ATTACHMENT 3 TO AEP:NRC:0895D

PROPOSED CHANGES TO THE

DONALD C. COOK NUCLEAR PLANT UNIT NOS. 1 AND 2

TECHNICAL SPECIFICATIONS

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TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
20. Reactor Coolant Pump Breaker Position Trip Above P-7	1/breaker	2	1/breaker per operating loop	1	11
21. Reactor Trip Breakers	2	1	2	1, 2*	1,13
22. Automatic Trip Logic	2	1	2	1, 2*	1

TABLE 3.3-1 (Continued)

ACTION 9 - With a channel associated with an operating loop inoperable, restore the inoperable channel to OPERABLE status within 2 hours or be in HOT STANDBY within the next 6 hours; however, one channel associated with an operating loop may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.1.

ACTION 11 - With less than the Minimum Number of Channels OPERABLE, operation may continue provided the inoperable channel is placed in the tripped condition within 1 hour.

ACTION 12 - With the number of channels OPERABLE one less than required by the minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and/or open the reactor trip breakers.

ACTION 13 - With one of the diverse trip features (Undervoltage or shunt trip attachment) inoperable, restore it to OPERABLE status within 48 hours or declare the breaker inoperable and apply ACTION 1. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for the time required for performing maintenance to restore the breaker to OPERABLE status.

REACTOR TRIP SYSTEM INTERLOCKS

DESIGNATION	CONDITION AND SETPOINT	FUNCTION
P-6	With 2 of 2 Intermediate Range Neutron Flux Channels $< 6 \times 10^{-11}$ amps.	P-6 prevents or defeats the manual block of source range reactor trip.

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. Manual Reactor Trip				
A. Shunt Trip Function	N.A.	N.A.	S/U(1) (8)	N.A.
B. Undervoltage Trip Function	N.A.	N.A.	S/U(1) (8)	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 (6)	M	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R (6)	M	1, 2
5. Intermediate Range, Neutron Flux	S	R (6)	S/U(1)	1, 2 and *
6. Source Range, Neutron Flux	S	R (6)	M and S/U(1)	2(7), 3(7), 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

TABLE 4.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
13. Loss of Flow - Two Loops	S	R	N.A.	1
14. Steam Generator Water Level -- Low-Low	S	R	M	1, 2
15. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	S	R	M	1, 2
16. Undervoltage - Reactor Coolant Pumps	N.A.	R	M	1
17. Underfrequency - Reactor Coolant Pumps	N.A.	R	M	1
18. Turbine Trip				
A. Low Fluid Oil Pressure	N.A.	N.A.	S/U(1)	1, 2
B. Turbine Stop Valve Closure	N.A.	N.A.	S/U(1)	1, 2
19. Safety Injection Input from ESF	N.A.	N.A.	M(4)	1, 2
20. Reactor Coolant Pump Breaker Position Trip	N.A.	N.A.	R	N.A.
21. Reactor Trip Breaker				
A. Shunt Trip Function	N.A.	N.A.	M(5)(9) & S/U(1)(9)	1, 2*
B. Undervoltage Trip Function	N.A.	N.A.	M(5)(9) & S/U(1)(9)	1, 2*
22. Automatic Trip Logic	N.A.	N.A.	M(5)	1, 2*
23. Reactor Trip Bypass Breaker	N.A.	N.A.	M(10) & S/U(1)(11)	1, 2*

TABLE 4.3-1 (Continued)

NOTATION

* - With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.

(1) - If not performed in previous 7 days.

(2) - Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference > 2 percent.

(3) - Compare incore to excore axial imbalance above 15% of RATED THERMAL POWER. Recalibrate if absolute difference ≥ 3 percent.

(4) - Manual ESF functional input check every 18 months.

(5) - Each train tested every other month.

(6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.

(7) - Below P-6 (BLOCK OF SOURCE RANGE REACTOR TRIP) setpoint.

(8) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).

(9) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.

(10) - Local manual shunt trip prior to placing breaker in service.

(11) - Automatic Undervoltage Trip.

2.2 LIMITING SAFETY SYSTEM SETTINGS

BASES

Safety Injection Input from ESF

If a reactor trip has not already been generated by the reactor protective instrumentation, the ESF automatic actuation logic channels will initiate a reactor trip upon any signal which initiates a safety injection. This trip is provided to protect the core in the event of a LOCA. The ESF instrumentation channels which initiate a safety injection signal are shown in Table 3.3-3.

