Brian H. Whitley
Director, Regulatory Affairs

Southern Nuclear
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August 11, 2022

Docket Nos.:52-025
52-026

ND-22-0219

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Technical Specifications Setpoint Report

Ladies and Gentlemen:

In accordance with Technical Specifications (TS) 5.5.14.e for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, Southern Nuclear Operating Company (SNC) submits the "Technical Specifications Setpoint Report" that provides the Setpoint Program document required by Technical Specifications 5.5.14.e.

Enclosures 1 and 3 provide the Non-Proprietary version of Technical Specifications Setpoint Report for Units 3 and 4, respectively.

Enclosures 2 and 4 provide the Proprietary version of Technical Specifications Setpoint Report for Units 3 and 4, respectively. **These enclosures contain Proprietary information; therefore, SNC requests that these enclosures be withheld under the provisions of 10 CFR 2.390.**

Enclosure 5 provides the SNC affidavit for withholding the proprietary information contained in Enclosures 2 and 4.

Enclosure 6 is CAW-22-010, which includes: the Affidavit and Proprietary Information Notice. Enclosures 2 and 4 contain information proprietary to Westinghouse Electric Company LLC ("Westinghouse"); it is supported by an Affidavit signed by Westinghouse, the owner of information. The Affidavit sets forth the basis on which the information may be withheld from public disclosure by the Nuclear Regulatory Commission ("Commission") and addresses with specificity the considerations listed in paragraph (b)(4) of Section 2.390 of the Commission's regulations.

Accordingly, it is respectfully requested that the information that is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the proprietary aspects of the items listed above or the supporting Westinghouse Affidavit should reference CAW-22-010 and should be addressed to Camille T. Zozula, Manager, Regulatory Compliance & Corporate Licensing. Correspondence with respect to proprietary aspects of this letter and its enclosures should also be addressed to Brian H. Whitley at the contact information within this letter.

This letter contains no regulatory commitments. This letter has been reviewed and determined not to contain security-related information.

If you have any questions, please contact Amy Chamberlain at 205.992.6361.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 11th of August 2022.

Respectfully submitted,

Brian H. Whitley
Regulatory Affairs Director
Southern Nuclear Operating Company

Enclosures:

1) Vogtle Electric Generating Plant (VEGP) Unit 3 Technical Specification Setpoint Report (Non-Proprietary)
2) Vogtle Electric Generating Plant (VEGP) Unit 3 Technical Specification Setpoint Report (Proprietary) **(Withheld Information)**
3) Vogtle Electric Generating Plant (VEGP) Unit 4 Technical Specification Setpoint Report (Non-Proprietary)
4) Vogtle Electric Generating Plant (VEGP) Unit 4 Technical Specification Setpoint Report (Proprietary) **(Withheld Information)**
5) Affidavit from Southern Nuclear Operating Company for Withholding Under 10 CFR 2.390
6) CAW-22-010

cc:

Southern Nuclear Operating Company/ Georgia Power Company

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Southern Nuclear Operating Company

ND-22-0219

Enclosure 1

Vogtle Electric Generating Plant (VEGP) Unit 3

Technical Specifications Setpoint Report

(Non-Proprietary)

(This Enclosure consists of 15 pages, including this cover page)

Vogtle Electric Generating Plant (VEGP) Unit 3

Technical Specification Setpoint Report

Revision 0

February 2022

Introduction:

This report documents the current values of the Vogtle Unit 3 Technical Specifications required automatic protection instrumentation function Nominal Trip Setpoint (NTS), As-Left Tolerance (ALT), and As-Found Tolerance (AFT) for sensors and Process Rack and references to the associated calculation documentation.

This Report satisfies the requirement of the Technical Specifications 5.5.14.e, which states the following:

> *The SP shall establish a document containing the current value of the specified NTS, AFT, and ALT for each Technical Specification required automatic protection instrumentation function and references to the calculation documentation. Changes to this document shall be governed by the regulatory requirement of 10 CFR 50.59. In addition, changes to the specified NTS, AFT, and ALT values shall be governed by the approved setpoint methodology. This document, including any revisions or supplements, shall be provided upon issuance to the NRC.*

Technical Specification Setpoint Report – Unit 3

Table 1: Technical Specification 3.3.1-1 RTS Instrumentation						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
1a.	Power Range Neutron Flux - High	1	118% RTP			
1b.	Power Range Neutron Flux - Low	1	25% RTP			
2.	Power Range Neutron Flux - High Positive Rate	1	12% RTP			
3.	Overtemperature ΔT	4	See Note (3)			
4.	Overpower ΔT (limiting case)	4	108.5% RTP (4)			
5a.	Pressurizer Pressure – Low 2	5	1955 psig			
5b.	Pressurizer Pressure - High 2	5	2405 psig			
6.	Pressurizer Water Level – High 3	6	66% level			
7.	Reactor Coolant Flow – Low 2	7	90% flow			
8.	Reactor Coolant Pump (RCP) Bearing Water Temperature – High 2	8	185 °F			
9.	Reactor Coolant Pump (RCP) Speed – Low 2	9	91.0% rated speed			
10.	Steam Generator (SG) Narrow Range Water Level - Low 2	10	21% level			
11.	SG Narrow Range Water Level - High 3	10	76% level			
12.	Passive Residual Heat Removal Actuation	Not Applicable				

