LICENSE AUTHORITY FILE COPY

DO NOT REMOVE

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Posted
Amdt 1 to NPF-56

September 27, 1988

Docket No.: 50-443

Mr. John C. Duffett
President & Chief Executive Officer
Public Service Company of New Hampshire
Post Office Box 330
Manchester, New Hampshire 03105

Dear Mr. Duffett:

SUBJECT: ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE NO. NPF-56

The Commission has issued the enclosed Amendment No. 1 to Facility Operating License No. NPF-56 for Seabrook Station, Unit 1. This amendment is in response to your application dated, July 8, 1988 and supplemented by your August 8, 1988 submittal.

This amendment revises the Technical Specifications by changing the technical specification setpoints for the pressurizer pressure, pressurizer water level, and steam generator water level channels as a result of replacing the Veritrak/Tobar transmitters with Rosemount transmitters.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Victor Nerses

Victor Nerses, Project Manager
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 1 to License No. NPF-56
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. John C. Duffett
Public Service Company of New Hampshire

Seabrook Nuclear Power Station

cc:

Thomas Dignan, Esq.
John A. Ritscher, Esq.
Ropes and Gray
225 Franklin Street
Boston, Massachusetts 02110

Mr. Bruce B. Beckley, Project Manager
Public Service Company of New Hampshire
Post Office Box 330
Manchester, New Hampshire 03105

Dr. Mauray Tye, President
Sun Valley Association
209 Summer Street
Haverhill, Massachusetts 08139

Robert Backus, Esq.
Backus, Meyer and Solomon
116 Lowell Street
Manchester, New Hampshire 03106

Diane Curran, Esq.
Harmon and Weiss
2001 S Street, NW
Suite 430
Washington, D.C. 20009

Philip Ahren, Esq.
Assistant Attorney General
State House, Station #6
Augusta, Maine 04333

Mr. Warren Hall
Public Service Company of
New Hampshire
Post Office Box 330
Seabrook, New Hampshire 03874

Ms. Jane Doughty
Seacost Anti-Pollution League
5 Market Street
Portsmouth, New Hampshire 03801

Mr. Diana P. Randall
70 Collins Street
Seabrook, New Hampshire 03874

E. Tupper Kinder, Esq.
G. Dana Bisbee, Esq.
Assistant Attorney General
Office of Attorney General
208 State Hosue Annex
Concord, New Hampshire 03301

Resident Inspector
US Nuclear Regulatory Commission
Post Office Box 1149
Seabrook, New Hampshire 03874

Mr. A. M. Ebner, Project Manager
United Engineers & Constructors
Post Office Box 8223
Philadelphia, Pennsylvania 19101

Steven Oleskey, Esq.
Office of the Attorney General
One Ashburton Place
P.O. Box 330
Boston, Massachusetts 02108

Carol S. Sneider, Esq.
Office of the Assistant Attorney General
One Ashburton Place
P.O. Box 330
Boston, Massachusetts 02108

D. Pierre G. Cameron, Jr., Esq.
General Counsel
Public Service Company of New
Hampshire
Post Office Box 330
Manchester, New Hampshire 03105

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

M. Brock, Esq.
Shaines & McEachern
25 Maplewood Ave.
Portsmouth, N.H. 03801

cc:

Mr. Calvin A. Canney, City Manager
City Hall
126 Daniel Street
Portsmouth, New Hampshire 03801

Board of Selectmen
RFD Dalton Road
Brentwood, New Hampshire 03833

Ms. Roberta C. Pevear
Town of Hampton Falls, New Hampshire
Drinkwater Road
Hampton Falls, New Hampshire 03844

Mr. Guy Chichester, Chaiman
Rye Nuclear Intervention
Committee
c/o Rye Town Hall
10 Central Road
Rye, New Hampshire 03870

