



## Nebraska Public Power District

GENERAL OFFICE  
P.O. BOX 499, COLUMBUS, NEBRASKA 68601-0499  
TELEPHONE (402) 564-8561

NLS8500330

December 4, 1985

Mr. Robert M. Berrero, Director  
Division of BWR Licensing  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Bernero:

Subject: NUREG-0737, Supplement 1 - Regulatory Guide 1.97  
Response, Revision VII

Reference: 1) Letter from J. M. Pilant to H. L. Thompson dated  
May 29, 1985, "NUREG-0737, Supplement 1  
Regulatory Guide 1.97 Response, Revision VI"

Enclosed as Attachment 1 is Revision VII of the Table of  
Regulatory Guide 1.97 Requirements for Cooper Nuclear Station.  
This revision was developed from Reference 1 and discussions  
with the NRC Staff and is intended to be the final submittal for  
this subject.

Eight copies of this submittal are enclosed for the Staff's use.  
Two additional copies are being provided directly to our NRC  
Project Manager.

Sincerely,

Jay M. Pilant  
Technical Staff Manager  
Nuclear Power Group

JMP/grs:rt25/4(4b)  
Enclosure

cc: R. D. Martin  
USNRC, Region IV

E. Sylvester (2)  
USNRC

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ATTACHMENT 1

Revision VII of Reg. Guide 1.97 Table

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE- CATEGORY	PURPOSE	COUNTER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
<u>Reactivity Control</u>							
Neutron Flux	10 <sup>-6</sup> % to 100% Full Power (SIM, AP(94))	B-1	Function Detection; Accomplishment of SIM's, LPRM's Mitigation	SIM's, LPRM's	1-1	10 <sup>-6</sup> % to 125% Full Power	Not Qualified
Control Rod Position	Full In or Not Full In	B-3	Verification	RPS	3-1	Full In or Not Full In 0" - 164"	N/A
RCS Soluble Boron Concentration (Sample)	0 to 1,000 ppm	B-3	Verification	PASS	3-2	0-1000 PPM Grab Sample	N/A
Coolant Level in Reactor	Bottom of Core Support Plate to Lesser of Top of Vessel or Centerline of Main Steam Line	A-1 B-1	Function Detection; Accomplishment of Mitigation; Long-term Surveillance	NB1-L115-59A,B NB1-CU-59A,B NB1-L1-B5A,B	1-2 1-3 1-4	-150 - +60	Not Qualified Not Qualified Mild Environment
BWR Core Thermocouples	200°F to 2300°F	To Provide Diverse Indication of Water Level	None	NB1-L1-61 NB1-L1-66	1-5 1-6	0 - +400"	Not Qualified Mild Environment
				NB1-L115-73A,B NB1-L1-91A,B	1-7 1-8	-100 - +200" (-264.2" - +35.8" When using same ref. zero as other instruments)	Not Qualified Mild Environment
							N/A

\* BWR Core Thermocouples

ITEM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT CHANNEL <sup>3</sup>	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PHIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-1	A	B	Yes <sup>a</sup>	RPS	Indicators	SRM Alarm Only	SRM Alarm Only	Yes	No Action Necessary	Will implement as Category 3. SRM's indicate 3 counts per second which meets the lower flux requirement of R.G. 1.97. The District will follow industry development of Category 1 neutron flux instrumentation, evaluate newly developed equipment and install Category 1 instrumentation upon the demonstration of reliable, functional and maintainable equipment.
3-1	N/A	B	N/A	RPS	Indicators	Yes	Yes	Yes	No Action Necessary	None
3-2	N/A	C	N/A	LPRW2A	None	No	No	No	No Action Necessary	None
1-2	A	B	Yes <sup>C</sup>	EE-PNL-CPP(2)	Indicator	Yes	Yes	Yes	Integrate with CRDR HED's 18I, 13I, 14I and 15I. Implement in accordance with NPPD's response to Generic Letter 84-23. Implement during the 1988 outage. <sup>10</sup>	NPPD will provide IE fuel zone water level instrumentation to -150" which is 6" below the bottom of active fuel. NPPD will supply only one qualified channel for the upper water range, from +60 inches to the center of the steam line at +123.25 inches. In order to comply with the single failure requirement of R.G. 1.97, an additional penetration would be needed for a redundant reference column for the upper range. There are no manual or automatic functions initiated in the upper 63.25 inches, these functions occur in the range monitored by redundant channels. Thus, it is NPPD's position that single channel indication for the range from +60 inches to the center of the steam line meets the intent of the Regulatory Guide and the addition of a redundant channel would result in only a marginal improvement in plant safety.
1-3	None	None	Yes <sup>C</sup>	EE-PNL-CPP(2)						
1-4	None	None	Yes <sup>C</sup>	EE-PNL-CPP(2)						
1-5	A	B	No	NBI-ES-BB	Indicator	Yes	Yes	Yes		
1-6	A	B	No	EE-PNL-CPP						
1-7	A	B	Yes <sup>a</sup>	IE-RPS	Indicator	Yes	Yes	Yes		
1-8	A	B	Yes <sup>a</sup>							
	N/A	N/A	N/A	N/A	N/A	No	No	No		Will not implement. Reference BWRDG Position, Appendix A.

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE - CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
<u>Maintaining Reactor Coolant System Integrity</u>							
RCS Pressure	0 psia to 1500 psig	A-1	Function Detection; Accomplishment of	NBI-PT-6A,B	1-9	0 - 1500 psig	Will Comply
		B-1	Mitigation; Verification	PC-IE-3A, 3B	1-10		Mild Environment
		C-1		PC-SC-2A, 2B	1-11		Mild Environment
				NBI-PR-2A, 2B	1-12		Mild Environment
Drywell Pressure	0 to Design Pressure (D.P. = 56 psig)	A-1	Function Detection; Accomplishment of	PC-PT-512A,B	1-13	0 - 80 psia	Complies
		B-1	Mitigation; Verification	PC-R-(PR512-LR11)	1-14		Mild Environment
				PC-PI-512B	1-15		Mild Environment
				PC-PT-4A1, 4B2	1-16	0 - 250 psig	Will Comply
				PC-IE-3A, 3B	1-17		Mild Environment
				PC-SC-3A, 3B	1-18		Mild Environment
Drywell Sump Level	Top to Bottom	B-1	Function Detection; Accomplishment of Mitigation; Verification	ANN-ANN-(9-4-1/6-3)	1-20	-	Mild Environment
				ANN-ANN-(9-4-1/7-3)			
				ANN-ANN-(5-1/5-4)			
<u>Maintaining Containment Integrity</u>							
Primary Containment Pressure	-5 psig to Design Pressure	B-1	Function Detection; Accomplishment of Mitigation; Verification	PC-PT-512A,B	1-21	0 - 80 psia	Complies
				PC-R-(PR512-LR11)	1-22		Mild Environment
				PC-PI-512B	1-23		Mild Environment



ITEM NO.	SEISMIC <sup>1</sup> STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-9	None <sup>6</sup>	A	Yes <sup>a</sup>	1E (RPS)	Indicators	Yes	Yes	Yes	Modifications scheduled for 1986	None
1-10	None <sup>6</sup>	A			and Recorders				and 1988 outage. <sup>8, 10</sup>	
1-11	None <sup>6</sup>	A			Both Channels					
1-12	None <sup>5</sup>	A								
1-13	B <sup>6</sup>	B <sup>7</sup>	Yes <sup>c</sup>	EE-PNL-CCP1B(1)	Recorder	Yes	Yes	Yes	Integrate with CRDR modifications.	None
1-14	B <sup>5</sup>	B <sup>7</sup>			One Channel -				Implement during the 1988 outage. <sup>10</sup>	
1-15	B <sup>5</sup>	B <sup>7</sup>			Indicator					
					Both Channels					
1-16	None <sup>6</sup>	A	Yes <sup>a</sup>	1E (RPS)	Indicators	Yes	Yes	Yes	Modifications scheduled for 1986	
1-17	None <sup>6</sup>	A			and Recorders				and 1988 outage. <sup>8, 10</sup>	
1-18	None <sup>6</sup>	A			Both Channels					
1-19	None <sup>5</sup>	A								
1-20	-	B	-	-	Annunciators	Yes	Yes	Yes	No Action Necessary	<p>Will implement as Category 3. Reference BWRDG Position, Issue 4.</p> <p>The District will supply the following Category 3 instrumentation to meet the intent of Regulatory Guide 1.97 for drywell equipment sump level:</p> <p>A set of three annunciator alarms; High-Level, High-High Level, and Fill-Up Rate High. High Level alarm indicates the water reached the level of automatic pump initiation. High-High Level alarm indicates a further rise in water level due to excessive leakage and/or pump failure. Fill-Up Rate High alarms if the time to fill the sump from the low level pump shut-off point to the high level pump start point (367 gallons) is less than 55 minutes, this indicates that the sumps are filling at an excessive rate. It is the District's position that the above combination of annunciators provide adequate indication of drywell equipment sump level.</p>
1-21	B <sup>6</sup>	B <sup>7</sup>	Yes <sup>c</sup>	EE-PNL-CCP1B(1)	Recorder	Yes	Yes	Yes	Integrate with CRDR modifications.	None
1-22	B <sup>5</sup>	B <sup>7</sup>			One Channel -				implement during the 1988 outage. <sup>10</sup>	
1-23	B <sup>5</sup>	B <sup>7</sup>			Indicator					
					Both Channels					