Reactor Coolant Pump Breaker Position Trip

The Reactor Coolant Pump Breaker Position Trip is an anticipatory trip which provides reactor core protection against DNB resulting from the opening of two or more pump breakers above P-7. This trip is blocked below P-7. The open/close position trip assures a reactor trip signal is generated before the low flow trip setpoint is reached. No credit was taken in the accident analyses for operation of this trip. The functional capability at the open/close position settings is required to enhance the overall reliability of the Reactor Protection System.

TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
16. Undervoltage-Reactor Coolant Pumps	4-1/bus	2	3	1	6#
17. Underfrequency-Reactor Coolant Pumps	4-1/bus	2	3	1	6#
18. Turbine Trip					
A. Low Fluid Oil Pressure	3	2	2	1	7#
B. Turbine Stop Valve Closure	4	4	3	1	6#
19. Safety Injection Input from ESF	2	1	2	1, 2	1
20. Reactor Coolant Pump Breaker Position Trip: Above P-7	1/breaker	2	1/breaker per operating loop	1	11
21. Reactor Trip Breakers	2	1	2	1, 2 and*	1,13
22. Automatic Trip Logic	2	1	2	1, 2 and*	1

ACTION 9 - With a channel associated with an operating loop inoperable, restore the inoperable channel to OPERABLE status within 2 hours or be in HOT STANDBY within the next 6 hours; however, one channel associated with an operating loop may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.1.

ACTION 11 - With less than the Minimum Number of Channels OPERABLE, operation may continue provided the inoperable channel is placed in the tripped condition within 1 hour.

ACTION 12 - With the number of channels OPERABLE one less than required by the minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and/or open the reactor trip breakers.

ACTION 13 - With one of the diverse trip features (Undervoltage or shunt trip attachment) inoperable, restore it to OPERABLE status within 48 hours or declare the breaker inoperable and apply ACTION 1. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for the time required for performing maintenance to restore the breaker to OPERABLE status.

REACTOR TRIP SYSTEM INTERLOCKS

DESIGNATION	CONDITION AND SETPOINT	FUNCTION
P-6	With 2 of 2 Intermediate Range Neutron Flux Channels $< 6 \times 10^{-11}$ amps.	P-6 prevents or defeats the manual block of source range reactor trip.

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. Manual Reactor Trip**				
A. Shunt Trip Function	N.A.	N.A.	S/U(1) (8)	N.A.
B. Undervoltage Trip Function	N.A.	N.A.	S/U(1) (8)	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 (6)	M	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R (6)	M	1, 2
5. Intermediate Range, Neutron Flux	S	R (6)	S/U(1)	1, 2 and *
6. Source Range, Neutron Flux	S	R (6)	M and S/U(1)	2(7), 3(7), 4 and 5
7. Overtemperature Δ T	S	R	M	1, 2
8. Overpower Δ T	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

TABLE 4.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
13. Loss of Flow - Two Loops	S	R	N.A.	1
14. Steam Generator Water Level -- Low-Low	S	R	M	1, 2
15. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	S	R	M	1, 2
16. Undervoltage - Reactor Coolant Pumps	N.A.	R	M	1
17. Underfrequency - Reactor Coolant Pumps	N.A.	R	M	1
18. Turbine Trip				
A. Low Fluid Oil Pressure	N.A.	N.A.	S/U(1)	1, 2
B. Turbine Stop Valve Closure	N.A.	N.A.	S/U(1)	1, 2
19. Safety Injection Input from ESF	N.A.	N.A.	M(4)	1, 2
20. Reactor Coolant Pump Breaker Position Trip	N.A.	N.A.	R	N.A.
21. Reactor Trip Breaker**				
A. Shunt Trip Function	N.A.	N.A.	M(5)(9) & S/U(1)(9)	1, 2*
B. Undervoltage Trip Function	N.A.	N.A.	M(5)(9) & S/U(1)(9)	1, 2*
22. Automatic Trip Logic	N.A.	N.A.	M(5)	1, 2*
23. Reactor Trip Bypass Breaker	N.A.	N.A.	M(10) & S/U(1)(11)	1, 2*

** This surveillance does not become effective until after the 1986 Unit 2 refueling outage.

TABLE 4.3-1 (Continued)

NOTATION

* -	With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.
(1) -	If not performed in previous 7 days.
(2) -	Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference > 2 percent.
(3) -	Compare incore to excore axial offset above 15% of RATED THERMAL POWER. Recalibrate if absolute difference ≥ 3 percent.
(4) -	Manual ESF functional input check every 18 months.
(5) -	Each train tested every other month.
(6) -	Neutron detectors may be excluded from CHANNEL CALIBRATION.
(7) -	Below P-6 (BLOCK OF SOURCE RANGE REACTOR TRIP) setpoint.
(8) -	The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).
(9) -	The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.
(10) -	Local manual shunt trip prior to placing breaker in service.
(11) -	Automatic Undervoltage Trip.