Chairman, Board of Selectmen
RFD 2
South Hampton, New Hampshire 03827

R. Scott Hill - Whilton
Lagoulis, Clark, Hill-Whilton
& McGuire
79 State Street
Newburyport, Ma. 01950

Ms. R. Cashman, Chairman
Board of Selectmen
Town of Amesbury
Town Hall
Amesbury, Massachusetts 01913

Honorable Peter J. Matthews
Mayor, City of Newburyport
City Hall
Newburyport, Massachusetts 01950

Mr. Donald E. Chick, Town Manager
Town of Exeter
10 Front Street
Exeter, New Hampshire 03823

Mr. Alfred V. Sargent,
Chairman
Board of Selectmen
Town of Salisbury, MA 01950

Senator Gordon J. Humphrey
ATTN: Tom Burack
531 Hart Senate Office Building
U.S. Senate
Washington, D.C. 20510

Mr. Owen B. Durgin, Chairman
Durham Board of Selectmen
Town of Durham
Durham, New Hampshire 03824

Jane Spector
Federal Energy Regulatory
Commission
825 North Capital Street, NE
Room 8105
Washington D. C. 20426

Mr. R. Sweeney
Three Metro Center
Suite 610
Bethesda, Maryland 20814

Mr. Richard Strome, Director
New Hampshire Office of Emergency
Management
State Office Park South
107 Pleasant Street
Concord, New Hampshire 03301

Adjudicatory File (2)
Atomic Safety and Licensing Board
Panel Docket
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Congressman Nicholas Mavroules
70 Washington Street
Salem, Massachusetts 01970

Mr. John C. Duffett
Public Service Company of New Hampshire (other)

cc:

Governor of New Hampshire
State House
Concord, New Hampshire 03301

Massachusetts Department of
Environmental Quality Engineering
100 Cambridge Street
Boston, Massachusetts 02108

State Planning Officer
Executive Department
State of Main
189 State Street
Augusta, Maine 04330

Chairman
New Hampshire Public Utilities
Commission
100 Cambridge Street
Boston, Massachusetts 02202

Office of the First Selectman
Town of Seabrook
Seabrook, New Hampshire 03874

Chairman
Vermont Public Service Board
120 State
State Office Building
Montpelier, Vermont 05502

Director, Criteria and Standards (SSERS)
(ANR-460)
Office of Radiation Programs
U.S. Environmental Protection Agency
Washington, D.C. 20460

Director, Eastern Environmental
Radiation Facility (SSERS)
U.S. Environmental Protection Agency
Post Office Box 3009
Montgomery, AL 36193

EIS Review Coordinator
Environmental Protection Agency
Region I
JFK Federal Building
Boston, Massachusetts 02203

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, ET AL.*
DOCKET NO. 50-443
SEABROOK STATION, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 1
License No. NPF-56

1. The Nuclear Regulatory Commission (the Commission) has found that

   A. The application for amendment by Public Service Company of New Hampshire (PSNH), as agent and representative of the utilities listed below (and hereafter the utilities listed below including PSNH collectively referred to as licensees) dated July 8, 1988 and supplemented by its August 8, 1988 submittal complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-56 is hereby amended to read as follows:

---

*Public Service Company of New Hampshire is authorized to act as agent for the: Canal Electric Company, The Connecticut Light and Power Company, EUA Power Corporation, Hudson Light & Power Company, Massachusetts Municipal Wholesale Electric Company, Montaup Electric Company, New England Power Company, New Hampshire Electric Cooperative, Inc., Taunton Municipal Lighting Plant, the United Illuminating Company, and Vermont Electric Generation and Transmission Cooperative, Inc., and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 1, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

R.H. Wessman

Richard H. Wessman, Director
Project Directorate I-3
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 27, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 1

FACILITY OPERATING LICENSE NO. NPF-56

DOCKET NO. 50-443

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. The corresponding overleaf pages are provided to maintain document completeness.