VARIABLE	RANGE REQUIRED IN R.G. 1.27	TYPE- CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
Primary Containment Isolation Valve Position (Excluding Check Valves)	Closed - Not Closed	B-1	Accomplishment of Isolation	PC-PT-4A1, 4B2	1-24	0 - 250 psig	Will Comply
				PC-IE-3A, 3B	1-25		Mild Environment
				PC-SC-3A, 3B	1-26		Mild Environment
				PC-PR-1A, 1B	1-27		Mild Environment
				PC-PT-2D	1-28	0 - 2 psig	Will Comply
				PC-PC-2D	1-29		Mild Environment
				PC-AD-237AV-L.S.	1-30	Closed - Not Closed	Complies
				PC-AD-237AV Indicating Lights	1-31		Mild Environment
				PC-AD-238AV-L.S.	1-32	Closed - Not Closed	Complies
				PC-AD-238AV Indicating Lights	1-33		Mild Environment
				PC-AD-243AV-L.S.	1-34	Closed - Not Closed	Complies
				PC-AD-243AV Indicating Lights	1-35		Mild Environment
				PC-AD-244AV-L.S.	1-36	Closed - Not Closed	Complies
				PC-AD-244AV Indicating Lights	1-37		Mild Environment
				PC-AD-245AV-L.S.	1-38	Closed - Not Closed	Complies
				PC-AD-245AV Indicating Lights	1-39		Mild Environment
				PC-AD-246AV-L.S.	1-40	Closed - Not Closed	Complies
				PC-AD-246AV Indicating Lights	1-41		Mild Environment
				PC-MD-230MV	1-42	Closed - Not Closed	Complies
				PC-MD-230MV Indicating Lights	1-43		Mild Environment
				PC-MD-231MV	1-44	Closed - Not Closed	Complies
				PC-MD-231MV Indicating Lights	1-45		Mild Environment
				PC-MD-232MV	1-46	Closed - Not Closed	Complies
				PC-MD-232MV Indicating Lights	1-47		Mild Environment
				RW-AD-A090-L.S.	1-48	Closed - Not Closed	Complies
				RW-AD-A090 Indicating Lights	1-49		Mild Environment
				RW-AD-A095-L.S.	1-50	Closed - Not Closed	Complies
				RW-AD-A095 Indicating Lights	1-51		Mild Environment
				RW-AD-A082-L.S.	1-52	Closed - Not Closed	Complies
				RW-AD-A082 Indicating Lights	1-53		Mild Environment
				RW-AD-A083-L.S.	1-54	Closed - Not Closed	Complies
				RW-AD-A083 Indicating Lights	1-55		Mild Environment
				PC-MD-233MV	1-56	Closed - Not Closed	Complies
				PC-MD-233MV Indicating Lights	1-57		Mild Environment
				MS-AD-A080A,B,C,D-L.S.	1-58	Closed - Not Closed	Complies

ITEM NO.	SEISMIC <sub>1</sub> STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOR	INPUT PMTS TO <sup>4</sup>	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-24	None <sup>6</sup>	A	Yes <sup>a</sup>	1E (RPS)	Indicators	Yes	Yes	Yes	Modifications scheduled for 1986	
1-25	None <sup>6</sup>	A			and Recorders				and 1988 outage. <sup>8, 10</sup>	
1-26	None <sup>6</sup>	A			Both Channels					
1-27	None <sup>5</sup>	A								
1-28	B <sup>6</sup>	B <sup>7</sup>	No	EE-PNL-CCP(14)	Recorder	Yes	Yes	Yes <sup>a</sup>	New instrumentation will be	
1-29	B <sup>5</sup>	B <sup>7</sup>	No		Single Channel				installed.	None
									Implement during 1988 outage. <sup>10</sup>	
1-30	B <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-CCP1B(7)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-31	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-32	B <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-CCP1B(7)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-33	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-34	B <sup>6</sup>	B <sup>7</sup>	No <sup>d</sup>	EE-PNL-CCP1A(9)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-35	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-36	B <sup>6</sup>	B <sup>7</sup>	No <sup>d</sup>	EE-PNL-CCP1A(9)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-37	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-38	B <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-CCP1B(7)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-39	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-40	B <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-CCP1B(7)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-41	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-42	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-RA(2A)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-43	None <sup>5</sup>	B							for the 1988 outage. <sup>10</sup>	
1-44	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-RA(2B)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-45	None <sup>5</sup>	B							for the 1988 outage. <sup>10</sup>	
1-46	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-RA(2C)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-47	None <sup>5</sup>	B							for the 1988 outage. <sup>10</sup>	
1-48	None <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-RPSPP1A(3)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-49	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-50	None <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-RPSPP1B(3)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-51	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-52	None <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-RPSPP1A(3)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-53	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-54	None <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-RPSPP1B(3)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-55	None <sup>5</sup>	B							for the 1987 and 1988 outage. <sup>9, 10</sup>	
1-56	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-RA(2D)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
1-57	None <sup>5</sup>	B							for the 1988 outage. <sup>10</sup>	
1-58	None <sup>6</sup>	B	Yes <sup>a</sup>	EE-AAZ(15)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled	None
									for the 1986 and 1988 outage. <sup>8, 10</sup>	



VARIABLE	RANGE REQUIRED IN R.C. 1.97	TYPE- CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
				MS-A0-A080A,B,C,D Indicating Lights	1-59		Mild Environment
				MS-A0-A086A,B,C,D-L.S.	1-60	Closed - Not Closed	Complies
				MS-A0-A086A,B,C,D Indicating Lights	1-61		Mild Environment
				MS-M0-M074	1-62	Closed - Not Closed	Complies
				MS-M0-M074 Indicating Lights	1-63		Mild Environment
				MS-M0-M077	1-64	Closed - Not Closed	Complies
				MS-M0-M077 Indicating Lights	1-65		Mild Environment
				HFIC-M0-M015	1-66	Closed - Not Closed	Complies
				HFIC-M0-M015 Indicating Lights	1-67		Mild Environment
				HFIC-M0-M016	1-68	Closed - Not Closed	Complies
				HFIC-M0-M016 Indicating Lights	1-69		Mild Environment
				RCIC-M0-M015	1-70	Closed - Not Closed	Complies
				RCIC-M0-M015 Indicating Lights	1-71		Mild Environment
				RCIC-M0-M016	1-72	Closed - Not Closed	Complies
				RCIC-M0-M016 Indicating Lights	1-73		Mild Environment
				PC-M0-305	1-74	Closed - Not Closed	Complies
				PC-M0-305 Indicating Lights	1-75		Mild Environment
				PC-M0-306	1-76	Closed - Not Closed	Complies
				PC-M0-306 Indicating Lights	1-77		Mild Environment
				RWCU-M0-15	1-78	Closed - Not Closed	Complies
				RWCU-M0-15 Indicating Lights	1-79		Mild Environment
				RWCU-M0-18	1-80	Closed - Not Closed	Complies
				RWCU-M0-18 Indicating Lights	1-81		Mild Environment
				RHR-M0-M017	1-82	Closed - Not Closed	Complies
				RHR-M0-M017 Indicating Lights	1-83		Mild Environment
				RHR-M0-M018	1-84	Closed - Not Closed	Complies
				RHR-M0-M018 Indicating Lights	1-85		Mild Environment
				RHR-M0-M025A	1-86	Closed - Not Closed	Complies
				RHR-M0-M025A Indicating Lights	1-87		Mild Environment
				RHR-M0-M025B	1-88	Closed - Not Closed	Complies
				RHR-M0-M025B Indicating Lights	1-89		Mild Environment
				RHR-M0-M027A	1-90	Closed - Not Closed	Complies

ITEM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOP	INPUT TO <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-59	None <sup>5</sup>	B								
1-60	None <sup>6</sup>	B	Yes <sup>a</sup>	EE-BB2(9)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1986 and 1988 outage. <sup>8, 10</sup>	None
1-61	None <sup>5</sup>	B								
1-62	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-R(4C)	Indicator Lights	Yes	Yes	Yes <sup>a</sup>	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-63	None <sup>5</sup>	B								
1-64	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-STR-125RX	Indicator Lights	Yes	Yes	Yes <sup>a</sup>	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-65	None <sup>5</sup>	B								
1-66	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-R(5A)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1986 outage. <sup>10</sup>	None
1-67	None <sup>5</sup>	B								
1-68	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-125VDCSTR HPCI	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-69	None <sup>5</sup>	B								
1-70	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-Y(10B)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-71	None <sup>5</sup>	B								
1-72	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-125VDCSTR HCIC	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-73	None <sup>5</sup>	B								
1-74	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-K(4C)	Indicator Lights	Yes	Yes	Yes	Modifications are contingent on the results of Generic Letter 84-09.	None
1-75	None <sup>5</sup>	None								
1-76	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-M(5B)	Indicator Lights	Yes	Yes	Yes	Modifications are contingent on the results of Generic Letter 84-09.	None
1-77	None <sup>5</sup>	None								
1-78	Operator Qualified to 6 g's	A	Yes <sup>a</sup>	MCC-R(5C)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-79	None <sup>5</sup>	B								
1-80	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-125VDCSTR(95B')	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-81	None <sup>5</sup>	B								
1-82	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-125VDCSTR(859')	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-83	None <sup>5</sup>	B								
1-84	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-R(7A)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-85	None <sup>5</sup>	B								
1-86	Operator Qualified to 6 g's	A	Yes <sup>b</sup>	EE-STR-250 DIV I	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-87	None <sup>5</sup>	B								
1-88	Operator Qualified to 6 g's	A	Yes <sup>b</sup>	EE-STR-250 DIV II	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-89	None <sup>5</sup>	B								
1-90	Operator Qualified to 6 g's	B	Yes <sup>b</sup>	EE-MCC-CA(3E)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None

