

ATTACHMENT NO. 2 TO AEP:NRC:0591

REVISED TECHNICAL SPECIFICATION PAGES FOR D. C. COOK UNIT NO. 1

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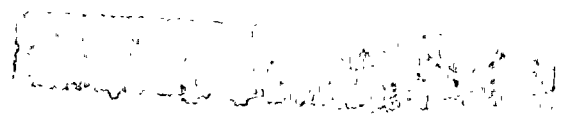


TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. Manual Reactor Trip	N.A.	N.A.	S/U(1)	N.A.
2. Power Range, Neutron Flux	S	D(2), M(3) and Q(6)	M	1, 2
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R	M	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R	M	1, 2
5. Intermediate Range, Neutron Flux	S	N.A.	S/U(1)	1, 2 and *
6. Source Range, Neutron Flux	N.A.	N.A.	S/U(1)	3, 4 and 5
7. Overtemperature ΔT	S	R	M	1, 2
8. Overpower ΔT	S	R	M	1, 2
9. Pressurizer Pressure--Low	S	R	M	1, 2
10. Pressurizer Pressure--High	S	R	M	1, 2
11. Pressurizer Water Level--High	S	R	M	1, 2
12. Loss of Flow - Single Loop	S	R	M	1

D. C. COOK-UNIT 1

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TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS		
a. Steam Generator Water Level -- Low-Low	$\geq 17\%$ of narrow range instrument span each steam generator	$\geq 16\%$ of narrow range instrument span each steam generator
b. 4 kv Bus Loss of Voltage	3196 volts with a 2-second delay	3196, +18, -36 volts with a $2 \pm .2$ second delay
c. Safety Injection	Not Applicable	Not Applicable
d. Loss of Main Feedwater Pumps	Not Applicable	Not Applicable
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS		
a. Steam Generator Water Level -- Low-Low	$\geq 17\%$ of narrow range instrument span each steam generator	$\geq 16\%$ or narrow range instrument span each steam generator
b. Reactor Coolant Pump Bus Undervoltage	≥ 2750 Volts--each bus	≥ 2725 Volts--each bus
8. LOSS OF POWER		
a. 4 kv Bus Loss of Voltage	3196 volts with a 2-second delay	3196, +18, -36 volts with a $2 \pm .2$ second delay
b. 4 kv Bus Degraded Voltage	3596 volts with a 2.0 min. time delay	3596, +36, -18 volts with a 2.0 minute ± 6 second time delay

TABLE 3.2-1

DNB PARAMETERS

<u>PARAMETER</u>	<u>LIMITS</u>	
	<u>4 Loops In Operation</u>	<u>3 Loops in Operation</u>
Reactor Coolant System T_{avg}	$\leq 571.8^{\circ}\text{F}$	$\leq 571.8^{\circ}\text{F}$
Pressurizer Pressure	$\geq 2220 \text{ psia}^*$	$\geq 2220 \text{ psia}^*$
Reactor Coolant System Total Flow Rate	$\geq 1.350 \times 10^8 \text{ lbs/hr}$	$\geq 0.9917 \times 10^8 \text{ lbs/hr}$

*Limit not applicable during either a THERMAL POWER ramp in excess of (5%) of RATED THERMAL POWER per minute or a THERMAL POWER step in excess of (10%) of RATED THERMAL POWER. The reporting requirements of Specification 6.9.1.9 are not applicable for transients during start-up or shut-down operations.

TABLE 3.6-1 (Continued)