Remove	Insert
2-4	2-4
2-5	2-5
3/4 3-24	3/4 3-24
3/4 3-26	3/4 3-26
3/4 3-27	3/4 3-27
3/4 3-28	3/4 3-28
3/4 4-3	3/4 4-3
3/4 4-5	3/4 4-5
3/4 4-6	3/4 4-6
3/4 6-12	3/4 6-12

2.2 LIMITING SAFETY SYSTEM SETTINGS

REACTOR TRIP SYSTEM INSTRUMENTATION SETPOINTS

2.2.1 The Reactor Trip System Instrumentation and Interlock Setpoints shall be set consistent with the Trip Setpoint values shown in Table 2.2-1.

APPLICABILITY: As shown for each channel in Table 3.3-1.

ACTION:

a. With a Reactor Trip System Instrumentation or Interlock Setpoint less conservative than the value shown in the Trip Setpoint column but more conservative than the value shown in the Allowable Value column of Table 2.2-1, adjust the Setpoint consistent with the Trip Setpoint value.

b. With the Reactor Trip System Instrumentation or Interlock Setpoint less conservative than the value shown in the Allowable Value column of Table 2.2-1, either:

   1. Adjust the Setpoint consistent with the Trip Setpoint value of Table 2.2-1 and determine within 12 hours that Equation 2.2-1 was satisfied for the affected channel, or

   2. Declare the channel inoperable and apply the applicable ACTION statement requirement of Specification 3.3.1 until the channel is restored to OPERABLE status with its Setpoint adjusted consistent with the Trip Setpoint value.

   Equation 2.2-1 $$Z + R + S \leq TA$$

   Where:

   Z = The value from Column Z of Table 2.2-1 for the affected channel,

   R = The "as measured" value (in percent span) of rack error for the affected channel,

   S = Either the "as measured" value (in percent span) of the sensor error, or the value from Column S (Sensor Error) of Table 2.2-1 for the affected channel, and

   TA = The value from Column TA (Total Allowance) of Table 2.2-1 for the affected channel.

TABLE 2.2-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Manual Reactor Trip	N.A.	N.A.	N.A.	N.A.	N.A.
2. Power Range, Neutron Flux					
a. High Setpoint	7.5	4.56	0	≤109% of RTP*	≤111.1% of RTP*
b. Low Setpoint	8.3	4.56	0	≤25% of RTP*	≤27.1% of RTP*
3. Power Range, Neutron Flux, High Positive Rate	1.6	0.5	0	≤5% of RTP* with a time constant ≥2 seconds	≤6.3% of RTP* with a time constant ≥2 seconds
4. Power Range, Neutron Flux, High Negative Rate	1.6	0.5	0	≤5% of RTP* with a time constant ≥2 seconds	≤6.3% of RTP* with a time constant ≥2 seconds
5. Intermediate Range, Neutron Flux	17.0	8.41	0	≤25% of RTP*	≤31.1% of RTP*
6. Source Range, Neutron Flux	17.0	10.01	0	$\leq 10^5$ cps	$\leq 1.6 \times 10^5$ cps
7. Overtemperature ΔT	6.5	3.31	1.04** +0.47**	See Note 1	See Note 2
8. Overpower ΔT	4.8	1.43	0.12	See Note 3	See Note 4
9. Pressurizer Pressure - Low	3.12	0.86	0.99	≥1945 psig	≥1,931 psig
10. Pressurizer Pressure - High	3.12	1.00	0.99	≤2385 psig	≤2,398 psig

*RTP = RATED THERMAL POWER

**The sensor error for T_{avg} is 1.04 and the sensor error for Pressurizer Pressure is 0.47. "As measured" sensor errors may be used in lieu of either or both of these values, which then must be summed to determine the overtemperature ΔT total channel value for S.

