TABLE 3.3-4 (Continued)

ENGINEERED SAFET: FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE
13. Annulus Ventilation Oper	ation	
a. Manual Initiation	N.A.	N.A.
 Automatic Actuation and Actuation Relays 	Logic N.A.	N.A.
c. Safety Injection	See Item 1. ab	ove for all Safety Injection Setpoints and Allowable Values.
14. Nuclear Service Water Op	eration	
a. Manual Initiation	N.A.	N.A.
 b. Automatic Actuation and Actuation Relays 	Logic N.A.	N.A.
c. Loss-of-Offsite Powe	r ≥ 3500 V	≥ 3242 V
d. Containment Spray	See Item 2. ab	ove for all Containment Spray Setpoints and Allowable Values.
e. Phase "B" Isolation	See liem 3.b. Values.	above for all Phase "B" Isolation Setnoints and Allowable
f. Safety Injection	See Item 1. ab	ove for all Safety Injection Settoints and Allowable Values.
g. Suction Transfer-Low		$. \ge E1. \frac{552.9}{555.4} ft.$
9712190080 971211 PDR ADOCK 05000413 P PDR		

CATAWBA - UNIT 1

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TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCT	IONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE
13. A	nnulus Ventilation Operation		
a	. Manual Initiation	N.A.	N.A.
b	. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c	. Safety Injection	See Item 1. abo	ove for all Safety Injection Setpoints and Allowable Values.
14. No	uclear Service Water Operation		
a	. Manual Initiation	N.A.	N.A.
b.	. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
c.	. Loss-of-Offsite Power	≥ 3500 V	≥ 3242 V
d.	. Containment Spray	See Item 2. abo	we for all Containment Spray Setpoints and Allowable Values.
e.	. Phase "B" Isolation	See Item 3.b. a Values.	bove for all Phase "B" Isolation Setpoints and Allowable
f.	. Safety Injection	See Item 1. abo	we for all Safety Injection Setpoints and Allowable Values.
g.	Suction Transfer-Low Pit Level (≥ El. 254.4 Tt. 557.5	≥ E1. 552.9 ft. 555.4

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Attachment 1c

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	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED	CONDITIONS		RVEILLANCE QUIREMENTS	ALLOWABLE VALUE	TRIP
8.	ESFAS Interlocks							
	a. Reactor Trip, P-4	1,2,3	1 per train, 2 trains	F	SR	3.3.2.8	NA	NA
	 b. Pressurizer Pressure, P-11 	1,2,3	3	0	SR SR	3.3.2.5 3.3.2.9	≥ 1944 and ≤ 1966 psig	1955 psig
	c. T _{avg} - Low Low, P-12	1,2,3	l per loop	0	SR SR	3.3.2.5 3.3.2.9	≥ 550°F	≥ 553°F
9.	Containment Pressure Control System							
	a. Start Permissive	1,2,3,4	4 per train	Ρ	SR SR SR	3.3.2.1 3.3.2.7 3.3.2.9	s 0.45 psid	s 0.4 psid
	b. Termination	1,2,3,4	4 per train	Ρ	SR SR SR	3.3.2.1 3.3.2.7 3.3.2.9	2 0.25 psid	2 0.3 psid
).	Nuclear Service Water Suction Transfer - Low Pit Level	1,2,3,4	3 per pit	Q.R	SR SR SR	3.3.2.1 3.3.2.9 3.3.2.11	2 552.9 ft El. 555.4	2 554.4 ft El.557.5

Table 3.3.2-1 (page 5 of 5) Engineered Safety Feature Actuation System Instrumentation

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Attachment 1d

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Catawba Unit 2 Improved Technical Specifications Marked Copy

