Nebraska Public Power District

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NLS9000150
April 12, 1990

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

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

References: 1) Letter from G. A. Trevors to U.S. NRC, dated August 21, 1989, NUREG-0737, Supplement 1 - Regulatory Guide 1.97 Response, Revision VIII
2) Letter from W. O. Long to J. M. Pilant, dated October 27, 1986, Emergency Response Capability - Conformance to Regulatory Guide 1.97, Revision 2

Gentlemen:

Attached is Revision IX of the Regulatory Guide 1.97 (RG 1.97) instrumentation list. The changes between Revision VIII (Reference 1) and Revision IX are identified by revision bars in the right-hand margin. This revision reflects only typographical corrections. The District does not consider any of the changes in Revision IX to impact the favorable safety evaluation report (Reference 2), which found Cooper Nuclear Station to be in compliance with the requirements of RG 1.97.

The purpose of this revision to the RG 1.97 response is to correct typographical errors identified during the NRC Regulatory Guide 1.97 Team Inspection, NRC Inspection Report 90-01.

Should you have any questions regarding this issue, please contact this office.

Sincerely,

G. A. Trevors
Division Manager
Nuclear Support

/jw
Attachment (34 pages)

cc: U.S. Nuclear Regulatory Commission
Region IV - Arlington, TX

NRC Resident Inspector
Cooper Nuclear Station

A003
1/1

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
Reactivity Control							
Neutron Flux	10^{-6}% to 100% Full Power (SRM, APRM)	B-1	Function Detention; Accomplishment of Mitigation	SRM's, LPRM's	1-1	10^{-6}% to 125% Full Power	N/A
Control Rod Position	Full In or Not Full In	B-3	Verification	RPIS	3-1	Full In or Not Full In 0"-144"	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	NBI-LT-59A,B,C NBI-LR-85A,B NBI-LI-85A,B,C NBI-IE-59A,-91A,B NBI-SC-59A,B	1-2 1-3 1-4 1-151 1-152	10" - +225" (-150" - +60")	Qualified Mild Environment Mild Environment Mild Environment Mild Environment
				NBI-LT-92 NBI-LI-92 NBI-IE-92	1-5 1-6 [illegible]153	160" - +340" (0" - +170")	Qualified Mild Environment Mild Environment
				NBI-LT-91A,B,C NBI-LI-91A,B,[illegible] NBI-LR-91A,[illegible] NBI-IE-91A,B NBI-SC-91A,B	1-7 1-8 1-154 1-155 1-156	-150 - +225" (-314" - +61")	Qualified Mild Environment Mild Environment Mild Environment Mild Environment
BWR Core Thermocouples	200°F to 2300°F		To Provide Diverse Indication of Water Level	None		N/A	N/A

ITEM NO.	SEISMIC STATUS[1]	GA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-1	A	B	Yes*	RPS	Indicators	SRM	SRM Alarm Only	Yes Alarm Only	Implemented 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 Cateogry 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	None
3-2	N/A	C	N/A	LPRW2A	None	No	No	No	None
1-2 1-3 1-4 1-151 1-152	C C C C C	A A A A A	Yes Yes Yes* Yes Yes	EE-PNL-CCP1A(12)/ EE-PNL-CPP(26)	Indicator/ Recorder	Yes	Yes	Yes	NPPD provides 1E fuel zone water level instrumentation to -150" which is 6" below the bottom of active fuel. NPPD supplies only one qualified channel for the upper water range, from top of fuel (0 inches) to the center of the steam line at +287.5 inches. Reference SEP.
1-5 1-6 1-153	C C C	A A A	No No No	EE-PNL-CCP1A(12)	Indicator	Yes	Yes	Yes	
1-7 1-8 1-154 1-155 1-156	C C C C C	A A A A A	Yes Yes Yes Yes Yes	EE-PNL-CCP1A(12)/ EE-PNL-CPP(26)	Indicator/ Recorder	Yes	Yes	Yes	
	N/A	N/A	N/A	N/A	N/A	No	No	No	Not implemented. Reference BWROG Position, Appendix A.

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	ED-STATUS
Maintaining Reactor Coolant System Integrity							
RCS Pressure	0 psia to 1500 psig	A-1 B-1 C-1	Function Detection; Accomplishment of Mitigation; Verification	NBI-PT-6A,B PC-IE-3A,3B PC-SC-2A,2B NBI-PR-2A,2B	1-9 1-10 1-11 1-12	0 - 1500 psig	Qualified Mild Environment Mild Environment Mild Environment
Drywell Pressure	0 to Design Pressure (D.P. = 56 psig)	A-1 B-1	Function Detection; Accomplishment of Mitigation; Verification	PC-PT-512A,B PC-IE-5A,B PC-SC-4A,B PC-PR-2A,B	1-13 1-14 1-15 1-157	-5 - 70 psig	Qualified Mild Environment Mild Environment Mild Environment
				PC-PT-4A1,4B2 PC-IE-3A,3B PC-SC-3A,3B PC-PR-1A,1B	1-16 1-17 1-18 1-19	0 - 250 psig	Qualified Mild Environment Mild Environment Mild Environment
Drywell Sump Level	Top to Bottom	B-1	Function Detection; Accomplishment of Mitigation; Verification	ANN-ANN-(9-4-1/6-3) ANN-ANN-(9-4-1/7-3) ANN-ANN-(S-1/5-4)	1-20		Mild Environment
Maintaining Containment Integrity							
Primary Containment Pressure	-5 psig to Design Pressure (D.P. = 56 psig)	B-1	Function Detection; Accomplishment of Mitigation; Verification	PC-PT-512A,B PC-IE-5A,B PC-SC-4A,B PC-PR-2A,B	1-21 1-22 1-23 1-158	-5-70 psig	Qualified Mild Environment Mild Environment Mild Environment

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-9	C	A	Yes[4]	EE-PNL-CCP1A(12)/	Recorder	Yes	Yes	Yes	None
1-10	C	A		EE-PNL-CPP(26)	Both				
1-11	C	A			Channels				
1-12	C	A							
1-13	C	A	Yes[4]	EE-PNL-CCP1A(12)/	Recorder	Yes	Yes	Yes	None
1-14	C	A		EE-PNL-CPP(26)	Both				
1-15	C	A			Channels				
1-157	C	A							
1-16	C	A	Yes[4]	EE-PNL-CCP1A(12)/	Recorder	Yes	Yes	Yes	None
1-17	C	A		EE-PNL-CPP(26)	Both				
1-18	C	A			Channels				
1-19	C	A							
1-20		B			Annunciators	Yes	Yes	Yes	Implemented as Category 3. Reference SER.
1-21	C	A	Yes[4]	EE-PNL-CCP1A(12)/	Recorder	Yes	Yes	Yes	None
1-22	C	A		EE-PNL-CPP(26)	Both				
1-23	C	A			Channels				
1-158	C	A							