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
11. Pressurizer Water Level - High	8.0	4.20	0.84	≤92% of instrument span	≤93.75% of instrument span
12. Reactor Coolant Flow - Low	2.5	1.87	0.6	≥90% of loop design flow*	≥89.4% of loop design flow*
13. Steam Generator Water Level Low - Low	14.0	12.53	0.55	≥14.0% of narrow range instrument span	≥12.6% of narrow range instrument span
14. Undervoltage - Reactor Coolant Pumps	15.0	1.39	0	≥10,200 volts	≥9,822 volts
15. Underfrequency - Reactor Coolant Pumps	2.9	0	0	≥55.5 Hz	≥55.3 Hz
16. Turbine Trip					
a. Low Fluid Oil Pressure	N.A.	N.A.	N.A.	≥500 psig	≥450 psig
b. Turbine Stop Valve Closure	N.A.	N.A.	N.A.	≥1% open	≥1% open
17. Safety Injection Input from ESF	N.A.	N.A.	N.A.	N.A.	N.A.

*Loop design flow = 95,700 gpm

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
18. Reactor Trip System Interlocks					
a. Intermediate Range Neutron Flux, P-6	N.A.	N.A.	N.A.	$\geq 1 \times 10^{-10}$ amp	$\geq 6 \times 10^{-11}$ amp
b. Low Power Reactor Trips Block, P-7					
1) P-10 input	N.A.	N.A.	N.A.	$\leq$10% of RTP*	$\leq$12.1% of RTP*
2) P-13 input	N.A.	N.A.	N.A.	$\leq$10% RTP* Turbine Impulse Pressure Equivalent	$\leq$12.3% RTP* Turbine Impulse Pressure Equivalent
c. Power Range Neutron Flux, P-8	N.A.	N.A.	N.A.	$\leq$50% of RTP*	$\leq$52.1% of RTP*
d. Power Range Neutron Flux, P-9	N.A.	N.A.	N.A.	$\leq$20% of RTP*	$\leq$22.1% of RTP*
e. Power Range Neutron Flux, P-10	N.A.	N.A.	N.A	$\geq$10% of RTP*	$\geq$7.9% of RTP*
f. Turbine Impulse Chamber Pressure, P-13	N.A.	N.A.	N.A.	$\leq$10% RTP* Turbine Impulse Pressure Equivalent	$\leq$12.3% RTP* Turbine Impulse Pressure Equivalent
19. Reactor Trip Breakers	N.A.	N.A.	N.A	N.A.	N.A.
20. Automatic Trip and Interlock Logic	N.A.	N.A.	N.A.	N.A.	N.A.

*RTP = RATED THERMAL POWER

TABLE 3.3-3 (Continued)

ACTION STATEMENTS (Continued)

a. The inoperable channel is placed in the tripped condition within 1 hour, and

b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1.

ACTION 19 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.

ACTION 20 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 21 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.

ACTION 22 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided the other channel is OPERABLE.

ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

TABLE 3.3-4

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
1. Safety Injection (Reactor Trip, Feedwater Isolation, Start Diesel Generators, Phase "A" Isolation, Containment Ventilation Isolation, and Emergency Feedwater, Service Water to Secondary Component Cooling Water Isolation, CBA Emergency Fan/Filter Actuation, and Latching Relay).					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure--Hi-1	4.2	0.71	1.67	≤ 4.3 psig	≤ 5.3 psig
d. Pressurizer Pressure--Low	15.0	12.91	0.99	≥ 1865 psig	≥ 1852 psig
e. Steam Line Pressure--Low	13.1	10.71	1.63	≥ 585 psig	≥ 568 psig*
2. Containment Spray					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure--Hi-3	3.0	0.71	1.67	≤ 18.0 psig	≤ 18.7 psig

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
3. Containment Isolation					
a. Phase "A" Isolation					
1) Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
3) Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
b. Phase "B" Isolation					
1) Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
3) Containment Pressure--Hi-3	3.0	0.71	1.67	≤ 18.0 psig	≤ 18.7 psig
c. Containment Ventilation Isolation					
1) Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
3) Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
4) Containment On Line Purge Radioactivity-High	N.A.	N.A.	N.A.	≤ 2 x Background	N.A.