	FUNCTION	APPLICABLE NODES OR OTHER SPECIFIED CONDITIONS	REQUIRED	CONDITIONS		RVEILLANCE	ALLOMABLE VALUE	TRIP SETPOINT
8.	ESFAS Interlocks							
	a. Reactor Trip, P-4	1,2,3	1 per train, 2 trains	r	SR	3.3.2.8	NA	NA
	 b. Pressurizer Pressure, P-11 	1,2,3	3	0	SR SR	3.3.2.5 3.3.2.9	2 1944 and s 1966 psig	1955 psig
	c. T _{avg} · Low Low, P-12	1,2,3	1 per Loop	0	SR SR	3.3.2.5 3.3.2.9	2 550°F	2 553°F
۹.	Containment Pressure Control System							
	a. Start Permissive	1,2,3,4	4 per train	Р	SR SR SR	3.3.2.1 3.3.2.7 3.3.2.9	s 0.45 psid	s 0.4 psid
	b. Termination	1,2,3,4	4 per train	Ρ	SR SR SR	3.3.2.1 3.3.2.7 3.3.2.9	2 0.25 psid	≥ 0.3 psid
D.	Nuclear Service Water Suction Transfer - Low Pit Level	1,2,3,6	3 per pit	Q,R	SR SR SR	3.3.2.1 3.3.2.9 3.3.2.11	2-552.9 ft EL555.4	2 554.4 ft

Table 3.3.2-1 (page 5 of 5) Engineered Safety Feature Actuation System Instrumentation

Catawba Unit 2

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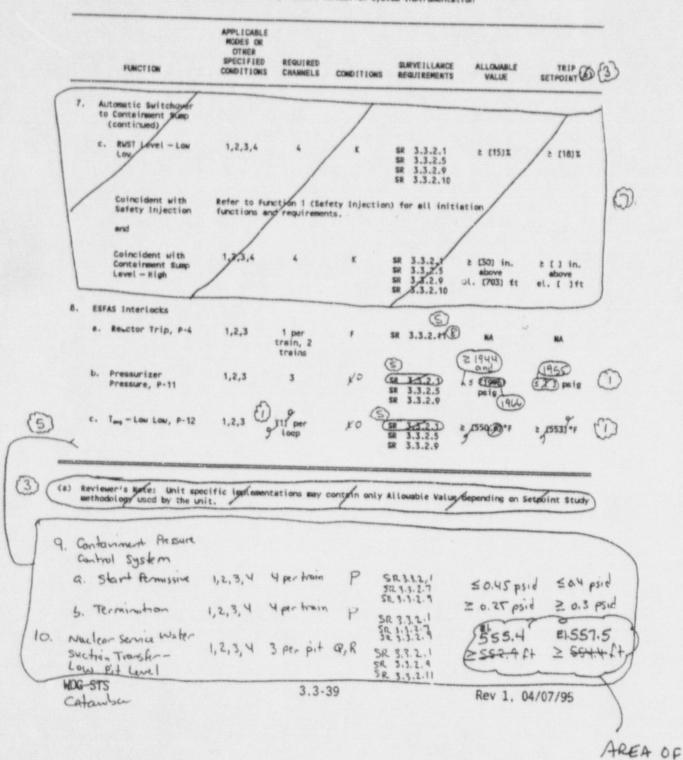
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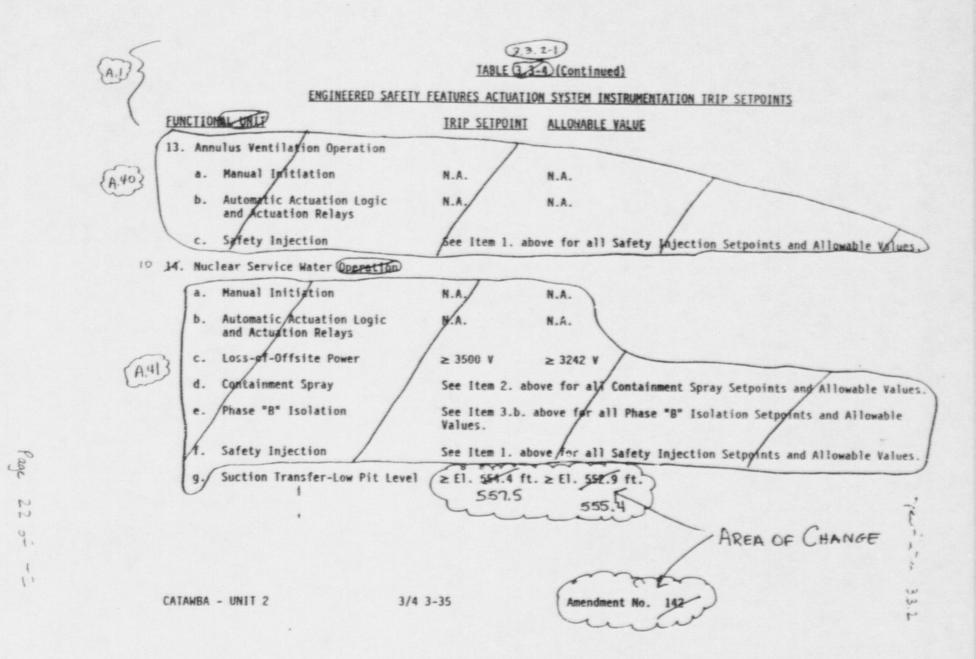
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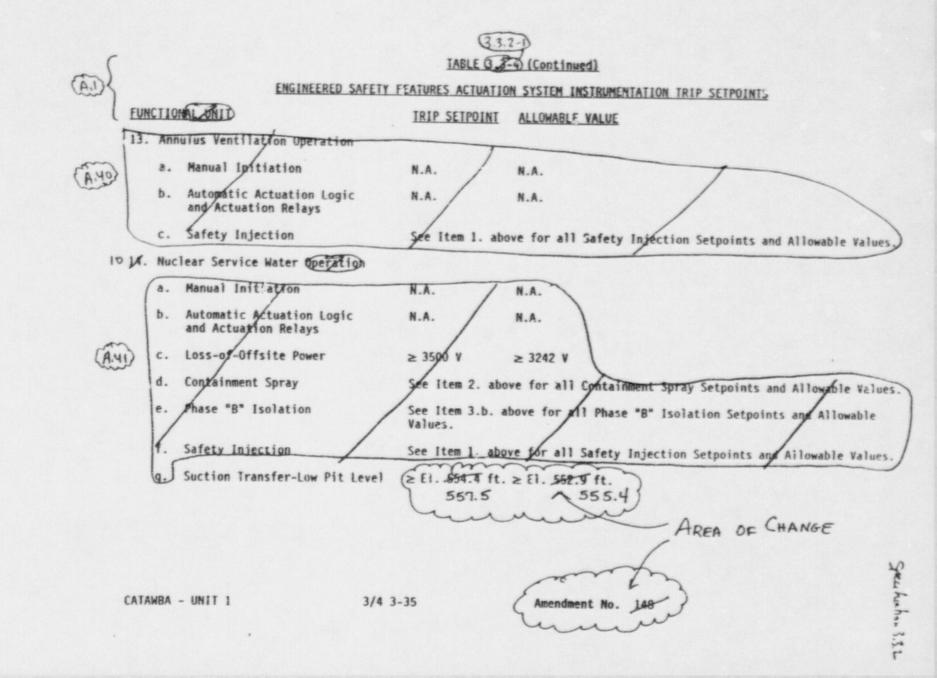
NUREG 1431 Technical Specifications Marked Copy and Catawba Nuclear Station Units 1 and 2 Current Technical Specifications Marked Copy Table 3.3.2-1 (page 8 of 8) Engineered Safety Feature Actuation System Instrumentation