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
				PC-PT-4A1,4B2	1-24	0 - 250 psig	Qualified Mild Environment
				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-30A,B	1-28	-5 - 70 psig	Qualified Mild Environment
				PC-IE-5A,B	1-29		Mild Environment
				PC-SC-4A,B	1-159		Mild Environment
				PC-PR-2A,B	1-160		Mild Environment
Primary Containment Isolation Valve Position (Excluding Check Valves)	Closed - Not Closed	B-1	Accomplishment of Isolation	PC-LMS-237AV(O),(C)	1-30	Closed - Not Closed	Qualified Mild Environment
				PC-AO-237AV Indicating Lights	1-31		
				PC-LMS-238AV(O),(C)	1-32	Closed - Not Closed	Qualified Mild Environment
				PC-AO-238AV Indicating Lights	1-33		
				PC-LMS-243AV(O),(C)	1-34	Closed - Not Closed	Qualified Mild Environment
				PC-AO-243AV Indicating Lights	1-35		
				PC-LMS-244AV(O),(C)	1-36	Closed - Not Closed	Qualified Mild Environment
				PC-AO-244AV Indicating Lights	1-37		
				PC-LMS-245AV(O),(C)	1-38	Closed - Not Closed	Qualified Mild Environment
				PC-AO-245AV Indicating Lights	1-39		
				PC-LMS-246AV(O),(C)	1-40	Closed - Not Closed	Qualified Mild Environment
				PC-AO-246AV Indicating Lights	1-41		
				PC-MO-230MV	1-42	Closed - Not Closed	Qualified Mild Environment
				PC-MO-230MV Indicating Lights	1-43		
				PC-MO-231MV	1-44	Closed - Not Closed	Qualified Mild Environment
				PC-MO-231MV Indicating Lights	1-45		
				PC-MO-232MV	1-46	Closed - Not Closed	Qualified Mild Environment
				PC-MO-232MV Indicating Lights	1-47		
				RW-LMS-A094(O),(C)	1-48	Closed - Not Closed	Qualified Mild Environment
				RW-AO-A094 Indicating Lights	1-49		
				RW-LMS-A095(O),(C)	1-50	Closed - Not Closed	Qualified Mild Environment
				RW-AO-A095 Indicating Lights	1-51		
				RW-LMS-A082(O),(C)	1-52	Closed - Not Closed	Qualified Mild Environment
				RW-AO-A082 Indicating Lights	1-53		
				RW-LMS-A083(O),(C)	1-54	Closed - Not Closed	Qualified Mild Environment
				RW-AO-A083 Indicating Lights	1-55		
				PC-MO-233MV	1-56	Closed - Not Closed	Qualified Mild Environment
				PC-MO-233MV Indicating Lights	1-57		
				MS-LMS-A080A,B,C,D (A),(F)	1-58	Closed - Not Closed	Qualified

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-24	C	A	Yes	EE-PNL-CCP1A(12)/ EE-PNL-CPP(26)	Recorder Both Channels	Yes	Yes	Yes	
1-25	C	A							
1-26	C	A							
1-27	C	A							
1-28	C	A	Yes	EE-PNL-CCP1A(12)/ EE-PNL-CPP (26)	Recorder Single Channel	Yes	Yes	Yes	None
1-29	C	A							
1-159	C	A							
1-160	C	A							
1-30	C	A	Yes[4]	EE-PNL-CCP1B(7)	Indicator Lights	Yes	Yes	Yes	None
1-31	C	A							
1-32	C	A	Yes[4]	EE-PNL-CCP1B(7)	Indicator Lights	Yes	Yes	Yes	None
1-33	C	A							
1-34	C	A	No[4]	EE-PNL-CCP1A(9)	Indicator Lights	Yes	Yes	Yes	None
1-35	C	A							
1-36	C	A	No[4]	EE-PNL-CCP1A(9)	Indicator Lights	Yes	Yes	Yes	None
1-33	C	A							
1-38	C	A	Yes[4]	EE-PNL-CCP1B(7)	Indicator Lights	Yes	Yes	Yes	None
1-39	C	A							
1-40	C	A	Yes[4]	EE-PNL-CCP1B(7)	Indicator Lights	Yes	Yes	Yes	None
1-41	C	A							
1-42	C	B	Yes[4]	EE-MCC-RA(2A)	Indicator Lights	Yes	Yes	Yes	None
1-43	C	A							
1-44	C	B	Yes[4]	EE-MCC-RA(2B)	Indicator Lights	Yes	Yes	Yes	None
1-45	C	A							
1-46	C	B	Yes[4]	EE-MCC-RA(2C)	Indicator Lights	Yes	Yes	Yes	None
1-47	C	A							
1-48	C	A	Yes[4]	EE-PNL-RPSPP1A(3)	Indicator Lights	Yes	Yes	Yes	None
1-49	C	A							
1-50	C	A	Yes[4]	EE-PNL-RPSPP1B(3)	Indicator Lights	Yes	Yes	Yes	None
1-51	C	A							
1-52	C	A	Yes[4]	EE-PNL-RPSPP1A(3)	Indicator Lights	Yes	Yes	Yes	None
1-53	C	A							
1-54	C	A	Yes[4]	EE-PNL-RPSPP1B(3)	Indicator Lights	Yes	Yes	Yes	None
1-55	C	A							
1-56	C	B	Yes[4]	EE-MCC-RA(2D)	Indicator Lights	Yes	Yes	Yes	None
1-57	C	A							
1-58	C	B	Yes[4]	EE-PNL-AA2(12)	Indicator Lights	Yes	Yes	Yes	None

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-59	C	A							
1-60	C	B	Yes[a]	EE-PNL-BB2(9)	Indicator Lights	Yes	Yes	Yes	None
1-61	C	A							
1-62	C	B	Yes[a]	EE-MCC-R(4C)	Indicator Lights	Yes	Yes	Yes	None
1-63	C	A							
1-64	C	B	Yes[a]	EE-STR-125RX (M077)	Indicator Lights	Yes	Yes	Yes	None
1-65	C	A							
1-66	C	B	Yes[a]	EE-MCC-R(5A)	Indicator Lights	Yes	Yes	Yes	None
1-67	C	A							
1-68	C	B	Yes[a]	EE-STR-125HPCI (M016)	Indicator Lights	Yes	Yes	Yes	None
1-69	C	A							
1-70	C	B	Yes[a]	EE-MCC-Y(10B)	Indicator Lights	Yes	Yes	Yes	None
1-71	C	A							
1-72	C	B	Yes[a]	EE-STR-125RCIC (M016)	Indicator Lights	Yes	Yes	Yes	None
1-73	C	A							
1-74	C	B	Yes[a]	EE-MCC-K(4C)	Indicator Lights	Yes	Yes	Yes	None
1-75	C	A							
1-76	C	B	Yes[a]	EE-MCC-RA(5D)	Indicator Lights	Yes	Yes	Yes	None
1-77	C	A							
1-78	C	A	Yes[a]	EE-MCC-R(5C)	Indicator Lights	Yes	Yes	Yes	None
1-79	C	A							
1-80	C	B	Yes[a]	EE-STR-125RX (M018)	Indicator Lights	Yes	Yes	Yes	None
1-81	C	A							
1-82	C	B	Yes[a]	EE-STR-125HPCI (RHR-M017)	Indicator Lights	Yes	Yes	Yes	None
1-83	C	A							
1-84	C	B	Yes[a]	EE-MCC-R(7A)	Indicator Lights	Yes	Yes	Yes	None
1-85	C	A							
1-86	C	A	Yes[b]	EE-STR-250 DIVI(M025A)	Indicator Lights	Yes	Yes	Yes	None
1-87	C	A							
1-88	C	A	Yes[b]	EE-STR-250 DIVII(M025B)	Indicator Lights	Yes	Yes	Yes	None
1-89	C	A							
1-90	C	B	Yes[b]	EE-MCC-CA(3E)	Indicator Lights	Yes	Yes	Yes	None