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
4. Steam Line Isolation					
a. Manual Initiation (System)	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure--Hi-2	5.2	0.71	1.67	≤4.3 psig	≤5.3 psig
d. Steam Line Pressure--Low	13.1	10.71	1.63	≥585 psig	≥568 psig*
e. Steam Generator Pressure - Negative Rate--High	3.0	0.5	0	≤100 psi	≤123 psi**
5. Turbine Trip					
a. Automatic Actuation Logic Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. Steam Generator Water Level--High-High (P-14)	4.0	2.24	0.55	≤86.0% of narrow range instrument span.	≤87.7% of narrow range instrument span.
6. Feedwater Isolation					
a. Steam Generator Water Level--Hi-Hi-(P-14)	4.0	2.24	0.55	≤86.0% of narrow range instrument span.	≤87.7% of narrow range instrument span.
b. Low RCS T_{avg} Coincident with Reactor Trip	4.6	1.12	1.38	≥564°F	≥561.2°F
c. Safety Injection	N.A.	N.A.	N.A.	N.A.	N.A.

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
7. Emergency Feedwater					
a. Manual Initiation					
(1) Motor driven pump	N.A.	N.A.	N.A.	N.A.	N.A.
(2) Turbine driven pump	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Steam Generator Water Level--Low-Low Start Motor-Driven Pump and Start Turbine-Driven Pump	14.0	12.53	0.55	≥ 14.0% of narrow range instrument span.	≥ 12.6% of narrow range instrument span.
d. Safety Injection Start Motor-Driven Pump and Turbine-Driven Pump	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
e. Loss-of-Offsite Power Start Motor-Driven Pump and Turbine-Driven Pump	See Item 9. for Loss-of-Offsite Power Setpoints and Allowable Values.				
8. Automatic Switchover to Containment Sump					
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. RWST Level--Low-Low Coincident With Safety Injection	2.75	1.0	1.8	≥122,525 gals.	≥121,609 gals.
	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
9. Loss of Power (Start Emergency Feedwater)					
a. 4.16 kV Bus E5 and E6 Loss of Voltage	N.A.	N.A.	N.A.	≥ 2975 volts with a ≤ 1.20 second time delay.	≥ 2908 volts with a ≤ 1.315 second time delay.
b. 4.16 kV Bus E5 and E6 Degraded Voltage	N.A.	N.A.	N.A.	≥ 3933 volts with a ≤ 10 second time delay.	≥ 3902 volts with a ≤ 10.96 second time delay.
Coincident with: Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
10. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	N.A.	N.A.	N.A.	≤ 1950 psig	≤ 1964 psig
b. Reactor Trip, P-4	N.A.	N.A.	N.A.	N.A.	N.A.
c. Steam Generator Water Level, P-14	See Item 5. above for all Steam Generator Water Level Trip Setpoints and Allowable Values.				

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.2 The required steam generators shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 14% at least once per 12 hours.

4.4.1.2.3 The required reactor coolant loops shall be verified in operation and circulating reactor coolant at least once per 12 hours.

REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 At least two of the loops listed below shall be OPERABLE and at least one of these loops shall be in operation:*

a. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,**

b. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,**

c. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump,**

d. Reactor Coolant Loop D and its associated steam generator and reactor coolant pump,**

e. RHR Loop A, and

f. RHR Loop B.

APPLICABILITY: MODE 4.

ACTION:

a. With less than the above required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; if the remaining OPERABLE loop is an RHR loop, be in COLD SHUTDOWN within 24 hours.

b. With no loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required loop to operation.

---

*All reactor coolant pumps and RHR pumps may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

**A reactor coolant pump shall not be started unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold-leg temperatures.

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required reactor coolant pump(s), if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.3.2 The required steam generator(s) shall be determined OPERABLE by verifying secondary-side water level to be greater than or equal to 14% at least once per 12 hours.