a, c

Table 2: Technical Specification Section 3.3.2 & 3.3.3 RTS Instrumentation

Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT
3.3.2	Source Range Neutron Flux – High	3	1.0 x 10^5 cps			
3.3.3	Intermediate Range Neutron Flux - High	2	25% RTP			

a, c

Table 3: Technical Specification 3.3.8-1 ESFAS Instrumentation

Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT
1a.	Containment Pressure - Low	11	0.1 psig			
1b.	Containment Pressure – Low 2		-0.8 psig			
2.	Containment Pressure – High 2		5.0 psig			
3.	Containment Radioactivity - High	21	2.0 rad/hr			
4.	Containment Radioactivity – High 2		100 rad/hr			
5.	Pressurizer Pressure - Low 3	5	1855 psig			
6.	Pressurizer Water Level - Low	6	20.0% level			
7.	Pressurizer Water Level - Low 2		10.0% level			
8.	Pressurizer Water Level - High		23% level			
9.	Pressurizer Water Level - High 2		55% level			
10.	Pressurizer Water Level - High 3		66% level			

a, c

Table 3: Technical Specification 3.3.8-1 ESFAS Instrumentation

a, c

Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT
11.	RCS Tcold – Low 2	14	505 °F			
12.	Reactor Coolant Average Temperature (Tavg) - Low	14	550 °F			
13.	Reactor Coolant Average Temperature (Tavg) - Low 2		525 °F			
14.	RCS Wide Range Pressure – Low	16	1200 psig			
15	CMT Level - Low 3	15	57.5% span			
16	CMT Level - Low 6	15	56.0% span			
17.	Source Range Neutron Flux Doubling	20	Factor of 2.2 increase over baseline			
18.	IRWST Lower Narrow Range Level - Low 3	24	109.3 ft			
19.	Reactor Coolant Pump Bearing Water Temperature - High 2	8	185 °F			
20.	SG Narrow Range Water Level – Low 2	10	21% level			
21.	SG Wide Range Water Level – Low 2	19	35% span			

Table 3: Technical Specification 3.3.8-1 ESFAS Instrumentation						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
22.	SG Narrow Range Water Level – High	10	66.8% level	[		] a, c
23.	SG Narrow Range Water Level – High 3		76% level			
24.	Steam Line Pressure – Low 2	13	560.3 psig			
25.	Steam Line Pressure - Negative Rate – High		100 psig			

Table 4: Technical Specification 3.3.10-1 ESFAS Instrumentation						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
1.	Hot Leg Level - Low 4	17	9.7% span	[		] a, c
2.	Hot Leg Level – Low 2	17	58.1% span			

Table 5: Technical Specification Section 3.3.11-1 ESFAS Instrumentation						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
3.3.11	Startup Feedwater Flow -Low 2	18	200 gpm	[		] a, c

Table 6: Technical Specification 3.3.13-1 ESFAS Instrumentation						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
1.	Main Control Room Air Supply Iodine or Particulate Radiation Detector – High 2	22	4.86 x $10E^{-8}$ Ci/m^3 (iodine detector)	[		
			5.04 x $10E^{-9}$ Ci/m^3 (particulate detector)			
2.	Main Control Room Differential Pressure – Low	23	0.185 inH_2O			
3.	Class 1E 24-Hour Battery Charger Undervoltage	26	0.80 p.u Volts			]

a, c

Table 7: Technical Specification 3.3.14-1 ESFAS Instrumentation						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
1.	Spent Fuel Pool Level - Low 2	25	23.5 ft	[		
2.	IRWST Wide Range Level - Low	12	23.04 ft			]

a, c

Table 8: Technical Specification 3.3.20-1 ADS and IRWST Injection Blocking Device						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
1.	CMT Level for Automatic Unblocking	15	81.3% span	[		]

a, c

RTS Overtemperature ΔT (OTΔT) and Overpower ΔT (OPΔT) Parameters (LCO 3.3.1)

Background Information: Although some time constants are not in use currently (i.e. those set to "OFF"), all available trip setpoint parameters are included for completeness and to create a template for their potential inclusion later. The rationale for presenting the information this way is that the PMS requires non-zero time constants to avoid an error (τ_7, τ_8 and τ_9 for the Overpower ΔT time constants and τ_{13} and τ_{14} for the temperature time constants). In these cases, the time constants are set to [ ]a,c initially simply to avoid the error response, then promptly set to "OFF" (effectively a [ ]a,c time constant as stated in the Vogtle SCD and assumed in the setpoint methodologies). If these time constants are to be utilized in their associated trip setpoint methods at a later time, the value specified in the SCD would be entered and remain "ON" in the PMS.