D. C. COOK-UNIT 1 3/4 6-17	VALVE NUMBER	FUNCTION	TESTABLE DURING PLANT OPERATION	ISOLATION TIME IN SECONDS
	A. PHASE "A" ISOLATION (Continued)			
	27.	ECR-10	Cont. H ₂ Sample Return	Yes 10
	28.	ECR-11	Cont. H ₂ Sample - Air to Rec. E	Yes 10
	29.	ECR-12	Cont. H ₂ Sample - Air from Rec. E	Yes 10
	30.	ECR-13	Cont. H ₂ Sample - Low. Cont. Vol.	Yes 10
	31.	ECR-14	Cont. H ₂ Sample - Low. Cont. Vol.	Yes 10
	32.	ECR-15	Cont. H ₂ Sample - Up Cont. Vol.	Yes 10
	33.	ECR-16	Cont. H ₂ Sample - Up Cont. Vol.	Yes 10
	34.	ECR-17	Cont. H ₂ Sample - Air to Rec. W	Yes 10
	35.	ECR-18	Cont. H ₂ Sample - Air from Rec. W	Yes 10
	36.	ECR-19	Cont. H ₂ Sample - Cont. Dome Vol.	Yes 10
	37.	ECR-20	Cont. H ₂ Sample-Return	Yes 10
	38.	ECR-21	Cont. H ₂ Sample - Air to Rec. E.	Yes 10
	39.	ECR-22	Cont. H ₂ Sample - Air fr. Rec. E	Yes 10
	40.	ECR-23	Cont. H ₂ Sample - Low Cont. Vol.	Yes 10
	41.	ECR-24	Cont. H ₂ Sample - Low Cont. Vol.	Yes 10
	42.	ECR-25	Cont. H ₂ Sample - Up Cont. Vol.	Yes 10
	43.	ECR-26	Cont. H ₂ Sample - Up Cont. Vol.	Yes 10
	44.	ECR-27	Cont. H ₂ Sample - Air to Rec. W.	Yes 10
	45.	ECR-28	Cont. H ₂ Sample - Air Fr. Rec. W.	Yes 10
	46.	ECR-29	Cont. H ₂ Sample - Cont. Dome Vol.	Yes 10
	47.	ECR-416	PAS Containment Sump Sample	Yes 10
	48.	ECR-417	PAS Containment Sump Sample	Yes 10
	49.	ECR-496	PAS Waste Liquid and Gas Return	Yes 10
	50.	ECR-497	PAS Waste Liquid and Gas Return	Yes 10
	51.	ECR-535	PAS Containment Gas Sample	Yes 10
	52.	ECR-536	PAS Containment Gas Sample	Yes 10
	53.	GCR-301	N ₂ Supply to Pressurizer Relief Tank	Yes 10
	54.	GCR-314	N ₂ Supply to Accumulators	Yes 10
	55.	ICR-5	Accumulators Sample	Yes 10
	56.	ICR-6	Accumulators Sample	Yes 10
	57.	MCR-251	Sample Line from Steam Gen. Outlet #1	Yes 10
	58.	MCR-252	Sample Line from Steam Gen. Outlet #2	Yes 10
	59.	MCR-253	Sample Line from Steam Gen. Outlet #3	Yes 10
	60.	MCR-254	Sample Line from Steam Gen. Outlet #4	Yes 10
	61.	NCR-105	Hot Leg Sample	Yes 10
	62.	NCR-106	Hot Leg Sample	Yes 10

TABLE 3.6-1 (Continued)

D.C. COOK - UNIT 1 3/4 6-18 Amendment No. 49	VALVE NUMBER	FUNCTION	TESTABLE DURING PLANT OPERATION	ISOLATION TIME IN SECONDS
	A. PHASE "A" ISOLATION (Continued)			
	63.	HCR-107	PRZ Liquid Sample	Yes 10
	64.	HCR-108	PRZ Liquid Sample	Yes 10
	65.	HCR-109	PRZ Steam Sample	Yes 10
	66.	HCR-110	PRZ Steam Sample	Yes 10
	67.	HCR-252	Primary Water to Pressurizer Relief Tank	Yes 10
	68.	QCM-250	RCP Seal Water Discharge	No 15
	69.	QCM-350	RCP Seal Water Discharge	No 15
	70.	QCR-300	Letdown to Letdown Hx.	No 10
	71.	*QCR-301	Letdown to Letdown Hx.	No 10
	72.	RCR-100	PRZ Relief Tank to Gas Anal.	Yes 10
	73.	RCR-101	PRZ Relief Tank to Gas Anal.	Yes 10
	74.	VCR-10	Glycol Supply to Fan Cooler	Yes 10
	75.	VCR-11	Glycol Supply to Fan Cooler	Yes 10
	76.	VCR-20	Glycol Supply from Fan Cooler	Yes 10
	77.	VCR-21	Glycol Supply from Fan Cooler	Yes 10
	78.	XCR-100	Control Air to Containment	No 10
	79.	XCR-101	Control Air to Containment Isolation	No 10
	80.	XCR-102	Control Air to Containment Isolation	No 10
	81.	XCR-103	Control Air to Containment	No 10
	B. PHASE "B" ISOLATION			
	1.	CCM-451	CCW from RCP Oil Coolers	No 60
	2.	CCM-452	CCW from RCP Oil Coolers	No 60
	3.	CCM-453	CCW from RCP Thermal Barrier	No 30
	4.	CCM-454	CCW from RCP Thermal Barrier	No 30
	5.	CCM-458	CCW to RCP Oil Coolers & Thermal Barrier	No 60
	6.	CCM-459	CCW to RCP Oil Coolers & Thermal Barrier	No 60
	7.	ECR-31	Containment Air Particle Radio Gas Detector	No 10
	8.	ECR-32	Containment Air Particle Radio Gas Detector	No 10