4.4.1.3.3 At least one reactor coolant or RHR loop shall be verified in operation and circulating reactor coolant at least once per 12 hours.

REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation*, and either:

a. One additional RHR loop shall be OPERABLE**, or

b. The secondary-side water level of at least two steam generators shall be greater than 14%.

APPLICABILITY: MODE 5 with reactor coolant loops filled***.

ACTION:

a. With one of the RHR loops inoperable and with less than the required steam generator water level, immediately initiate corrective action to return the inoperable RHR loop to OPERABLE status or restore the required steam generator water level as soon as possible.

b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.1.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits at least once per 12 hours.

4.4.1.4.1.2 At least one RHR loop shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

---

*The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

**One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

***A reactor coolant pump shall not be started unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold-leg temperatures.

CONTAINMENT VESSEL STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment vessel shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

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

ACTION:

With the structural integrity of the containment vessel not conforming to the above requirements, restore the structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.6 The structural integrity of the containment vessel shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of the exposed accessible interior and exterior surfaces of the vessel. This inspection shall be performed prior to the Type A containment leakage rate test to verify no apparent changes in appearance of the surfaces or other abnormal degradation. Any abnormal degradation of the containment vessel detected during the above required inspections shall be reported to the Commission in a Special Report pursuant to Specification 6.8.2 within 15 days.

LIMITING CONDITION FOR OPERATION

3.6.1.7 Each containment purge supply and exhaust isolation valve shall be OPERABLE and:

a. Each 36-inch containment shutdown purge supply and exhaust isolation valve shall be closed and locked closed, and

b. The 8-inch containment purge supply and exhaust isolation valve(s) shall be sealed closed except when open for purge system operation for pressure control; for ALARA, respirable, and air quality considerations to facilitate personnel entry; and for surveillance tests that require the valve(s) to be open.

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

ACTION:

a. With a 36-inch containment purge supply or exhaust isolation valve open or not locked closed, close and lock closed that valve or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more of the 8-inch containment purge supply or exhaust isolation valves open for reasons other than given in Specification 3.6.1.7.b above, close the open 8-inch valve(s) or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

c. With one or more containment purge supply or exhaust isolation valves having a measured leakage rate in excess of the limits of Specifications 4.6.1.7.2 or 4.6.1.7.3, restore the inoperable valve(s) to OPERABLE status or isolate the affected penetration(s) so that the measured leakage rate does not exceed the limits of Specifications 4.6.1.7.2 or 4.6.1.7.3 within 24 hours and close the purge supply if the affected penetration is the exhaust penetration, otherwise be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 1 TO FACILITY OPERATING LICENSE NO. NPF-56

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

SEABROOK STATION, UNIT 1

DOCKET NO. 50-443

1.0 INTRODUCTION/BACKGROUND

On July 8, 1988, Public Service Company of New Hampshire (PSNH) requested an amendment to the Technical Specifications for Seabrook Station, Unit 1 to change the setpoints for the pressurizer pressure, pressurizer water level, and steam generator water level channels as a result of replacing the Veritrak/Tobar transmitters with Rosemount transmitters. This request was supplemented by PSNH's submittal of August 8, 1988.

In early 1986 PSNH reported an excessive change in Veritrak transmitter accuracy as the ambient temperature changed from 80 to 130 degrees F. The transmitters in question, which provide inputs to the Reactor Protection System (RPS) were returned to Westinghouse for analysis and repair. Subsequent testing by Westinghouse on a larger sample of Veritrak units supplied by Tobar (formerly Veritrak) demonstrated calibration shifts in excess of manufacturer specified limits when the ambient temperature was varied from 80 to 320 degrees F. It was determined that these excessive changes observed in Veritrak transmitter accuracy as the ambient temperature changed could create a condition that could violate allowable technical specification limits.