Safety Injection Input from ESF

If a reactor trip has not already been generated by the reactor protective instrumentation, the ESF automatic actuation logic channels will initiate a reactor trip upon any signal which initiates a safety injection. This trip is provided to protect the core in the event of a LOCA. The ESF instrumentation channels which initiate a safety injection signal are shown in Table 3.3-3.

Reactor Coolant Pump Breaker Position Trip

The Reactor Coolant Pump Breaker Position Trip is an anticipatory trip which provides reactor core protection against DNB resulting from the opening of two or more pump breakers above P-7. This trip is blocked below P-7. The open/close position trip assures a reactor trip signal is generated before the low flow trip setpoint is reached. No credit was taken in the accident analyses for operation of this trip. The functional capability at the open/close position settings is required to enhance the overall reliability of the Reactor Protection System.

ATTACHMENT 3 TO AEP:NRC:0895G

UPDATED SIGNIFICANT HAZARDS ANALYSIS

Description of the Change

We are proposing to change the logic for the reactor coolant pump breaker position (RCPBP) trip above permissive P-8 from one out of four breakers open to two out of four breakers open. We are also proposing changes to the Bases to maintain consistency with the modified limiting condition for operation. Finally, we are deleting Action 10 of Table 3.3-1 (the action for the RCPBP trip above P-8) since it will no longer be used.

It is noted that this modification is provided as a standard feature or as a retrofit option for all Westinghouse PWR units, and all domestic Westinghouse PWR units supplied subsequently to Three Mile Island incorporate this change.

Reason for the Change

This change will remove a potential source of single failure unit trips and provide a reduction in challenges to the reactor protection system (RPS). It is noted that we recently had a reactor trip caused by spurious initiation of the RCPBP trip.

Significant Hazards Analysis

Per 10 CFR 50.93, a proposed amendment will not involve a significant hazards consideration if the proposed amendment does not:

1) involve a significant increase in the probability or consequences of an accident previously analyzed,

2) create the possibility of a new or different kind of accident from any accident previously analyzed or evaluated, or

3) involve a significant reduction in a margin of safety.

Criterion 1

The one out of four RCPBP trip above P-8 is not required for safety but is instead provided as a redundant anticipatory trip for impending loss of reactor coolant flow and is intended to enhance the overall reliability of the RPS. No credit is taken for this trip in the safety analysis for either Unit 1 or Unit 2. The design protection for the single loop loss of flow event is the low flow reactor trip. The updated FSAR analysis is for the single loop loss of flow event assumes that the reactor is tripped by the low flow reactor trip and shows that the DNBR remains above applicable limits during the event. Since no credit is taken for the RCPBP trip, the proposed change to this trip will not impact

the safety analysis for the Cook Nuclear Plant and will therefore not increase the probability or consequences of an accident previously evaluated.

Criterion 2

As noted in Criterion 1, the one out of four RCPBP trip above P-8 is not required for safety but is provided as a redundant anticipatory trip to enhance the overall reliability of the RPS. In addition, Westinghouse has concluded that the change does not degrade the performance of the reactor protection system or its conformance to system functional requirements and that the diversity and redundancy of the system is maintained for the single loop.loss of flow event. We therefore conclude that the proposed change will not create the possibility of a new or different kind of accident than any previously evaluated.

Criterion 3

The proposed modification to the RCPBP trip affects only the coincidence logic of the reactor protection system and does not degrade either its performance or conformance to system functional requirement. In addition, Westinghouse has concluded that the diversity and redundancy of the reactor protection system is maintained for the single loop loss of flow event. We therefore conclude that the proposed change will not significantly decrease a margin of safety.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. Based on the above discussion, we believe the proposed change is clearly within limits established as acceptable, and we therefore believe that the proposed change does not constitute a significant hazards consideration as defined in 10 CFR 50.92.