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Attachment 2a

Catawba Unit 1 Current Technical Specifications

Remove Pages: 3/4 3-35

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TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNC	TION/	AL UNIT	TRIP SETPOINT	ALLOWABLE VALUE
13.	Annu	ulus Ventilation Operation		
	a.	Manual Initiation	N.A.	N.A.
	b.	Automatic Actuation Logic and Actuation Ralays	N.A.	N.A.
	с.	Safety Injection	See Item 1. abr	ove for all Safety Injection Setpoints and Allowable Values.
14.	Nucl	lear Service Water Operation		
	a.	Manual Initiation	N.A.	N.A.
	b.	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
	с.	Loss-of-Offsite Power	≥ 3500 V	≥ 3242 V
	d.	Containment Spray	See Item 2. abo	ove for all Containment Spray Setpoints and Allowable Values.
	e.	Phase "B" Isolation	See Item 3.b. a Values.	above for all Phase "B" Isolation Setpoints and Allowable
	f.	Safety Injection	See Item 1. abo	ove for all Safety Injection Setpoints and Allowable Values.
	g.	Suction Transfer-Low Pit Level	≥ E1. 557.5 ft.	. ≥ E1. 555.4 ft.

Attachment 2b

Catawba Unit 2 Current Technical Specifications

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TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUN	CTION	NAL UNIT	TRIP SETPOINT	ALLOWABLE VALUE
13.	Ann	ulus Ventilation Operation		
	a.	Manual Initiation	N.A.	N.A.
	b.	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
	с.	Safety Injection	See Item 1. abo	ove for all Safety Injection Setpoints and Allowable Values.
14.	Nuc	lear Service Water Operation		
	a.	Manual Initiation	N.A.	N.A.
	b.	Automatic Actuation Logic and Actuation Relays	N.A.	N.A.
	с.	Loss-of-Offsite Power	≥ 3500 V	≥ 3242 V
	d.	Containment Spray	See Item 2. abo	ove for all Containment Spray Setpoints and Allowable Values.
	e.	Phase "B" Isolation	See Item 3.b. a Values.	above for all Phase "B" Isolation Setpoints and Allowable
	f.	Safety Injection	See Item 1. ab	ove for all Safety Injection Setpoints and Allowable Values.
	g.	Suction Transfer-Low Pit Level	≥ E1. 557.5 ft	. ≥ El. 555.4 ft.

Amendment No.

Attachment 2c

Catawba Unit 1 Improved Technical Specifications

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	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS		VEILLANCE DUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
8.	ESFAS Interlocks							
	a. Reactor Trip, P-4	1,2,3	1 per train, 2 trains	F	SR	3.3.2.8	NA	NA
	 b. Pressurizer Pressure, P-11 	1,2,3	3	0	SR SR	3.3.2.5 3.3.2.9	≥ 1944 and ≤ 1966 psig	1955 psig
	c. T _{avg} - Low Low, P-12	1,2,3	1 per loop	0	Sk SR	3.3.2.5 3.3.2.9	≥ 550°F	≥ 553°F
9.	Containment Pressure Control System							
	a. Start Permissive	1,2,3,4	4 per train	Ρ	SR SR SR	3.3.2.1 3.3.2.7 3.3.2.9	s 0.45 psid	s 0.4 psid
	b. Termination	1,2,3,4	4 per train	Ρ	SR SR SR	3.3.2.1 3.3.2.7 3.3.2.9	≥ 0.25 psid	≥ 0.3 psid
10.	Nuclear Service Water Suction Transfer - Low Pit Level	1,2,3,4	3 pur pit	Ç,R	SR SR SR	3.3.2.1 3.3.2.9 3.3.2.11	≥ El. 555.4 ft	≥ El. 557.5 ft

Table 3.3.2-1 (page 5 of 5) Engineered Safety Feature Actuation System Instrumentation

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Attachment 2d

Catawba Unit 2 Improved Technical Specifications

Remove Pages: 3.3-35 Insert Pages: 3.3-35

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS		VEILLANCE	ALLOWABLE VALUE	TRIP SETPOINT
8.	ESFAS Interlock	5						
	ε. Reactor Tri	p, P-4 1,2,3	1 per train, 2 trains	F	SR	3.3.2.8	NA	NA
	b. Pressurizer Pressure, P		3	0	SR SR	3.3.2.5 3.3.2.9	≥ 1944 and ≤ 1966 psig	1955 psig
	c. T _{avg} - Low L P-12	ож, 1,2,3	1 per loop	0		3.3.2.5 3.3.2.9	≥ 550°F	≥ 553°F
9.	Containment Pre Control System	issure						
	a. Start Permi	ssive 1,2,3,4	4 per train	Ρ	SR SR SR	$3.3.2.1 \\ 3.3.2.7 \\ 3.3.2.9$	≤ 0.45 psid	s 0.4 psid
	b. Termination	1,2,3,4	4 per train	р	SR SR SR	3.3.2.1 3.3.2.7 3.3.2.9	≥ 0.25 psid	≥ 0.3 psid
0.	Nuclear Service Suction Transfe Low Pit Level		3 per pit	Q,R	SR	3.3.2.1 3.3.2.9 3.3.2.11	≥ E1. 555.4 ft	≥ El. 557.5 ft

Table 3.3.2-1 (page 5 of 5) Engineered Safety Feature Actuation System Instrumentation

Attachment 3

Description of Proposed Changes and Technical Justification

Change to Technical Specification on Engineered Safety Features Actuation System Instrumentation

A change is requested to Technical Specification (TS) 3/4.3.2 Engineered Safety Features Actuation System Instrumentation. (The corresponding proposed Improved Technical Specification is 3.3.2.) Specifically, a change to the Trip Setpoint and Allowable Value in the Nuclear Service Water System Suction Transfer-Low Pit Level contained in the Table of Engineered Safety Features Actuation System Instrumentation is being requested. The Trip Setpoint and Allowable Value are contained in Functional Unit 14.g of Table 3.3-4 of the current TS and Function 10 of Table 3.3.2-1 of the proposed Improved TS.