1. OTΔT

   The OTΔT trip setpoint ($OT\Delta T_{SP}$) is defined as follows:

   $OT\Delta T_{SP} = OT\Delta T_{SP}° - f_1(\Delta I)$

   1.a $OT\Delta T_{SP}°$ is the core Departure from Nucleate Boiling (DNB) thermal design limit with design axial power distribution as specified in Table 6.

   1.b f1(ΔI) is the OTΔT Axial Flux Difference (AFD) Penalty Function as specified in Table 7.

   1.c The pressurizer pressure time constant [ ]a,c.

   1.d The pressurizer pressure time constant [ ]a,c.

   1.e The margin to OTΔT trip time constant [ ]a,c.

   1.f The margin to OTΔT trip time constant [ ]a,c.

   1.g The margin to OTΔT trip time constant [ ]a,c.

2. OPΔT

   The OPΔT trip setpoint ($OP\Delta T_{SP}$) is defined as follows:

   $OP\Delta T_{SP} = C_{OP}° - f_2(\Delta I)$

   2.a $C_{OP}°$ = [ ]a,c

   2.b $f_2(\Delta I)$ is the OPΔT AFD Penalty Function as specified in Table 8.

   2.c The margin to OPΔT trip time constant [ ]a,c.

   2.d The margin to OPΔT trip time constant [ ]a,c.

   2.e The margin to OPΔT trip time constant [ ]a,c.

   Note 1: The initialization values for τ_7, τ_8 and τ_9 shall each be set to [ ]a,c. However, the configuration status for τ_7, τ_8 and τ_9 shall be set to "OFF" (which results in each time constant equaling [ ]a,c seconds as specified).

τ_7, τ_8 and τ_9 Time Constants: The way the 2nd Order Lead/Lag Filter element works is that a code initialization value must be entered because the code will not compile otherwise (even if the filter is turned OFF). The code initialization value chosen is the current low limit; if this value is not low enough, an additional analysis could be performed to challenge the 6x CONTRM time requirement for this low limit value.

3. The ΔT Power Signal parameter values are:
   - 3.a The T_{cold} dynamic compensation time constant [ ][a,c].
   - 3.b The T_{cold} dynamic compensation time constant [ ][a,c].
   - 3.c The T_{cold} dynamic compensation time constant [ ][a,c].
   - 3.d The T_{hot} dynamic compensation time constant [ ][a,c].
   - 3.e The T_{hot} dynamic compensation time constant [ ][a,c].
   - 3.f The T_{hot} dynamic compensation time constant [ ][a,c].

4. Additional temperature measurement algorithm values are:
   - 4.a The T_{cold} filter time constant [ ][a,c].
   - 4.b The T_{hot} filter time constant [ ][a,c].

Note 2: The initialization values for τ_{13} and τ_{14} shall both be set to [ ][a,c]. However, the configuration status for τ_{13} and τ_{14} shall be set to "OFF" (which results in both time constants equaling [ ][a,c] as specified).

τ_{13} and τ_{14} Time Constants: Actual Resistance Temperature Detector (RTD)-thermowell pair response time and filter value must not exceed [ ][a,c], per the Safety Analysis. Also note that the way the Lag Filter element works is that a code initialization value must be entered because the code will not compile otherwise (even if the filter is turned OFF). The code initialization value chosen is the current low limit; if this value is not low enough, an additional analysis could be performed to challenge the 6x CONTRM time requirement for this low limit value.

Table 11

OTΔT$_{SP}$° Function

a, c

Table 12

f_1(ΔI) - OTΔT AFD Penalty Function

a, c

Table 13
$f_2(\Delta I)$ - OPΔT AFD Penalty Function

a, c

Note: Updating the trip setpoints prior to reaching [ ][a,c] would maintain conservative protection and is acceptable.

Notes:

1) For RTDs that are not shared.
2) For RTDs that are shared.
3) For the Overtemperature ΔT function, the NTS should be [ ]a,c lower than the Safety Analysis Limit (SAL). The SAL can be found in APP-SSAR-F5-001, Revision 1, Table 1.2.3.a.
4) [ ]a,c without the f (ΔI) penalty.
5) The Overtemperature ΔT input cards calibration tolerances should not exceed:
   - [ ]a,c for T_{COLD} for tag numbers TE125A1/B1/C1/D1 only,
   - [ ]a,c for T_{COLD} for tag numbers TE121A1/B1/C1/D1, TE122A/B/C/D only,
   - [ ]a,c for T_{HOT},
   - [ ]a,c for pressure, and
   - [ ]a,c RTP for ΔI (AC160 input modules)
6) The Overpower ΔT input cards calibration tolerances should not exceed:
   - [ ]a,c for T_{COLD} for tag numbers TE125A1/B1/C1/D1 only,
   - [ ]a,c for T_{COLD} for tag numbers TE121A1/B1/C1/D1, TE122A/B/C/D only,
   - [ ]a,c for T_{HOT}
   - [ ]a,c RTP for ΔI (AC160 input modules)

References:

1. APP-PMS-M3C-117, Revision 1, “Power Range Neutron Flux Reactor Trip Setpoint and High Positive Rate Uncertainty Calculations for the AP1000 Plant,” October 2017.
2. APP-PMS-M3C-107, Revision 1, “Intermediate Range Neutron Flux Reactor Trip Setpoint Uncertainty Calculations for the AP1000 Plant,” July 2017.
3. APP-PMS-M3C-110, Revision 1, “Source Range Neutron Flux Reactor Trip Setpoint Uncertainty Calculations for the AP1000 Plant,” April 2017.
4. APP-PMS-M3C-124, Revision 1, “Overtemperature ΔT and Overpower ΔT Reactor Trip Setpoint Uncertainty Calculations for the AP1000 Plant,” February 2018.
5. APP-PMS-M3C-100, Revision 1, “Pressurizer Pressure RTS/ESAS Setpoints, and EOP Uncertainty Calculations for AP1000 Plant,” March 2017.
6. APP-PMS-M3C-111, Revision 1, “Pressurizer Water Level RTS/ESFAS Setpoints, EOP, and PLS Uncertainty Calculations for AP1000 Plant,” October 2017.
7. APP-PMS-M3C-112, Revision 1, “Reactor Coolant System (RCS) Hot Leg Flow PMS Uncertainty Calculations for the AP1000 Plants,” October 2017.
8. APP-PMS-M3C-105, Revision 1, “Reactor Coolant Pump Bearing Water Temperature Reactor Trip and ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant,” March 2017.
9. APP-PMS-M3C-103, Revision 1, “Reactor Coolant Pump Speed Reactor Trip Setpoint Calculations for the AP1000 Plant,” April 2017.
10. APP-PMS-M3C-113, Revision 1, “Steam Generator Narrow Range Water Level RTS/ESFAS Setpoints and EOP Uncertainty Calculations for the AP1000 Plant,” October 2017.
11. APP-PMS-M3C-108, Revision 1, “Containment Pressure ESFAS and EOP Uncertainty Calculations for the AP1000 Plant,” March 2018.
12. APP-PMS-M3C-133, Revision 0, “In-Containment Refueling Water Storage Tank (IRWST) Wide Range Level PMS Uncertainty Calculations for the AP1000 Plants,” June 2017.
13. APP-PMS-M3C-101, Revision 2, “Main Steam Line Pressure ESFAS Setpoint and EOP Uncertainty Calculations for the AP1000 Plant,” April 2017.
14. APP-PMS-M3C-106, Revision 1, “Reactor Coolant System Tcold and Tavg ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant,” July 2017.
15. APP-PMS-M3C-125, Revision 3, “Core Makeup Tank Level ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant,” January 2021.
16. APP-PMS-M3C-102, Revision 3, “Reactor Coolant System Wide Range Pressure ESFAS Setpoint and EOP Uncertainty Calculations for the AP1000 Plant,” July 2017.
17. APP-PMS-M3C-116, Revision 1, “Hot Leg Level Uncertainty Calculations for the AP1000 Plants,” April 2017.
18. APP-PMS-M3C-109, Revision 2, “Startup Feedwater Flow ESFAS Setpoint Uncertainty Calculations for AP1000 Plant,” March 2017.
19. APP-PMS-M3C-118, Revision 1, “Steam Generator Wide Range Water Level ESFAS Setpoint and EOP Uncertainty Calculations for AP1000,” July 2017.

20. APP-PMS-M3C-123, Revision 1, "Boron Dilution Block - Source Range Flux Doubling Uncertainty Calculations for the AP1000 Plant," May 2017.
21. APP-PMS-M3C-115, Revision 1, "Containment Radioactivity ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant," June 2017.
22. APP-PMS-M3C-114, Revision 1, "Control Room Air Supply Radiation ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant," August 2017.
23. APP-PMS-M3C-137, Revision 1, "Main Control Room (MCR) Differential Pressure PMS Uncertainty Calculations for the AP1000 Plant," January 2022.
24. APP-PMS-M3C-122, Revision 1, "In-Containment Refueling Water Storage Tank (IRWST) Narrow Range Level PMS Uncertainty Calculations for the AP1000 Plants," May 2017.
25. APP-PMS-M3C-104, Revision 2, "Spent Fuel Pool Level PMS Uncertainty Calculations for the AP1000 Plants," April 2017.
26. APP-PMS-E0C-002, Revision 0, "Undervoltage Relay Setpoint and Uncertainty Calculation for Class 1E Batter Chargers (DC01)," November 2020.

Southern Nuclear Operating Company

ND-22-0219

Enclosure 3

Vogtle Electric Generating Plant (VEGP) Unit 4

Technical Specifications Setpoint Report

(Non-Proprietary)

(This Enclosure consists of 15 pages, including this cover page)

Vogtle Electric Generating Plant (VEGP) Unit 4

Technical Specification Setpoint Report

Revision 0

February 2022

Introduction:

This report documents the current values of the Vogtle Unit 4 Technical Specifications required automatic protection instrumentation function Nominal Trip Setpoint (NTS), As-Left Tolerance (ALT), and As-Found Tolerance (AFT) for sensors and Process Rack and references to the associated calculation documentation.