VARIABLE	RANGE REQUIRED IN R.C. 1.97	TYPE- CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
				RHR-MO-M027A	1-91		Mild Environment
			Indicating Lights	RHR-MO-M027B	1-92	Closed - Not Closed	Complies
				RHR-MO-M027B	1-93		Mild Environment
			Indicating Lights	CS-MO-M012A	1-94	Closed - Not Closed	Complies
				CS-MO-M012A	1-95		Mild Environment
			Indicating Lights	CS-MO-M012B	1-96	Closed - Not Closed	Complies
				CS-MO-M012B	1-97		Mild Environment
			Indicating Lights	CS-MO-M011A	1-98	Closed - Not Closed	Complies
				CS-MO-M011A	1-99		Mild Environment
			Indicating Lights	CS-MO-M011B	1-100	Closed - Not Closed	Complies
				CS-MO-M011B	1-101		Mild Environment
			Indicating Lights	RR-AO-740AV-L.S.	1-102	Closed - Not Closed	Will Comply
				RR-AO-740AV	1-103		Mild Environment
			Indicating Lights	RR-AO-741AV-L.S.	1-104	Closed - Not Closed	Will Comply
				RR-AO-741AV	1-105		Mild Environment
			Indicating Lights	RHR-MO-57	1-106	Closed - Not Closed	Will Comply
				RHR-MO-57	1-107		Mild Environment
			Indicating Lights	RHR-MO-67	1-108	Closed - Not Closed	Will Comply
				RHR-MO-67	1-109		Mild Environment
			Indicating Lights	ACAD-MO-M01301	1-110	Closed - Not Closed	Will Comply
				ACAD-MO-M01301	1-111		Mild Environment
			Indicating Lights	ACAD-MO-M01302	1-112	Closed - Not Closed	Will Comply
				ACAD-MO-M01302	1-113		Mild Environment
			Indicating Lights	ACAD-MO-M01303	1-114	Closed - Not Closed	Will Comply
				ACAD-MO-M01303	1-115		Mild Environment
			Indicating Lights	ACAD-MO-M01304	1-116	Closed - Not Closed	Will Comply
				ACAD-MO-M01304	1-117		Mild Environment
			Indicating Lights	ACAD-MO-M01305	1-118	Closed - Not Closed	Will Comply

ITEM NO.	STATUS <sup>1</sup>	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOP	INPUT TO <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-91	None <sup>5</sup>	B								
1-92	Operator Qualified to 6 g's	B	Yes <sup>b</sup>	EE-MCC-RB(8C)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-93	None <sup>5</sup>	B								
1-94	Operator Qualified to 6 g's	B	Yes <sup>c</sup>	EE-MCC-Q(6A)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-95	None <sup>5</sup>	B								
1-96	Operator Qualified to 6 g's	B	Yes <sup>c</sup>	EE-MCC-Y(5C)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-97	None <sup>5</sup>	B								
1-98	Operator Qualified to 6 g's	B	Yes <sup>c</sup>	EE-MCC-Q(5D)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-99	None <sup>5</sup>	B								
1-100	Operator Qualified to 6 g's	B	Yes <sup>c</sup>	EE-MCC-Y(5B)	Indicator Lights	Yes	Yes	Yes	Modifications scheduled for the 1988 outage. <sup>10</sup>	None
1-101	None <sup>5</sup>	B								
1-102	B <sup>6</sup>	B <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-CCP1B(2)	Indicator Lights	Yes	Yes	Yes <sup>a</sup>	Modifications scheduled for the 1987 and 1988 outage. <sup>9, 10</sup>	None
1-103	None <sup>5</sup>	B								
1-104	None <sup>6</sup>	C <sup>7</sup>	Yes <sup>a</sup>	EE-PNL-CCP1A(2)	Indicator Lights	Yes	Yes	Yes <sup>a</sup>	Modifications scheduled for the 1987 and 1988 outage. <sup>9, 10</sup>	None
1-105	None <sup>5</sup>	B								
1-106	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-MCC-R(3B)	Indicator Lights	Yes	Yes	Yes <sup>a</sup>	Modifications scheduled for the 1986 and 1988 outage. <sup>8, 10</sup>	None
1-107	None <sup>5</sup>	B								
1-108	Operator Qualified to 6 g's	B	Yes <sup>a</sup>	EE-PNL-BB3(3)	Indicator Lights	Yes	Yes	Yes <sup>a</sup>	Modifications scheduled for the 1986 and 1988 outage. <sup>8, 10</sup>	None
1-109	None <sup>5</sup>	B								
1-110	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-MCC-CB(3A)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-111	None <sup>5</sup>	None								
1-112	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-PNL-CA(1)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-113	None <sup>5</sup>	None								
1-114	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-PNL-CB(1)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-115	None <sup>5</sup>	None								
1-116	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-MCC-CA(2A)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-117	None <sup>5</sup>	None								
1-118	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-PNL-CB(2)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE- CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
				ACAD-MO-M01305	1-119		Mild Environment
				Indicating Lights			
				ACAD-MO-M01306	1-120	Closed - Not Closed	Will Comply
				ACAD-MO-M01306	1-121		Mild Environment
				Indicating Lights			
				ACAD-MO-M01308	1-122	Closed - Not Closed	Will Comply
				ACAD-MO-M01308	1-123		Mild Environment
				Indicating Lights			
				ACAD-MO-M01310	1-124	Closed - Not Closed	Will Comply
				ACAD-MO-M01310	1-125		Mild Environment
				Indicating Lights			
				ACAD-MO-M01311	1-126	Closed - Not Closed	Will Comply
				ACAD-MO-M01311	1-127		Mild Environment
				Indicating Lights			
				ACAD-MO-M01312	1-128	Closed - Not Closed	Will Comply
				ACAD-MO-M01312	1-129		Mild Environment
				Indicating Lights			
<u>Reactor Coolant Pressure Boundary</u>							
Primary Containment Area Radiation	1 R/hr to $10^5$ R/hr	C-3	Detection of Breach; Verification	RMA-RE-40A,B	3-3	1R/hr to $10^7$ R/hr	N/A
				RMA-RM-40A,B	3-4		N/A
				RMA-10-40A,B	3-5		N/A
				(RMA-RR-40 for A and B)	3-6		N/A
Drywell Drain Sumps Level (Identified and Unidentified Leakage)	Top to Bottom	C-1	Detection of Breach; Accomplishment of Mitigation; Verification Long-Term Surveillance	ANN-ANN-(9-4-1/4-3)	1-130	-	Mild Environment
				ANN-ANN-(9-4-1/5-3)			
				ANN-ANN-(5-1/5-2)			



ITEM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR ISC	REQUIRED FOR EOW	INPUT PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-119	None <sup>5</sup>	None								
1-120	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-MCC-CA(2B)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-121	None <sup>5</sup>	None								
1-122	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-PNL-CA(2)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-123	None <sup>5</sup>	None								
1-124	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-PNL-CB(3)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-125	None <sup>5</sup>	None								
1-126	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-PNL-CA(3)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-127	None <sup>5</sup>	None								
1-128	Operator Qualified to 6 g's	C	Yes <sup>a</sup>	EE-MCC-CB(3C)	Indicator Lights	Yes	Yes	Yes <sup>b</sup>	Modifications are contingent on the results of Generic Letter 84-09.	None
1-129	None <sup>5</sup>	None								
3-3	N/A	A	N/A	EE-PNL-RPSPP1A	Common Recorder	Yes	Yes	Yes	No Action Necessary	None
3-4	N/A			EE-PNL-RPSPP1B						
3-5	N/A			EE-PNL-CCP1A(19)						
3-6	N/A									
1-130	-	B	-	-	Annunciators	Yes	Yes	Yes	No Action Necessary	<p>Will implement as Category 3. See BWRDC Position, Issue 4.</p> <p>The District will supply the following Category 3 instrumentation to meet the intent of Regulatory Guide 1.97 for drywell drain sump level:</p> <p>A set of three annunciator alarms; High Level, High-High Level, and Fill-Up Rate High. High Level alarm indicates the water reached the level of automatic pump initiation. High-High Level alarm indicates a further rise in water level due to excessive leakage and/or pump failure. Fill-Up Rate High alarms if the time to fill the sump from the low level pump shut-off point to the high level pump start point (367 gallons) is less than 55 minutes, this indicates that the pumps are filling at an excessive rate. It is the District's position that the above combination of annunciators provide adequate indication of drywell drain sump level.</p>

