ATTACHMENTS:

I. The Proposed Changes to Technical Specifications
II. Justification and Safety Evaluation
III. Analysis of Significant Hazards Consideration

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
5. Turbine Trip & Feedwater Isolation					
a. Automatic Actuation Logic and Actuation Relay	2	1	2	1, 2	21
b. Steam Generator Water Level-- High-High	3/stm. gen.	2/stm. gen. in any operating stm gen.	2/stm. gen. in each operating stm. gen.	1, 2	15*
c. Doghouse Water Level (Feedwater Isolation Only)	3/Train/ Doghouse	2/Train/ Doghouse	2/Train/ Doghouse	1, 2	26*
6. Containment Pressure Control System	8(4/Train)	4/Train	8	1, 2, 3, 4	25

Because doghouse amendment was issued first, mixed "26" & "25"

Note absence of *. Therefore TS 3.0.4 is now applicable

Action 25 - With any of the eight channels inoperable, place the inoperable channel(s) in the start permissive mode within one hour and apply the applicable action statement (Containment Spray - T.S. 3.6.2, Containment Air Return/Hydrogen Skimmer - T.S. 3.6.5.6).

Action 26 - With one of the two trains of doghouse water level instrumentation inoperable (less than the minimum required number of channels operable), restore the inoperable train to operable status in 72 hours. After 72 hours with one train inoperable, or within one hour with 2 trains inoperable, monitor doghouse water level in the affected doghouse continuously until both trains are restored to operable status.

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
4. Steam Line Isolation		
a. Manual Initiation	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c. Containment Pressure--High-High	$\leq$ 2.9 psig	$\leq$ 3.0 psig
d. Negative Steam Line Pressure Rate - High	$\leq$ -100 psi/sec	$\leq$ -120 psi/sec
e. Steam Line Pressure - Low	$\geq$ 585 psig	$\geq$ 565 psig
5. Turbine Trip and Feedwater Isolation		
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
b. Steam Generator Water level--High-High (P-14)	$\leq$ 82% of narrow range instrument span each steam generator	$\leq$ 83% of narrow range instrument span each steam generator
c. Doghouse Water Level - High (Feedwater Isolation Only)	12"	13"
6. Containment Pressure Control System Start Permissive/Termination (SP/T)	0.3 $\leq$ SP/T $\leq$ 0.4 PSIG	0.25 $\leq$ SP/T $\leq$ 0.45 PSIG

Ambiguous - Use Catalog font

? - psid

? - psid

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
4. Steam Line Isolation								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3
c. Containment Pressure--High-High	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Negative Steam Line Pressure Rate-High	S	R	M	N.A.	N.A.	N.A.	N.A.	3
e. Steam Line Pressure--Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
5. Turbine Trip and Feedwater Isolation								
a. Automatic Actuation Logic and Actuation Relay	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2
b. Steam Generator Water Level-High-High (P-14)	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2
c. Doghouse Water Level-High (Feedwater Isolation Only)	S	N.A.	N.A.	R	N.A.	N.A.	N.A.	1,2
6. Containment Pressure Control System Start Permissive/ Termination	S	R	M	N.A.	N.A.	N.A.	N.A.	1. 2, 3, 4

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
7. Auxiliary Feedwater								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation Logic and Actuation lays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3

Carryover only
no change

SURVEILLANCE REQUIREMENTS (Continued)

3) Verifying that the Containment Pressure Control System functions within the setpoint limits specified in Table 3.3-4, Item 6.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

CONTAINMENT SYSTEMS

CONTAINMENT AIR RETURN AND HYDROGEN SKIMMER SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.6 Two independent Containment Air Return and Hydrogen Skimmer Systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one Containment Air Return and Hydrogen Skimmer System inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.6.1 Each Containment Air Return and Hydrogen Skimmer System shall be demonstrated OPERABLE at least once per 92 days on a STAGGERED TEST BASIS by:

a. Verifying that the air return and hydrogen skimmer fans start automatically on a Containment Phase B Isolation (S_p) test signal after a 9 ± 1 minute delay and operate for at least 15 minutes;

b. Verifying that during air return fan operation with the air return fan damper closed and with the bypass dampers open, the fan motor current is less than or equal to 32 amps when the fan speed is 870 ± 30 rpm;

c. Verifying that with the hydrogen skimmer fan operating and the motor operated valve in its suction line closed, the fan motor current is less than or equal to 21.5 amps when the fan speed is 3599 ± 20 rpm;

d. Verifying that with the air return fan off, the motor operated damper in the air return fan discharge line to the containment's lower compartment opens automatically with a 10 ± 1 second delay after a Containment Phase B Isolation (S_p) test signal;

e. Verifying that with the air return fan operating, the check damper in the air return fan discharge line to the containment's lower compartment is open;

f. Verifying that the motor operated valve in the hydrogen skimmer suction line opens automatically and the hydrogen skimmer fans receive a start permissive signal; and

g. Verifying that with the fan off, the air return fan check damper is closed.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.5.6.2 At least once per 18 months, each Containment Air Return and Hydrogen Skimmer System shall be demonstrated OPERABLE by verifying that the containment pressure control system functions within the setpoint limits specified in Table 3.3-4, Item 6.

