

Bechtel Associates Professional Corporation

SUBJECT: MCAR 25 (issued 11/20/78)

Seismic and Environmental Component Qualification

INTERIM REPORT 4

DATE: July 5, 1979

PROJECT: Consumers Power Company
Midland Plant Units 1 & 2 Rec: 1 Job 7220

Status of Corrective Action in Process

1. Attached is Revision 8 of the qualification test status report (QTSR). This document provides pertinent information concerning the status of the qualification test documentation rereview by engineering. As noted in the QTSR status column, six NCRs have been dispositioned. They are NCRs 1753, 1755, 1762, 1765, 1776, and 1784. The status of review for several additional tests has changed from "closed" to "inprocess", since Revision 7. Vertical revision bars have been added adjacent to these as well as all other changes.
2. The remaining 45 open NCRs are being tracked weekly. The responsible discipline engineers and procurement expeditors are following up with the vendors to check their progress in submitting the documentation needed to close out the open items. An example of the coordination effort in process is in the area of valve suppliers. Seven orders (M-117, M-120, M-123A, M-123B, M-123C, M-125A, and M-125C) are open due to the motor operator supplier (Limitorque) not having supplied the valve suppliers with the qualification information. Engineering and procurement representatives are working actively with the suppliers to obtain adequate qualification test reports in a uniform manner.
3. To date, only the previously-identified Foxboro transmitters were unable to meet qualification requirements in the final analysis.
4. As previously reported, interface and review requirements for qualification type documentation requirement is being expanded to include Quality Engineering review. In the past 3 months, 21 supplier submittals containing 26 documents have been interfaced with and reviewed by the Quality Engineering group.
5. In addition, Bechtel Power Corporation created a task force to investigate and recommend action on a corporate level, based on problems experienced by current projects. The task force has

322 107

7 907 100538

A

Bechtel Associates Professional Corporation

MCAR 25

Interim Report 4

Page 2

released guidance, based on published documents and standards, written to acquaint engineers and designers with criteria to implement qualification requirements when specifying safety-related equipment. The final goal is to obtain vendor documents that will demonstrate the equipments capability to perform as intended in a specified design environment. This guide is intended to be used for new procurements.

Submitted by: CRAIG DACE

Approved by: W. R. Castledine

Concurrence by: E. Rumbaut

RZB/jet

7/2/4

Attachment: QTSR Revision 8 dated 6/8/79

322 100

QUALIFICATION TEST STATUS REPORT
Revision 8
6/8/79

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
A-15, Rev 6 (8/23/76)	Decontamina- tive surfacer (Ameron)	Seismic-none* Environmental- none*	Subparagraphs 3.0 (Specification G-23 and ANSI N101.4), 5.1 (ANSI N101.2), and 10.0 (inspection and tests)			Start Ship: shipped to field Rerev: Not required
A-41/A-41, Rev 4 (4/12/77)	Field priming and/or top coating of of steel surfaces	Seismic-none* Environmental-none*	Subparagraph 3.2 (ANSI N101.2 and N101.4)			Start Ship: shipped Rerev: Not required. This order handled by the field
A-45/A-45, Rev 2 (11/4/76)	DBA environ- mental testing (ORNL)	Seismic-none* Environmental-none*	Subparagraph 3.0 test procedures (ANSI N101.2)			Start Ship: NA Rerev: Not required
C-018/C-18, Rev 6 (1/25/75)	Field erected tanks (Graver Tank)	Seismic-none* Environmental-none*	Subparagraphs 5.1.3 (ASME Code, Sec- tion III, Subsection NC), 5.3.4; Appendix A, ppg. 11, 12; Appendix F, Paragraph 2.3 (design requirements); Article 4.0 (ASME Code, Section III, Subsection NC)	Results only	C-18-131-3, 5/14/79, in review	Start Ship: 9/13/78A Rerev: Not required
C-042/C-42, Rev 2 (6/9/78)	New and spent fuel racks (Wachter)	Environmental- none* Seismic-IEEE Std 344-75*	Appendix F, Article 3.0 Subparagraphs 1.1.6, 3.1.2, 3.1.4, 4.2.4, 5.2.10, 5.3.10, 5.3.12, 9.2; Appendix B, Article 2.2 (IEEE Std 344-75) G-321-D 7.0-PAR	Action by 6/15/79 (new fuel racks) C-42-31-2 5/22/79 in review	Action by 6/15/79 (new fuel racks) C-42-31-2 5/22/79 in review	Start Ship: 7/15/79F Rerev: Not required
		Environmental- none*	Article 6.2, Appendix C (criticality and thermal- hydraulic criteria - spent fuel racks only)	C-42-29-1 4/2/79 Level 2 (t-h analysis)	C-42-29-1 4/2/79 Level 2 (t-h analysis)	

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
C-044/C-44, Rev 3 (8/9/77)	Fuel pool gates (W.J. Woolley)	Seismic- IEEE Std 344-75*	Paragraphs 2.3 (IEEE Std 344-75), 5.4, 5.4.2 (G-7, Rev 5), 5.5.3, 5.5.4, 5.6; Appendix D, Paragraph 2.2 (IEEE Std 344-75)	C-42-6-2 4/12/79 Level 1 (criticality analysis)	C-42-6-2 4/12/79 Level 1 (criticality analysis)	Start Ship: 5/1/79A Rerev: Inprocess
C-046/C-46, Rev 6 (8/8/78)	Fuel transfer tube (Pathway- Bellows)	Environmental- none*	Articles 5.2 (rad doses), 5.3.2 Article 5.1.i	C-44-25-1, 7/27/78, Level 1 Action by 2/1/80	C-44-25-1, 7/27/78, Level 1 Action by 2/1/80	Start ship: 3/30/79A
C-050B/C-50, Rev 13 (6/5/69)	Reactor building locks and hatches (W.J. Woolley)	Seismic-none*	Article 4.3 (rad doses) Article 7.4	C-44-25-1, 7/27/78, Level 1 Action by 8/15/79 (seals)	C-44-25-1, 7/27/78, Level 1 Action by 8/15/79 (seals)	Telecopy rec'd from vendor 3/29/79 (not approve'd)
				C-50B-12-7, 4/13/79, Level 1	C-50B-12-7, 4/13/79, Level 1	Start Ship: 10/20/78A Rerev: In- process. NCR 1746
				C-50B-13-8, 12/4/78, Level 1	C-50B-13-8, 12/4/78, Level 1	
				C-50B-17-13, 3/13/79, Level 1	C-50B-17-13, 3/13/79, Level 1	
				C-50B-18-10, 3/13/79, Level 1	C-50B-18-10, 3/13/79, Level 1	

322 110

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
C-70/C-70, Rev 3 (10/31/74)	Hydraulic shock sup- pressors (ITT Grinnell)	Environmental- none*	Article 7.4 (design requirements)	C-50B-138-6, 12/4/78, Level 1 C-50B-141-4, 12/4/78, Level 1 Action by 8 6/15/79	C-50B-138-6, 12/4/78, Level 1 C-50B-141-4, 12/4/78, Level 1 Action by 8 6/15/79	Start Ship: 10/1/74A Rerev: In- process. NCR 1747
		Seismic-none*	Articles 4.2, 9.1 (ASME Code, Section III, Subsection NF, 1974)	C-70-114-3, 5/4/78, Level 1	C-70-114-3, 5/4/78, Level 1	Per Telecom 10/3/78, standards updated for revisions by ITT
		Environmental- none*	Article 5.0 (environ- mental conditions) G-321-D 26.0-PAR (performance tests)	C-70-205-2, 12/19/78, Level 1 C-70-328-2 1/24/79, Level 3 C-70-333-2, 4/3/79, Level 1 C-70-332-3, 4/26/79, Level 1	C-70-205-2, 12/19/78, Level 1 C-70-328-2, 1/24/79, Level 3 Action by 8 6/30/79 Action by 8 6/30/79	Hydro test submitted during delivery of snubber. Report on seal life to be submitted.
E-6/E-6, Rev 7 (10/2/74)	480V load center unit substations (General Electric)	Seismic- IEEE Std 344-71* IEEE Std 344-75**	Articles 4.1 (IEEE Std); 5.6 (G-7, Rev 4) G-321-D 7.0-PANX	Low voltage switchgear E-6-35-1, 11/9/77, acceptable (IEEE Std 344-75)	E-6-53-1, 1/4/76, acceptable E-6-81-2, 3/14/79, Level 3	Start Ship: 2/7/77A Rerev: In- process. NCR 1748
				Transformers E-6-80-1, 10/5/77, acceptable (IEEE Std 344- 75)		

322 111

<u>MR/ Specification (Original P.O. Date)</u>	<u>Item and Manufacturer</u>	<u>Issued IEEE Qualification Standards* and FSAR Qualification Commitments**</u>	<u>Specification Qualification Reference</u>	<u>Qualification Test Procedure</u>	<u>Qualification Test Results</u>	<u>Status</u>
		Environmental- IEEE Std 323-74*	Paragraphs 4.1, 8.1.5 (ANSI C37.20, Section 8-2.2.2, temperature and water tight tests)			IEEE Std 323-71 not part of contract; engineering in process of contacting vendor.
E-7/E-7, Rev 6 (6/14/76)	480V motor control centers (Gould)	Seismic- IEEE Std 344-75*/**	Article 4.0 and Appendix A, Paragraph 1.4 (IEEE Std; G-7, Rev 4; G-29, Rev 2; and G-30, Rev 1.); G-29, Article 1.0 (IEEE Std 344-75); G-30, Article 1.0 (IEEE Std 344-75) G-321-D 7.0-PANR	E-7-58-9, 3/30/79, in review	E-7-58-9, 3/30/79, in review	Start Ship: 12/1/77A Add-on Shipment: 12/29/78F Rerev: Inprocess NCR 1749
		Environmental- IEEE Std 323-74*/**	Article 4.0, 8.4 (IEEE Std G-28, Rev 2, Paragraph 1.6.1 (IEEE Std 323-74), G-30 Rev 1, Paragraph 1.6.1 (IEEE Std 323-74) G-321-D 26.1-PANR (test results)	E-7-101-1, 10/7/77, acceptable	E-7-129-3, 3/21/79, in review	
E-11/E-11, Rev 8 (9/27/74)	Battery chargers (SCI)	Seismic- IEEE Std 344-71* IEEE Std 344-75**	Paragraphs 4.1, 5.3 (IEEE Std and G-7, Rev 4) G-321-D 7.0-PANR	E-11-7-2, 7/18/77, Level 1 (IEEE Std 344-75) E-11-20-1, 3/14/79, Level 1	E-11-18-1, 2/22/78, Level 1 E-11-20-1, 3/14/79, Level 1	Start Ship: 1/6/78A Rerev: In- process. NCR 1750
		Environmental- IEEE Std 323-74*	Subparagraph 6.1.3, (temperature requirements)			IEEE Std 323-71 not part of contract; letter to vendor 3/26/79