VARIABLE	RANGE REQUIRED IN P.G. 1.97	TYPE - CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
Suppression Pool Water Level	Bottom of ECCS Suction Line to 5' Above Normal Water Level	A-1 C-1	Detection of Breach; Accomplishment of Mitigation; Verification Long-Term Surveillance	PC-DPT-3A1, 3B2 PC-IE-2A, 2B PC-SC-1A, 1B PC-LR-1A, 1B	1-131 1-132 1-133 1-134	0 - 30' (866' - 896')	Will Comply Mild Environment Mild Environment Mild Environment
<u>Containment</u>							
Primary Containment Pressure	-5 psig to 4 Times Design Pressure D.P. = 56 psig	C-1	Detection of Potential for or Actual Breach; Accomplishment of Mitigation	PC-PT-4A1, 4B2 PC-IE-3A, 3B PC-SC-3A, 3B PC-PR-1A, 1B	1-135 1-136 1-137 1-138	0 - 250 psig	Will Comply Mild Environment Mild Environment Mild Environment
Effluent Radioactivity-Noble Gases	$10^{-6}$ uCi/cc to $10^{-2}$ uCi/cc	C-2	Indication of Breach	ERP Hi-range Effluent Monitor RMP-RM-3A RMP-RM-3B	 2-1 2-2	$10^{-7}$ uCi/cc to $1 \times 10^5$ uCi/cc	 Mild Environment Mild Environment
Containment and Drywell Hydrogen Concentration	0 - 30% (Capability of Operating from -5 psig to Design Pressure)	C-1	Detection of Potential for Breach; Accomplishment of Mitigation	PC-AN-(H21A-3156B) PC-AN-(H21A-3156A) PC-R-(H2R-3157B) PC-R-(H2R-3157A)	1-139 1-140 1-141 1-142	0 - 5% Bendix 0 - 10%, 20% Beckman	Mild Environment Mild Environment Mild Environment Mild Environment
Containment and Drywell Oxygen Concentration (for Inerted Containment Plants)	0 - 10% (Capability of Operating from -5 psig to design Pressure)	C-1	Detection of Potential for Breach; Accomplishment of Mitigation	PC-AN-(O2A-512) PC-R-(O2A-512)	1-143 1-144	0 - 5%, 10%, 25%	Mild Environment Mild Environment
<u>Condensate and Feedwater System</u>							
Main Feedwater Flow	0 - 110% Design Flow (D.F. = $9.52 \times 10^6$ lb/hr)	D-3	Detection of Operation; Analysis of Cooling	RFC-FI-50A, B RFC-ES-93 RFC-SQRT-110A, B RFC-FI-89A, B	3-7 3-8 3-9 3-10	0-7.0 x $10^6$ lb/hr Per Pump	N/A N/A N/A N/A
Condensate Storage Tank Level	Top to Bottom	D-3	Indication of Available Water for Cooling	CM-LI-5 Computer PT F001 ES-ES-1 CM-LIC-5  CM-LI-680A CM-LIS-8	3-11 3-12 3-13 3-14  3-15 3-16	0 - 100% (0 - 40')    2.8% - 100% (1' - 36')	N/A N/A N/A N/A  N/A N/A
Emergency Storage Tank Level	Bottom to Top	D-3	Indication of Available Water for Cooling	CM-LI-681A, B CM-LI-681A, B CM-ES-6	3-17 3-18 3-19	0 - 100% (0 - 16')	N/A N/A N/A

ITEM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR ISC	REQUIRED FOR EOP	INPUT TO <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-131	None <sup>6</sup>	A	Yes <sup>8</sup>	1E (RPS)	Recorder and Indicator - Both Channels	Yes	Yes	Yes	Modification scheduled for the 1986 and 1988 outage. <sup>8, 10</sup>	None
1-132	None <sup>6</sup>	A								
1-133	None <sup>6</sup>	A								
1-134	None <sup>5</sup>	A								
1-135	None <sup>6</sup>	A	Yes <sup>8</sup>	1E (RPS)	Recorder and Indicator - Both Channels	Yes	Yes	Yes	Modification scheduled for the 1986 and 1988 outage. <sup>8, 10</sup>	None
1-136	None <sup>6</sup>	A								
1-137	None <sup>6</sup>	A								
1-138	None <sup>5</sup>	A								
			N/A	4HD VAC from PPG81 120 VAC from LPGB1	Recorder and Indicator - Single Channel	Yes	Yes	Yes	No Action Necessary	None
2-1	N/A	C								
2-2	N/A	C								
1-139	None	A	No	CP-CAD-1A	Recorder -	No	No	No	No Action Necessary	Implement as Category 3. Ref. NPPD response to Generic Letter B4-09, Hydrogen Recombiner capability Cooper Nuclear Station NRC docket no. 50-298, DPR-46.
1-140	B	B	No	CP-CAD-1B	Both Channels	No	No	Yes		
1-141	B	B								
1-142	B	B								
1-143	B <sup>6</sup>	B <sup>7</sup>	Yes	EE-PNL-CCP1A(9)	Recorder -	Yes	Yes	Yes	Integrate with CRDR HED'S 521 and 531	None
1-144	B <sup>5</sup>	B			Both Channels				Implement during the 1988 outage. <sup>10</sup>	
3-7	N/A	C	N/A	EE-PNL-NBPP(4)	Indicator -	Yes	Yes	Yes	No Action Necessary	None
3-8	N/A	C		EE-PNL-AA2(2)	Both Channels					
3-9	N/A	C			Recorder -					
3-10	N/A	C			Single Channel					
3-11	N/A	C	N/A	EE-PNL-CCP1A(16)	Indicator -	Yes	Yes	Yes	No Action Necessary	None
3-12	N/A				Single Channel					
3-13	N/A	C								
3-14	N/A	C								
3-15	N/A	C	N/A	EE-PNL-PPCH1	Indicator -	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
3-16	N/A	C		EE-PNL-CCP1B						
3-17	N/A	C	N/A	EE-PNL-CCP1B(12)	Indicator -	Yes	Yes	Yes	No Action Necessary	None
3-18	N/A	C			Both Channels					
3-19	N/A	C								

VARIABLE	RANGE REQUIRED IN R.C. 1.97	TYPE - CATEGORY	PURPOSE	COMPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
<u>Fuel Cladding</u>							
Radioactivity Concentration or Radiation Level in Circulating Primary Coolant	1/2 inch spec limit to 100 lines Tech Spec Limit	C-1	Detection or Breach	Post-Accident Sample System	1-145	Grab Sample	N/A
<u>Ventilation Systems</u>							
Emergency Ventilation Disper Position	Open - Closed Status	D-2	To Monitor Operation	HW-257AV HW-257AV Indicating Lights HW-272HW HW-272HW Indicating Lights HW-AV259 HW-AV259 Indicating Lights HW-AV258 HW-AV258 Indicating Lights HW-AV260 HW-AV260 Indicating Lights HW-AV261 HW-AV261 Indicating Lights	2-3 2-4 2-5 2-6 2-7 2-8 2-9 2-10 2-11 2-12 2-13 2-14	Open-Closed Open-Closed Open-Closed Open-Closed Open-Closed	Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment
<u>Power Supplies</u>							
Status of Standby Power and Other Energy Sources Important to Safety	Plant Specific	D-2	To Monitor System Status	DG-A1-AH11, AH12 DG-FG1, FH2, FM3 DG-VH11-VAR10, VAR19 DG-V1-WH11, WH12 DG-W1-WH1-WH2 EE-CB-A16DC1(EG1) Current Transformers EE-CB-A16DC1(EG1) Potential Transformers EE-CB-A16DC2(EG2) Current Transformers EE-CB-A16DC2(EG2) Potential Transformers DG-XFMR-Vare8 DG-XFMR-Vare9 EE-XFMR-EG1(RA) EE-XFMR-EG1(RB) EE-XFMR-EG1(RC) EE-XFMR-EG2(RA) EE-XFMR-EG2(RB) EE-XFMR-EG2(RC)	2-15 2-16 2-17 2-18 2-19 2-20 2-21 2-22 2-23 2-24 2-25 2-26 2-27 2-28 2-29 2-30 2-31	0 - 1700 Amps 55 - 45 CPS 0 - 7 HVAR 0 - 5250 VAC 0 - 7 H WATTS	Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment Mild Environment
				1A-PT-606 ES-ES-1 1A-PT-606 250VDC 1A Batt. Amp Indicator	2-32 2-33 2-34 2-35	0 - 120 psig 200 - 0 Amps 0 - 1000 psig	Mild Environment Mild Environment Mild Environment Mild Environment



ITEM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EDF	INPUT TO <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-145	None	C	No	LPHW-2A	None	No	No	No	No Action Necessary	Implemented as Category 3. See BRROG Position, Issue 5.
2-3	N/A	B	Yes <sup>a</sup>	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes <sup>a</sup>	No Action Necessary	None
2-4	N/A	B								
2-5	N/A	B	Yes <sup>a</sup>	EE-MCC-RA	Indicator Lights	Yes	Yes	Yes <sup>a</sup>		
2-6	N/A	B								
2-7	N/A	B	Yes <sup>a</sup>	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes <sup>a</sup>		
2-8	N/A	B								
2-9	N/A	B	Yes <sup>a</sup>	EE-PNL-RA	Indicator Lights	Yes	Yes	Yes <sup>a</sup>		
2-10	N/A	B								
2-11	N/A	B	Yes <sup>a</sup>	EE-PNL-RA	Indicator Lights	Yes	Yes	Yes <sup>a</sup>		
2-12	N/A	B								
2-13	N/A	B	Yes <sup>a</sup>	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes <sup>a</sup>		
2-14	N/A	B								
2-15	N/A	B	Yes <sup>a</sup>	DG1 & DG2	Indicators -	Yes	Yes	Yes <sup>a</sup>	No Action Necessary	None
2-16	N/A	B	Yes <sup>a</sup>	PI'S & CI's	Both Channels	Yes	Yes	Yes <sup>a</sup>		
2-17	N/A	B	Yes <sup>a</sup>			Yes	Yes	Yes <sup>a</sup>		
2-18	N/A	B	Yes <sup>a</sup>			Yes	Yes	Yes <sup>a</sup>		
2-19	N/A	B	Yes <sup>a</sup>			Yes	Yes	Yes <sup>a</sup>		
2-20	N/A	B								
2-21	N/A	B								
2-22	N/A	B								
2-23	N/A	B								
2-24	N/A	B								
2-25	N/A	B								
2-26	N/A	B								
2-27	N/A	B								
2-28	N/A	B								
2-29	N/A	J								
2-30	N/A	B								
2-31	N/A	B								
2-32	N/A	B	No	ES-ES-1		Yes	Yes	Yes <sup>a</sup>	No Action Necessary	None
2-33	N/A	B								
2-34	N/A	B								
2-35	N/A	B	N/A	250 VDC Batt. 1A	Indicator	Yes	Yes	Yes <sup>a</sup>	No Action Necessary	None



