APPENDE 2

TROJAN NUCLEAR PLANT PORTLAND GENERAL ELECTRIC COMPANY SPECIAL PLANT TEST PROCEDURE - SPT-51

TEST OF MASONRY BOND TENSION TO CONCRETE

CORE IN MASONRY BLOCK WALLS

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Revision 0

Approved by Original signed by C. P. Yundt

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Date 11-13-79

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TABLE OF CONTENTS

Section

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Page

1	Objective	1-1
2	Acceptance Criteria	2-1
3	Prerequisites	3-1
4	Precautions	4-1
5	Instructions	5-1, 5-2
6	Data Sheet	6-1
7	Exceptions and Notes	7-1

1.0 OBJECTIVES

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1.1 To determine tensile bond strength of masonry block walls (both composite and 16-inch or less block walls).

Page 1-1

2.0 ACCEPTANCE CRITERIA

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2.1 Apply load at required test points until core fails or load reaches 30,000 pounds.

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Page 2-1

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3.0 PREREQUISITES

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- 3.1 Hydraulic jack test stand fabricated.
- 3.2 Hydraulic jack test calibrated (2 gauges).
- 3.3 Calibrated dial gauges available for use (optional).

Page 3-1

4.0 PRECAUTIONS

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- 4.1 Ensure core drill is marked so that core depths does not exceed width of block plus 1 to 1.5 inches.
- 4.2 Area radiation monitors in vicinity may be affected by core drilling. Notify Shift Supervisor before commencement of core drilling.
- 4.3 Monitor shield walls after plug has been removed for possible changes in radiation levels.

Page 4-1

5.0 INSTRUCTIONS

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TESTING PROGRAM

MASONRY BOND TENSION TO CONCRETE CORE

- 5.1 Four tests shall be run.
- 5.2 Two tests shall be run with holes located a follows:



5.3 Two tests shall be run with holes located as follows:



- 5.4 A 12"-diameter core shall be drilled concentric around bolt circle center line. The core shall be cut into the concrete fill between 1" and 1-1/2".
- 5.5 The hole shall be located to miss block reinforcing. The center of core shall be concentric with above bolt circle.
- 5.6 The masonry block bearing plate shall be set with 3-3/4" phillips wedge anchors. The wedge anchors shall be set using manufacturer's recommended torque valves. One test shall be conducted using Phillips Self-Drilling Bolts and equal to those used during original plant construction.

Page 5-1

- 5.7 The jack assembly shall be set such that the 1" threaded rod shall be centered on the block bearing plate.
- 5.8 The jack assembly shall be torqued snug before the jack assembly plate bolts are drilled and installed.
- 5.9 After the jack assembly is installed the jack assembly threaded rod shall be backed off to the zero reading rod tension.
- 5.10 The testing shall be performed in four steps.

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- Step 1: Apply 5,000 pounds load.
 Relieve load.
 Repeat load cycle four additional times.
- Step 2: Apply 10,000 pounds load.
 Relieve load.
 Repeat load cycle four additional times.
- Step 3: Apply 15,000 pounds load.
 Pelieve load.
 Rapeat load cycle four additional times.
- Step 4: Apply load to failure or 30,000 pounds, whichever comes first.
- 5.11 After failure the amount of load shall be recorded. Pictures of the failed core shall be taken and the failed core described.
- 5.12 Repair wall using non-shrink grout.

Page 5-2

ATA SHEET Date Time Start												
sep	arate dan	ta sheet	will be	complete	d for each	h core di	rill spec:	imen.				
1	Location	of core	drill sp	cimen:								
2	Type of bolt pattern:											
3	Serial No. hydraulic jack:											
	Data ann											
	Date gau	ge(s) cal	librated:									
4	Depth of	core dri	illed:						inche			
	Diameter	of core							inche			
	C . 1 1											
	Calculati	ed area o	of core:					squar	re inche			
5												
	TEST STEPS	5,000 lbs.		10,000 lbs.		15,000 lbs.						
		Initial	Measured Deflec- tion	Initial	Measured Dellec- tion	Initial	Measured Deflec- tion	Initial	Measure Deflec- tion			
	Apply											
1)	Load											
	Relieve		the second s									
	Relieve Apply						•					
2)	Relieve Apply Load											
2)	Relieve Apply Load Relieve											
2)	Relieve Apply Load Relieve Apply											
2) 3)	Relieve Apply Load Relieve Apply Load											
2) 3)	Relieve Apply Load Relieve Apply Load Relieve											
2) 3) 4)	Relieve Apply Load Relieve Apply Load Relieve Apply Load											
2) 3) 4)	Relieve Apply Load Relieve Apply Load Relieve Relieve											
2) 3) 4) 5)	Relieve Apply Load Relieve Apply Load Relieve Apply Load Relieve											

or maximum load reached without failure:

Page 6-1

SPT-51 Revision 0

7.0 EXCEPTIONS AND NOTES

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Page 7-1