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
E-12/E-12, Rev 5 (8/25/76)	Station batteries (Exide)	Seismic- IEEE Std 344-75*/**	Paragraph 10.1 (IEEE Std 344 and G-7, Rev 5); G-7, Paragraph 2.2 (IEEE Std 344-75) G-321-D 7.0-PANR	E-12-38-3, 11/28/78, Level 3		Start Ship: 11/6/78A Rerev: Not required
		Environmental- IEEE Std 323-74*/**	Article 10.4 (IEEE Std 323)	E-12-38-3, 11/28/78, Level 3		VSCRs sent to supplier 12/78 and 1/79.
E-13/E-13, Rev 7 (9/11/74)	DC distribu- tion centers (Westing- house)	Seismic- IEEE Std 344-71*/**	Articles 4.0, 5.3 (G-7, Rev 4) G-321-D 7.0-PAR (certification only)	E-13-25-1, 6/11/77, acceptable (IEEE Std 344-75)	E-13-29-3, 9/13/78, Level 1	Start Ship: 9/27/78A Rerev: In- 8 process. NCR 1751
		Environmental- IEEE Std 323-74*	None			IEEE Std 323-71 not part of contract; letter to vendor 2/27/79 requesting ANSI and IPCEA certification
E-19/E-19, Rev 6 (10/11/74)	Preferred ac power supplies (SCI)	Seismic- IEEE Std 344-71* IEEE Std 344-75**	Paragraphs 4.1 (IEEE Std), 5.3 (G-7, Rev 4) G-321-D 7.0-PANR	E-19-17-3, 9/19/77, Level 1	E-19-32-1, 3/16/78, Level 1	Start Ship: 1/6/78A Rerev: In- 8 process. NCR 1752
		Environmental- IEEE Std 323-74*	Paragraph 4.1 (IEEE Standard)			IEEE Std 323-71 not part of contract; letter to vendor 3/9/79 requesting verification of compliance with IEEE Std 323-71 and IPCEA S-61-402.

322 113

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
E-20/E-20, Rev 5 (8/6/74)	Cable pene- trations (Amphenol Sams)	Seismic- IEEE Std 344-75*/**	Subparagraphs 4.1.12 (IEEE Std 344) 5.5 (G-6, Rev 4) G-21-D 7.0-PAR	E-20-114-4, 10/19/77, Level 1. Procedure combines seismic and environ- mental testing per IEEE Std 344-75, IEEE Std 323-74, and IEEE Std 317-72.	Seismic results unacceptable. E-20-163-2, 1/22/79, Level 3	Start Ship: Flanges: 7/28/76A Assemblies: 2/10/78A Rerev: Complete. Meeting held 3/14/79 to discuss problems with the DQT. Resolution by 7/30/79F.
		Environmental- IEEE Std 323-74*	Subparagraph 4.1.11 (IEEE Std 323)		E-20-158-1 submitted for info- mation only (4/18/78).	
		IEEE Std 317-72*	Subparagraphs 4.1.10, 6.5.1, 7.1.1, 7.1.2, 7.2.1, 7.3.1 (IEEE Std 317-72)	Supplementary environmental Test Proce- dure E-20-162-4, 4/12/79, Level 1	Supplementary Environmental Test Results E-20-162-4, 4/12/79, Level 1 E-20-166-1, 4/12/79, Level 1 E-20-167-1, 4/12/79, Level 2 E-20-168-1, 4/12/79, Level 2 E-20-169-1, 4/12/79, Level 1	

322 11

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
E-21/E-21, Rev 7 (6/20/74)	5,000V and 8,000V power cable (Kerite)	Seismic- none* Environmental- IEEE Std 323-74* IEEE Std 383-74*	Paragraph 5.4 (service design requirements), no reference to IEEE standards	E-21-8-1, 8/5/76, Level 1	E-21-8-1, 8/5/76, Level 1	Start Ship: 9/22/76A Rerev: Complete. NCR 1753: Dispositioned 8 2/13/79.
E-22/E-22, Rev 3 (4/2/76)	600V power cable (Essex)	Seismic- none* Environmental- IEEE Std 323-74** IEEE Std 383-74*	Appendix A (engineering data), no reference to IEEE Standards Subparagraphs 8.2.3, 8.3, and 12.3.3 (IEEE Std 383-74) G-321-D 26.2-PANR	E-22-40-1, 2/16/79, Level 1	E-22-5-1, 8/18/76, Level 1 E-22-6-1, 7/17/76, Level 1 E-22-8-3, E-22-9-3, E-22-11-3, E-22-12-2, E-22-14-2, E-22-15-2, E-22-17-2, E-22-18-2, 3/12/79, Level 2 E-22-10-3, 5/3/77, acceptable E-22-13-1, E-22-16-1, 3/15/77, acceptable E-22-19-1 through E-22-22-1, 4/18/77, acceptable	Start Ship: 2/1/77A Rerev: In- 8 process. NCR 1754 Cable sent to field for inspection 1/2/79.

322 115

<u>MR/ Specification (Original P.O. Date)</u>	<u>Item and Manufacturer</u>	<u>Issued IEEE Qualification Standards* and FSAR Qualification Commitments**</u>	<u>Specification Qualification Reference</u>	<u>Qualification Test Procedure</u>	<u>Qualification Test Results</u>	<u>Status</u>
					E-22-23-1, E-22-24-1, 6/16/77, acceptable	
					E-22-26-2, E-22-27-3, E-22-29-1, 8/18/77, acceptable	
					E-22-28-1, 7/29/77, Level 1	
					E-22-30-1, E-22-31-1, 10/3/77, acceptable	
E-26/E-26, Rev 4 (10/29/76)	600V control cable (Rockbestos)	Seismic- none*				Start Ship: 7/26/77A Rerev: Complete. NCR 1755: Dispositioned 8 2/13/79.
		Environmental- IEEE Std 323-74*/** IEEE Std 383-74*	Article 4.0 (IEEE Std 323-74) Article 4.0, 7.3, 11.3 (IEEE Std 383-74) G-321-D 26.2-PANR	E-26-27-2, 2/12/79, Level 1	E-26-27-2, 2/12/79, Level 1	

322 116

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
E-45/E-45, Rev 3 (9/26/77)	a. 480Vac dis- tribution panels 120Vac and 125Vdc distribution panels (Square D)	Seismic- IEEE Std 344-75*/**	Articles 4.0, 5.3 (IEEE Std 344-75 and G-7, Rev 5); G-7, Para- graph 2.2 (IEEE Std 344- 75); G-30, Rev 1, Paragraphs 1.1.1, 1.6, 1.7 (IEEE Std 344-75) G-321-D 7.0-PAR (prototype test only)	E-45-22-3, 8 in review	E-45-22-3, 8 in review	Start Ship: 11/10/78A Rerev: In- process. 8 NCR 1756.
		Environmental- IEEE Std 323-74*/**	Articles 4.0, 5.2, 12.2.1 (IEEE Std 323-74); G-30, Rev 1, 1.6 (IEEE Std 323-74)	E-45-10-3, 6/12/78, Level 1	E-45-10-3, 6/12/78, Level 1	
	b. 120Vac preferred panels	Seismic- IEEE Std 334-75*/**	Articles 4.0, 5.3 (IEEE Std 344-75 and G-7, Rev 5); G-7, Para- graph 2.2 (IEEE Std 344-75); G-30, Rev 1, Paragraphs 1.1.1, 1.6, 1.7 (IEEE Std 344-75) G-321-D 7.0-PAR (prototype test only)	E-45-54-3, 8 4/24/79, Level 1	E-45-54-3, 8 4/24/79, Level 1	Start Ship: 1/12/79A VPCR sent to Supplier 1/79
		Environmental- IEEE Std 323-74*/**	Articles 4.0, 5.2, 12.2.1 (IEEE Std 323-74); G-30, Rev 1, 1.6 (IEEE Std 323-74)	E-45-51-2, 2/1/79, Level 1	E-45-51-2, 2/1/79, Level 1	
	c. 120Vac control and instrument panels	Seismic- IEEE Std 344-75*/**	Articles 4.0, 5.3 (IEEE Std 344-75 and G-7, Rev 5); G-7, Para- graph 2.2 (IEEE Std 334-75); G-30, Rev 1, Paragraphs 1.1.1, 1.6, 1.7 (IEEE Std 344-75) G-321-D 7.0-PAR (prototype test only)	E-45-55-3, 8 4/24/79, Level 1	E-45-55-3, 8 4/24/79, Level 1	Start ship: 12/21/78A
		Environmental- IEEE Std 323-74*/**	Articles 4.0, 5.2, 12.2.1 (IEEE Std 323-74); G-30, Rev 1, 1.6 (IEEE Std 323-74)	E-45-63-1, 1/17/79, Level 2	E-45-63-1, 1/17/79, Level 2	