Both the current TS and the proposed Improved TS specify the Trip Setpoint for the Suction Transfer-Low Pit Level to be greater than or equal to El. 554.4 ft., with an Allowable Value of greater than or equal to El. 552.9 ft. This amendment, once approved, would revise the Trip Setpoint to greater than or equal to El. 557.5 ft., with an Allowable Value of greater than or equal to El. 555.4 ft.

TECHNICAL JUSTIFICATION

Background

The Nuclear Service Water Pump Intake Pit Level Transmitters are safety-grade instruments which alert the operators that a low level condition exists in the pumphouse pits and initiate a swap of the pit suction source from Lake Wylie to the Standby Nuclear Service Water Pond upon emergency low level. The setpoints for the pit suction source swapover are based on Net Positive Suction Head Requirements for the Nuclear Service Water Pumps.

The TS required Trip Setpoints are nominal values at which the bistables are set for each functional unit in the table. To accommodate the instrument drift assumed to occur between operational tests and the accuracy to which Setpoints can be measured and calibrated, Allowable Values are specified.

Justification

The proposed Technical Specification change provides more conservative values for the Suction Transfer-Low Pit Level Trip Setpoint and Allowable Value than the existing Technical Specification. The proposed values ensure sufficient Net Positive Suction Head to the Nuclear Service Water System pumps allowing sufficient margin for instrument error to account for current instrument error calculation methodology.

Subsequent to the time of initial plant licensing, the methodology for calculating instrument loop uncertainty was revised to a more conservative technique. The new method identifies more possible error terms and thus yields more conservative numbers. As part of an overall selfimprovement process, the calculations supporting the Suction Transfer-Low Pit Level Trip Setpoint and Allowable Value were revised using the new methodology and the conclusion is that the allowance for instrument loop error should be 1.8 feet for the pit level instruments.

A review was conducted to evaluate the effects of this revised instrument error on the existing level setpoint and allowable value. During the review, it was determined that the instrument error indicated in the existing calculations was 1 foot. These calculations had been performed in accordance with more generalized engineering procedures and the original Westinghouse setpoint methodology.

Also during this review, it was identified that the existing Trip Setpoint and Allowable Value contained in TS may not ensure adequate Net Positive Suction Head to the Nuclear Service Water Pumps. The minimum Net Positive Suction Head requirement for the Nuclear Service Water Pumps was investigated. It was determined that adequate Net Positive Suction Head would be available to the Nuclear Service Water Pumps with a minimum actual pit level of El. 555.4 ft. For added conservatism, it was decided to maintain a minimum level of El. 557.5 ft.

The existing TS specify that the suction transfer pit low level Trip Setpoint be greater than or equal to El. 554.4 ft. with an Allowable Value of greater than or equal to El. 552.9 ft. These limits do not ensure adequate Net Positive Suction Head for the Nuclear Service Water Pumps. In order to provide this assurance, it is requested that the Trip Setpoint be revised to El. 557.5 ft. and the Allowable Value be revised to El. 555.4 ft. These revised values provide assurance that suction swapover will occur at a pit level that would provide continued Net Positive Suction Kead for the Nuclear Service Water Pumps after accounting for instrument error.

The Instrument Data Sheets, calculations, and procedures currently in use at the site specify a Tr.p Setpoint of El. 557.5 ft. This amendment to the TS to reflect the revised value is being requested so that the Limiting Condition for Operation will comply with the requirements of 10 CFR 50.36, which states that the TS must provide the lowest functional capability of a component or system.

Attachment 4

No Significant Hazards Considerations Evaluation

As required by 10CFR50.91, this analysis is provided concerning whether the requested amendment involves significant hazards considerations, as defined by 10CFR50.92. An amendment request involves no significant hazards considerations if operation of the facility in accordance with the requested amendment would not: 1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or 2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or 3) Involve a significant reduction in a margin of safety.