This Report satisfies the requirement of the Technical Specifications 5.5.14.e, which states the following:

> *The SP shall establish a document containing the current value of the specified NTS, AFT, and ALT for each Technical Specification required automatic protection instrumentation function and references to the calculation documentation. Changes to this document shall be governed by the regulatory requirement of 10 CFR 50.59. In addition, changes to the specified NTS, AFT, and ALT values shall be governed by the approved setpoint methodology. This document, including any revisions or supplements, shall be provided upon issuance to the NRC.*

Technical Specification Setpoint Report – Unit 4

Table 1: Technical Specification 3.3.1-1 RTS Instrumentation

Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT
1a.	Power Range Neutron Flux - High	1	118% RTP			
1b.	Power Range Neutron Flux - Low	1	25% RTP			
2.	Power Range Neutron Flux - High Positive Rate	1	12% RTP			
3.	Overtemperature ΔT	4	See Note (3)			
4.	Overpower ΔT (limiting case)	4	108.5% RTP (4)			
5a.	Pressurizer Pressure – Low 2	5	1955 psig			
5b.	Pressurizer Pressure - High 2	5	2405 psig			
6.	Pressurizer Water Level – High 3	6	66% level			
7.	Reactor Coolant Flow – Low 2	7	90% flow			
8.	Reactor Coolant Pump (RCP) Bearing Water Temperature – High 2	8	185 °F			
9.	Reactor Coolant Pump (RCP) Speed – Low 2	9	91.0% rated speed			
10.	Steam Generator (SG) Narrow Range Water Level - Low 2	10	21% level			
11.	SG Narrow Range Water Level - High 3	10	76% level			
12.	Passive Residual Heat Removal Actuation	Not Applicable				

a, c

Table 2: Technical Specification Section 3.3.2 & 3.3.3 RTS Instrumentation						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
3.3.2	Source Range Neutron Flux – High	3	1.0 x 10^5 cps	[		] a, c
3.3.3	Intermediate Range Neutron Flux - High	2	25% RTP			

Table 3: Technical Specification 3.3.8-1 ESFAS Instrumentation						
Function		**Reference**	**NTS**	**Sensor ALT**	**Sensor AFT**	**Rack ALT/AFT**
1a.	Containment Pressure - Low	11	0.1 psig	[		] a, c
1b.	Containment Pressure – Low 2		-0.8 psig			
2.	Containment Pressure – High 2		5.0 psig			
3.	Containment Radioactivity - High	21	2.0 rad/hr			
4.	Containment Radioactivity – High 2		100 rad/hr			
5.	Pressurizer Pressure - Low 3	5	1855 psig			
6.	Pressurizer Water Level - Low	6	20.0% level			
7.	Pressurizer Water Level - Low 2		10.0% level			
8.	Pressurizer Water Level - High		23% level			
9.	Pressurizer Water Level - High 2		55% level			
10.	Pressurizer Water Level - High 3		66% level			

Table 3: Technical Specification 3.3.8-1 ESFAS Instrumentation							
Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT	a, c
11.	RCS Tcold – Low 2	14	505 °F				
12.	Reactor Coolant Average Temperature (Tavg) - Low	14	550 °F				
13.	Reactor Coolant Average Temperature (Tavg) - Low 2		525 °F				
14.	RCS Wide Range Pressure – Low	16	1200 psig				
15	CMT Level - Low 3	15	57.5% span				
16	CMT Level - Low 6	15	56.0% span				
17.	Source Range Neutron Flux Doubling	20	Factor of 2.2 increase over baseline				
18.	IRWST Lower Narrow Range Level - Low 3	24	109.3 ft				
19.	Reactor Coolant Pump Bearing Water Temperature - High 2	8	185 °F				
20.	SG Narrow Range Water Level – Low 2	10	21% level				
21.	SG Wide Range Water Level – Low 2	19	35% span				

Technical Specification Setpoint Report – Unit 4

Table 3: Technical Specification 3.3.8-1 ESFAS Instrumentation							
Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT	
22.	SG Narrow Range Water Level – High	10	66.8% level	[		]	a, c
23.	SG Narrow Range Water Level – High 3		76% level				
24.	Steam Line Pressure – Low 2	13	560.3 psig				
25.	Steam Line Pressure - Negative Rate – High		100 psig				

Table 4: Technical Specification 3.3.10-1 ESFAS Instrumentation							
Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT	
1.	Hot Leg Level - Low 4	17	9.7% span	[		]	a, c
2.	Hot Leg Level – Low 2	17	58.1% span				

Table 5: Technical Specification Section 3.3.11-1 ESFAS Instrumentation							
Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT	
3.3.11	Startup Feedwater Flow -Low 2	18	200 gpm	[		]	a, c