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
	d. 125Vdc distribution panels	Seismic- IEEE Std 344-75*/**	Articles 4.0, 5.3 (IEEE Std 344-75 and G-7, Rev 5); G-7, Para- graph 2.2 (IEEE 344-75); G-30, Rev 1, Paragraphs 1.1.1, 1.6, 1.7 (IEEE Std 344-75) G-321-D 7.0-PANR (prototype test only)	E-45-53-3, 8 4/24/79, Level 1	E-45-53-3, 8 4/24/79, Level 1	Start ship: 2/7/79A
		Environmental- IEEE Std 323-74*/**	Articles 4.0, 5.2, 12.2.1 (IEEE Std 323-74); G-30, Rev 1, 1.6 (IEEE Std 323-74)	E-45-52-1, 11/30/78, Level 1	E-45-52-1, 11/30/78, Level 1	
E-49/E-49, Rev 3 (10/31/77)	Station battery fused dis- connect switches (Gould)	Seismic- IEEE Std 344-75*/** Environmental- IEEE Std 323-74*/**	Articles 4.0 (IEEE Std), 7.1.1 (IEEE Std 344-75), 7.1.2 (G-7, Rev 5) G-321-D 7.0-PANR Articles 4.1 (IEEE Std), 7.2.1 (IEEE Std 323-74) G-321-D 26.2-PANR	E-49-2-3, 9/26/78, Level 1	E-49-2-3, 9/26/78, Level 1 E-49-7-2, in review	Start Ship: 5/26/78A Rerev: In- 8 process. NCR 1757
E-051B/E-051B, Rev 1 (11/4/77)	Instrument ac power trans- formers and regulator transformers (SCI)	Seismic- IEEE Std 344-75*/** Environmental IEEE Std 323-74*/**	Articles 4.0, 5.2, 11.2 (IEEE Std 344-75); G-7 Rev 5, Paragraph 2.2 (IEEE Std 344-75); G-30, Rev 1, Paragraphs 1.11, 1.6, 1.7 (IEEE Std 344-75) G-321-D 7.0-PANR Articles 4.0, 11.2 (IEEE Std 323-74) G-321-D 26.2-PANR (certified test reports before shipment)	E-51B-15-2, 8 11/6/78, Level 1 (regulator transformer) To be resubmitted E-51B-13-5, 2/21/79, Level 1 (regulator transformer)	Action by 6/30/79 Action by 6/30/79	Start Ship: 8 11/16/79F Rerev: Not required

<u>MR/ Specification (Original P.O. Date)</u>	<u>Item and Manufacturer</u>	<u>Issued IEEE Qualification Standards* and FSAR Qualification Commitments**</u>	<u>Specification Qualification Reference</u>	<u>Qualification Test Procedure</u>	<u>Qualification Test Results</u>	<u>Status</u>
E-56/E-56, Rev 1 (6/22/78)	Coax, triax, and twinax cable (Rockbestos)	Seismic- none*				Start Ship: 8 6/30/79F Rerev: Not required
		Environmental- IEEE Std 323-74*/** IEEE Std 383-74*	Articles 4.0, 10.5.5 (IEEE Std 323-74); Appendix A (engineering data) Articles 4.0, 7.1, 7.3, 7.4, 10.5.4 (IEEE Std 383-74) G-321-D 26.0-PANR (approval before shipment)	E-56-8-3, 2/21/79, Level 2	E-56-8-3, 2/21/79, Level 2	
E-060/E-60, Rev 1 (8/17/78)	Instrument and special pur- pose cable (Rockbestos)	Seismic- none*				Start Ship: 1/26/79A Rerev: Not required
		Environmental- IEEE Std 323-74*/** IEEE Std 383-74*	Articles 4.0, 11.5.5 (IEEE Std 323-74) Appendix A (engineering data) Articles 4.0, 7.0, 7.1 7.3, 7.4, 11.5.4 (IEEE Std 383-74) G-321-D 26.2-PANR (test results)	E-60-21-2, 1/3/79, Level 3 E-60-21-2, 1/3/79, Level 3	Test to start 3/2/79 (120 day duration)	
E-205/E-205, Rev 8 (4/24/74)	Metalic switch (ITE)	Seismic- IEEE Std 344-71*/**	Articles 4.0, 5.3 (G-7, Rev 4) G-321-D 7.0-PANR	Not required per engineering	E-205-222-1, 6/7/76, acceptable (certifica- tion only)	Start Ship: 12/9/76A Rerev: In- 8 process. NCR 1758
		Environmental- IEEE Std 323-74*	Article 4.1 (ANSI C37.09, Section 4.15, requirements for temperature and total expected life)		E-205-467-1, 3/8/79, In review (certification only)	

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
J-204/J-204, Rev 6 (5/3/74)	Major instrument package (Foxboro)	Seismic- IEEE Std 344-71*/** (instrument racks, rack mounted instrumentation and power supplies)	Subparagraphs 4.1.3 (IEEE Std 344-71); Subparagraph 5.1.2 (G-6, Rev 4 and G-7, Rev 4); 6.1 G-321-D 7.0-PAR	J-204-33-1, in review 8 J-204-244-1, in review	J-204-33-1, in review 8 J-204-244-1, in review	Start Ship: 11/24/78A Rerev: In- process. NCR 1761. Discrepancy has been resolved by deleting field transmitters from P.O. J-204 and issuing new P.O. J-245 in 2/79A.
		IEEE Std 344-71* IEEE Std 344-75** (panel mounted electronic controllers)		J-204-33-2, 2/26/79, acceptable J-204-147-1, 9/8/76, acceptable J-204-176-1, 9/21/77, acceptable J-204-230-1, 4/18/78, Level 2 (IEEE Std 344-75)	J-204-33-2, 2/26/79, acceptable J-204-147-1, 9/8/76, acceptable J-204-176-1, 9/21/77, acceptable	Vendor requalifi- cation in process. To be resolved late 1979. Currently being tested. Results by 9/30/79.
		Environmental- IEEE Std 323-74*	Subparagraph 4.1.2 and 6.1 (IEEE Std 323-71), Subparagraph 5.1.1 (J-1564)	J-204-189-1, 6/27/77, information only, rack mounted modules only (IEEE Std 344-75 and IEEE Std 323-74)		
		IEEE Std 383-74*	Subparagraphs 4.1.6 and 7.3 (IEEE Std G-321-D 26.0-PANR (test results)			

<u>Mk./ Specification (Original P.O. Date)</u>	<u>Item and Manufacturer</u>	<u>Issued IEEE Qualification Standards* and FSAR Qualification Commitments**</u>	<u>Specification Qualification Reference</u>	<u>Qualification Test Procedure</u>	<u>Qualification Test Results</u>	<u>Status</u>
J-207/J-207, Rev 4 (3/11/77)	Engineering safety fea- tures actuation system (Vitro Lab)	Seismic- IEEE Std 344-75*/**	Section 2B (IEEE Std 344-75) Section E2 (G-7, Rev 5) G-321-D 7.0-PAR	J-207-16-3, 2/13/78, Level 1	J-207-85-3, 10/23/78, Level 1	Start Ship: 6/30/78A Rerev: Complete. NCR 1762: Dispositioned 5/4/79.
		Environmental- IEEE Std 323-74*/** IEEE 383-74*	Section 2B, 5E1 (IEEE Std 323-74) Article 4.0	J-207-18-3, 10/19/77, Level 1 (service conditions)	J-207-222-1, 10/19/78, Level 1	
				J-207-16-3, 8 2/13/78, Level 1 (radiation)	J-207-16-3, 8 2/13/78, Level 1	
			Section 2B (IEEE Std 383-74) G-321-D 26.0-PAR			Certification of compliance shipped to field with ESFAS docu- mentation package.
J-214/J-214, Rev 1 (9/13/78)	Seismic instruments (Terra Technology)	Seismic- IEEE Std 344-75*/**	Paragraphs 2.2 (IEEE Std 344), 3.3.1 (IEEE Std 344-75), Subparagraphs 4.1.2, 7.1.4 (G-6, Rev 5 and G-7, Rev 5), and Article 6.1 (design qualification) Attachment M to MR, Sh 2	J-214-1-1, 2/5/79, Level 2	J-214-1-1, 2/5/79, Level 2	Start Ship: 7/1/79F Rerev: Not required. Reviewed by civil and found acceptable.
		Environmental- none*	Attachment M to MR (J-1564, Rev 0)	Not required	Not required	

322 122

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
J-229/J-563, Rev 3 (2/14/77)	Temperature switches (Thermowells) (United Electric Controls)	Seismic-none*	Attachment E to MR (J-1564, Rev 2)	Not required	Not required	Start Ship: 5/18/79A Rerev: Complete. Bulk shelf items previously qualified. No further qualification necessary.
		Environmental- none*	Attachment E to MR (J-1564, Rev 2)	Not required	Not required	
J-232/J-435, Rev 3 (3/29/77)	Orifice plates for nuclear service (Vickery- Simms)	Seismic-none*	Paragraphs 1.1.1, (ASME Code, Section III, Division 1, Classes 2 or 3)	Not required	Not required	Start Ship: 11/11/79F Rerev: Complete. Bulk shelf items previously qualified. No further qualification necessary.
		Environmental- none*	Attachment C to MR (data sheets)	Not required	Not required	
J-233/J-563, Rev 3 (11/24/76)	Resistance temperature detector assemblies (Thermowells) (Weed Instru- ments)	Seismic-none*	Paragraphs 1.1.1, 2.2, Attachment E to MR (J-1564, Rev 3)	Not required	Not required	Start Ship: 11/14/77A Rerev: Complete. Bulk shelf items previously qualified. No further qualification necessary.
		Environmental- none*	Attachment E to MR (J-1563, Rev 0)	Not required	Not required	
J-241, Rev 5 (9/3/76)	Pressure gages, nuclear service (field purchase) (issued for bids)	Seismic- IEEE 344-75*	Paragraphs 2.2, 6.1, and Attachment 4 to MR (J-1564, Rev 1) G-321-D 7.0-PAR	Field purchase ETL RPT 4947 2/13/73 acceptable	Field purchase ETL RPT 4947 2/13/73 acceptable	Start Ship: NA Rerev: Complete.