*To be installed during the 1982 refueling outage.

ATTACHMENT NO. 3 TO AEP:NRC:0591

REVISED TECHNICAL SPECIFICATION PAGES FOR D. C. COOK UNIT NO. 2

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. Manual Reactor Trip	N.A.	N.A.	S/U(1)	N.A.
2. Power Range, Neutron Flux	S	D(2), M(3) and Q(6)	M	1, 2
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R	M	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R	M	1, 2
5. Intermediate Range, Neutron Flux	S	N.A.	S/U(1)	1, 2 and *
6. Source Range, Neutron Flux	N.A.	N.A.	S/U(1)	3, 4 and 5
7. Overtemperature ΔT	S	R	M	1, 2
8. Overpower ΔT	S	R	M	1, 2
9. Pressurizer Pressure--Low	S	R	M	1, 2
10. Pressurizer Pressure--High	S	R	M	1, 2
11. Pressurizer Water Level--High	S	R	M	1, 2
12. Loss of Flow - Single Loop	S	R	M	1

D. C. COOK-UNIT 2

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TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS		
a. Steam Generator Water Level -- Low-Low	≥ 21% of narrow range instrument span each steam generator	≥ 20% of narrow range instrument span each steam generator
b. 4 kv Bus Loss of Voltage	3196 volts with a 2 second delay	3196,+18,-36 volts with a 2 ± 0.2 second delay
c. Safety Injection	Not Applicable	Not Applicable
d. Loss of Main Feedwater Pumps	Not Applicable	Not Applicable
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS		
a. Steam Generator Water Level -- Low-Low	≥ 21% of narrow range instrument span each steam generator	≥ 20% of narrow range instrument span each steam generator
b. Reactor Coolant Pump Bus Undervoltage	≥ 2750 Volts--each bus	≥ 2725 Volts--each bus
8. LOSS OF POWER		
a. 4 kv Bus Loss of Voltage	3196 volts with a 2 second delay	3196,+18,-36 volts with a 2 ± 0.2 second delay
b. 4 kv Bus Degraded Voltage	3596 volts with a 2.0 minute time delay	3596, +36,-18 volts with a 2.0 minute ± 6 second time delay

D.C. COOK - UNIT 2

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Amendment No. 34

TABLE 3.6-1 (Continued)CONTAINMENT ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>ISOLATION TIME IN SECONDS</u>
A.	<u>PHASE "A" ISOLATION (Continued)</u>	
37. ECR-20	Cont. H ₂ Sample-Return	≤10
38. ECR-21	Cont. H ₂ Sample - Air to Rec. E.	≤10
39. ECR-22	Cont. H ₂ Sample - Air Fr. Rec. E.	≤10
40. ECR-23	Cont. H ₂ Sample - Low. Cont. Vol.	≤10
41. ECR-24	Cont. H ₂ Sample - Low. Cont. Vol.	≤10
42. ECR-25	Cont. H ₂ Sample - Up. Cont. Vol.	≤10
43. ECR-26	Cont. H ₂ Sample - Up. Cont. Vol.	≤10
44. ECR-27	Cont. H ₂ Sample - Air to Rec. W.	≤10
45. ECR-28	Cont. H ₂ Sample - Air Fr. Rec. W.	≤10
46. ECR-29	Cont. H ₂ Sample - Cont. Dome Vol.	≤10
47. ECR-416	PAS Containment Sump Sample	≤10
48. ECR-417	PAS Containment Sump Sample	≤10
49. ECR-496	PAS Waste Liquid and Gas Return	≤10
50. ECR-497	PAS Waste Liquid and Gas Return	≤10
51. ECR-535	PAS Containment Gas Sample	≤10
52. ECR-536	PAS Containment Gas Sample	≤10
53. GCR-301	N ₂ Supply to Pressurizer Relief Tank	≤10
54. GCR-314	N ₂ Supply to Accumulators	≤10