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
				RHR-MO-MO27A Indicating Lights	1-91		Mild Environment
				RHR-MO-MO27B	1-92	Closed - Not Closed	Qualified
				RHR-MO-MO27G	1-93		Mild Environment
				CS-MO-MO12A Indicating Lights	1-94	Closed - Not Closed	Qualified
				CS-MO-MO12A	1-95		Mild Environment
				CS-MO-MO12G	1-96	Closed - Not Closed	Qualified
				CS-MO-MO12B Indicating Lights	1-97		Mild Environment
				CS-MO-MO11A	1-98	Closed - Not Closed	Qualified
				CS-MO-MO11A Indicating Lights	1-99		Mild Environment
				CS-MO-MO11B	1-100	Closed - Not Closed	Qualified
				CS-MO-MO11B Indicating Lights	1-101		Mild Environment
				RR-LMS-740AV(O),(C)	1-102	Closed - Not Closed	Qualified
				RR-AO-740AV Indicating Lights	1-103		Mild Environment
				RR-LMS-741AV(O),(C)	1-104	Closed - Not Closed	Qualified
				RR-AO-741AV Indicating Lights	1-105		Mild Environment
				RHR-MO-MO57	1-106	Closed - Not Closed	Qualified
				RHR-MO-MO57 Indicating Lights	1-107		Mild Environment
				RHR-MO-MO67	1-108	Closed - Not Closed	Qualified
				RHR-MO-MO67 Indicating Lights	1-109		Mild Environment
				ACAD-MO-1301MV	1-110	Closed - Not Closed	Qualified
				ACAD-MO-1301MV Indicating Lights	1-111		Mild Environment
				ACAD-MO-1302MV	1-112	Closed - Not Closed	Qualified
				ACAD-MO-1302MV Indicating Lights	1-113		Mild Environment
				ACAD-MO-1303MV	1-114	Closed - Not Closed	Qualified
				ACAD-MO-1303MV Indicating Lights	1-115		Mild Environment
				ACAD-MO-1304MV	1-116	Closed - Not Closed	Qualified
				ACAD-MO-1304MV Indicating Lights	1-117		Mild Environment
				ACAD-MO-1305MV	1-118	Closed - Not Closed	Qualified

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-91	C	A							
1-92	C	B	Yes[b]	EE-MCC-RB(3C)	Indicator Lights	Yes	Yes	Yes	None
1-93	C	A							
1-94	C	A	Yes[c]	EE-MCC-Q(6A)	Indicator Lights	Yes	Yes	Yes	None
1-95	C	A							
1-96	C	A	Yes[c]	EE-MCC-Y(5C)	Indicator Lights	Yes	Yes	Yes	None
1-97	C	A							
1-98	C	A	Yes[c]	EE-MCC-Q(5F)	Indicator Lights	Yes	Yes	Yes	None
1-99	C	A							
1-100	C	A	Yes[c]	EE-MCC-Y(5B)	Indicator Lights	Yes	Yes	Yes	None
1-101	C	A							
1-102	C	A	Yes[a]	EE-PNL-CCP1B(2)	Indicator Lights	Yes	Yes	Yes	None
1-103	C	A							
1-104	C	A	Yes[a]	EE-PNL-CCP1A(2)	Indicator Lights	Yes	Yes	Yes	None
1-105	C	A							
1-106	C	B	Yes[a]	EE-MCC-R(3B)	Indicator Lights	Yes	Yes	Yes	None
1-107	C	A							
1-108	C	B	Yes[a]	EE-PNL-BB3(3)	Indicator Lights	Yes	Yes	Yes	None
1-109	C	A							
1-110	C	C	Yes[a]	EE-MCC-CB(3A)	Indicator Lights	Yes	Yes	Yes	None
1-111	C	A							
1-112	C	C	Yes[a]	EE-PNL-CA(1)	Indicator Lights	Yes	Yes	Yes	None
1-113	C	A							
1-114	C	C	Yes[a]	EE-PNL-CB(1)	Indicator Lights	Yes	Yes	Yes	None
1-115	C	A							
1-116	C	C	Yes[a]	EE-MCC-CA(2A)	Indicator Lights	Yes	Yes	Yes	None
1-117	C	A							
1-118	C	C	Yes[a]	EE-PNL-CB(2)	Indicator Lights	Yes	Yes	Yes	None

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
				ACAD-MO-1305MV Indicating Lights	1-119		Mild Environment
				ACAD-MO-1306MV	1-120	Closed - Not Closed	Qualified
				ACAD-MO-1306MV Indicating Lights	1-121		Mild Environment
				ACAD-MO-1308MV	1-122	Closed - Not Closed	Qualified
				ACAD-MO-1308MV Indicating Lights	1-123		Mild Environment
				ACAD-MO-1310MV	1-124	Closed - Not Closed	Qualified
				ACAD-MO-1310MV Indicating Lights	1-125		Mild Environment
				ACAD-MO-1311MV	1-126	Closed - Not Closed	Qualified
				ACAD-MO-1311MV Indicating Lights	1-127		Mild Environment
				ACAD-MO-1312MV	1-128	Closed - Not Closed	Qualified
				ACAD-MO-1312MV Indicating Lights	1-129		Mild Environment
Reactor Coolant Pressure Boundary							
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 & B)	3-6		
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) ANN-ANN-(9-4-1/5-3) ANN-ANN-(5-1/5-2)	1-130		Mild Environment

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-119	C	A							
1-120	C	C	Yes[6]	EE-MCC-CA(2B)	Indicator Lights	Yes	Yes	Yes	None
1-121	C	A							
1-122	C	C	Yes[6]	EE-PNL-CA(2)	Indicator Lights	Yes	Yes	Yes	None
1-123	C	A							
1-124	C	C	Yes[6]	EE-PNL-CB(3)	Indicator Lights	Yes	Yes	Yes	None
1-125	C	A							
1-126	C	C	Yes[6]	EE-PNL-CA(3)	Indicator Lights	Yes	Yes	Yes	None
1-127	C	A							
1-128	C	C	Yes[6]	EE-MCC-CB(3C)	Indicator Lights	Yes	Yes	Yes	None
1-129	C	A							
3-3	N/A	A	N/A	EE-PNL-CCP1A(19) EE-PNL-CCP1B(1)	Common Recorder	Yes	Yes	Yes	None
3-4	N/A								
3-5	N/A								
3-6	N/A								
1-130	-	B	-	---	Annunciators	Yes	Yes	Yes	Implemented as Category 3. Reference SER.