Technical Specification Setpoint Report – Unit 4

Table 6: Technical Specification 3.3.13-1 ESFAS Instrumentation

Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT
1.	Main Control Room Air Supply Iodine or Particulate Radiation Detector – High 2	22	$4.86 \times 10E^{-8}$ Ci/m^3 (iodine detector) $5.04 \times 10E^{-9}$ Ci/m^3 (particulate detector)	[		]
2.	Main Control Room Differential Pressure – Low	23	0.185 inH_2O			
3.	Class 1E 24-Hour Battery Charger Undervoltage	26	0.80 p.u Volts			

a, c

Table 7: Technical Specification 3.3.14-1 ESFAS Instrumentation

Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT
1.	Spent Fuel Pool Level - Low 2	25	23.5 ft	[		]
2.	IRWST Wide Range Level - Low	12	23.04 ft			

a, c

Table 8: Technical Specification 3.3.20-1 ADS and IRWST Injection Blocking Device

Function		Reference	NTS	Sensor ALT	Sensor AFT	Rack ALT/AFT
1.	CMT Level for Automatic Unblocking	15	81.3% span	[		]

a, c

RTS Overtemperature ΔT (OTΔT) and Overpower ΔT (OPΔT) Parameters (LCO 3.3.1)

Background Information: Although some time constants are not in use currently (i.e. those set to "OFF"), all available trip setpoint parameters are included for completeness and to create a template for their potential inclusion later. The rationale for presenting the information this way is that the PMS requires non-zero time constants to avoid an error (τ_7, τ_8 and τ_9 for the Overpower ΔT time constants and τ_{13} and τ_{14} for the temperature time constants). In these cases, the time constants are set to [ ]^{a,c} initially simply to avoid the error response, then promptly set to "OFF" (effectively a [ ]^{a,c} time constant as stated in the Vogtle SCD and assumed in the setpoint methodologies). If these time constants are to be utilized in their associated trip setpoint methods at a later time, the value specified in the SCD would be entered and remain "ON" in the PMS.

1. OTΔT

   The OTΔT trip setpoint ($OT\Delta T_{SP}$) is defined as follows:

   $OT\Delta T_{SP} = OT\Delta T_{SP}° - f_1(\Delta I)$

   1.a $OT\Delta T_{SP}°$ is the core Departure from Nucleate Boiling (DNB) thermal design limit with design axial power distribution as specified in Table 6.

   1.b f1(ΔI) is the OTΔT Axial Flux Difference (AFD) Penalty Function as specified in Table 7.

   1.c The pressurizer pressure time constant [ ]^{a,c}.

   1.d The pressurizer pressure time constant [ ]^{a,c}.

   1.e The margin to OTΔT trip time constant [ ]^{a,c}.

   1.f The margin to OTΔT trip time constant [ ]^{a,c}.

   1.g The margin to OTΔT trip time constant [ ]^{a,c}.

2. OPΔT

   The OPΔT trip setpoint ($OP\Delta T_{SP}$) is defined as follows:

   $OP\Delta T_{SP} = C_{OP}° - f_2(\Delta I)$

   2.a $C_{OP}°$ = [ ]^{a,c}

   2.b $f_2(\Delta I)$ is the OPΔT AFD Penalty Function as specified in Table 8.

   2.c The margin to OPΔT trip time constant [ ]^{a,c}.

   2.d The margin to OPΔT trip time constant [ ]^{a,c}.

   2.e The margin to OPΔT trip time constant [ ]^{a,c}.

   Note 1: The initialization values for τ_7, τ_8 and τ_9 shall each be set to [ ]^{a,c}. However, the configuration status for τ_7, τ_8 and τ_9 shall be set to "OFF" (which results in each time constant equaling [ ]^{a,c} seconds as specified).

τ_7, τ_8 and τ_9 Time Constants: The way the 2nd Order Lead/Lag Filter element works is that a code initialization value must be entered because the code will not compile otherwise (even if the filter is turned OFF). The code initialization value chosen is the current low limit; if this value is not low enough, an additional analysis could be performed to challenge the 6x CONTRM time requirement for this low limit value.

3. The ΔT Power Signal parameter values are:
   - 3.a The T_{cold} dynamic compensation time constant [ ]^{a,c}.
   - 3.b The T_{cold} dynamic compensation time constant [ ]^{a,c}.
   - 3.c The T_{cold} dynamic compensation time constant [ ]^{a,c}.
   - 3.d The T_{hot} dynamic compensation time constant [ ]^{a,c}.
   - 3.e The T_{hot} dynamic compensation time constant [ ]^{a,c}.
   - 3.f The T_{hot} dynamic compensation time constant [ ]^{a,c}.

4. Additional temperature measurement algorithm values are:
   - 4.a The T_{cold} filter time constant [ ]^{a,c}.
   - 4.b The T_{hot} filter time constant [ ]^{a,c}.

Note 2: The initialization values for τ_{13} and τ_{14} shall both be set to [ ]^{a,c}. However, the configuration status for τ_{13} and τ_{14} shall be set to "OFF" (which results in both time constants equaling [ ]^{a,c} as specified).

T_{13} and τ_{14} Time Constants: Actual Resistance Temperature Detector (RTD)-thermowell pair response time and filter value must not exceed [ ]^{a,c}, per the Safety Analysis. Also note that the way the Lag Filter element works is that a code initialization value must be entered because the code will not compile otherwise (even if the filter is turned OFF). The code initialization value chosen is the current low limit; if this value is not low enough, an additional analysis could be performed to challenge the 6x CONTRM time requirement for this low limit value.