<u>MR/ Specification (Original P.O. Date)</u>	<u>Item and Manufacturer</u>	<u>Issued IEEE Qualification Standards* and FSAR Qualification Commitments**</u>	<u>Specification Qualification Reference</u>	<u>Qualification Test Procedure</u>	<u>Qualification Test Results</u>	<u>Status</u>
		Environmental- none*	Paragraph 4.1 and Attachment 4 to MR (J-1564, Rev 1)	Field purchase	Field purchase	
J-242/J-425, Rev 3 (4/29/77)	Venturi tubes, nuclear service (B.I.F.)	Seismic-none*	Appendix D, Article 2.4 of J-425, Rev 5			Start Ship: 7/21/78A Rerev: 8 Complete. Bulk shelf items previously qualified. No further quali- fication necessary.
		Environmental- none*	Appendix D, Article 3.0 of J-425, Rev 1 and Attachment C to MR (data sheets)	Not required	Not required	
J-245 Rev 0 (3/15/79)	Field Transmitters (Rosemount)	Seismic- IEEE Std 344-75*	Paragraph 5.4.1a, Appendix A			Start Ship: 8/18/79F
		Environmental- IEEE Std 323-71** IEEE Std 323-74* (see response to RG 1.89 FSAR Appendix 3A)	Paragraph 5.3.2, Attachment 9 to MR			
J-253/J-253, Rev 3 (6/7/74)	Atmospheric steam dump valves (CCI)	Seismic-none*	Paragraph 5.2 (seismic criteria) G-321-D 7.0-PAR	J-253-23-4, 7/28/76, acceptable	J-253-23-4, 7/28/76, acceptable	Start Ship: 12/1/77A Rerev: Complete
		Environmental- none*	Paragraph 5.1 (environmental criteria)	Not required	Not required	
J-255 A, J-255, Rev 8 (7/8/74)	Nuclear services control valves (Vulcan (A) and CCI (B))	Seismic-none*	Paragraph 5.3, 5.4 (seismic criteria); G-9, 4.2 (IEEE Std 344); 7.1 (IEEE Std) G-321-D 7.0-PAR	J-255A-19-1, 12/23/75, Level 1	J-255A-19-1, 12/23/75, Level 1	Start Ship: 6/5/78A Rerev: In- process. NCR 1763

<u>MR/ Specification (Original P.O. Date)</u>	<u>Item and Manufacturer</u>	<u>Issued IEEE Qualification Standards* and FSAR Qualification Commitments**</u>	<u>Specification Qualification Reference</u>	<u>Qualification Test Procedure</u>	<u>Qualification Test Results</u>	<u>Status</u>
J-255B/ J-255, Rev 8 (7/9/74)		Environmental- none*	Paragraph 5.2 (environmental criteria) and Attachment F to J-255 (G-9, Rev 2)	J-255B-25-2, 8/31/76, acceptable	J-255B-25-2, 8/31/76, acceptable	Start Ship: 8/1/76A Rerev: In- process
				Action by 8/15/79 8	J-255B-62-3, 4/21/79, Level 3 (informational document, and actual test report).	This report covers Rotork valve operators.
J-256/J-603, Rev 6 (7/16/76)	Nuclear service solenoid valves (Target Rock Corp)	Seismic- IEEE Std 344-75*	Article 4.0 (IEEE Std 344); Appendix A Article 2, Appendix I (design limits qualification)	J-256-45-3, 7/24/78, Level 1	J-256-45-3, 7/24/78, Level 1	Start Ship: 6/78A Rerev: In- process. NCR 1764
				J-256-71-2, 7/24/78, Level 1	Action by 8/15/79 8	Discrepancy on J-256-45-3 resolved by J-256-71-2.
		Environmental- IEEE Std 323-74*/** IEEE Std 382-72*/**	Article 4.0 (IEEE Std 323); Paragraph 5.1 and Appendix J (environmental criteria)	J-256-42-1, 12/8/77, acceptable	J-256-42-1, 12/8/77, acceptable	
			Article 4.0 (IEEE Std 382); Paragraph 5.1 and Attachment G (G-29, Rev 1)	J-256-42-1, 12/8/77, acceptable	J-256-42-1, 12/8/77, acceptable	J-256-42-1 request to vendor, R.L. Castleberry to R. Wells (TRC) 1/24/79.

322 125

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
J-258/J-605, Rev 8 (7/29/75)	Nuclear service butterfly control valves (Fisher Controls)	Seismic- IEEE Std 344-75*/**	Article 4.0 (IEEE Std 344-75), Paragraph 5.1; Appen- dix I, Paragraph 4.2 (IEEE Std 344)	J-258-21-1, 6/17/76, acceptable	J-258-21-1, 6/17/76, acceptable	Start Ship: 8 5/79A Rerev: Complete. NCR 1765: Dispositioned 8 4/20/79.
		Environmental- IEEE Std 323-74*/** IEEE Std 382-72*	Paragraph 5.1 and Appendix L (environmental criteria) no reference to IEEE Standards	J-258-39-1 through J-258-55-1, 3/20/78, Level 1	J-258-39-1 through J-258-55-1, 3/20/78, Level 1	Refer to letter from Fisher controls 10/18 78 (File J-258-PL)
			Article 4.0 (IEEE Std 382); G-9, Paragraphs 4.2 (IEEE Std 382) Paragraphs 4.0, 7.13 IEEE 382-72)	J-258-40-1, 4/18/78, Level 1 (Limitorque operators)	J-258-40-1, 4/18/78, Level 1 (Limitorque operators)	ITT actuator qualifications to be submitted; letter from Fisher 3/6/79 requesting \$600 for liner and ITT actuator test reports.
J-275/J-275, Rev 3 (8/17/77)	Engineering safety isolation system (CCC)	Seismic- IEEE Std 344-75*/**	Paragraphs 2.2, 3.3.3 (IEEE Std 344-75); Section 4.1.3 (G-7, Rev 5) G-321-D 7.0-PAR	J-275-68-2, 6/7/78, Level 1	J-275-58-2, 6/27/78, Level 1	Start Ship: 4/1/78A Rerev: In- process. NCR 1766
		Environmental- IEEE Std 323-74*/**	Paragraphs 2.2, 3.3.3, 5.1 (IEEE Std 323-74); Subparagraph 4.1.1 (J-156)	J-275-75-2, 7/5/78, Level 1	J-275-76-1, 6/28/78, Level 1	
		IEEE Std 383-74*	Paragraphs 2.2, 6.7.1 (IEEE Std 383-74) G-321-D 26.2-PANR		J-275-79-1, 7/5/78, Level 1	
					J-275-80-1, 7/11/78, Level 1	

322 126

<u>MR/ Specification (Original P.O. Date)</u>	<u>Item and Manufacturer</u>	<u>Issued IEEE Qualification Standards* and FSAR Qualification Commitments**</u>	<u>Specification Qualification Reference</u>	<u>Qualification Test Procedure</u>	<u>Qualification Test Results</u>	<u>Status</u>
					J-275-81-1, 7/13/78, Level 1 (Certificate of compliance)	Request to Vendor 11/6/78. Response by 7/79F. 8
J-278/J-278, Rev 3 2/6/79	Room water level safety monitoring system	Seismic IEEE Std 344-75*/**	Section 2.2, 3.3.3, 6.2.5, 6.4.4, 6.6.4 (IEEE Std 344-75), 4.1.3 (G-7, Rev 5)	J-278-5-2 in review (requires post functional testing) 8		Start Ship: 8/31/79F 8 Qualification test results and conclusion report expected 8/79F (seismic and environmental).
		Environmental IEEE Std 323-74*/**	Section 3.3.3, 5.1, 6.2.5, 6.6.4 (IEEE Std 323-74)	J-278-14-1, J-278-15-1 in review 8		
J-284/J-284, Rev 1 (5/14/79F,	Containment post-LOCA hydrogen monitoring equipment (reissued for bids)	Seismic- IEEE Std 344-75*/**	Section 2B, 3C4 (IEEE Std 344-75); Section 4.A.2 (G-7, Rev 5)			Start Ship: 2/15/80F Rerev: Not required
		Environmental- IEEE Std 323-74*/**	Section 2B, 3C4, 5A (IEEE Std 323-74); Section 4A (7220-J-1564, Rev. 3)			
M-14/M-14, Rev 3 (12/30/75)	Auxiliary feedwater pumps (Bingham- Willamette)	Seismic- IEEE Std 344-75*/**	Articles 2.0, 6.1.3, 5.4.1.k, and 6.4.2.e (IEEE Std 344-75); Article 13.0 (G-7, Rev 4) G-321-D 7.0-PAR			Start Ship: 5/24/78A Rerev: Complete. NCR 1767
				M-14-124-1, in review (motor driven pumps)	M-14-124-1, in review	Action by 6/30/79 8

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
		Environmental- IEEE Std 323-74*/**	Articles 2.0, 6.4.1.k, and 6.4.2.e (IEEE Std 323-74)	M-14-125-1, in review (turbine driven pumps)	M-14-125-1, 8 in review 8	Action by 8 6/30/79
				M-14-34-1, 8/1/78, unacceptable	M-14-34-1, 8/1/78, unacceptable	Action by 8 6/30/79
				M-14-118-1, 1/5/79, Level 2 (motors)	M-14-118-1, 1/5/79, Level 2	
				M-14-119-2, 4/23/79, in review (motors)	M-14-119-2, 8 4/23/79, 8 in review	
M-18/M-18, Rev 4 (5/4/77)	Emergency diesel generators (Delaval)	Seismic- IEEE Std 344-75*/**	Subparagraphs 1.6, 3.b.7 and 5.1.14 (IEEE Std 344-75); Appendix A (G-29, Rev 3) G-321-D 7.0-PAR	M-18-30-3, 2/28/78, Level 1	Refer to M-18-370, 371, 372 for test results 8	Start Ship: 9/22/78A Rerev: Complete.
				M-18-59-4, 1/25/78, Level 1 (panels)	Refer to M-18-370, 371 372 for test results 8	
				M-18-370-1, 2/7/79, Level 3	M-18-370-1, 2/7/79, Level 3	To be resubmitted 6/79
				M-18-371-1, 2/7/79, Level 3	M-18-371-1, 2/7/79, Level 3	To be resubmitted 6/79
				M-18-372-1, 2/7/79, Level 3	M-18-372-1, 2/7/79, Level 3	To be resubmitted 6/79
		Environmental- IEEE Std 323-74*/**	Subparagraphs 3.b.7, 5.1.1a and c, 9.2.k (IEEE Std 323-74)	M-18-389-1, 8 5/20/79, Level 3 (switchgear, cabinets per IEEE Std 323-74)		Test results expected early 8 1980.