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
Suppression Pool Water Level	Bottom of ECCS Sunction Line to 5' Above Normal Water Level	A-1 C-1	Detection of Breach; Accomplishment of Mitigation; Verification Long-Term Surveillance	PC-DPI-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')	Qualified Mild Environment Mild Environment Mild Environment
Containment							
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 psia	Qualified 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,B RMP-CBX-(3B-1,2) RMP-CBX-(3A-1,2) RMP-RR-3	 2-1 2-2 2-162 2-163	$5x10^{-7}$ uCi/cc to $1x10^{5}$ uCi/cc (Note 4)	 Mild Environment Mild Environment Mild Environment
Containment and Drywell Hydrogen Concentration	0 - 30% (Cabability of Operating from -5 psig to Design Pressure)	C-1	Detection of Potential for Breach; Accomplishment of Mitigation	PC-AN-H2/02I PC-AN-H2/02II PC-R-H2I PC-R-H2II	1-139 1-140 1-141 1-142	0-30%	Qualified Qualified 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-H2/02I PC-AN-H2/02II PC-R-02I PC-R-02II	1-143 1-143 1-144 1-144	0-10% 0-30%	Qualified Qualified Mild Environment Mild Environment
Condensate and Feedwater System							
Main Feedwater Flow	0 - 110% Design Flow (D.F.=9.52 x 10^{6} lb/hr total, 6.4 x 10^{6} lb/hr per pump)	D-3	Detection of Operation, Analysis of Cooling	RFC-FT-50A,B RFC-ES-93 RFC-SORT-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-LT-5 Computer PT F001 ES-ES-1 CM-LIC-5 CM-LT-680A CM-LI-682	3-11 3-12 3-13 3-14 3-15 3-16	0 - 100% (0' - 40') 0 - 100% (0' - 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-LT-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[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-131	C	A	Yes	EE-PNL-CCP1A(12)/ EE-PNL-CPP(26)	Recorder - Both Channels	Yes	Yes	Yes	None
1-132	C	A							
1-133	C	A							
1-134	C	A							
1-135	C	A	Yes	EE-PNL-CCP1A(12)/ EE-PNL-CPP(26)	Recorder - Both Channels	Yes	Yes	Yes	None
1-136	C	A							
1-137	C	A							
1-138	C	A							
			N/A	480 VAC from PPGB1 120 VAC from LPGB1	Recorder and Indicator - Single Channel	Yes	Yes	Yes	None
2-1	N/A	C							
2-2	N/A	C		EE-PNL-CCP1B(19)					
2-162	N/A	C							
2-163	N/A	C							
1-139	C	A	Yes	EE-PNL-CCP1A(20)	Recorder - Both Channels	No	No	Yes	None
1-140	C	A		EE-PNL-CCP1B(18)		No	No	Yes	
1-141	C	A		EE-PNL-CCP1A(20)					
1-142	C	A		EE-PNL-CCP1B(18)					
1-143	C	A	Yes	EE-PNL-CCP1A(20)	Recorder - Both Channels	Yes	Yes	Yes	None
1-143	C	A		EE-PNL-CCP1B(18)					
1-144	C	A		EE-PNL-CCP1A(20)					
1-144	C	A		EE-PNL-CCP1B(18)					
3-7	N/A	C	N/A	EE-PNL-NBPP(4)	Indicator - Both Channels	Yes	Yes	Yes	None
3-8	N/A	C		EE-PNL-AA2(2)					
3-9	N/A	C			Recorder - Single Channel				
3-10	N/A	C							
3-11	N/A	C	N/A	EE-PNL-CCP1A(16)	Indicator - Single Channel	Yes	Yes	Yes	None
3-12	N/A								
3-13	N/A	C							
3-14	N/A	C		EE-PNL-CCP1A(11)					
3-15	N/A	C	N/A	EE-PNL-PPCM1	Indicator - Single Channel	Yes	Yes	Yes	None
3-16	N/A	C							
3-17	N/A	C	N/A	EE-PNL-CCP1B(12)	Indicator - Both Channels	Yes	Yes	Yes	None
3-18	N/A	C							
3-19	N/A	C							

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ-STATUS
Fuel Cladding							
Radioactivity Concentration or Radiation Level in Circulating Primary Coolant	1/2 Tech Spec Limit to 100 Times Tech Spec Limit	C-1	Detection or Breach	Post-Accident Sample System	1-145	Grab Sample	R/A
Ventilation Systems							
Emergency Ventilation Damper Position	Open - Closed Status	D-2	To Monitor Operation	HV-LMS-257AV(O),(C)	2-3	Open-Closed	Mild Environment
				HV-AOV-257AV	2-4		Mild Environment
				Indicating Lights			
				HV-MO-272MV	2-5	Open-Closed	Mild Environment
				HV-MO-272MV	2-6		Mild Environment
				Indicating Lights			
				HV-LMS-259AV(O),(C)	2-7	Open-Closed	Mild Environment
				HV-AOV-259AV	2-8		Mild Environment
				Indicating Lights			
				HV-MO-258MV	2-9	Open-Closed	Mild Environment
				HV-MO-258MV	2-10		Mild Environment
				Indicating Lights			
				HV-MO-260MV	2-11	Open-Closed	Mild Environment
				HV-MO-260MV	2-12		Mild Environment
				Indicating Lights			
				HV-LMS-261AV(O),(C)	2-13	Open-Closed	Mild Environment
				HV-AOV-261AV	2-14		Mild Environment
				Indicating Lights			
				HV-MO-262MV	2-145	Open-Closed	Mild Environment
				HV-MO-262MV	2-146		Mild Environment
				Indicating Lights			
				HV-MO-264MV	2-147	Open-Closed	Mild Environment
				HV-MO-264MV	2-148		Mild Environment
				Indicating Lights			
				HV-MO-266MV	2-149	Open-Closed	Mild Environment
				HV-MO-266MV	2-150		Mild Environment
				Indicating Lights			
				HV-MO-268MV	2-151	Open-Closed	Mild Environment
				HV-MO-268MV	2-152		Mild Environment
				Indicating Lights			
				HV-LMS-263AV(O),(C)	2-153	Open-Closed	Mild Environment
				HV-AOV-263AV	2-154		Mild Environment
				Indicating Lights			
				HV-LMS-265AV(O),(C)	2-155	Open-Closed	Mild Environment
				HV-AOV-265AV	2-156		Mild Environment
				Indicating Lights			
				HV-LMS-267AV(O),(C)	2-157	Open-Closed	Mild Environment
				HV-AOV-267AV	2-158		Mild Environment
				Indicating Lights			
				HV-LMS-269AV(O),(C)	2-159	Open-Closed	Mild Environment
				HV-AOV-269AV	2-160		Mild Environment
				Indicating Lights			

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-145	None	C	No	LPRW-2A	None	No	No	No	Implemented as Category 3. Reference SER.
2-3	N/A	B	Yes[a]	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes	None
2-4	N/A	B							
2-5	N/A	B	Yes[a]	EE-MCC-RA(3A)	Indicator Lights	Yes	Yes	Yes	
2-6	N/A	B							
2-7	N/A	B	Yes[a]	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes	
2-8	N/A	B							
2-9	N/A	B	Yes[a]	EE-MCC-RA(3B)	Indicator Lights	Yes	Yes	Yes	
2-10	N/A	B							
2-11	N/A	B	Yes[a]	EE-MCC-RA(3C)	Indicator Lights	Yes	Yes	Yes	
2-12	N/A	B							
2-13	N/A	B	Yes[a]	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes	
2-14	N/A	B							
2-145	N/A	B	Yes[a]	EE-MCC-RA(3D)	Indicator Lights	Yes	Yes	Yes	
2-146	N/A	B							
2-147	N/A	B	Yes[a]	EE-MCC-RA(4A)	Indicator Lights	Yes	Yes	Yes	
2-148	N/A	B							
2-149	N/A	B	Yes[a]	EE-MCC-RA(4B)	Indicator Lights	Yes	Yes	Yes	
2-150	N/A	B							
2-151	N/A	B	Yes[a]	EE-MCC-RA(4C)	Indicator Lights	Yes	Yes	Yes	
2-152	N/A	B							
2-153	N/A	B	Yes[a]	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes	
2-154	N/A	B							
2-155	N/A	B	Yes[a]	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes	
2-156	N/A	B							
2-157	N/A	B	Yes[a]	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes	
2-158	N/A	B							
2-159	N/A	B	Yes[a]	EE-PNL-CCP1B(16)	Indicator Lights	Yes	Yes	Yes	
2-160	N/A	B							