Table 11

OTΔT_{SP}° Function

a, c

Table 12

f_1(ΔI) - OTΔT AFD Penalty Function

a, c

Table 13
$f_2(\Delta I)$ - OPΔT AFD Penalty Function

[ ]a, c

Note: Updating the trip setpoints prior to reaching [ ]a,c would maintain conservative protection and is acceptable.

Notes:

1) For RTDs that are not shared.
2) For RTDs that are shared.
3) For the Overtemperature ΔT function, the NTS should be [ ]a,c lower than the Safety Analysis Limit (SAL). The SAL can be found in APP-SSAR-F5-001, Revision 1, Table 1.2.3.a.
4) [ ]a,c without the f (ΔI) penalty.
5) The Overtemperature ΔT input cards calibration tolerances should not exceed:
   - [ ]a,c for T_{COLD} for tag numbers TE125A1/B1/C1/D1 only,
   - [ ]a,c for T_{COLD} for tag numbers TE121A1/B1/C1/D1, TE122A/B/C/D only,
   - [ ]a,c for T_{HOT},
   - [ ]a,c for pressure, and
   - [ ]a,c RTP for ΔI (AC160 input modules)
6) The Overpower ΔT input cards calibration tolerances should not exceed:
   - [ ]a,c for T_{COLD} for tag numbers TE125A1/B1/C1/D1 only,
   - [ ]a,c for T_{COLD} for tag numbers TE121A1/B1/C1/D1, TE122A/B/C/D only,
   - [ ]a,c for T_{HOT}
   - [ ]a,c RTP for ΔI (AC160 input modules)

References:

1. APP-PMS-M3C-117, Revision 1, "Power Range Neutron Flux Reactor Trip Setpoint and High Positive Rate Uncertainty Calculations for the AP1000 Plant," October 2017.
2. APP-PMS-M3C-107, Revision 1, "Intermediate Range Neutron Flux Reactor Trip Setpoint Uncertainty Calculations for the AP1000 Plant," July 2017.
3. APP-PMS-M3C-110, Revision 1, "Source Range Neutron Flux Reactor Trip Setpoint Uncertainty Calculations for the AP1000 Plant," April 2017.
4. APP-PMS-M3C-124, Revision 1, "Overtemperature ΔT and Overpower ΔT Reactor Trip Setpoint Uncertainty Calculations for the AP1000 Plant," February 2018.
5. APP-PMS-M3C-100, Revision 1, "Pressurizer Pressure RTS/ESAS Setpoints, and EOP Uncertainty Calculations for AP1000 Plant," March 2017.
6. APP-PMS-M3C-111, Revision 1, "Pressurizer Water Level RTS/ESFAS Setpoints, EOP, and PLS Uncertainty Calculations for AP1000 Plant," October 2017.
7. APP-PMS-M3C-112, Revision 1, "Reactor Coolant System (RCS) Hot Leg Flow PMS Uncertainty Calculations for the AP1000 Plants," October 2017.
8. APP-PMS-M3C-105, Revision 1, "Reactor Coolant Pump Bearing Water Temperature Reactor Trip and ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant," March 2017.
9. APP-PMS-M3C-103, Revision 1, "Reactor Coolant Pump Speed Reactor Trip Setpoint Calculations for the AP1000 Plant," April 2017.
10. APP-PMS-M3C-113, Revision 1, "Steam Generator Narrow Range Water Level RTS/ESFAS Setpoints and EOP Uncertainty Calculations for the AP1000 Plant," October 2017.
11. APP-PMS-M3C-108, Revision 1, "Containment Pressure ESFAS and EOP Uncertainty Calculations for the AP1000 Plant," March 2018.
12. APP-PMS-M3C-133, Revision 0, "In-Containment Refueling Water Storage Tank (IRWST) Wide Range Level PMS Uncertainty Calculations for the AP1000 Plants," June 2017.
13. APP-PMS-M3C-101, Revision 2, "Main Steam Line Pressure ESFAS Setpoint and EOP Uncertainty Calculations for the AP1000 Plant," April 2017.
14. APP-PMS-M3C-106, Revision 1, "Reactor Coolant System Tcold and Tavg ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant," July 2017.
15. APP-PMS-M3C-125, Revision 3, "Core Makeup Tank Level ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant," January 2021.
16. APP-PMS-M3C-102, Revision 3, "Reactor Coolant System Wide Range Pressure ESFAS Setpoint and EOP Uncertainty Calculations for the AP1000 Plant," July 2017.
17. APP-PMS-M3C-116, Revision 1, "Hot Leg Level Uncertainty Calculations for the AP1000 Plants," April 2017.
18. APP-PMS-M3C-109, Revision 2, "Startup Feedwater Flow ESFAS Setpoint Uncertainty Calculations for AP1000 Plant," March 2017.
19. APP-PMS-M3C-118, Revision 1, "Steam Generator Wide Range Water Level ESFAS Setpoint and EOP Uncertainty Calculations for AP1000," July 2017.