<u>MR/ Specification (Original P.O. Date)</u>	<u>Item and Manufacturer</u>	<u>Issued IEEE Qualification Standards* and FSAR Qualification Commitments**</u>	<u>Specification Qualification Reference</u>	<u>Qualification Test Procedure</u>	<u>Qualification Test Results</u>	<u>Status</u>
				M-18-334-4, 5/22/79, Level 1 (engine con- trol system components)	8	
				M-18-362-1, 6/29/78, Level 1 (Class 1E motors, etc, per IEEE Stds 323-74, 334-75, 344-75, 387-76) (generator)		Test results expected mid- 1980.
M-19/M-19, Rev 2 (7/29/77)	Emergency diesel fuel transfer pumps (Chempump)	Seismic- IEEE Std 344-75*/**	Subparagraphs 4.1.1.h, 4.2.2, 4.5.2, 10.3.3.c (IEEE Std 344-75); Appendix H, Subparagraphs 1.6.1, 1.7, 1.8, 1.9 (IEEE Std 344-75); Appendix I, Paragraph 3.5 G-321-D 7.0 PAR	M-19-20-3, 1/3/79, Level 1	M-19-20-3, 1/3/79, Level 1	Start Ship: 10/79F Rerev: Not required.
		Environmental- IEEE Std 323-74*/**	Subparagraphs 4.1.1.h, 4.2.2, 4.5.3, 10.3.3.c (IEEE Std 323-74); Appendix H, Subparagraph 1.6.1, 1.7, 1.8, 1.9 (IEEE Std 323-74); Appendix I, Articles 3.0, 4.0; E-10, Rev 9, Subparagraph 11.3a,b (IEEE Std 323-74, IEEE Std 334-74)	M-19-26-2 4/3/79 Level 3	8	Expected 10/1/79

322 129

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-020/M-020, Rev 2 (8/01/77)	Traveling water screens (FMC)	Seismic- IEEE Std 344-75*/**	Page 3, MR, Paragraphs 1.c and 1.d; Attachment 2, Subparagraphs 3.B.9, 4.A.1, 5.E.6, 6.A.1; Appendix B, Articles 1.A.27, 2.A, 2.B, 4.C, 5.B; E-10, Paragraphs 2.10, 3.1 (IEEE Std); G-5, Paragraphs 2.0 (IEEE Std); G-30, Paragraph 1.0; Subparagraphs 1.1.1, 1.7 (IEEE 344-75) G-321-D 7.0 PAR	M-20-21-3, 3/13/79, Level 1	M-20-21-3, 3/13/79, Level 1	Start Ship: 11/10/78A Rerev: Not required Motors and controls are not Class 1E.
M-51/M-51, Rev 4 (2/5/74)	Component cooling water heat exchangers (Yuba)	Seismic- IEEE Std 344-71* Environmental-none*	Paragraphs 4.12, 7.4.b, Appendix 1, 2.0, 5.0 (G-7, Rev 4) Articles 3.0, 3.1.2, 3.2.3, Appendix 1	Not required M-51-51, 2/18/76, acceptable Not required (see FSAR Table 3.11-4, Test 16)	Not required M-51-51, 2/18/76, acceptable Not required	Start Ship: 3/10/78A Rerev: Complete. NCR 1768
M-052/M-052, Rev 5 (5/13/74)	Component cooling water pump motors (B&W Canada)	Seismic- IEEE Std 344-71* Environmental- IEEE Std 323-74*	Paragraphs 4.4 (G-7, Rev 4), 4.9, 7.4; E-10, Rev 8, 2.10, 3.1 Subparagraphs 3.1.2, 3.3.2, 4.10.1, 4.10.16, 4.11.2; E-10, Rev 8, Paragraphs 2.9, 3.1	M-52-27-8, 1/30/78, Level 1	M-52-27-8, 1/30/78, Level 1	Start Ship: 12/21/77A Rerev: Inprocess. NCR 1769 Telex received 5/23/79. Siemens-Allis is presently proceeding with test program.

322 130

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-53/M-53, Rev 5 (5/20/77)	Component cooling water pumps (Bingham- Willamette)	Seismic- IEEE Std 344-75*/**	Paragraphs 2.2, 5.4.1, 3.2.5, 5.5 (IEEE Std 344-75); Appendix A, Articles 2.0, 5.0 (G-7, Rev 5) G-321-D 7.0 PAR	M-53-24-5, 12/30/78, Level 1	M-53-24-5, 12/30/78, Level 1	Start Ship: 8 5/1/78A Rerev: Complete
		Environmental- IEEE Std 323-74*/**	Paragraphs 2.2, 5.4.1; Subparagraphs 5.1.2; Appendix A, 3.0	Not required 8	Not required 8	
M-54/M-54, Rev 5 (2/12/74)	Reactor building spray pumps (B&W Canada)	Seismic- IEEE Std 344-71*	Subparagraph 4.5.1, 4.5.2 (E-10), Section 10.3 (G-9) G-321-D 7.0-PAR	M-54-25-3, 1/16/75, Level 1 M-54-54-1, 1/16/75, Level 1 M-54-55, 1/16/75, Level 1	M-54-25-3, 1/16/75, Level 1 M-54-54-1, 1/16/75, Level 1 M-54-55, 1/16/75, Level 1	Start Ship: 1/20/78A Rerev: Complete. NCR 1770
		Environmental- IEEE 323-71*	Subparagraphs 2.1.2, 2.2	Not required (see FSAR Table 3.11-4, Test 16)	Not required	
M-55/M-55, Rev 4 (10/18/74)	Fuel pool cooling heat exchanger (Yuba)	Seismic- IEEE Std 344-71*	Subparagraphs 2.2 Item 7; 2.3.3; 4.3.9; 7.4b (IEEE Std 344); Appendix 1, Article 2.0 (G-7, Rev 4) G-321-D 7.0 PAR	M-55-27-2, 6/22/76, acceptable M-55-27-3, 7/25/77, acceptable	M-55-27-2, 6/22/76, acceptable M-55-27-3, 7/25/77, acceptable	Start Ship: 4/15/77A Rerev: Complete
		Environmental- none*	Subparagraphs 3.1.2, 3.2.2, 3.2.3.1, Appendix 1, Article 3.0	Not required (see FSAR Table 3.11-4, Test 16)	Not required	
M-56/M-56, Rev 3 (1/75)	Fuel pool cooling and chilled water pumps (Gould)	Seismic- IEEE Std 344-71*	Subparagraphs 4.2.2, 4.5.2, 10.3; Appendix 1, 2.3, 5.0 (G-7, Rev 4) G-321-D 7.0 PAR	M-56-70-1, 10/27/77, unacceptable	M-56-70-1, 10/27/77, unacceptable	Start Ship: 8 2/11/79A Rerev: Complete. (seismic)

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
		Environmental- IEEE Std 323-74*/**	Appendix 1, Article 3.0	M-56-71-1, 10/27/77, unacceptable	M-56-71-1, 10/27/77, unacceptable	Not required. (environmental) NCR 1771
				M-56-72-1, 1/12/78, acceptable	M-56-72-1, 1/12/78, acceptable	
				M-56-73-1, 2/22/78, Level 1	M-56-73-1, 2/22/78, Level 1	
				M-56-69-3, 3/20/79, Level 1	M-56-69-3, 3/20/79, Level 1	
M-61/M-61, Rev 2 (11/13/75)	Makeup filters (Pall Trinity)	Seismic-none*	Paragraph 6.5 (G-7, Rev 4) G-321-D 7.0 PAR	M-61-17-1, 6/15/77, Level 1	M-61-17-1, 6/15/77, Level 1	Start Ship: 5/8/78A, Rerev: Complete. NCR 1772
		Environmental- none*	Paragraphs 5.3 and 6.1 (Table 1 and Appendix A)	Not required (see FSAR Table 3.11-4, Test 16)	Not required	
M-64/M-64, Rev 6 (3/29/74)	Nuclear tanks (Richmond)	Seismic-none*	Subparagraphs 7.2.1.i (G-29, Rev 2; G-7, Rev 4)	M-64-32-4, 9/13/76, acceptable	M-64-32-4, 9/13/76, acceptable	Start Ship: 7/8/76A, Rerev: Inprocess. NCR 1773
				M-64-33-4, 4/15/76, acceptable	M-64-33-4, 4/15/76, acceptable	
				M-64-34-5, 6/22/78, acceptable	M-64-34-5, 6/22/78, acceptable	
				M-64-35-4, 4/15/76, acceptable	M-64-35-4, 4/15/76, acceptable	
				M-64-42-2, 11/25/74, acceptable	M-64-42-2, 11/25/74, acceptable	

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
		Environmental- none*	Paragraph 3.1 (temperature,	M-64-64-4, 5/3/79, acceptable 8	M-64-64-4, 5/3/79, acceptable 8	
				M-64-65-4, 5/3/79, acceptable 8	M-64-65-4, 5/3/79, acceptable 8	
				Not required (see FSAR Table 3.11-4, Test 16)	Not required	
M-75/M-75, Rev 5 (12/30/75)	Service water pumps (Gould)	Seismic- IEEE Std 344-75*/**	Paragraphs 4.1, 8.1 (IEEE Std); Subparagraphs 7.1.8-11. 9.3.2 (G-30, Rev 1); Article 13.0; Appendix 1, Article 2.0; Appendix 2, Paragraph 2.4 (G-30, Rev 1); Article 1.0 (IEEE Std 344-75)	M-75-21-6, 1/28/78, Level 1 (pumps) M-75-38-3, 8/22/78, Level 1 (motors)	M-75-21-6, 1/28/78, Level 1 (pumps) M-75-38-3, 3/22/78, Level 1 (motors)	Start Ship: 12/30/77A Rerev: Complete. NCR 1774
		Environmental- IEEE Std G23-74*/**	Paragraphs 4.1, 8.1 (IEEE Std); Appendix 1, Article 3.0; Appendix 2, Paragraph 3.0 G-321-D 7.0 PAR	M75-28-1, 11/28/77, Level 1 8	M-75-63-1, 4/24/79, Level 3 8	Request to vendor 4/23/79 requesting more data on motor testing. 8
M-90/M-90, Rev 2 (5/17/77)	Incore instrument tank (CBI)	Seismic-none*	Paragraphs 5.12, 10.2.4, Article 7.0 (G-6, Rev 4); Appendix 1, Paragraphs 2.0, 2.3 (G-6, Rev 4) G-321-D 7.0 PAR	M-90-34-3, 6/27/78, Level 1	M-90-34-3, 6/27/78, Level 1	Shipped 4/1/78A Rerev: Complete
		Environmental- none*	Paragraphs 4.1; Appendix 1, Article 3.0 (G-26, Rev 1)	Not required (see FSAR Table 3.11-4, Test 16)	Not required	