VARIABLE	RANGE REQUIRED IN R.C. 1.97	TYPE- CATEGORY	PURPOSE	COOPER ETC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
Primary Containment - Related Systems	0 - 110% Design Flow	D-2	To Monitor Operation	250VDC Bus 1A Voltage Indicator	2-36	0 - 300 Volts	Mild Environment
				250VDC 1A CHG. Amp Indicator	2-37	0 - 200 Amps	Mild Environment
				250VDC 1B Batt. Amp Indicator	2-38	200 - 0 Amps 0 - 1000 Amps	Mild Environment
				250VDC 1B CHG. Amp Indicator	2-39	0 - 300 Amps	Mild Environment
				250VDC Bus 1B Voltage Indicator	2-40	0 - 300 Volts	Mild Environment
				125VDC 1A Batt. Amp Indicator	2-41	200 - 0 Amps 0 - 1000 Amps	Mild Environment
				125VDC 1A CHG. Amp Indicator	2-42	0 - 200 Amps	Mild Environment
				125VDC BUS 1A Voltage Indicator	2-43	0 - 150 Volts	Mild Environment
				125VDC 1B Batt. Amp Indicator	2-44	200 - 0 Amps 0 - 1000 Amps	Mild Environment
				125VDC 1B CHG. Amp Indicator	2-45	0 - 200 Amps	Mild Environment
				125VDC BUS 1B Voltage Indicator	2-46	0 - 150 Volts	Mild Environment
				AC BUS Status	2-47		
				None	2-48	N/A	N/A
				PC-PI-513 PC-R-(RPR-513)	2-49 2-50	0 - 42.0 psig	Complies Mild Environment
				PC-PI-512A, B PC-R-(PR512-LR11) PC-PI-512	2-51 2-52 2-53	0 - 60 psia	Will Comply Mild Environment Mild Environment
				PC-PI-4A1, 4B2 PC-IE-3A, 3B PC-SC-3A, 3B PC-PR-1A, 1B	2-54 2-55 2-56 2-57	0 - 250 psig	Will Comply Mild Environment Mild Environment Mild Environment
				PC-DPI-3A1, 3B2 PC-IE-2A, 2B PC-SC-1A, 1B PC-LR-1A, 1B	2-58 2-59 2-60 2-61	0 - 30" (866'±.8%)	Will Comply Mild Environment Mild Environment Mild Environment
Suppression Pool Water Level	Top of Vent to Top of Weir Wall	D-2	To Monitor Operation				

Primary Containment - Related Systems

Suppression Chamber Spray Flow 0 - 110% Design Flow

Drywell Pressure -5 psig to 3 psig

0 - 110% Design Pressure

Suppression Pool Water Level

Top of Vent to Top of Weir Wall

To Monitor Operation

Will Comply

Mild Environment  
Mild Environment  
Mild Environment  
Mild Environment

ITEM NO.	SEISMIC <sub>1</sub> STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOP	INPUT FROM <sup>4</sup>	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
2-36	N/A	B	N/A	250 VDC BUS 1A	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-37	N/A	B	N/A	250 VDC CHG. 1A	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-38	N/A	B	N/A	250 VDC Batt. 1A	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-39	N/A	B	N/A	250 VDC CHG. 1B	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-40	N/A	B	N/A	250 VDC BUS 1B	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-41	N/A	B	N/A	125 VDC Batt. 1A	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-42	N/A	B	N/A	125 VDC CHG. 1A	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-43	N/A	B	N/A	125 VDC BUS 1A	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-44	N/A	B	N/A	125 VDC 1B Batt.	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-45	N/A	B	N/A	125 VDC 1B CHG.	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-46	N/A	B	N/A	125 VDC BUS 1B	Indicator	Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-47										Will not implement as Status can be derived from other sources.
2-48	N/A	N/A	N/A	N/A	N/A	No	No	No	No Action Necessary	Will not implement. Reference BWROG Position, Issue 7.
2-49	N/A	B	N/A	EE-PNL-CCP1A(9)	Recorder - Single Channel	Yes	Yes	Yes	No Action Necessary	None
2-50	N/A	B								
2-51	N/A	B	N/A	EE-PNL-CCP1B(1)	Recorders - Single Channel	Yes	Yes	Yes	Integrate with CRDR modifications. Implement during the 1988 outage. <sup>8,10</sup>	None
2-52	N/A	B								
2-53	N/A	B								
2-54	N/A	B	N/A	1E (RPS)	Recorders -	Yes	Yes	Yes	Modifications scheduled for 1986 and 1988 outage. <sup>8,10</sup>	None
2-55	N/A	B								
2-56	N/A	B								
2-57	N/A	B								
2-58	N/A	A	N/A	1E (RPS)	Recorders - Both Channels	Yes	Yes	Yes	Modifications scheduled for 1986 and 1988 outage. <sup>8,10</sup>	None
2-59	N/A	A								
2-60	N/A	A								
2-61	N/A	A								

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE- CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
Suppression Pool Water Temperature	30°F to 230°F	A-1 D-2	To Monitor Operation	PC-1E-1A,B,C,D,E,F,G,H 2A,B,C,D,E,F,G,H PC-1R-2A	1-146 0 - 250°F 1-147		Will Comply Mild Environment
Drywell Atmospheric Temperature	40°F to 440°F	D-2	To Monitor Operation	PC-1E-505A-E PC-R1-505A-E PC-11-505A-E	2-62 2-63 2-64	50° - 350°F	Complies Mild Environment Mild Environment
				PC-1E-510A-E PC-R1-510A-E PC-1R-510(1)&(2)	2-65 2-66 2-67	50° - 350°F	Complies Mild Environment Mild Environment
Drywell Spray Flow	0 to 110% Design Flow	D-2	To Monitor Operation	None	2-68		
<u>Main Steam System</u>							
Main Steamline Isolation Valves	0 to 15" of Water	D-2	To Provide Indication of Pressure	N/A to BMR 4	2-69		
Leakage control System Pressure	0 to 5 psig		Boundary Maintenance				
Primary system Safety Relief Valve	Closed - Not Closed	D-2	Detection of Accident; Boundary	MS-PS-300A-H (SRV)	2-70	27.5 psi (0-30 psi)	Complies
Positions, Including ADS or Pressure	or		Integrity Indication	MS-1E-112A,B,C (SV)	2-71	0 - 600°F	Will Comply
In Valve Lines	0 - 50 psig			MS-1E-114A,B,C (SV)	2-72	0 - 600°F	Complies
				MS-1R-166	2-73		Mild Environment
Isolation Condenser System Shell- side Water Level	Top to Bottom	D-2	To Monitor Operation	N/A to CMS	2-74		
Isolation Condenser System Valve Position	Open or Closed	D-2	To Monitor Operation	N/A to CMS	2-75		
REC Flow	0 - 110% Design Flow (D.F. = 416 GPM)	D-2	To Monitor Operation	REC-11-5B REC-11C-91 REC-5081-99	2-76 2-77 2-78	0 - 500 GPM	Complies Mild Environment Mild Environment

ITEM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
1-146	None <sup>6</sup>	A	Yes <sup>8</sup>	TE (RPS)	Common Recorder	Yes	Yes	Yes	Modifications scheduled for 1986 outage <sup>8</sup>	The existing recorder, located on VBD J a Honeywell panel, will be replaced by a qualified recorder. As VBD J did not include a response spectra in its original seismic testing, NPPD will qualify the recorder to the values established for the General Electric panels in the G.E. report NEDO-10678. SPDS will be used as a second source of recording.
1-147	B <sup>5</sup>	B	No	EE-PNL-CCPIA						
2-62	N/A	B <sup>7</sup>	N/A	EE-PNL-CCPIA(16)	Indicator -	Yes	Yes	Yes	No Action Necessary	Will not implement expanded range. Max LOCA temperature equals 340° F. The 40° F - 50° F deviation is of no safety significance because analyzed accidents do not result in temperatures in this range.
2-63	N/A	B			Single Channel					
2-64	N/A	B								
2-65	N/A	B <sup>7</sup>	N/A	EE-PNL-CCPIA(16)	Indicator -	Yes	Yes	Yes	No Action Necessary	Will not implement expanded range. Max LOCA temperature equals 340° F. The 40° F - 50° F deviation is of no safety significance because analyzed accidents do not result in temperatures in this range.
2-66	N/A	B			Single Channel					
2-67	N/A	B								
2-68									No Action Necessary	Will not implement. Reference BWROG Position, Issue 7.
2-69									No Action Necessary	Not applicable to CNS.
2-70	N/A	B	N/A	EE-PNL-AA2(6)	Indicator Lights	Yes	Yes	Yes	No Action Necessary	None
2-71	N/A	B <sup>7</sup>	N/A	EE-PNL-CPP	Recorder -	Yes	Yes	Yes	Modification scheduled for 1986 outage. <sup>8</sup>	
2-72	N/A	B <sup>7</sup>	N/A	EE-PNL-CPP	Single Channel					
2-73	N/A	B	N/A	EE-PNL-CPP	Computer Pt.	Yes	Yes	Yes	No Action Necessary	
2-74									No Action Necessary	Not applicable to CNS.
2-75									No Action Necessary	Not applicable to CNS.
2-76	N/A	B <sup>7</sup>	N/A	EE-PNL-NBPP(19)	Indicator -	Yes	Yes	Yes	No Action Necessary	None
2-77	N/A	B	N/A	9-4(13A-F14)	Single Channel					
2-78	N/A	B	N/A							



VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE - CATEGORY	PURPOSE	COUPLER CIC NUMBER	ITEM NO	INSTALLED RANGE	EQ STATUS
HPT Flow	0 - 110% Design Flow (D.F. = 4250 GPM)	D-2	To Monitor Operation	HPT-FT-82 HPT-FT-108 HPT-FT-119 HPT-SQRT-118	2-79 2-80 2-81 2-82	0 - 5000 GPM	Complies Mild Environment Mild Environment Mild Environment
Core Spray System Flow	0 - 110% Design Flow (D.F. = 4720 GPM)	D-2	To Monitor Operation	CS-FT-40A,B CS-ES-52AAB CS-FT-50AAB	2-83 2-84 2-85	0 - 6000 GPM	Complies Mild Environment Mild Environment
UPT Flow	0 - 110% Design Flow (D.F. = 15,000 GPM)	D-2	To Monitor Operation	RHR-FT-109A,B RHR-ES-145AAB RHR-SQRT-130AAB RHR-FT-133AAB	2-86 2-87 2-88 2-89	0 - 20,000 GPM	Complies Mild Environment Mild Environment Mild Environment
SLCS Flow	0 - 110% Design Flow	D-2	To Monitor Operation	None	2-90		
SLCS Storage Tank Level	Top to Bottom	D-2	To Monitor Operation	SLC-LT-45 SLC-LT-66 SLC-ES-69	2-91 2-92 2-93	0 - 100% Level	Mild Environment Mild Environment Mild Environment
Residual Heat Removal Systems							
RHR System Flow	0 - 110% Design Flow (D.F. = 15,000 GPM)	D-2	To Monitor Operation	RHR-FT-109A,B RHR-ES-145AAB RHR-SQRT-130AAB RHR-FT-133AAB	2-94 2-95 2-96 2-97	0 - 20,000 GPM	Complies Mild Environment Mild Environment Mild Environment
RHR Heat Exchanger Outlet Temperature	40°F to 350°F	D-2	To Monitor Operation	RHR-TE-94C,D RHR-TR-131	2-98 2-99	0 - 600°F	Will Comply Mild Environment



ITEM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT CHANNEL <sup>3</sup>	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
2-79	N/A	B <sup>7</sup>	N/A	EE-PNL-HB2(1B)	Indicator -	Yes	Yes	Yes	No Action Necessary	None
2-80	N/A	B	N/A	9-3(23A-F25 &	Single Channel					
2-81	N/A	B	N/A	23A-F26)						
2-82	N/A	B	N/A							
2-83	N/A	B <sup>7</sup>	N/A	EE-PNL-CC1A(3)	Indicators -	Yes	Yes	Yes	No Action Necessary	None
2-84	N/A	B	N/A	9-19(14-F52AV)	Double Channel					
2-85	N/A	B	N/A	EE-PNL-CPP(9)						
				9-18(14A-F3)						
2-86	N/A	B <sup>7</sup>	N/A	EE-PNL-CCP1A(3)	Indicator -	Yes	Yes	Yes	No Action Necessary	None
2-87	N/A	B	N/A	9-18(14A-F16A)	Double Channel					
2-88	N/A	B	N/A	EE-PNL-CCP1B(3)						
2-89	N/A	B	N/A	9-18(10A-F16B)						
2-90									No Action Necessary	NPPD will not implement SLCS Flow as a R.G. 1.97 variable for the following reasons:  1. SLCS tank level gives indication that flow is occurring. 2. The reactivity change in the reactor as measured by neutron flux is an indication of flow. 3. The pump motor indicating lights show system operation. 4. The squib valve continuity lights are an indication of flow. 5. The pumps discharge header pressure is an indication of flow.
2-91	N/A	B	N/A	EE-PNL-CPP(9)	Indicator -	Yes	Yes	Yes	No Action Necessary	Will implement as Category 3. Reference BWRDG Position, Issue 10.
2-92	N/A	B	N/A	(11A-F2)	Single Channel					
2-93	N/A	B	N/A							
2-94	N/A	B <sup>7</sup>	N/A	EE-PNL-CCP1A(3)	Indicators -	Yes	Yes	Yes	No Action Necessary	None
2-95	N/A	B	N/A	EE-PNL-CCP1B(3)	Double Channels					
2-96	N/A	B	N/A							
2-97	N/A	B	N/A							
2-98	N/A	B <sup>7</sup>	N/A	EE-PNL-CCP(4)	Common	Yes	Yes	Yes <sup>8</sup>	Modifications scheduled for completion during 1986 refueling outage <sup>6</sup>	None
2-99	N/A	B	N/A		Recorder					

VARIABLE	RANGE REQUIRED IN R.C. 1.97	TYPE- CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
Cooling Water System							
Cooling Water Temperature to ESF System Components	40°F to 200°F	D-2	To Monitor Operation	SM-IE-98A,B RHR-IR-131 (RHR Hx Outlet) SM-IE-388A,B (REC Hx Outlet) SM-IE-390A,B (RHR Hx Inlet) SM-IE-387A,B (REC Hx Inlet)	2-100 2-101 2-102 2-103 2-104	0 - 600°F 0°F - 150°F 0°F - 150°F 0°F - 150°F 0°F - 150°F	Not Qualified Mild Environment Not Qualified Not Qualified Not Qualified
Cooling Water Flow to ESF System Components							
Cooling Water Flow to ESF System Components	0 - 110% Design flow	D-2	To Monitor Operation	SM-FI-97A,B (RHR Hx) RHR-ES-145A,B SM-SQRT-132A,B SM-FI-132A,B SM-FI-387A,B (REC Hx) SM-SQRT-387A,B SM-FI-387A,B REC-FS-10(A) REC-FS-9(B)	2-105 2-106 2-107 2-108 2-109 2-110 2-111 2-112 2-113	0 - 10,000 GPM 0 - 8000 GPM	Complies Mild Environment Mild Environment Mild Environment Complies Mild Environment Mild Environment Mild Environment Mild Environment
Radwaste Systems							
High Radioactivity Liquid Tank Level	Top to Bottom	D-3	To Monitor Operation	RW-LI-429 (FLR DRN COLL 1K) RW-LI-369 (WASTE COLL 1K)	3-20 3-21	0 - 100% 0 - 100%	N/A N/A
Containment Radiation							
Primary Containment Area Radiation High Range	1 R/hr to 10 <sup>7</sup> R/hr	E-1	Detection of Significant Releases; Release Assessment; Long-Term Surveillance Emergency Plan Activation	RMA-RE-40A,B RMA-IR-40A,B RMA-IR-40	1-148 1-149 1-150	1 R/hr to 10 <sup>7</sup> R/hr	Will Comply Mild Environment Mild Environment
Secondary Containment Area Radiation High Range	10 <sup>-1</sup> R/hr to 10 <sup>8</sup> R/hr for Mark I Containments	E-2	Detection of Significant Releases; Release Assessment; Long-Term Surveillance	Fuel Pool Area- RMA-RE-1 RMA-IR-AU1 RMA-RA-1 HPCI Room- RMA-RE-10 RMA-RA-10	2-114 2-115 2-116 2-117 2-118	10 <sup>-1</sup> R/hr to 10 <sup>3</sup> R/hr 10 <sup>-5</sup> R/hr to 10 <sup>-1</sup> R/hr	Not Qualified Not Qualified Mild Environment Not Qualified Mild Environment

ITEM NO.	SEISMIC <sub>1</sub> STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOP	INPUT PHIS TO <sup>4</sup>	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
2-100	N/A	B <sup>7</sup>	N/A	EE-PNL-CCP(4)	Common Recorder	Yes	Yes	Yes <sup>a</sup>	No Action Necessary	NPPD will implement these instruments as Category 3 for the following reasons:  1) Heat exchanger operation is monitored via qualified instrumentation for cooling water flow to ESF system components (R.G. 1.97 Items 2-105 thru 2-113). 2) Indication of Heat Exchanger outlet temperature on the RHR side is provided by qualified instrumentation (R.G. 1.97 Items 2-98 and 2-99). 3) The river temperature does not significantly change over a short period of time and is indicated by other instrumentation in mild environments.
2-101	N/A	B	N/A							
2-102	N/A	B	N/A		Computer Pts	Yes	Yes	Yes	Will extend range to 40-200 <sup>0</sup> F during 1986 refueling outage <sup>8</sup>	
2-103	N/A	B	N/A		Computer Pts	Yes	Yes	Yes	Will extend range to 40-200 <sup>0</sup> F during 1986 refueling outage <sup>8</sup>	
2-104	N/A	B	N/A		Computer Pts	Yes	Yes	Yes	Will extend range to 40-200 <sup>0</sup> F during 1986 refueling outage <sup>8</sup>	
2-105	N/A	B <sup>7</sup>	N/A	EE-PNL-CCP1A(3)		Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-106	N/A	B	N/A	EE-PNL-CCP1B(3)						
2-107	N/A	B	N/A							
2-108	N/A	B	N/A							
2-109	N/A	B <sup>7</sup>	N/A	EE-PNL-CCP1A(20)		Yes	Yes	Yes <sup>8</sup>	No Action Necessary	None
2-110	N/A	B	N/A	EE-PNL-CCP1B(17)						
2-111	N/A	B	N/A							
2-112	N/A	B	N/A							
2-113	N/A	B	N/A							
3-20	N/A	None	N/A	EE-PNL-NBPP(5) 25-17-(20A-F1)	Radwaste C.R. Only	No	No	No	No Action Necessary	No direct indication in Control Room. Monitored every two hours by Operations Personnel.
3-21	N/A	None	N/A	EE-PNL-NBPP(5) 25-17-(20A-F1)						
1-148	C	A	Yes <sup>8</sup>	EE-PNL-RPSP1A	Common Recorder	Yes	Yes	Yes	Modifications scheduled for the 1986 outage. <sup>8</sup>	The recorder is isolated from the readout modules by an optical isolator. Indication is also provided by the IE readout modules (R.G. 1.97 Item 1-149). NPPD does not intend to qualify this recorder.
1-149	C	A		EE-PNL-RPSP1B						
1-150	None (See Deviations)	A	No	EE-PNL-CCP1A(19)						
2-114	N/A	B	N/A	EE-PNL-CPP(5)	Indicator - Single Channel	Yes	Yes	Yes	No Action Necessary	Will not implement as a Reg. Guide 1.97 parameter. Reference BWRGC Position, Issue 12.
2-115	N/A	B		EE-PNL-CPP(5)						
2-116	N/A	B		EE-PNL-CPP(5)						
2-117	N/A	B	N/A	EE-PNL-CPP(5)	Indicator - Single Channel	Yes	Yes	Yes	No Action Necessary	See Above
2-118	N/A	B		EE-PNL-CPP(5)						