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
Power Supplies							
Status of Standby Power and Other Energy Sources Important to Safety	Plant Specific	D-2	To Monitor System Status	DG-AI-AM11,AM12	2-15	0 - 1200 Amps	Mild Environment
				DG-FQI-FM2,FM3	2-16	55 - 65 CPS	Mild Environment
				DG-VARI-VARM8,VARM9	2-17	0 - 7 MVAR	Mild Environment
				DG-VI-VM11,VM12	2-18	0 - 5250 VAC	Mild Environment
				DG-WI-WM1,WM2	2-19	0 - 7 M WATTS	Mild Environment
				EE-CB-4160DG1(EG1) Current Transformers	2-20		Mild Environment
				EE-CB-4160DG1(EG1) Potential Transformers	2-21		Mild Environment
				EE-CB-4160DG2(EG2) Current Transformers	2-22		Mild Environment
				EE-CB-4160DG2(EG2) Potential Transformers	2-23		Mild Environment
				DG-XFMR-Varm8	2-24		Mild Environment
				DG-XFMR-Varm9	2-25		Mild Environment
				EE-XFMR-EG1(RA)	2-26		Mild Environment
				EE-XFMR-EG1(RB)	2-27		Mild Environment
				EE-XFMR-EG1(RC)	2-28		Mild Environment
				EE-XFMR-EG2(RA)	2-29		Mild Environment
				EE-XFMR-EG2(RB)	2-30		Mild Environment
				EE-XFMR-EG2(GC)	2-31		Mild Environment
				IA-PT-606	2-32	0-120 psig	Mild Environment
				ES-ES-1	2-33		Mild Environment
				IA-PI-606	2-34		Mild Environment
				EE-AI-250A1	2-35	200 - 0 Amps 0 - 1000 Amps	Mild Environment

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
2-15	N/A	B	Yes[a]	DG1 & DG2	Indicators -	Yes	Yes	Yes	None
2-16	N/A	B	Yes[a]	PT's & CT's	Both Channels	Yes	Yes	Yes	
2-17	N/A	B	Yes[a]			Yes	Yes	Yes	
2-18	N/A	B	Yes[a]			Yes	Yes	Yes	
2-19	N/A	B	Yes[a]			Yes	Yes	Yes	
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	B							
2-30	N/A	B							
2-31	N/A	B							
2-32	N/A	B	No	ES-ES-1		Yes	Yes	Yes	None
2-33	N/A	B		RE-PNL-CCP1A(16)					
2-34	N/A	B							
2-35	N/A	B	N/A	250 VDC Batt. 1A	Indicator	Yes	Yes	Yes	None

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
				EE-VI-250A1	2-36	0 - 300 Volts	Mild Environment
				EE-AI-250A2	2-37	0 - 300 Amps	Mild Environment
				EE-AI-250B1	2-38	200 - 0 Amps 0 - 1000 Amps	Mild Environment
				EE-AI-250B2	2-39	0 - 300 Amps	Mild Environment
				EE-VI-250B1	2-40	0 - 300 Volts	Mild Environment
				EE-AI-125A1	2-41	200 - 0 Amps 0 - 1000 Amps	Mild Environment
				EE-AI-125A2	2-42	0 - 300 Amps	Mild Environment
				EE-VI-125A1	2-43	0 -150 Volts	Mild Environment
				EE-AI-125B1	2-44	200 - Amps 0 - 1000 Amps	Mild Environment
				EE-AI-125B2	2-45	0 - 300 Amps	Mild Environment
				EE-VI-125B1	2-46	0 -150 Volts	Mild Environment
				AC BUS Status	2-47		
Primary Containment - Related Systems							
Suppression Chamber Spray Flow	0 - 110% Design Flow	D-2	To Monitor Operation	None	2-48	N/A	N/A
Drywell Pressure	-5 psig to 3 psig	D-2	To Monitor Operation	PC-PT-513	2-49	0 - +2.0 psig	Qualified
				PC-R-(FRPR-513)	2-50		Mild Environment
	0 - 110% Design Pressure						
				PC-PT-512A,B	2-51	-5 - 70 psig	Qualified
				PC-IE-5A,B	2-52		Mild Environment
				PC-SC-4A,B	2-53		Mild Environment
				PC-PR-2A,B	2-161		Mild Environment
				PC-PT-4A1,4B2	2-54	0 - 250 psig	Qualified
				PC-IE-3A,3B	2-55		Mild Environment
				PC-SC-3A,3B	2-56		Mild Environment
				PC-PR-1A,1B	2-57		Mild Environment
Suppression Pool Water	Top of Vent to Top of Weir Well	D-2	To Monitor Operation	PC-DPT-3A1,3B2	2-58	0 - 30' (866'-896')	Qualified
				PC-IE,2A,2B	2-59		Mild Environment
				PC-SC-1A,1B	2-60		Mild Environment
				PC-LR-1A,1B	2-61		Mild Environment

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR ISC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
2-36	N/A	B	N/A	250 VDC BUS 1A	Indicator	Yes	Yes	Yes	None
2-37	N/A	B	N/A	250 VDC CHG. 1A	Indicator	Yes	Yes	Yes	None
2-38	N/A	B	N/A	250 VDC Batt. 1B	Indicator	Yes	Yes	Yes	None
2-39	N/A	B	N/A	250 VDC CHG. 1B	Indicator	Yes	Yes	Yes	None
2-40	N/A	B	N/A	250 VDC BUS 1B	Indicator	Yes	Yes	Yes	None
2-41	N/A	B	N/A	125 VDC Batt. 1A	Indicator	Yes	Yes	Yes	None
2-42	N/A	B	N/A	125 VDC CHG. 1A	Indicator	Yes	Yes	Yes	None
2-43	N/A	B	N/A	125 VDC BUS 1A	Indicator	Yes	Yes	Yes	None
2-44	N/A	B	N/A	125 VDC Batt. 1B	Indicator	Yes	Yes	Yes	None
2-45	N/A	B	N/A	125 VDC CHG. 1B	Indicator	Yes	Yes	Yes	None
2-46	N/A	B	N/A	125 VDC BUS 1B	Indicator	Yes	Yes	Yes	None
2-47									Not implemented as status can be derived from other sources.
2-48	N/A	N/A	N/A	N/A	N/A	No	No	No	Not implemented. Reference SER.
2-49	N/A	B	N/A	EE-PNL-CCP1A(9)	Recorder - Single Channel	Yes	Yes	Yes	None
2-50	N/A	B							
2-51	N/A	A	N/A	EE-PNL-CCP1A(12)	Recorder Both Channels	Yes	Yes	Yes	None
2-52	N/A	A		EE-PNL-CPP(26)					
2-53	N/A	A							
2-161	N/A	A							
2-54	N/A	A	N/A	EE-PNL-CCP1A(12)	Recorders - Both Channels	Yes	Yes	Yes	None
2-55	N/A	A		EE-PNL-CPP(26)					
2-56	N/A	A							
2-57	N/A	A							
2-58	N/A	A	N/A	EE-PNL-CCP1A(12)	Recorders - Both Channels	Yes	Yes	Yes	None
2-59	N/A	A		EE-PNL-CPP(26)					
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-TE-1A,B,C,D,E,F,G,H,2A,B,C,D,E,F,G,H	1-146	0 - 250°F	Qualified
				PC-TR-24	1-147		Mild Environment
				PC-TR-25	1-159		Mild Environment
Drywell Atmospheric	40°F to 440°F	D-2	To Monitor Operation	PC-TE-505A-E	2-62	50° - 600°F	Qualified
				PC-RI-505A-E	2-63		Mild Environment
				PC-TI-505A-E	2-64		Mild Environment
				PC-TE-510A-E	2-65	50° - 350°F	Qualified
				PC-RI-510A-E	2-66		Mild Environment
				PC-TI-510A-E	2-67		Mild Environment
				PC-AM-510A,B,C	2-161		Mild Environment
Drywell Spray Flow	0 to 110% Design Flow	D-2	To Monitor Operation	None	2-68		
Main Steam System							
Main Steamline Isolation Valves Leakage Control System Procedure	0 to 15" of Water 0 to 5 psig	D-2	To Provide Indication of Pressure Boundary Maintenance	N/A to BWR 4	2-69		
Primary System Safety Relief Valve Positions, Including ADS or Pressure in Valve Lines	Closed - Not Closed 0 - 50 psig	D-2	Detection of Accident; Boundary Integrity Indication	MS-PS-300A-R (SRV)	2-70	30 psi (0-30 psi)	Qualified
				MS-TE-112A,B,C (SV)	2-71	0 - 600°F	Qualified
				MS-TE-114A,B,C (SV)	2-72	0 - 600°F	Qualified
				MS-TR-166	2-73		Mild Environment
Isolation Condenser System Shellside Water Level	Top to Bottom	D-2	To Monitor Operation	N/A to CWS	2-74		
Insulation Condenser System Valve Position	Open or Closed	D-2	To Monitor Operation	N/A to CWS	2-75		
RCIC Flow	0 - 110% Design Flow (D.F. = 416 GPM)	D-2	To Monitor Operation	RCIC-FT-78	2-76	0 - 500 GPM	Qualified
				RCIC-FIC-91	2-77		Mild Environment
				RCIC-SQRT-99	2-78		Mild Environment

