Established.

D. DLC REVIEW

QUALIFICATIONS STATUS: (I.a) Equipment Qualified.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		X
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The motor has now been determined by DLC to be qualified, because of recent analysis conducted. The analysis is located in the DLC EQ File - IV.B.1/46.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

A. DEFICIENCY CONCERN: Inadequate Documentation.

DISCUSSION/PROPOSED ACTION: Additional analysis has been performed.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981).
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981).

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 47
FRC NUMBER (S): 63
EQUIP DESCRIPTION: Electric Motor
EQUIP MARK NO (S): SI-P-1A, B
MANUFACTURER: Westinghouse Electric Company
MODEL NUMBER(S): FR509P20

2.0 BRIEF OVERVIEW OF STATUS

Duquesne Light Company has reviewed this motor and has determined through previous testing and supplemental analysis that it is qualified for its accident mitigating function. The motor is located outside the containment. WCAP 8754, Rev. 1, demonstrates from radiation and thermal aging testing of insulation coupon specimens, that the thermoelastic insulation system will operate satisfactorily and continuously for a minimum of 5.0 years at a maximum temperature of 130°F and with a radiation exposure of 6.5 Mrads total integrated dose.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: Motorettes of insulation only were tested.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

C. FRC/NRC REVIEW

QUALIFICATIONS STATUS: (II.a) Qualification Not Established.
DEFICIENCIES/CONCERNS: Inadequate qualification documentation, inadequate aging degradation evaluation, qualified life, inadequate duration of temperature/pressure exposure.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.c) Equipment satisfies all the requirements except Qualified Life and Replacement Schedule.

DEFICIENCIES/CONCERNS: Qualified life of parts and their replacement frequency are currently being evaluated.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		X
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The difference in qualification category is due to the following reasons:

- a. Motor splice information was not available previously for the NRC/FRC review.
- b. The motor splices were changed during the Second Refueling Outage.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Evidence of qualification of motor to lead splice materials.

DISCUSSION/PROPOSED ACTION: The existing motor splices were replaced during the Second Refueling Outage with qualified Kerite #DS7018. The Duquesne Light Company EQ File #2025 contains qualification documentation.

- B. DEFICIENCY CONCERN: Evidence of qualification for lubricant-bearing-seal system.

DISCUSSION/PROPOSED ACTION: Type of bearings and lubricants are being investigated and estimated life will be evaluated according to IEEE Standard 334-1974.

- C. DEFICIENCY CONCERN: Inadequate aging degradation evaluation.

DISCUSSION/PROPOSED ACTION: The aging evaluation is currently being performed.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Oct. 15, 1981 Submittal)
2. SCEW SHEETS (Reference 79-01B DLC Submittal Oct. 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 30-Day 1983 Response)

8.0 DLC ACTION PLAN

Duquesne Light Company is currently evaluating the motor's constituent parts for thermal, radiation and wear aging. As soon as this is done, the motor's qualified life and replacement cycle will be determined.

DLC RESPONSE TO 1982 FRC/NRC ENVIRONMENTAL QUALIFICATION
REVIEW OF ELECTRICAL EQUIPMENT

1.0 EQUIPMENT QUALIFICATION SUMMARY

79-01B TAB NUMBER: 48
FRC NUMBER (S): 64
EQUIP DESCRIPTION: Electric Motor
EQUIP MARK NO (S): CH-P-1A,B,C
MANUFACTURER: Westinghouse Electric Company
MODEL NUMBER(S): FR-58089

2.0 BRIEF OVERVIEW OF STATUS

Duquesne Light Company has reviewed this motor and has determined through previous testing and supplemental analysis that it is qualified for its accident mitigating function. The motor is located outside the containment. WCAP 8754, Rev. 1, demonstrates from radiation and thermal aging testing of insulation coupon specimens, that the thermoelastic insulation system will operate satisfactorily for a minimum of 5.0 years at a maximum temperature of 130°F and with a radiation exposure of 6.5 Mrads total integrated dose.

3.0 REVIEWS SUMMARY

A. INITIAL DLC SUBMITTAL

QUALIFICATIONS STATUS: Qualified.
DEFICIENCIES/CONCERNS: Motorettes of insulation only were tested.

B. EDS REVIEW

QUALIFICATIONS STATUS: Not Reviewed.

C. FRC/NRC REVIEW

QUALIFICATIONS STATUS: (II.a) Qualification Not Established.
DEFICIENCIES/CONCERNS: Inadequate qualification documentation, inadequate aging degradation evaluation, qualified life, inadequate duration of temperature/pressure exposure.

D. DLC REVIEW

QUALIFICATIONS STATUS: (II.c) Equipment Satisfies All the Requirements Except Qualified Life and Replacement Schedule.
DEFICIENCIES/CONCERNS: Qualified life of parts and their replacement frequency are currently being evaluated.

4.0 NRC/FRC QUALIFICATION CATEGORY

		FRC	DLC
I.a	EQUIPMENT QUALIFIED		
I.b	EQUIPMENT QUALIFICATION PENDING MODIFICATION		
II.a	EQUIPMENT QUALIFICATION NOT ESTABLISHED	X	
II.b	EQUIPMENT NOT QUALIFIED		
II.c	EQUIPMENT SATISFIES ALL REQUIREMENTS EXCEPT QUALIFIED LIFE OR REPLACEMENT SCHEDULE JUSTIFIED		X
III.a	EQUIPMENT EXEMPT FROM QUALIFICATION		
III.b	EQUIPMENT NOT IN THE SCOPE OF THE QUALIFICATION REVIEW		
IV.	DOCUMENTATION NOT MADE AVAILABLE		

EXPLANATION OF DIFFERENCES IN QUALIFICATION CATEGORY:

The difference in qualification category is due to the following reasons:

- a. Some information was not available previously for the NRC/FRC review.
- b. The motor splices were changed during the Second Refueling Outage.

5.0 REVIEW OF NRC/FRC DEFICIENCIES

- A. DEFICIENCY CONCERN: Evidence of qualification of motor to lead splice materials.

DISCUSSION/PROPOSED ACTION: The existing motor splices were replaced during the Second Refueling Outage with qualified Kerite #DS7018. The Duquesne Light Company EQ File #2025 contains qualification documentation.

- B. DEFICIENCY CONCERN: Evidence of qualification for lubricant-bearing-seal system.

DISCUSSION/PROPOSED ACTION: Type of bearings and lubricants are being investigated and estimated life will be evaluated according to IEEE Standard 334-1974.

- C. DEFICIENCY CONCERN: Inadequate aging degradation evaluation.

DISCUSSION/PROPOSED ACTION: The aging evaluation is currently being performed.

6.0 INITIAL DLC REVIEW DOCUMENTS

1. SUMMARY SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)
2. SCEW SHEETS (Reference 79-01B DLC Submittal, October 15, 1981)

7.0 OTHER REFERENCE DLC DOCUMENTS

1. JUSTIFICATION FOR CONTINUED OPERATION - (Reference 30-Day 1983 Response, October 15, 1983)

8.0 DLC ACTION PLAN

Duquesne Light Company is currently evaluating the motors constituent parts for thermal, radiation and wear aging. As soon as this is done, the motor's qualified life and replacement cycle will be determined.