TABLE 3.2-1DNB PARAMETERSLIMITS

<u>PARAMETER</u>	<u>4 Loops In Operation</u>	<u>3 Loops In Operation</u>
Reactor Coolant System T_{avg}	≤ 578 OF	≤ 570 OF
Pressurizer Pressure	≥ 2220 psia*	≥ 2220 psia*

* Limit not applicable during either a THERMAL POWER ramp in excess of (5%) of RATED THERMAL POWER per minute or a THERMAL POWER step in excess of (10%) of RATED THERMAL POWER. The reporting requirements of Specification 6.9.1.9 are not applicable for transients during start-up or shut-down operations.

TABLE 3.6-1 (Continued)
CONTAINMENT ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>ISOLATION TIME IN SECONDS</u>
A. <u>PHASE "A" ISOLATION (Continued)</u>		
55. 1CR-5	Accumulators Sample	≤ 10
56. 1CR-6	Accumulators Sample	≤ 10
57. MCR-251#	Sample Line from Steam Gen. Outlet #1	≤ 10
58. MCR-252#	Sample Line from Steam Gen. Outlet #1	≤ 10
59. MCR-253#	Sample Line from Steam Gen. Outlet #3	≤ 10
60. MCR-254#	Sample Line from Steam Gen. Outlet #4	≤ 10
61. NCR-105	Hot Leg Sample	≤ 10
62. NCR-106	Hot Leg Sample	≤ 10
63. NCR-107	PRZ Liquid Sample	≤ 10
64. NCR-108	PRZ Liquid Sample	≤ 10
65. NCR-109	PRZ Steam Sample	≤ 10
66. NCR-110	PRZ Steam Sample	≤ 10

TABLE 3.6-1 (Continued)
CONTAINMENT ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>ISOLATION TIME IN SECONDS</u>
A. <u>PHASE "A" ISOLATION (Continued)</u>		
67. NCR-252	Primary Water to Pressurizer Relief Tank	≤ 10
68. QCM-250	RCP Seal Water Discharge	≤ 15
69. QCM-350	RCP Seal Water Discharge	≤ 15
70. QCR-300	Letdown to Letdown Hx.	≤ 10
*71. QCR-301	Letdown to Letdown Hx.	≤ 10
72. RCR-100	PRZ Relief Tank to Gas Anal.	≤ 10
73. RCR-101	PRZ Relief Tank to Gas Anal.	≤ 10
74. VCR-10	Glycol Supply to Fan Cooler	≤ 10
75. VCR-11	Glycol Supply to Fan Cooler	≤ 10
76. VCR-20	Glycol Supply from Fan Cooler	≤ 10
77. VCR-21	Glycol Supply from Fan Cooler	≤ 10
78. XCR-100	Control Air to Containment	≤ 10
79. XCR-101	Control Air to Containment Isolation	≤ 10

*To be installed during the 1982 refueling outage.

TABLE 3.6-1 (Continued)
CONTAINMENT ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u>	<u>ISOLATION TIME IN SECONDS</u>
A. <u>PHASE "A" ISOLATION (Continued)</u>		
80. XCR-102	Control Air to Containment Isolation	≤ 10
81. XCR-103	Control Air to Containment	≤ 10
B. <u>Phase "B" ISOLATION</u>		
1. CCM-451	CCW from RCP Oil Coolers	≤ 60
2. CCM-452	CCW from RCP Oil Coolers	≤ 60
3. CCM-453	CCW from RCP Thermal Barrier	≤ 30
4. CCM-454	CCW from RCP Thermal Barrier	≤ 30
5. CCM-458	CCW to RCP Oil Coolers & Thermal Barrier	≤ 60
6. CCM-459	CCW to RCP Oil Coolers & Thermal Barrier	≤ 60
7. ECR-31	Containment Air Particle Radio Gas Detector	≤ 10
8. ECR-32	Containment Air Particle Radio Gas Detector	≤ 10