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR ISC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
1-146	C	A	Yes	EE-PNL-CCP1A(12) EE-PNL-CPP(26)	Recorder Both Channels	Yes	Yes	Yes	None
1-147	C	A	Yes	EE-PNL-CCP1A(16)					
1-159	C	A	Yes	EE-PNL-CPP(14)					
2-62	N/A	A	N/A	EE-PNL-CCP1A(16)	Indicator - Single Channel	Yes	Yes	Yes	None
2-63	N/A	B							
2-64	N/A	B							
2-65	N/A	A	N/A	EE-PNL-CCP1A(16)	Indicator - Single Channel	Yes	Yes	Yes	Expanded range not implemented. Reference SER.
2-66	N/A	A							
2-67	N/A	B							
2-161	N/A	A							
2-68									Not implemented. Reference SER.
2-69									Not applicable to CNS.
2-70	N/A	B	N/A	EE-PNL-AA2(6)	Indicator Lights	Yes	Yes	Yes	None
2-71	N/A	A	N/A	EE-PNL-CPP(4)	Recorder - Single Channel	Yes	Yes	Yes	
2-72	N/A	A	N/A		Computer Pt.				
2-73	N/A	B	N/A						
2-74									Not applicable to CNS.
2-75									Not applicable to CNS.
2-76	N/A	A	N/A	EE-PNL-NBPP(19)	Indicator - Single Channel	Yes	Yes	Yes	None
2-77	N/A	B	N/A	9-4(13A-F14)					
2-78	N/A	B	N/A						

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
HPCI Flow	0 - 110% Design Flow (D.F. = 4250 GPM)	D-2	To Monitor Operation	HPCI-FT-82	2-79	0 - 5000 GPM	Qualified
				HPCI-FIC-108	2-80		Mild Environment
				HPCI-IVTR-119	2-81		Mild Environment
				HPCI-SQRT-118	2-82		Mild Environment
Core Spray System Flow	0 - 110% Design Flow (D.F = 4720 GPM)	D-2	To Monitor Operation	CS-FT-40A,B	2-83	0 - 6000 GPM	Qualified
				CS-ES-52A&B	2-84		Mild Environment
				CS-FI-50A&B	2-85		Mild Environment
LPCI Flow	0 - 110% Design Flow (D.F. = 15,000 GPM)	D-2	To Monitor Operation	RHR-FT-109A,B	2-86	0 - 20,000 GPM	Qualified
				RHR-ES-145A&B	2-87		Mild Environment
				RHR-SQRT-134A&B	2-88		Mild Environment
				RHR-FI-133A&B	2-89		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	2-91	0 - 100% Level	Mild Environment
				SLC-LI-66	2-92		Mild Environment
				SLC-ES-69	2-93		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	2-94	0 - 20,000 GPM	Qualified
				RHR-ES-145A&B	2-95		Mild Environment
				RHR-SQRT-134A&B	2-96		Mild Environment
				RHR-FI-133A&B	2-97		Mild Environment
RHR Heat Exchanger Outlet Temperature	40°F to 350°F	D-2	To Monitor Operation	RHR-TE-94C,D	2-98	0 - 600°F	Qualified
				RHR-TR-131	2-99		Mild Environment

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
2-79	N/A	A	N/A	EE-PNL-BS2(18)	Indicator -	Yes	Yes	Yes	None
2-80	N/A	B	N/A	9-4(23A-F25 &	Single Channel				
2-81	N/A	B	N/A	23A-F26)					
2-82	N/A	B	N/A						
2-83	N/A	A	N/A	EE-PNL-CCP1A(3)	Indicators -	Yes	Yes	Yes	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	A	N/A	EE-PNL-CCP1A(3)	Indicator -	Yes	Yes	Yes	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									Not implemented. Reference SER.
2-91	N/A	B	N/A	EE-PNL-CPP(9)	Indicator -	Yes	Yes	Yes	Implemented as Category 3. Reference SER.
2-92	N/A	B	N/A	(11A-F2)	Single Channel				
2-93	N/A	B	N/A						
2-94	N/A	A	N/A	EE-PNL-CCP1A(3)	Indicators -	Yes	Yes	Yes	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	A	N/A	EE-PNL-CCP(4)	Common	Yes	Yes	Yes	None
2-99	N/A	B	N/A		Recorder				

VARIABLE	RANGE REQUIRED IN R.G. 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	SW-TE 94A,B	2-100	0 - 600°F	N/A
				RHR-TR-131 (RHR Hx Outlet)	2-101		Mild Environment
				SW-TE-388A,B (REC Hx Outlet)	2-102	0°F - 200°F	N/A
				SW-TE-390A,B (RHR Hx Inlet)	2-103	0°F - 200°F	N/A
				SW-TE-387A,B (REC Hx Inlet)	2-104	0°F - 200°F	N/A
Cooling Water Flow to ESF System Components	0 - 110% Design Flow	D-2	To Monitor Operation	SW-FT-97A,B (RHR Hx)	2-105	0 - 10,000 GPM	Qualified
				RHR-ES-145A,B	2-106		Mild Environment
				SW-SQRT-132A,B	2-107		Mild Environment
				SW-FI-132A,B	2-108		Mild Environment
				SW-FT-387A,B (REC Hx)	2-109	0 - 8000 GPM	Qualified
				SW-SQRT-387A,B	2-110		Mild Environment
				SW-FI-387A,B	2-111		Mild Environment
				REC-ES-10(A)	2-112		Mild Environment
				REC-ES-9(B)	2-113		Mild Environment
Radwaste Systems							
High Radioactivity Liquid Tank Level	Top to Bottom	D-3	To Monitor Operation	RW-LT-420 (FLR DRN COLL TK)	3-20	0 - 100%	N/A
				RW-LT-369 (WASTE COLL TK)	3-21	0 - 100%	N/A
Containment Radiation							
Primary Containment Area Radiation High Range	1R/hr to 10^7 R/hr	E-1	Detection of Significant Releases; Release Assessment; Long-Term Surveillance Emergency Plan Actuation	RMA-RE-40A,B	1-148	1R/hr to 10^7 R/hr	Qualified
				RMA-RM-40A,B	1-149		Mild Environment
				RMA-RR-40	1-150		Mild Environment
Secondary Containment Area Radiation High Range	10^{-1} R/hr for Mark I Containments	E-2	Detection of Significant Releases; Release Assessment; Long-Term Surveillance	Fuel Pool Area-		10^{-1} R/hr to 10^3 R/hr	
				RMA-RE-1	2-114		N/A
				RMA-RM-AU1	2-115		N/A
				RMA-RA-1	2-116		Mild Environment
				HPCI Room-		10^{-6} R/hr to 10^{-1} R/hr	
				RMA-RE-10	2-117		N/A
				RMA-RA-10	2-188		Mild Environment