Criterion 1 - Would operation of the facility in accordance with the requested amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

The Nuclear Service Water System is the ultimate heat sink for various QA Condition 1 heat loads during normal operation and design basis events. The system supports Emergency Core Heat Removal operation by providing cooling to the Component Cooling System via the Component Cooling Heat Exchangers and also to the Diesel Generators via the Diesel Generator Engine Jacket Water Cooler System Heat Exchangers. Other QA-1 loads include the Containment Spray Heat Exchangers and the Control Area HVAC System/ Control Area Chilled Water System. The System also provides assured makeup to the Component Cooling System, Spent Fuel Pool, Auxiliary Feedwater and Containment Seal Water Injection systems. The Standby Nuclear Service Water Pond (SNSWP) is the assured source for the Nuclear Service Water System. A swap of the suction source for the Nuclear Service Water system from Lake Wylie to the SNSWP is required upon the loss of Lake Wylie. This swap is accomplished by level transmitters located in the Nuclear Service Water System pump pits. The setpoint at which this swapover occurs is established to ensure adequate Net Positive Suction Head to the Nuclear Service Water pumps. The revised TS Trip Setpoint and Allowable Value are necessary to ensure the pumps' Net Positive Suction Head requirements are satisfied.

This amendment affects only the level at which the suction swapover occurs. Increasing the Net Positive Suction Head available to the Nuclear Service Water pumps does not adversely affect operation of the pumps. The increase in the suction transfer low pit transfer setpoint will result in a reduction of the differential pressure across the SNSWP pit isolation valves. The reduced differential pressure will not adversely impact the SNSWP pit isolation valver. The proposed change does not impact the method of accomplishing the swapover or any additional operational features of the Nuclear Service Water System.

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The change does not impact the initiators of any accidents, nor does the change have the potential to impact the consequences of any accident in which the swapover is assumed to occur. Therefore, it is concluded that the proposed change will not increase the probability or consequences of an accident previously evaluated.

Criterion 2 - Will operation of the facility in accordance with the requested amendment create the possibility of a new or different kind of accident from any previously evaluated?

This amendment proposes limits for the suction transter that are more conservative than that contained in existing TS. The effects of this change on operation of the Nuclear Service Water System are limited to the Net Positive Suction Head of the Nuclear Service Water pumps and the differential pressure across the SNSWP pit isolation valves. Neither of these changes would have an adverse effect on Nuclear Service Water System performance. No net failure modes are created by this change, and no potential for previously unanalyzed accidents is created.

Criterion 3 - Will operation of the facility in accordance with the requested amendment involve a significant reduction in the margin of safety?

Implementation of the requested amendment will not involve a significant reduction in a margin of safety. Operation of the facility in accordance with the requested amendment will result in an increase in the available Not Positive Suction Head available to the Nuclear Service Water system pumps.

Based upon the preceding analyses, Catawba Nuclear Station concludes that the requested amendment does not involve a significant hazards consideration.

Attachment 5

Environmental Assessment

Pursuant to 10 CFR 51.22(b), an evaluation of this license amendment request has been performed to determine whether or not it meets the criteria for categorical exclusion set forth in 10 CFR 51.22 (c)(9) of the regulations.

This proposed amendment to the Catawba Units 1 and 2 Technical Specifications revises the current Trip Setpoint and Allowable Value for the Nuclear Service Water System Suction Transfer - Low Pit Level to a more conservative value. Operation of the facility in accordance with this amendment has been reviewed and determined not to involve a significant hazards consideration. The Nuclear Service Water System is the ultimate heat sink for various heat loads during normal operation and design basis events, and has no direct impact on any effluent generation or control systems. The change in Trip Setpoint and Allowable Value for the Nuclear Service Water System Suction Transfer to a more conservative value does not impact the type or quantity of effluents from the station. The proposed change to the setpoint does not impact individual or cumulative occupational radiation exposure.

It has been determined that there is:

- 1) No significant hazards consideration (see A:tachment 4);
- No significant change in the types, or significant increase in the amounts, of any effluents that may be released offsite; and
- 3) No significant increase in individual or cumulative occupational radiation exposures involved.

Therefore, this amendment to the Catawba Technical Specifications meets the criteria of 10 CFR 51.22 (c)(9) for categorical exclusion from an environmental impact statement.