322 133

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-92/M-92, Rev 4 (1/26/70)	Reactor building cranes (Harni- schfeger)	Seismic- none*	Paragraph 3.2 (G-6); E-10, Rev 5, Paragraphs 2.10, 3.0 (G-7, Rev 4)	M-92-34-3, 3/7/78, In review	M-92-34-3, 3/7/78, In review	Start Ship: 3/14/75A Rerev: Inprocess. NCR 1775
		Environmental- none*	Paragraph 2.9; E-10, Rev 5, Paragraph 3.1	Not required (See FSAR Table 3.11-4 Test 16)	Not required	
M-93/M-93, Rev 3 (10/23/75)	Auxiliary building crane (Ederer)	Seismic- IEEE Std 344-75*	Paragraphs 3.2, 3.12 9.0, 10.2, (G-7, Rev 4) 4.22 (E-10) G-321-D 7.0-F&R	M-93-1-3, 8/18/76, acceptable	M-93-1-3, 8/18/76, acceptable	Start Ship: 9/17/76A Rerev: Complete. NCR 1776: Dispositioned 8 4/20/79.
		Environmental- none*	Paragraph 4.22 (E-10)	Not required (see FSAR Table 3.11-4, Test 27)	Not required	
M-117/M-117, Rev 10 (3/13/74)	Nuclear service valve (Anchor/ Darling)	Seismic- IEEE Std 344-71*	M-221, Paragraph 3.1, Appendix 1, Paragraph A1.12 (RG 1.48); G-9, Para- graphs 4.2, 7.1 (IEEE Std 344-71)	M-117-40-3, 8/5/76, acceptable M-117-41-3, 8/5/76, acceptable	M-117-40-3, 8/5/76, acceptable M-117-41-3, 8/5/76, acceptable	Start Ship: 5/15/78A Rerev: Inprocess. NCR 1777
		Environmental- IEEE Std 323-74* IEEE Std 382-72** (solenoid valves inside containment) IEEE Std 382-72, Draft 13** (motor operated valves inside containment)	M-221, Paragraph 3.1, 7.1; G-9, Paragraph 4.2 (IEEE Std 382-72);	M-117-54-2 Limitorque Test Report 600456 applicable, Anchor/Darling letter, 7/18/78, For information only.	Action by 8 6/15, 79	Letter to Anchor/ Darling 11/3/78

322 134

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-118A/M-118A, Rev 4 (5/9/74)	Nuclear service gate and globe valves (E.B.V. Systems)	Seismic- IEEE Std 344-71*	M-221, Paragraph 3.1, Appendix A1, Paragraphs A1.11, A1.20, A1.23 (IEEE Std 344-71); Appendices B, C, D G-321-D 7.0 PAR	M-118A-55-2, 3/17/78, acceptable	M-118A-55-2, 3/17/78, acceptable	Start Ship: 4/24/78A Rerev: Complete. NCR 1778
		Environmental- IEEE Std 323-74*	M221, Paragraph 3.1, Appendix 1, Paragraphs A1.4, A1.19.20			
M-118B/M-118B, Rev 4 (5/9/74)	Nuclear service gate and globe valves (Rockwell International)	Seismic- IEEE Std 344-71*	M-221, Paragraph 3.1, Appendix A1, Paragraphs A1.11, A1.31; (G-32), Paragraphs 2.A, B, 8.C.6 (IEEE Std 344-75); Paragraph 5.5 G-321-D-7.0-PAR	M-118B-48-1, 6/6/77, acceptable	M-118B-48-1, 6/6/77, acceptable	Start Ship: 8 1/79A Rerev: Inprocess. NCR 1779
		Environmental- IEEE Std 323-74* IEEE Std 382-72** (solenoid valves inside containment)	M-221-Sect 3.1, Paragraphs A1.4, A1.31 A1.34; Appendix A14, Article 5.0; G-32, Paragraph 2.A, B, 8.C.4-5; (IEEE Std 323-72, IEEE Std 382-72)	M-118B-81-2, 4/3/79, Level 1	M-118B-81-2, 4/3/79, Level 1	
M-120/M-120, Rev 3 (7/6/74)	Nuclear valves, 2 1/2" and larger (Anchor/ Darling)	Seismic- IEEE Std 344-71*	M-221, Article 3.1, Paragraph 3.1, Appendix 1 Paragraph A1.4; G-9, Paragraphs 4.2, 7.1, (IEEE Std 344) G-321-D-7.0-PAR	M-120-77-2, 8/5/76, acceptable	M-120-77-2, 8/5/76, acceptable	Start Ship: 9/17/78A Rerev: Complete. NCR 1730
				M-120-95-1 through 97-1, 8/5/76, acceptable	M-120-95-1 through 97-1, 8/5/76, acceptable	
				M-120-105-1, and -106-1, 12/9/77, acceptable	M-120-105-1, and -106-1, 12/9/77, acceptable	

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
		Environmental- IEEE Std 323-74* IEEE Std 382-72* IEEE Std 382-72, Draft 13** (motor operated valves inside containment)	M-221, Paragraph 3.1 Appendix 1, Para- graph A1.1; G-9, Section 4.2, 7.1, (IEEE 382-72, 323-71)	M-120-107-2, 6/16/78, Level 1	M-120-107-2, 6/16/78, Level 1	
				M-120-86-2, Limitorque Test Report 600456 ap- plicable, Anchor/Darling letter 7/18/78. For information only.	Action by 6/15/79	8
M-123A/123A, Rev 2 (5/24/74)	Nuclear valves, 2 1/2" and larger (Westing- house)	Seismic- IEEE Std 344-71*	M-221, Article 3.1 Appendix 1, Para- graphs A1.14, G-9, Para- graphs 4.2, 7.1 (IEEE Std 344) Appendix 7, 4.2 G-321-D 7.0 PAR	M-123A-93-2, 1/25/77, acceptable		Start Ship: 4/30/76A Rerev: In- process.
		Environmental- IEEE Std 323-74* IEEE Std 382-72* IEEE Std 382-72, Draft 13** (motor operated valves inside containment)	M-221, Article 3.1 Appendix 1, Para- graphs A1.1, G-9, Paragraphs 4.2, 7.1 (IEEE Std 323 and 382) G-321-D 26.0 PAR	M-123A-96-2, Limitorque Test Report 600456 applicable, Westinghouse letter 1/16/78 Level 1	Action by 6/15/79	8
M-123B/M-123B, Rev 2 (10/25/75)	Nuclear valves, 2 1/2" and larger (Target Rock)	Seismic- IEEE Std 344-75*/**	M-221, Paragraph 3.1, Table 1, 3; Appendix 1, A1.4 (RG 1.48); G-9, Paragraphs 4.2, 7.1 (IEEE Std 344) G-321-D-7.0-PAR	M-123B-48-1, 5/19/77, Level 1	M-123B-48-1, 5/19/77, Level 1	Start Ship: 4/30/77A Rerev: Complete. NCR 1781
		Environmental- IEEE Std 323-74*/** IEEE Std 382-72* IEEE Std 382-72, Draft 13** (motor operated valves inside containment)	M-221, Article 3.1 Appendix 1, Paragraphs 1.1; G-9, Paragraphs 4.2, 7.1 (IEEE Std 323 and 382)	M-123B-54-2 Limitorque Test Report 600456 ap- plicable, Target Rock letter 5/23/78, CN5491 Level 1	Action by 6/15/79	8
			G-321-D 7.0 PAR			

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-123C/M-123C, Rev 2 (10/25/74)	Nuclear valves, 2 1/2" and larger (Anchor/ Darling)	Seismic- IEEE Std 344-71*	M-221, Paragraph 3.1; Table 1, 3; Appendix 1, A1.4 (RG 1.48) G-9, Paragraphs 4.2, 7.1 (IEEE Std 344) G-321-D 7.0-PAP	M-123C-44-1, 8/5/76, acceptable	M-123C-44-1, 8/5/76, acceptable	Start Ship: 4/12/78A Rerev: inprocess. NCR 1782
		Environmental- IEEE Std 323-74* IEEE Std 382-72*	M-221, Paragraph 3.1; Appendix 1, A1.1; G-9, Paragraphs 4.2, 7.1 (IEEE Std 323 and 382)	M-123C-37-2, 12/19/78, Limitorque Test Report 600456 ap- plicable, Anchor/Darling letter 7/18/78. For information only	Action by 6/15/79	8
M-125A/M-125A, Rev 3 (6/14/74)	Nuclear valves, globe and check (Westing- house)	Seismic- IEEE Std 344-71*	M-221, Paragraph, 3.1, Appendix 1, A1.4, (RG 1.48); G-9, Paragraph 4.2, (IEEE Std 344) G-321-D 7.0-PAR	M-125A-88-2, 12/13/76, acceptable	M-125A-88-2, 12/13/76, acceptable	Start Ship: 9/28/76A Rerev: Complete. NCR 1783 Request to vendor 11/11/77
		Environmental- IEEE Std 323-74* IEEE Std 382-72* IEEE Std 382-72, Draft 13** (motor operated valves inside containment)	M-221, Article 3.1, Appendix 1, Paragraph A1.1; G-9, Paragraphs 4.2, 7.1 (IEEE Std 323 and 382)	M-125A-92-1 Limitorque Report 600456 applicable, Westinghouse letter 1/16/78, Level 1	Action by 6/15/79	8
M-125B/M-125, Rev 3 (6/21/74)	Nuclear check valves (Target Rock)	Seismic- IEEE Sta 344-71*	M-221, Paragraph 3.1; Table 1, Appendix 1, A1.4; G-9, Rev 1, 4.0 (IEEE Std 344) G-321-D 7.0-PAR	M-125B-26-1 through 32-1, 10/16/75, Level 1	M-125B-26-1 through 32-1, 10/16/75, Level 1	Start Ship: 1/5/77A Rerev: Complete. NCR 1784: Dispositioned 8 4/26/79.
		Environmental-none*		Not required	Not required	