Attachment II

Technical Justification and Safety Analysis

A. CPCS Setpoint

The Containment Pressure Control System (CPCS) is provided to preclude underpressurization of the containment. The CPCS interlocks with the containment spray and containment air return/hydrogen skimmer systems to prevent operation when containment pressure is below approximately .25 PSIG. As containment pressure increases, the CPCS provides a start permissive signal to allow operation of the Engineered Safety Features (containment spray and air return systems). The setpoint (containment high-high pressure) for these ESF systems is 2.9 PSIG; the CPCS start permissive may occur at any containment pressure below 2.9 PSIG, and will not affect system operation.

The current Technical Specification setpoint for the Containment Pressure Control System (CPCS) is conservative and somewhat ambiguous, in that the start permissive and termination both occur at the same value of differential containment pressure (.25 psid). The proposed change will create an operating band between the start permissive and the termination setpoint.

In addition, the new setpoints will correct two relatively minor inconsistencies. Currently the trip setpoint (start/termination) for the CPCS is equal to the allowable value. According to Westinghouse setpoint methodology, the trip setpoint should differ from the allowable value by at least an amount equal to instrument drift. Second, the Technical Specifications allow the termination of CPCS at any value less than or equal to .25 psid. The FSAR, however, requires that termination occur at a value greater than -1.5 psig. A termination setpoint of, for instance, -2.0, would satisfy the Tech. Specs. but not the FSAR.

The new setpoints are not significantly different from the existing setpoints, and will not affect the response of containment spray or containment air return/hydrogen skimmer systems in the event of a challenge. The setpoints are changed primarily to create a separation between the termination and start permissive setpoints, and to provide meaningful allowable values. The setpoints are sufficiently far from the extremes of the span between the safety limits to ensure that no excursions into unacceptable pressure conditions will occur. The new setpoints are identical to those currently in use at Catawba.