Based on the test results from Westinghouse and available data on Veritrak/Tobar transmitters, the licensee increased the surveillance and calibration requirements for similar type class 1E units located inside containment which provide inputs to the RPS. Additionally, Westinghouse recommended that the licensee revise the trip setpoints for pressurizer low pressure and steam generator low-low level reactor trips. The Seabrook Technical Specifications now reflect these revised setpoints.

Because the increase in surveillance and calibration requirements lengthen the time the plant will need to remain in Mode 3 during startup and add to the workload of the station staff and because the existing Technical Specification setpoints have less margin to the operating range and thus increase the chance of unnecessary reactor trips, the licensee has decided to replace the affected transmitters with Rosemount transmitters to allow the additional surveillance and calibration requirements to be deleted and the setpoints relaxed.

2.0 EVALUATION

As stated above, the Veritrak/Tobar transmitters experienced temperature compensation shifts in excess of their specified values; therefore, the calibration frequency of the transmitters was increased and the trip setpoints were revised and set more conservatively. This results in an increase in the probability of unnecessary plant trips.

The Rosemount transmitters replace the Veritrak/Tobar Class 1E transmitters that provide steam generator level, pressurizer level and pressurizer/pressure inputs to the SSPS. The licensee has determined that the replacement Rosemount transmitters are being used extensively in other operating nuclear power plants and have a proven history of successful operation while performing within stated accuracy limits. Also, these Rosemount transmitters are environmentally and seismically qualified for their locations inside containment at Seabrook Station.

The staff review and evaluation of the technical specification changes reflecting the above replacement transmitters and the reasons for requesting these changes has led to the conclusion that the proposed changes will not:

1. Significantly increase the probability or consequences of any accident previously evaluated. The basis for this determination is: (1) the replacement Rosemount transmitters are environmentally and seismically qualified for the service intended, (2) these replacement units have a proven history of successful operation under similar applications at other nuclear power plants, and (3) the protection system setpoints were developed by calculating the instrument channel statistical allowance using the previously NRC approved Westinghouse methodology and applying this to the FSAR Chapter 15 accident analysis limit.

2. Involve a significant reduction in a margin of safety at the Seabrook Station. For example, the licensee submittal of July 8, 1988 shows that when compared to the calculated values, the steam generator low-low level setpoint is conservative and the margin between the total allowance and the channel statistical allowance is increased for this replacement transmitter application. This is also the case when comparing the calculated values to the low pressurizer pressure reactor trip setpoint, the low pressurizer pressure safety injection setpoint, and the high pressurizer pressure reactor trip setpoint.

To summarize, the proposed change provides new values for Total Allowance (TA), Statistical Summation of Errors (Z), Trip Setpoint, and Allowable Value for the replacement transmitters in the Seabrook Technical Specification Tables 2.2-1 (Reactor Trip System Instrumentation Setpoints) and 3.3-4 (Engineered Safety Features Actuation System Instrumentation Setpoints). The steam generator water level low-low value is also revised in Specification 4.4.1.2.2, 4.4.1.3.2, and 3.4.1.4.1, to be consistent with the setpoints.

The staff has reviewed the pages of the Seabrook Station Technical Specifications which are being revised to reflect the proposed changes as discussed herein and the reasons given for requesting these changes as presented in Enclosure 2 to the licensee's submittal dated July 8, 1988. Based on this review the staff believes that the proposed changes meet the requirements and follow the guidelines as shown in the Standard Review Plan for instrumentation associated with the RPS and the associated safety limits present in Chapter 15 of the Seabrook Station FSAR. Therefore, the proposed changes, as stated, are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

The staff has evaluated the licensee's request to revise the Technical Specifications to change the technical specification setpoints for the pressurizer pressure, pressurizer water level, and steam generator water level channels as a result of replacing the Veritrak/Tobar transmitters with Rosemount transmitters.

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributors: Vincent D. Thomas and Donald S. Brinkman

Dated: September 27, 1988