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE - CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
<u>Area Radiation</u>  Radiation Exposure Rate	$10^{-1}$ R/hr to $10^4$ R/hr	E-3	Detection of Significant Releases; Release Assessment, Long-Term Surveillance	RIR SW QUAD		$10^{-5}$ R/hr to $10^{-1}$	
				RMA-RE-11	2-119	R/hr	Not Qualified
				RMA-RM-AU11	2-120		Not Qualified
				RMA-RA-11	2-121		Mild Environment
				RIR NW QUAD		$10^{-5}$ R/hr to $10^{-1}$	
				RMA-RE-12	2-122	R/hr	Not Qualified
				RMA-RM-AU12	2-123		Not Qualified
				RMA-RA-12	2-124		Mild Environment
				RCIC RM		$10^{-5}$ R/hr to $10^{-1}$	
				RMA-RE-13	2-125	R/hr	Not Qualified
				RMA-RA-13	2-126		Mild Environment
				CS SE RM		$10^{-5}$ R/hr to $10^{-1}$	
				RMA-RE-14	2-127	R/hr	Not Qualified
				RMA-RM-AU14	2-128		Not Qualified
				RMA-RA-14	2-129		Mild Environment
				Same List as above		Same List as Above	Same List as Above
<u>Airborne Radioactive Materials Released from Plant</u>  Noble Gases and Vent Flow Rate Drywell Purge, Standby Gas Treatment System Purge   Auxiliary Building	$10^{-6}$ uCi/cc to $10^5$ uCi/cc 0 - 110% Vent Design Flow (DF=6035 cfm)	E-2 C-3	Detection of Significant Releases, Release Assessment	ERP HI-range Effluent Monitor RMP-RM-3A,B	2-130	$10^{-7}$ uCi/cc to $1 \times 10^5$ uCi/cc	Mild Environment
				OG-FIT-4001	2-131		Mild Environment
				HV-FR-4000	2-132	0-10,000 cfm	Mild Environment
				T-G HI-range Effluent Monitor RMV-RM-20A,B	2-133	$10^{-7}$ uCi/cc to $1 \times 10^5$ uCi/cc	Mild Environment
				HV-FIT-4002A,B,C,D	2-134		Mild Environment
				HV-SQRT-4002A,B,C,D	2-135		Mild Environment
	$10^{-6}$ uCi/cc to $10^3$ uCi/cc 0 - 110% Vent Design Flow (DF=152,130)	E-2 C-3	Detection of Significant Releases, Release Assessment	HV-SUR-4002	2-136		Mild Environment
				HV-FR-4000	2-137	0-250,000 cfm	Mild Environment



SYM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR ISC	REQUIRED FOR EDF	INPUT 10 <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
2-119	N/A	B	N/A	EE-PNL-CPP(S)	Indicator - Single Channel	Yes	Yes	Yes	No Action Necessary	See Above
2-120	N/A	B		EE-PNL-CPP(S)						
2-121	N/A	B		EE-PNL-CPP(S)						
2-122	N/A	B	N/A	EE-PNL-CPP(S)	Indicator - Single Channel	Yes	Yes	Yes	No Action Necessary	See Above
2-123	N/A	B		EE-PNL-CPP(S)						
2-124	N/A	B		EE-PNL-CPP(S)						
2-125	N/A	B	N/A	EE-PNL-CPP(S)	Indicator - Single Channel	Yes	Yes	Yes	No Action Necessary	See Above
2-126	N/A	B		EE-PNL-CPP(S)						
2-127	N/A	B	N/A	EE-PNL-CPP(S)	Indicator - Single Channel	Yes	Yes	Yes	No Action Necessary	See Above
2-128	N/A	B		EE-PNL-CPP(S)						
2-129	N/A	B		EE-PNL-CPP(S)						
									See Above	Access is not required to any area of the secondary containment in order to service equipment important to safety in a post accident situation. If and when accessibility is re-established in the long term, it will be done by use of portable radiation survey instruments. The existing lower range area radiation monitors would be used only in those instances in which radiation levels were very mild. Cooper Nuclear Station design does not require access to harsh environment areas to service safety related equipment during an accident. It is NPPD's position that this parameter should be reclassified as Category 3 with the range of 10 <sup>-5</sup> R/hr to 10 <sup>-1</sup> R/hr for the HPCI Room, RIR SW QUAD, RIR NW QUAD, RCIC RH and CS SE RH and a range of 10 <sup>-1</sup> R/hr to 10 <sup>3</sup> R/hr for the fuel pool areas.
2-130	N/A	C	N/A	480 VAC from PPGB1 120 VAC from LPGB1	Indicator and Recorder -	Yes	Yes	Yes	No Action Necessary	None
2-131	N/A	C		EE-PNL-NBPP(15)	Single Channel	No	No	No	No Action Necessary	None
2-132	N/A	C								
2-133	N/A	C	N/A	480 VAC from MCC-DG1 120 VAC from CCP2B	Indicator and Recorder -	Yes	Yes	Yes	No Action Necessary	None
2-134	N/A	C		HV-ES-4002A,B	Single Channel					
2-135	N/A	C		HV-ES-4102A,B						
2-136	N/A	C								
2-137	N/A	C		EE-PNL-CPP(22)						



VARIABLE	RANGE REQUIRED IN R.C. 1.97	TYPE- CATEGORY	PURPOSE	COUNTER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
Auxiliary Building	10 <sup>-6</sup> uCi/cc to 10 <sup>3</sup> uCi/cc 0 - 110% Vent Design Flow (DF=66,870)	E-2 C-3	Detection of Significant Releases, Release Assessment	RW HI-range Effluent Monitor RHW-RH-30A,B	2-138	10 <sup>-7</sup> uCi/cc to 1x10 <sup>5</sup> uCi/cc	Mild Environment
Common Plant Vent	10 <sup>-6</sup> uCi/cc to 10 <sup>3</sup> uCi/cc 0 - 110% Design Flow (DF=6055)	E-2 C-3	Detection of Significant Releases, Release Assessment	RW-FI-4004 RHW-SQRT-4004 RHW-FR004-4003 ERP HI-range Effluent Monitor RHP-RH-3A,B	2-139 2-140 2-141 2-142	0-81,600 cfm 10 <sup>-7</sup> uCi/cc to 10 <sup>5</sup> uCi/cc	Mild Environment Mild Environment Mild Environment Mild Environment
Particulates and Halogens Common Plant Vent	10 <sup>-3</sup> uCi/cc to 10 <sup>2</sup> uCi/cc 0 - 110% Design Flow (DF=6055)	E-3	Detection of Significant Releases, Release Assessment; Long-Term Surveillance	RG-FI-4001 RHW-FR-4000 ERP HI-range Effluent Monitor RHP-RH-3A,B	2-143 2-144 3-22	0-10,000 cfm 10 <sup>-6</sup> uCi/cc to 1x10 <sup>2</sup> uCi/cc	Mild Environment Mild Environment N/A
Auxiliary Building	10 <sup>-3</sup> uCi/cc to 10 <sup>2</sup> uCi/cc 0 - 110% Design Flow (DF=152,130)	E-3	Detection of Significant Releases; Release Assessment; Long-Term Surveillance	RG-FI-4001 RHW-FR-4000 T-G HI-range Effluent Monitor RHW-RH-20A,B	3-23 3-24 3-25	0-10,000 cfm 10 <sup>-4</sup> uCi/cc to 10 <sup>2</sup> uCi/cc	N/A N/A N/A
Auxiliary Building	10 <sup>-3</sup> uCi/cc to 10 <sup>2</sup> uCi/cc 0 - 110% Design Flow (DF=66,870)	E-3	Detection of Significant Releases; Release Assessment; Long-Term	RW-FI-4002,A,B,C,D RHW-SQRT-4002A,B,C,D RHW-SQRT-4002 RHW-FR-4000 RW HI-range Effluent Monitor RHW-RH-30A,B	3-26 3-27 3-28 3-29 3-30	N/A N/A N/A 0-250,000 cfm 10 <sup>-4</sup> uCi/cc to 10 <sup>2</sup> uCi/cc	N/A N/A N/A N/A N/A
Auxiliary Building	10 <sup>-3</sup> uCi/cc to 10 <sup>2</sup> uCi/cc 0 - 110% Design Flow (DF=15,000 cfm)	E-3	Detection of Significant Releases; Release Assessment; Long-Term	RW-FI-4004 RHW-SQRT-4004 RHW-FR004-4003 RHW HI-range Effluent Monitor RHW-RH-10	3-31 3-32 3-33 3-34	0-81,600 cfm 10 <sup>-12</sup> to 10 <sup>-6</sup> uCi/cc Particulate Monitor with Orifice Analysis to 10 <sup>2</sup> uCi/cc	N/A N/A N/A N/A
Auxiliary Building	10 <sup>-3</sup> uCi/cc to 10 <sup>2</sup> uCi/cc 0 - 110% Design Flow (DF=66,870)	E-3	Detection of Significant Releases; Release Assessment; Long-Term	RHW-FI-4006 RHW-FS-4006 RHW-SQRT-4006 RHW-FR-4006	3-35 3-36 3-37 3-38	0-20,000 cfm	N/A N/A N/A N/A
Environmental Radiation and Radio- activity	10 <sup>-9</sup> uCi/cc to 10 <sup>-3</sup> uCi/cc	E-3	Release assessment; analysis	HP-1	3-39	10 <sup>-9</sup> uCi/cc to 10 <sup>-3</sup> uCi/cc	N/A