B. ESF Actuation System Instrumentation (Table 3.3-3)

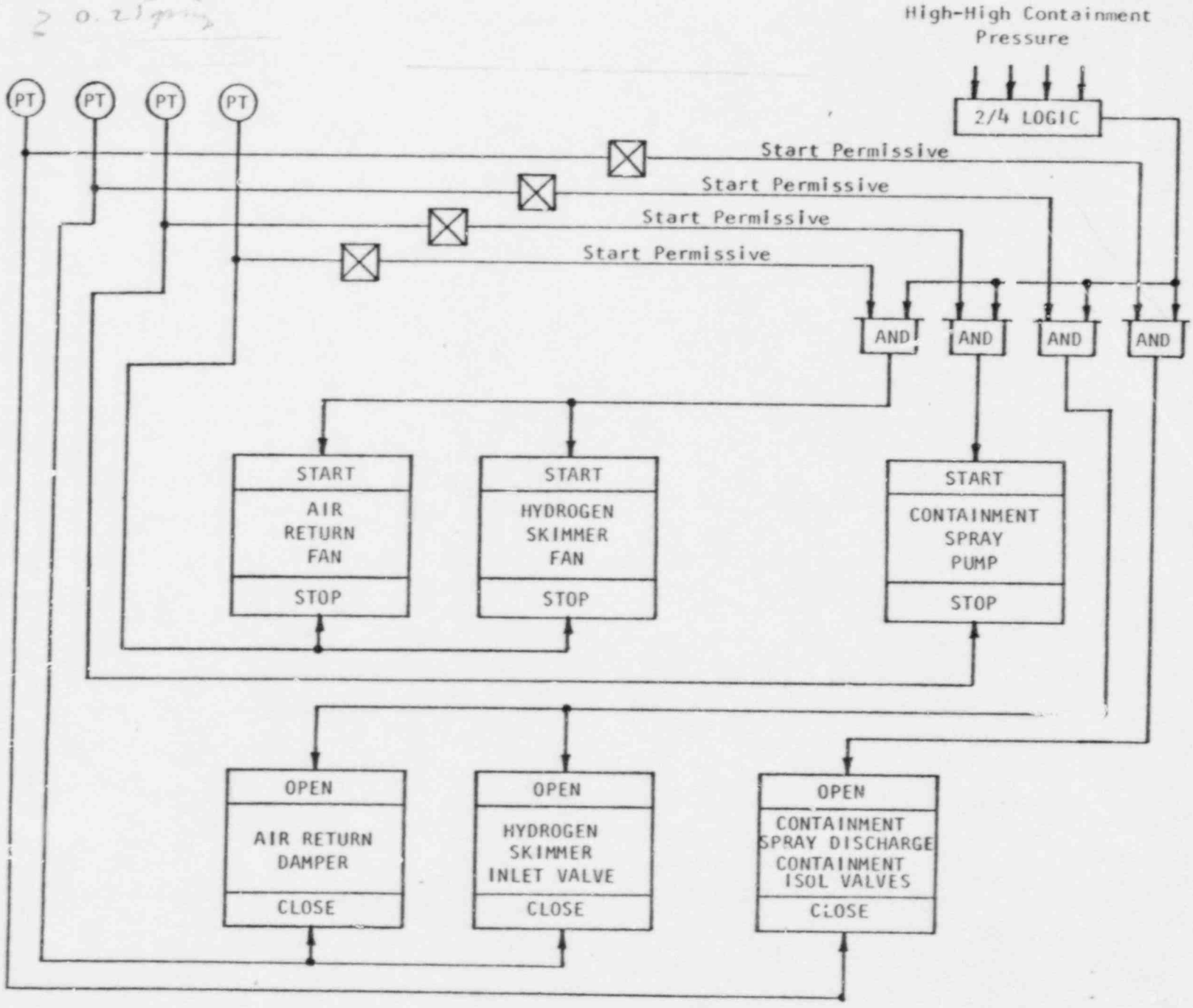
Item 6 of Table 3.3-3 lists the CPCS as having 4 channels per train with 2-out-of-4 trip logic and at least 3 channels required to be operable. However, each of the four channels has a different function in the operation of the CPCS. Each of the pressure switches provides a start permissive/termination signal to one or two of the following components: Containment Spray (NS) Pump, Air Return Fan (VX), Hydrogen Skimmer Fan, Air Return Damper, Hydrogen Skimmer Inlet Valve, and NS Isolation Valves. Therefore, in order to assure proper operation of the CPCS, all four

channels must be operable. Table 3.3-3 is being revised to reflect that there are two trains of 4 channels each, and that all eight channels are required to be operable, or the affected system (Containment Spray or Containment Air Return/Hydrogen Skimmer as applicable) must be declared inoperable and actions taken pursuant to the appropriate Technical Specification. The Action Statement, which requires that any inoperable channels be placed in the "Start Permissive" mode, will ensure that the components required to control containment pressure will be available when needed. See Figure II-1 for CPCS Logic.

C. Doghouse Water Level - High (New Tech. Spec.)

As a result of an incident at McGuire, surveillance requirements are being added for existing doghouse water level instrumentation. Doghouse water level instrumentation consists of 3 level transmitters per train in each doghouse. The instrumentation is designed to detect accumulation of water in the doghouse, which is indicative of a feedwater line break, and will provide a feedwater isolation signal on high doghouse water level. The instrumentation has an alarm at 6 inches and an isolation signal at 12 inches. The new surveillance requirements, a channel check once per shift and a trip actuating device operational check once per 18 months, will provide added assurance that the instrumentation will function as intended.

≥ 0.25psig



CONTAINMENT PRESSURE CONTROL SYSTEM LOGIC
FIGURE II-1

Attachment III

ANALYSIS OF SIGNIFICANT HAZARDS CONSIDERATIONS

A. CPCS Setpoints

The proposed changes are intended to clarify the required setpoints and allowable values, and do not significantly change the intent or operation of the CPCS.

B. ESF Actuation System Instrumentation

The proposed changes are corrective in nature and are intended to more accurately reflect the function of the CPCS, thus resulting in an overall increase in the likelihood of proper system operation.

C. Doghouse Water Level Instrumentation

Surveillance requirements and LCOs are proposed for existing doghouse water level instrumentation to provide increased assurance of operability of the instrumentation. The 18-month frequency for trip actuation testing is not expected to degrade the equipment.

D. Summary

The three changes proposed are administrative and/or corrective in nature and do not involve hardware modifications or design changes.

The proposed amendments would not:

1) Involve a significant increase in the probability or consequences of an accident previously evaluate; or

2) Create the possibility of a new or different kind of accident from any accident previously evaluate; or

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

Based upon the preceding, Duke Power Company concludes that the proposed amendments do not involve a significant hazard consideration.