322 137

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-125C/M-125, Rev 3 (6/21/74)	Nuclear service valves 2-1/2" and larger (Anchor Darling)	Seismic- IEEE Std 344-71*	M-221, Paragraph 3.1, Table 1, 3; G-9, Paragraphs 4.2, 7.1 (IEEE Std 3 G-321-D 7.0-PAR	M-125C-54-3, 11/9/79, Level 1	M-125-C-54-3, 11/9/79, Level 1	Start Ship: 4/12/78A Rerev: Complete. NCR 1785
				M-125C-59-1 through -62-1, 8/5/76, acceptable	M-125C-59-1 through -62-1, 8/5/76, acceptable	
				M-125C-92-1, 2/1/78, Level 1	M-125C-92-1, 2/1/78, Level 1	
		Environmental- IEEE Std 323-74* IEEE Std 382-72* IEEE Std 382-72, Draft 13** (motor operated valves inside containment)	M-221, Paragraph 3.1, Appendix 1, Subparagraph A1.1; G-9, Paragraphs 4.2, 7.1 (IEEE Std 323 and 382)	M-125C-111 Limitorque Test Report 600456 Anchor/Darling letter 7/18/78, Level 1	Action by 6/15/79	
M-127A/M-127, Rev 4 (9/16/74)	Nuclear manual and air-operated valves 2" and under (Kerotest)	Seismic- IEEE Std 344-71*	M-225, Paragraph 3.2, 16.4, Appendix A1, Para- graph A1.3; G-9, Para- graphs 4.2, 7.1, (IEEE), G-10, 11.3 G-321-D 7.0 PAR	M-127A-20-1, 9/20/76, acceptable	M-127A-20-1, 9/20/76, acceptable	Start Ship: 3/31/78A Rerev: Complete. NCR 1786 operated valves on surplus.
		Environmental- none*		Not required (manual valves)	Not required (manual valves)	
M-127B/M-127, Rev 3 (9/16/74)	Nuclear manual oper- ated valves 2" and under (Henry Vogt)	Seismic- IEEE Std 344-71*	M-225, Paragraphs 3.2, 16.4.4c; Appendix A1, Paragraph A1.3 G-321-D 7.0-PAR			Start Ship: 9/18/78A Rerev: Complete. NCR 1787 Request to vendor 4/11/77 Vendor response 4/18/77
		Environmental- none*	M-225 Paragraph 3.2; Appendix A1, Paragraph A1.1, A1.9; G-26	Not required	Not required	

322 136

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-127C/M-127, Rev 3 (9/17/74)	Nuclear manual oper- ated valves 2" and under (Yarway)	Seismic- IEEE Std 344-71*	M-225, Paragraphs 3.2, 16.4.4c; Appendix A1 Paragraph A1.3 G-321-D 7.0-PAR	M-127C-11-1 11/6/75, Level 5		Start Ship: 10/13/78A Rerev: Complete. NRC 1788 Request to vendor 4/5/77 Vendor response 4/22/77
		Environmental- none*	M-225, Paragraph 3.1, Appendix A1, Paragraph A1.1, Appendix A1, Paragraph A1.9; G-26			
M-129A/M-129, Rev 2 (9/16/74)	Nuclear valves, sst, 2" and under (Kerotest)	Seismic- Std 344-71*	M-225, Article 3.2, Appendix A1, Paragraph A1.3; G-9, Paragraphs 4.2, 7.1 (IEEE), G-10 Article 11.3 G-321-D 7.0-PAR	M-129A-63-1, 9/20/76, acceptable	M-129A-63-1, 9/20/76, acceptable	Start Ship: 2/15/78A Rerev: In- process.
		Environmental- IEEE Std 373-74* IEEE Std 382-72*	Appendix A1, A1.1; G-9, Paragraphs 4.2, 7.1 G-26; G-10, Paragraph 11.3 G-321-D 26.0 PAR	Action by 6/15/79	Action by 6/15/79	
M-129B/M-129, Rev 1 (9/16/74)	Nuclear valves, sst, 2" and under (Weston Hydromatics)	Seismic- IEEE Std 344-71*	M-225, Paragraphs 3.2, 3.2.3; G-9, Paragraphs 4.2, 7.1 (IEEE Std 344); G-10, Paragraph 11.3 G-321-D 7.0-PAR	M-129B-31-1, 6/25/76, acceptable M-129B-32-5, 3/20/79, Level 1 M-129B-33-2, 11/18/76, acceptable	M-129B-31-1, 6/25/76, acceptable M-129B-32-5, 3/20/79, Level 1 M-129B-33-2, 11/18/76, acceptable	Start Ship: 2/15/78A Rerev: Inprocess. All valves currently surplus.
		Environmental- IEEE Std 323-74* IEEE Std 382-72* IEEE Std 382-72, Draft 13** (motor operated valves inside containment)	M-225, Paragraph 3.2, Appendix A1, Paragraph A1.1; G-9, Paragraphs 4.2, 7.1 (IEEE Std 382); G-26; G-10, Paragraph 11.3 G-321-D 26.0 PAR	Limitorque Report 600456 (382) and 600461 (382)		Letter to vendor 7/17/78. TWX to vendor 1/17/79. Reply from vendor 3/1/79.

322 139

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-131/M-131, Rev 2 (7/7/78)	Diaphragm valves (ITT Grinnell)	Seismic- IEEE Std 344-75*/**	Paragraph 3.B.1.C, 4.A.1, 5.B; Attachment E, Article 1.0; Table C-1 G-321-D 7.0-PAR	Action by 8 6/30/79	Action by 8 6/30/79	Start Ship: On strike since 4/28/79. One valve shipped. Rerev: Not required
		Environmental- IEEE Std 323-74*/**	Paragraphs 4.A.1, 4.A.4, Appendix A; Article 3.0 Attachment E, Table C-1	Action by 8 6/30/79	Action by 8 6/30/79	
M-132/M-132, Rev 3 (11/27/74)	Butterfly valves (H. Pratt)	Seismic- IEEE Std 344-71*	M-228, Paragraph 3.1, Appendix 1, Section A1.3, (RG 1.48) G-321-D 7.0-PAR	M-132-67-3, through -72-3, 9/7/76, acceptable	M-132-67-3, through -72-3, 9/7/76, acceptable	Start Ship: 11/22/76A Rerev: Complete. NCR 1789
				M-132-83-1 and -84-1, 9/24/76, acceptable	M-132-83-1 and -84-1, 9/24/76, acceptable	
				M-132-87-1 through -92-1, 10/12/76, acceptable	M-132-87-1 through -92-1, 10/12/76, acceptable	
				M-132-99-2 through -103-2, 5/12/77, acceptable	M-132-99-2 through -103-2, 5/12/77, acceptable	
				M-132-105-2, 3/3/78, Level 1	M-132-105-2, 3/3/78, Level 1	
				M-132-106-1, 3/3/78, Level 1	M-132-106-1, 3/3/78, Level 1	
		Environmental- IEEE Std 323-74*/** IEEE Std 382-72* IEEE Std 382-72, Draft 13** (motor operated valves inside containment)	M-228, Paragraph 3.1; Appendix 1. Paragraph A1.1	M-132-108-1, 3/20/79 Level 1 8	M-132-108-1, 3/20/79 Level 1 8	

322 140

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-134/M-134, Rev 3 (1/7/77)	Steel plug valves (Tuflin)	Seismic- IEEE Std 344-75*/**	Section 3.B.1.C, 4.A.1, 5.B; G-9, Paragraph 4.2 (IEEE Std 344-71) G-321-D 7.0 PAR	M-134-36-1 through -45-1, 6/9/78, Level 1	M-134-36-1 through -45-1, 6/9/78, Level 1	Start Ship: 8 3/23/79A Rerev: Inprocess. NCR 1790
		Environmental- IEEE Std 323-74*/** IEEE Std 382-72*	Appendix C, Article 3.0; G-9, Paragraphs 4.2, (IEEE Std 382) 7.1	M-134-46-2, 7/10/78, Level 1 M-134-85-1, 11/15/78, Level 1	M-134-46-2, 7/10/78, Level 1 M-134-85-1, 11/15/78, Level 1	8
M-140/M-140, Rev 2 (5/6/77)	Nuclear service pressure relief valves (Crosby)	Seismic-none* IEEE Std 344-75*/** (1 and 2 PSV-1016 only)	Page 5, Item 18; Attach- ment 1.0, Paragraph 3.6; Appendix D, Paragraphs 2.4, 2.5 G-321-D 7.0-PAR	M-140-70-1, 4/26/78, Level 1	M-140-70-1, 4/26/78, Level 1	Start Ship: 8 6/30/79F Rerev: Complete
				M-140-76-3, M-140-80-3, M-140-81-3, M-140-82-3, M-140-83-3, M-140-84-3, 1/19/79, Level 1	M-140-76-3, M-140-80-3, M-140-81-3, M-140-82-3, M-140-83-3, M-140-84-3, 1/19/79, Level 1	
				M-140-77-3, 1/19/79, Level 2	M-140-77-3, 1/19/79, Level 2	
				M-140-78-4, 2/20/78, Level 2	M-140-78-4, 2/20/78, Level 2	8
				M-140-79-4, 3/29/79, Level 1	M-140-79-4, 3/29/79, Level 1	
				M-140-85-4, 4/30/79, Level 1	M-140-85-4, 4/30/79, Level 1	
				M-140-86-3, 1/19/79, Level 3	M-140-86-3, 1/19/79, Level 3	