Environmental Radiation and Radio-  
activity  
Airborne Radionuclides and  
Particulates (particulate sampling  
with onsite analysis capability)

ITEM NO.	SEISMIC STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR ISC	REQUIRED FOR EDF	INPUT TO <sup>4</sup> PHIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
2-138	N/A	C	N/A	480 VAC from MCC-W 120 VAC from LPRW3 HV-ES-4000	Indicator and Recorder - Single Channel	Yes	Yes	Yes	No Action Necessary	None
2-139	N/A	C		HV-ES-4000						
2-140	N/A	C		HV-ES-4000						
2-141	N/A	C		EE-PNL-CPP(22)						
2-142	N/A	C	N/A	480 VAC from PPGB1 120 VAC from EPGB1 EE-PNL-NBPP(15)	Indicator and Recorder - Single Channel	Yes	Yes	Yes	No Action Necessary	
2-143	N/A	C								
2-144	N/A	C								
3-22	N/A	C	N/A	480 VAC from PPGB1 120 VAC from LPRW3 EE-PNL-NBPP(15)	None	No	No	No	No Action Necessary	None
3-23	N/A	C								
3-24	N/A	C								
3-25	N/A	C	N/A	480 VAC from MCC-DG1 120 VAC from CCP2B HV-ES-4002A,B HV-ES-4002A,B EE-PNL-CPP(22)	None	No	No	No	No Action Necessary	None
3-26	N/A	C								
3-27	N/A	C								
3-28	N/A	C								
3-29	N/A	C								
3-30	N/A	C	N/A	480 VAC from MCC-W 120 VAC from LPRW3 HV-ES-4000 HV-ES-4000 EE-PNL-CPP(22)	None	No	No	No	No Action Necessary	None
3-31	N/A	C								
3-32	N/A	C								
3-33	N/A	C								
3-34	N/A	C	N/A	480 VAC from PPMP2 120 VAC from PPMP1 EE-PNL-CPP(22) EE-PNL-CPP(22) EE-PNL-CPP(22)	Indicator and Recorder - Single Channel	Yes	Yes	Yes <sup>B</sup>	No Action Necessary	None
3-35	N/A	C								
3-36	N/A	C								
3-37	N/A	C								
3-38	N/A	C								
3-39	N/A	C	N/A	Portable-N/A	No	No	No	No	No Action Necessary	None

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE- CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
Plant and Environs Radiation (portable instrumentation)	10 <sup>-3</sup> R/hr to 10 <sup>4</sup> R/hr, photons 10 <sup>-3</sup> rads/hr to 10 <sup>4</sup> rads/hr, beta radiations and low-energy photons	E-3 E-3	Release assessment; analysis	HP-2 HP-3	3-40	10 <sup>-3</sup> R/hr to 10 <sup>3</sup> R/hr Gamma, 10 <sup>-3</sup> rads/hr to 200 rads/hr Beta	N/A
Plant and Environs Radioactivity (portable instrumentation)	(Isotopic Analysis)	E-3	Release assessment; analysis	None	3-42	Iodine Analysis	N/A
<u>Meteorology</u>							
Wind Direction	0 to 360° (±5° accuracy with a deflection of 10°). Starting speed less than 0.4 mps (1.0 mph). Damping ratio greater than or equal to 0.4, delay distance less than or equal to 2 meters.	E-3	Release assessment	Met 003 Met 011 Met 019	3-43	0-540° ± 3° thresh- hold 0.58 mph damping 0.4 at 1.13 meters	N/A
Wind Speed	0 to 22 mps (50 mph). ±2 mps (0.5) mph accuracy for speeds less than 2 mps (5 mph), 10% for speeds in excess of 2 mps (5 mph), with a starting thresh- hold of less than 0.4 mps (1.0 mph) and a distance constant not to exceed 2 meters.	E-3	Release assessment	Met 002 Met 010 Met 018	3-44	0-100 mph acc. ±0.15 mph or 1% threshold 0.6 mph, dist. const. equals 1.5 meters	N/A

ITEM NO.	SEISMIC <sup>1</sup> STATUS	QA STATUS <sup>2</sup>	REDUNDANT <sup>3</sup> CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR ISC	REQUIRED FOR EOF	INPUT PHIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
3-40	N/A	C	N/A	Portable-N/A	No	No	No	No	No Action Necessary	The upper limits of $10^3$ R/hr. Gamma and 200-rads/hr. Beta is acceptable for portable instrumentation as any exposure rate higher than this would expose personnel using the instrument to doses beyond allowable limits. The District has established emergency dose exposure limits that are in excess of occupational limits established by 10CFR20. These limits, which are found in Cooper Nuclear Station's Emergency Plan Implementing Procedure, are 5 rem for sampling under accident conditions, 25 rem for corrective or protective actions and 75 rem for life-saving actions. If access is required to service equipment, the allowable limit of 25 rem would be reached in 90 seconds at the upper limit of $10^3$ R/hr. of existing portable instrumentation. Any rate above $10^3$ R/hr. would not allow sufficient time for corrective action, thus the area would be considered inaccessible. (Gamma exposure is considered the most limiting condition as Gamma rate will always exceed Beta rate.) Thus, it is the District's position that the existing portable instrumentation provides the needed range and meets the intent of Regulatory Guide 1.97.
3-42	N/A	C	N/A	N/A	No	No	No	No	No Action Necessary	Laboratory analysis is used as it is more accurate.
3-43	N/A	C	N/A	Normal-Offsite Emergency-MCC-L	SPDS	Yes	Yes	Yes	Installed	None
3-44	N/A	C	N/A	Normal-Offsite Emergency-MCC-L	SPDS	Yes	Yes	Yes	Installed	None

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE- CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
Estimation of Atmospheric Stability	Based on vertical temperature difference from primary meteorological system, 5°C to 10°C (-9°F to 18°F) and ±0.15°C accuracy per 50-meter intervals (±0.3°F accuracy per 164-foot intervals) or analogous range for alternative stability estimates.	E-3	Release assessment	Met-005 Met-013 Met-021	3-45	-30 to +50°C ±5% Δ T not to exceed 0.15°C	N/A
<u>Accident Sampling Capability</u> (Analysis Capability On Site)							
Primary Coolant and Sump	Grab Sample	E-3	Release assessment; verification; analysis	PASS	3-46		N/A
Gross Activity	1 uCi/ml to 10 Ci/ml					1 uCi/ml to 10 Ci/ml	
Gamma Spectrum	(Isotopic Analysis)					Isotopic Analysis	
Boron Content	0 to 1000 ppm					0 to 15 ppm (dilutable)	
Chloride Content	0 to 20 ppm					10 ppb to 10 ppm (dilutable)	
Dissolved Hydrogen or Total Gas	0 to 2000 cc(STP)/kg					Not available-calculated	
Dissolved Oxygen	0 to 20 ppm					10 ppb to 1 ppm (dilutable)	
pH	1 to 13					1 to 14 (online)	
Containment Air	Grab Sample	E-3	Release assessment; verification; analysis	PASS	3-47		N/A
Gamma Spectrum	(Isotopic analysis)					Isotopic Analysis	



ITEM NO.	SEISMIC STATUS <sup>1</sup>	QA STATUS <sup>2</sup>	REDUNDANT CHANNEL <sup>3</sup>	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOP	INPUT TO <sup>4</sup> PMIS	SCHEDULE	DEVIATIONS AND JUSTIFICATIONS
3-45	N/A	C	N/A	Normal-Offsite Emergency-MCC-L	SPUS	Yes	Yes	Yes	Installed	None
3-46	N/A	C	N/A	EE-PNL-LPRW2	No	No	No	No	Installed	Implement as Category 3 for primary coolant sampling only. Sump sample not implemented. Reference BWROG Position, Issue 14. Post Accident Sampling System (PASS) approved as per NUREG-0737 item II, B3.
3-47	N/A	C	N/A	EE-PNL-LPRW2	No	No	No	No	Installed	None

Notes:

<sup>1</sup>Seismic Status

- A - Original Plant Criteria furnished by GE
- B - Original Plant Criteria BOP
- C - Qualified to R.G. 1-100

<sup>2</sup>QA Status

- A - 10 CFR 50 Appendix B
- B - Original QA Design Criteria
- C - High Quality

<sup>3</sup>Redundant Channel

- a - All redundant or diverse channels are electrically independent and are physically separated from each other although they do not always meet with the minimum separation distances as specified in Reg. Guide 1.75.
- b - Although supplied by one division, one channel is supplied by a DC source and the other by an AC source.
- c - Diverse circuits supplied by one division
- d - Redundant valve is a check valve without indication.

<sup>4</sup>Input to PMIS

- a - Will be added to PMIS during 1987.
- b - Modifications are contingent on the results of Generic Letter 84-09.

<sup>5</sup>The original seismic testing on the Honeywell panels did not include a response spectra, as such the instruments located on the Honeywell panels will be qualified to the levels established in the G.E. report NEDO-10678. The instruments located on the G.E. panels will be qualified to the levels established in the original plant seismic criteria of NEDO-10678.

<sup>6</sup>This item will be qualified to R.G. 1.100 after modifications.

<sup>7</sup>This item will meet 10CFR50 Appendix B after modifications.

<sup>8</sup>The 1986 outage is the 1st refueling after the 1984-85 outage.

<sup>9</sup>The 1987 outage is a maintenance outage.

<sup>10</sup>The 1988 outage is the 2nd refueling after the 1984-85 outage.