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
2-100	N/A	B	N/A	EE-PNL-CCP(4)	Common Recorder	Yes	Yes	Yes	Implemented as Category 3 for the following reasons:
2-101	N/A	B	N/A						
2-102	N/A	B	N/A		Computer Pts	Yes	Yes	Yes	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).
2-103	N/A	B	N/A		Computer Pts	Yes	Yes	Yes	
2-104	N/A	B	N/A		Computer Pts	Yes	Yes	Yes	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.
2-105	N/A	A	N/A	EE-PNL-CCP1A(3)		Yes	Yes	Yes	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	A	N/A	EE-PNL-CCP1A(8)		Yes	Yes	Yes	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 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[4]	EE-PNL-CCP1A(19)	Common Recorder	Yes	Yes	Yes	The recorder is isolated from the readout modules by an optical isolater. Indication is also provided by the 1E readout modules (R.G. 1.97 Item 1-149). NPPD does not intend to qualify this recorder.
1-149	C	A		EE-PNL-CCP1B(1)					
1-150	None (See Deviations)	A	No	EE-PNL-CCP1A(19)					
			N/A		Indicator - Single Channel	Yes	Yes	Yes	Not implemented as a Reg. Guide 1.97 parameter. Reference SER.
2-114	N/A	B		EE-PNL-CPP(5,					
2-115	N/A	B		EE-PNL-CPP(5)					
2-116	N/A	B		EE-PNL-CPP(5)					
			N/A		Indicator - Single Channel	Yes	Yes	Yes	See Above
2-117	N/A	B		EE-PNL-CPP(5)					
2-118	N/A	B		EE-PNL-CPP(5)					

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	TOOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ [illegible]
				RHR SW QUAD		10^{0} R/hr to 10^{4} R/hr	
				RMA-RE-11	2-119		N/A
				RMA-RM-AU11	2-120		N/A
				RMA-RA-11	2-121		Mild Environment
				RHR NW QUAD		10^{0} R/hr to 10^{4} R/hr	
				RMA-RE-12	2-122		N/A
				RMA-RM-AU12	2-123		N/A
				RMA-RA-12	2-124		Mild Environment
				RCIC RM		10^{0} R/hr to 10^{4} R/hr	
				RMA-RE-13	2-125		N/A
				RMA-RA-13	2-126		Mild Environment
				CS SE RM		10^{0} R/hr to 10^{4} R/hr	
				RMA-RE-14	2-127		N/A
				RMA-RM-AU14	2-128		N/A
				RMA-RA-14	2-129		Mild Environment
Area Radiation							
Radiation Exposure Rate	10^{-1} R/hr to 10^{4} R/hr	E-3	Detection of Significant Releases; Release Assessment, Long-Term Surveillance	Same List as Above		Same List As Above	Same List as Above
Airborne Radioactive Materials Released from Plant							
Noble Gases and Vent Flow Rate Drywell Purge, Standby Gas Treatement System Purge	10^{-6} uCi/cc to 10^{-2} 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	$5x10^{-7}$ uCi/cc to $1x10^{-2}$ uCi/cc (Note 4)	Mild Environment
				OG-FIT-4001	2-131		Mild Environment
				HV-FR-4000	2-132	0-10,000 cfm	Mild Environment
				RMP-CBX-(3A,B-1)	2-164		Mild Environment
				RMP-CBX-(3A,B-2)	2-165		Mild Environment
				RMP-RR-3	2-166		Mild Environment
Auxilliary Building	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	T-G Hi-range Effluent Monitor RMV-RM-20A,B	2-133	$5x10^{-7}$ uCi/cc to $1x10^{-3}$ uCi/cc (Note 4)	Mild Environment
				HV-FT-4002A,B,C,D	2-134		Mild Environment
				HV-SQRT-4002A,B,C,D	2-135		Mild Environment
				HV-SUM-4002	2-136		Mild Environment
				HV-FR-4000	2-137	0-250,000 cfm	Mild Environment
				RMV-CBX-(20A,B-1)	2-167		Mild Environment
				RMV-CBX-(20A,B-2)	2-168		Mild Environment
				RMV-RR-20	2-169		Mild Environment

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOP	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
			N/A		Indicator - Single Channel	Yes	Yes	Yes	See Above
2-119	N/A	B		EE-PNL-CPP(5)					
2-120	N/A	B		EE-PNL-CPP(5)					
2-121	N/A	B		EE-PNL-CPP(5)					
			N/A		Indicator - Single Channel	Yes	Yes	Yes	See Above
2-122	N/A	B		EE-PNL-CPP(5)					
2-123	N/A	B		EE-PNL-CPP(5)					
2-124	N/A	B		EE-PNL-CPP(5)					
			N/A		Indicator - Single Channel	Yes	Yes	Yes	See Above
2-125	N/A	B		EE-PNL-CPP(5)					
2-126	N/A	B		EE-PNL-CPP(5)					
			N/A		Indicator - Single Channel	Yes	Yes	Yes	See Above
2-127	N/A	B		EE-PNL-CPP(5)					
2-128	N/A	B		EE-PNL-CPP(5)					
2-129	N/A	B		EE-PNL-CPP(5)					
									Implemented as Category 3 with the range of 10^{0} R/hr to 10^{4} R/hr for the RPCI Room, RHR SW QUAD, RHR NW QUAD, RCIC RM and CS SE RM and a range of 10^{0} R/hr to 10^{5} R/hr for the fuel pool areas. Reference SER.
2-130	N/A	C	N/A	480 VAC from PPGB1 120 VAC from LPGB1	Indicator and Recorder - Single Channel	Yes	Yes	Yes	None
2-131	N/A	C		EE-PNL-NBPP(15)		No	No	No	None
2-132	N/A	C							
2-164	N/A	C	N/A	EE-PNL-CCP1B (19)					
2-165	N/A	C		EE-PNL-LPGB1 (12)					
2-166	N/A	C		EE-PNL-CCP1B (19)					
2-133	N/A	C	N/A	480 VAC from MCC-DG1 120 VAC from CCP2B(7)	Indicator and Recorder - Single Channel	Yes	Yes	Yes	None
2-134	N/A	C		HV-ES-4602A,B					
2-135	N/A	C		HV-ES-4102A,B					
2-136	N/A	C							
2-137	N/A	C		EE-PNL-CPP(22)					
2-167	N/A	C	N/A	EE-PNL-CCP1B (19)					
2-168	N/A	C		EE-PNL-CCP2B (7)					
2-169	N/A	C		EE-PNL-CCP1B (19)					