322 141

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
		Environmental- none*	Section 3.2, Appendix D, Paragraphs 2.1, 3.0, Appendix F	Expected by 8 7/79	Expected by 8 7/79	
M-146/M-146, Rev 2 (6/19/75)	Auxiliary building safeguard chiller (Carrier)	Seismic- IEEE Std 344-71*	Section 3.5 10.3.1.1, 5.16 (G-7); E-10, Paragraph 2.10 (G-7 Rev 4); Section 3.1 (IEEE Std) G-321-D 7.0-PAR	M-146-16-2, 1/23/76, Level 1 8	M-146-16-2, 1/23/76, Level 1 8	Start Ship: 10/29/76A Rerev: Inprocess. NCR 1791 Requests to vendor 1/25/77 and 4/26/77
		Environmental- IEEE Std 323-74*/**	Section 3.5; M-146-Sk-1, Section 1.11; E-10 Section 3.1 (IEEE Std)	Not required (see FSAR Table 3.11-4, Test 16)	Not required	
M-149/M-149, Rev 5 (1/22/76)	Air handling unit (Trane)	Seismic- IEEE Std 344-75*/**	Paragraph 6.17 (G-7); Section 7.1 (IEEE Std 344-71); Appendix N, Articles 9.0, 11.0 (G-7, Rev 4) E-10, Article 3.0 G-321-D 7.0-PAR	M-149-63-4, 4/1/77, acceptable M-149-66-1, -72-1, and -74-1, 10/4/76, acceptable	M-149-63-4, 4/1/77, acceptable M-149-66-1, -72-1, and -74-1 10/4/76, acceptable	Start Ship: 7/1/77A Rerev: Inprocess. NCR 1792 Requests to vendor 1/25/77 and 4/5/77
		Environmental- IEEE Std 323-74*/**	Appendix N, Articles 2.0, 9.0; E-10, Article 3.0 (IEEE Std) G-321-D 26.1 PAR G-321-D 26.2 PAR	Not required (see FSAR Table 3.11-4, Test 16)	Not required	
M-150/M-150, Rev 7 (4/30/76)	Air filter- ing unit (MSA)	Seismic- IEEE Std 344-75*/**	Paragraph 6.10 (G-7) Appendix A, Items 1, 2, and 3, Page 1 G-321-D 7.0-PAR	M-150-51-4, 11/23/76, acceptable	M-150-51-4, 11/23/76, acceptable	Start Ship: 2/15/78A Rerev: Complete. NCR 1793 Requests to vendor 1/25/77 and 4/6/77; telecopy 8/17/77

322 142

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
				M-150-64-4, 12/19/78, Level 1	M-150-64-4, 12/19/78, Level 1	Procedures expected by 4/20/79. Test results will take 8 months according to Wyle lab schedule.
		Environmental- IEEE Std 323-74** IEEE Std 334-74* IEFE Std 334-71**	Appendix A G-321-D 26.1 PAR G-321-D 26.2 PAR	M-150-142-2, 11/28/78, Level 1	M-150-142-2, 11/28/78, Level 1	
M-151A/M-151, Rev 4 (10/5/77)	HVAC subcontract (Zack)	Seismic- none*	Paragraphs 11.2.2, 1.2.3, 1.3j, 6.2, 6.4: C-305, Table 2.1; Appendix G G-321-D 7.0 PAR			Start Ship: 10/26/77A Rerev: Not required. Telex to vendor 11/6/78 requesting seismic qualification. Telecon 4/2/79 to expedite submittal.
		Environmental- none*				
M-154/M-154, Rev 1 (9/26/77)	HVAC isolation valves (Pacific Air)	Seismic- IEEE Std 344-75**	Section 3.1, 5.3.1f (IEEE Std 344); Paragraph 5.1.1, 6.0, 10.3.3; G-9, Sections 4.2, 7.1 (IEEE Std) G-321-D 7.0 PAR	M-154-38-4, 3/20/79, Level 1 M-154-39-3, 1/24/79; Level 1 M-154-40-3, 3/22/79, Level 1 M-154-41, 1/22/79, Level 1	M-154-38-4, 3/20/79, Level 1 M-154-39-3, 1/24/79, Level 1 M-154-40-3, 3/22/79, Level 1 M-154-41, 1/22/79, Level 1	Start Ship: 8 5/15/79F (delayed). Rerev: Complete

322 143

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
		Environmental- IEEE Std 2323-74*/** IEEE Std 382-72*	Section 3.1, 5.3.1, 7.3.4C (IEEE Std 323-) G-9, Paragraphs 4.2, 7.1 (IEEE Std)	M-154-43-3 4/9/79, Level 1 M-154-40-3, 3/22/79, Level 1	M-154-43-3 4/9/79, Level 1 M-154-40-3, 3/22/79, Level 1	8
M-157/M-157, Rev 4 (9/20/76)	Vane axial fans (Joy)	Seismic- IEEE Std 344-75*/**	Paragraphs 3.6, 5.5.10, 5.9 (G-7, G-29): Subparagraph 9.2.7d; G-7, Rev 4; G-29, 1.1.1 (IEEE Std 344-75) G-321-D 7.0-PAR	M-157-33-1 through -39-1, 6/15/77, acceptable M-157-39-1, 6/28/78, acceptable	M-157-33-1 through -39-1, 6/15/77, acceptable M-157-39-1, 6/28/78, acceptable	Start Ship: 9/6/77A Rerev: Complete
		Environmental- IEEE Std 323-74*/** IEEE Std 334-74* IEEE Std 334-71*	Section 3.6, 5.5.10, (IEEE 323-74, 334) G-321-D 26.1 PAR G-321-D 26.2 PAR	M-157-24-1 through -26-1, 5/9/77, Level 1	M-157-24-1 through -26-1, 5/9/77, Level 1	
M-163/M-163, Rev 2 (11/15/75)	Recirculating air cooling units CVI (Penwalt)	Seismic- IEEE Std 344-75*/**	Sections 6.4.1, 8.3.2d, 4.1.j (IEEE Std) Section 6.8 (G-6, Rev 4)	M-163-40-2, 10/25/77, acceptable	M-163-40-2, 10/25/77, acceptable	Start Ship: 3/9/78A Rerev: Inprocess. NCR 1794
		Environmental- IEEE Std 323-74*/** IEEE Std 334-74* IEEE Std 334-71**	Section 4.1.j (IEEE Std); Section 6.3.4, 8.3 (IEEE Std 323); Section 4.1.j, 7.2.2, (IEEE Std 334-71); G-26; E-10, Paragraphs 2.9, 2.10	M-163-22-2, 6/9/77, Level 1 M-163-48-3, 4/7/78, Level 1	M-163-22-2, 6/9/77, Level 1 M-163-48-3, 4/7/78, Level 1	
M-168/M-168, Rev 6 (9/22/76)	Reactor building isolation 18" and 48" valves (H. Pratt)	Seismic- IEEE Std 344-75*/**	Paragraph 5.3, Appendix A, Article 8.0, Appendix C, Appendix H; G-9, Paragraphs 4.2, 7.1 (IEEE Std 344-75)	M-168-48-1, 3/24/78, Level 1 M-168-48-1, 9/8/78, Level 1	M-168-48-1, 3/24/78, Level 1 M-168-48-1, 9/8/78, Level 1	Start Ship: 10/16/78A Rerev: Complete. NCR 1795

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**	Specification Qualification Reference	Qualification Test Procedure	Qualification Test Results	Status
M-180/M-180, Rev 2 (5/12/77)	Service water self- cleaning strainers (S.P. Kinney)	Seismic- IEEE Std 344-75*/**	Section 4.1.10 (IEEE Std 344); Paragraphs 5.4, 6.5 (G-30); Section 6.8.2 (shafts); Appendix A, Section A2.0 (G-30); A2.0; G-30, Rev 0 G-321-D 7.0 PAR	M-180-16-5, 5/10/78, Level 1 M-180-27-3, 5/18/78, Level 1 M-180-34-3, 4/5/79, in review. 8	M-180-16-5, 5/10/78, Level 1 M-180-27-3, 5/18/78, Level 1 M-180-34-3 4/5/79, in review. 8	Start Ship: 6/30/79F Rerev: In- process. 8
		Environmental- IEEE Std 323-74*/**	Section 4.1.10 (IEEE Std 323-74); Appendix A, Section A3.0, E-10, Section 11.3a (IEEE Std 323-74 and 334-74) G-321-D 26.1 PAR G-321-D 26.2 PAR	M-180-27-3, 5/18/78, Level 1	M-180-27-3, 5/18/78, Level 1	request to vendor 7/78 till some items) 8
M-333/M-333, Rev 3 (11/26/77)	Nuclear service pressure relief valves (Crosby)	Seismic- IEEE Std 344-75*	Section 2.4, 2.5; Appendix K; Appendix D, 2.4 G-321-D 7.0-PAR	M-333-17-2, 8 2/20/79, Level 1	M-333-17-2, 8 2/20/79, Level 1	Start Ship: 6/15/79F Rerev: Complete
		Environmental- none*	Section 2.0, 3.0; Appendix E; Appendix A, 2.0; Appendix D, 3.0 G-321-D 26.1 PAR	M-333-11-1, 5/1/78, Level 1	M-333-11-1, 5/1/78, Level 1	
MR-336/M-336, Rev 1 (8/8/77)	Nuclear wye strainers (Leslie Co.)	Seismic- IEEE Std 344-75*	Attachment F, Sheets 1-4; Attachment G	M-336-27-2, 4/26/78, Level 1 M-336-27-2, 4/17/78, Level 1	M-336-27-2, 4/26/78, Level 1 M-336-27-2, 4/17/78, Level 1	Start Ship: 4/3/78A Rerev: Complete
		Environmental- none*	Appendix A, Section 3.3, Attachment			

322 146

MR/ Specification (Original P.O. Date)	Item and Manufacturer	Issued IEEE Qualification Standards* and FSAR Qualification Commitments**		Specification Qualification Reference	Qualification Test Procedure		Qualification Test Results		Status

* Issued IEEE qualification standard: the latest IEEE qualification standard that was approved and issued on the date the purchase order was executed. For this purpose, the following issue dates were used:

IEEE Standard	Date Issued
317-72	12-1-72
317-76	5-24-76
323-71	4-1-71
323-74	2-28-74
334-71	9-16-71
334-74	10-29-74
344-71	11-17-71
344-75	1-31-75
382-72	4-10-73
383-74	4-15-74

** FSAR qualification commitment: any commitment made in the Midland FSAR relative to which IEEE qualification standard(s) would be used in qualifying a particular piece of equipment.

Reference	Equipment Affected	Commitment	Effectivity Date
RG 1.40	Containment recirculation air cooler motors	IEEE 344-71	3-16-73
RG 1.48	Seismic Category I active pumps and valves	IEEE 344-75	7-1-75
RG 1.52	Atmospheric cleanup system air filtration and absorption units	IEEE 323-71 334-71 344-71	6-73
RG 1.73	Class 1E solenoid valves installed inside containment	IEEE 382-72	4-10-73
RG 1.89	Class 1E motor operated valves installed inside containment	IEEE 382-72, draft 13	
FSAR Table 3.11-1	Class 1E equipment	IEEE 323-74	11-15-74
RG 1.100	Class 1E equipment	IEEE 344-75	Not specified
FSAR Subsection 3.10-4		IEEE 344-71	Not specified

322 147