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	EQ STATUS
Auxiliary Building	10^{-6} uCi/cc to 10^{-1} uCi/cc 0 - 110% Vent Design Flow	E-2 C-3	Detection of Significant Releases, Release Assessment	RW Hi-range Effluent Monitor RMV-RM-30A,B	2-138	$5x10^{-7}$ uCi/cc to $1x10^{-1}$ uCi/cc (Note 4)	Mild Environment
				RV-FT-4004	2-139		Mild Environment
				RV-SQRT-4004	2-140		Mild Environment
				RV-FRDPR-4003	2-141	0-81,600 cfm	Mild Environment
				RMV-CBX-(30A,B-1)	2-170		Mild Environment
				RMV-CBX-(30A,B-2)	2-171		Mild Environment
				RMV-RR-30	2-172		Mild Environment
Common Plant Vent	10^{-6} uCi/cc to 10^{-1} uCi/cc 0 - 110% Design Flow (DF=6035)	E-2 C-3	Detection of Significant Releases, Release Assessment	ERP Hi-range Effluent Monitor RMP-RM-3A,B	2-142	$5x10^{-7}$ uCi/cc to 10^{-1} uCi/cc (Note 4)	Mild Environment
				OG-FIT-4001	2-143		Mild Environment
				RV-FR-4000	2-144	0-10,000 cfm	Mild Environment
Particulates and Halogens Common Plant Vent	10^{-3} uCi/cc to 10^{2} uCi/cc 0 - 110% Design Flow (DF=6035)	E-3	Detection of Significant Releases, Release Assessment; Long-Term Surveillance	ERP Hi-range Effluent Monitor RMP-RM-3A,B	3-22	10^{-4} uCi/cc to $1x10^{2}$ uCi/cc (Note 4)	N/A
				OG-FIT-4001	3-23		N/A
				RV-FR-4000	3-24	0-10,000 cfm	N/A
Auxiliary Building Common Plant Vent	10^{-3} uCi/cc to 10^{2} uCi/cc 0 - 110% Design Flow (DF=152,130)	E-3	Detection of Significant Releases, Release Assessment; Long-Term Surveillance	T-G Hi-range Effluent Monitor RMV-RM-20A,B	3-25	10^{-4} uCi/cc to 10^{2} uCi/cc (Note 4)	N/A
				RV-FT-4002,A,B,C,D	3-26		N/A
				RV-SQRT-4002A,B,C,D	3-27		N/A
				RV-SUM-4002	3-28		N/A
				RV-FR-4000	3-29	0-250,000 cfm	N/A
Auxiliary Building Common Plant Vent	10^{-3} uCi/cc to 10^{2} uCi/cc 0 - 110% Design Flow (DF=66,870)	E-3	Detection of Significant Releases, Release Assessment; Long-Term Surveillance	RW Hi-range Effluent Monitor RMV-RM-30A,B	3-30	10^{-4} uCi/cc to 10^{2} uCi/cc (Note 4)	N/A
				RV-FT-4004	3-31		N/A
				RV-SQRT-4004	3-32		N/A
				RV-FRDPR-4003	3-33	0-81,600 cfm	N/A
Auxiliary Building Common Plant Vent	10^{-3} uCi/cc to 10^{2} uCi/cc 0 - 110% Design Flow (DF=15,000 cfm)	E-3	Detection of Significant Releases, Release Assessment; Long-Term Surveillance	MPF Hi-range Effluent Monitor RMV-RM-10	3-34	10^{-12} to 10^{-6} uCi/cc Particulate Monitor with Onsite Analysis	N/A
				RV-FT-4006	3-35	to 10^{2} uCi/cc	N/A
				RV-SQRT-4006	3-37		N/A
				RV-FR-4006	3-38	0-20,000 cfm	N/A
Environs Radiation and Radioactivity							
Airborne Radiohalogens and Particulates (portable sampling with onsite analysis capability)	10^{-9} uCi/cc to 10^{-3} uCi/cc	E-3	Release assessment; analysis	RP-1	3-39	10^{-9} uCi/cc to 10^{-3} uCi/cc	N/A

ITEM NO.	SEISMIC STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
2-138	N/A	C	N/A	480 VAC from MCC-W 120 VAC from LPRW3	Indicator and Recorder - Single Channel	Yes	Yes	Yes	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)					
2-170	N/A	C		EE-PNL-CCP1B (19)					
2-171	N/A	C		EE-PNL-LPRW3 (32)					
2-172	N/A	C		EE-PNL-CCP1B (19)					
2-142	N/A	C	N/A	480 VAC from 1PPGB1 120 VAC from LPGB1	Indicator and Recorder - Single Channel	Yes	Yes	Yes	
2-143	N/A	C		EE-PNL-NBPP(15)					
2-144	N/A	C							
3-22	N/A	C	N/A	480 VAC from PPGB1 120 VAC from LPGB1	None	No	No	No	None
3-23	N/A	C		EE-PNL-NBPP(15)					
3-24	N/A	C							
3-25	N/A	C	N/A	480 VAC from MCC-DG1 120 VAC from CCP2B	None	No	No	No	None
3-26	N/A	C		HV-ES-4002A,B					
3-27	N/A	C		HV-ES-4002A,B					
3-28	N/A	C							
3-29	N/A	C		EE-PNL-CPP(22)					
3-30	N/A	C	N/A	480 VAC from MCC-W 120 VAC from LPRW3	None	No	No	No	None
3-31	N/A	C		HV-ES-4000					
3-32	N/A	C		HV-ES-4000					
3-33	N/A	C		EE-PNL-CPP(22)					
3-34	N/A	C	N/A	480 VAC from PPMP2 120 VAC from PPMP1	Indicator and Recorder - Single Channel	Yes	Yes	Yes	None
3-35	N/A	C		EE-PNL-CPP(22)					
3-37	N/A	C		EE-PNL-CPP(22)					
3-38	N/A	C		EE-PNL-CPP(22)					
3-39	N/A	C	N/A	Portable-N/A	No	No	No	No	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^{-3} R/hr to 10^{4} R/hr, photons 10^{-3} rads/hr to 10^{2} rads/hr, beta radiations and low-energy photons	E-3 E-3	Release assessment; analysis	HP-2 HP-3	3-40	10^{-3} R/hr to 10^{3} R/hr Gamma, 10^{-3} rads/hr to 200 rads/hr Beta	N/A
Plant and Environs Radioactivity (portable instrumentation)	(Isotophic Analysis)	E-3	Release assessment; analysis	None	3-42	Iodine Analysis	N/A
Meteorology							
Wind Direction	0 - 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	MI-T-WD4 MI-T-WD3 MI-T-WD2	3-43	0-540° ± 3° threshold 0.58 mph damping 0.4 at 1.1% meters	N/A
Wind Speed	0 - 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 threshold of less than 0.4 mps (1.0 mph) and a distance constant not to exceed 2 meters.	E-3	Release assessment	MI-T-WS4 MI-T-WS3 MI-T-WS2	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 STATUS[1]	QA STATUS[2]	REDUNDANT[3] CHANNEL	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
3-40	N/A	C	N/A	Portable-N/A	No	No	No	No	Reference SER.
3-42	N/A	C	N/A	N/A	No	No	No	No	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	None
3-44	N/A	C	N/A	Normal-Offsite Emergency-MCC-L	SPDS	Yes	Yes	Yes	None

VARIABLE	RANGE REQUIRED IN R.G. 1.97	TYPE-CATEGORY	PURPOSE	COOPER CIC NUMBER	ITEM NO.	INSTALLED RANGE	SQ 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 not to exceed 0.15°C	N/A
Accident Sampling Capability (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 - 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[1]	QA STATUS[2]	REDUNDANT CHANNEL[3]	POWER SUPPLY	CR DISPLAY	REQUIRED FOR TSC	REQUIRED FOR EOF	INPUT TO PMIS	DEVIATIONS AND JUSTIFICATIONS
3-45	N/A	C	N/A	Normal-Offsite Emergency-MCC-L	SPDS	Yes	Yes	Yes	
3-46	N/A	C	N/A	EE-PNL-LPRW2	No	No	No	No	Implement as Category 3 for primary coolant sampling only. Sump sample not implemented. Reference SER.
3-47	N/A	C	N/A	EE-PNL-LPRW2	No	No	No	No	None

Note:

[1]Seismic Status
A - Original Plant Criteria furnished by GE
B - Original Plant Criteria BOP
C - Qualifed to R.G. 1.100

[2]QA Status
A - 10 CFR 50 Appendix B
B - Original QA Design Criteria
C - High Quality

[3]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.

[4]Airborne radioactive releases will be displayed on two C.R. recorder channels with ranges of 10^{-2} to 10^{6} uCi/sec and 10^{2} to 10^{12} uCi/sec which are obtained by combining the radioactivity concentration (uCi/cc) and flow rate (cfm). This parameter (uCi/sec) is displayed since it is directly relatable to the off-site release limits.