20. APP-PMS-M3C-123, Revision 1, "Boron Dilution Block - Source Range Flux Doubling Uncertainty Calculations for the AP1000 Plant," May 2017.
21. APP-PMS-M3C-115, Revision 1, "Containment Radioactivity ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant," June 2017.
22. APP-PMS-M3C-114, Revision 1, "Control Room Air Supply Radiation ESFAS Setpoint Uncertainty Calculations for the AP1000 Plant," August 2017.
23. APP-PMS-M3C-137, Revision 1, "Main Control Room (MCR) Differential Pressure PMS Uncertainty Calculations for the AP1000 Plant," January 2022.
24. APP-PMS-M3C-122, Revision 1, "In-Containment Refueling Water Storage Tank (IRWST) Narrow Range Level PMS Uncertainty Calculations for the AP1000 Plants," May 2017.
25. APP-PMS-M3C-104, Revision 2, "Spent Fuel Pool Level PMS Uncertainty Calculations for the AP1000 Plants," April 2017.
26. APP-PMS-E0C-002, Revision 0, "Undervoltage Relay Setpoint and Uncertainty Calculation for Class 1E Batter Chargers (DC01)," November 2020.

Southern Nuclear Operating Company

ND-22-0219

Enclosure 5

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Affidavit from Southern Nuclear Operating Company for Withholding Under 10 CFR 2.390

(This Enclosure consists of 3 pages, including this cover page)

Affidavit of Brian H. Whitley

1. My name is Brian H. Whitley. I am the Regulatory Affairs Director for Southern Nuclear Operating Company (SNC). I have been delegated the function of reviewing proprietary information sought to be withheld from public disclosure and am authorized to apply for its withholding on behalf of SNC.
2. I am making this affidavit on personal knowledge, in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations, and as derived from Westinghouse Electric Company documents SV0-PMS-GS-001, Revision 2 and SV0-PMS-GS-002, Revision 0. I have personal knowledge of the criteria and procedures used by SNC to designate information as a trade secret, privileged or as confidential commercial or financial information.
3. Based on the reason(s) at 10 CFR 2.390(a)(4), this affidavit seeks to withhold from public disclosure Enclosures 2 and 4 of SNC letter ND-22-0219 for "Vogtle Electric Generating Plant (VEGP) Unit 3 Technical Specification Setpoint Report" and "Vogtle Electric Generating Plant (VEGP) Unit 4 Technical Specification Setpoint Report," respectively.
4. The following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.
    a. The information sought to be withheld from public disclosure has been held in confidence by SNC and Westinghouse Electric Company.
    b. The information is of a type customarily held in confidence by SNC and Westinghouse Electric Company and not customarily disclosed to the public.

c. The release of the information might result in the loss of an existing or potential competitive advantage to SNC and/or Westinghouse Electric Company.

d. Other reasons identified in Enclosure 6 of SNC letter ND-22-0219 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, Westinghouse Application for Withholding Proprietary Information from Public Disclosure CAW-22-010 and accompanying Affidavit, and those reasons are incorporated here by reference.

5. Additionally, release of the information may harm SNC because SNC has a contractual relationship with the Westinghouse Electric Company regarding proprietary information. SNC is contractually obligated to seek confidential and proprietary treatment of the information.

6. The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.

7. To the best of my knowledge and belief, the information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method.

I declare under penalty of perjury that the foregoing is true and correct.

[signature] Executed on 8/11/22

Brian H. Whitley Date

Southern Nuclear Operating Company

ND-22-0219

Enclosure 6

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

CAW-22-010

(This Enclosure consists of 4 pages, including this cover page)

AFFIDAVIT CAW-22-010

Commonwealth of Pennsylvania:
County of Butler:

(1) I, Zachary Harper, Manager, Licensing Engineering, have been specifically delegated and authorized to apply for withholding and execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse).

(2) I am requesting the proprietary portions of "VEGP Unit 3 Technical Specification Setpoint Report" and "VEGP Unit 4 Technical Specification Setpoint Report" be withheld from public disclosure under 10 CFR 2.390.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged, or as confidential commercial or financial information.

(4) Pursuant to 10 CFR 2.390, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse and is not customarily disclosed to the public.

(ii) The information sought to be withheld is being transmitted to the Commission in confidence and, to Westinghouse's knowledge, is not available in public sources.

(iii) Westinghouse notes that a showing of substantial harm is no longer an applicable criterion for analyzing whether a document should be withheld from public disclosure. Nevertheless, public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar technical evaluation justifications and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

(5) Westinghouse has policies in place to identify proprietary information. Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage (e.g., by optimization or improved marketability).

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

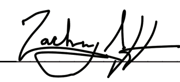
(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

(6) The attached documents are bracketed and marked to indicate the bases for withholding. The justification for withholding is indicated in both versions by means of lower-case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower-case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (5)(a) through (f) of this Affidavit.

I declare that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief. I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 3/21/2022



Signed electronically by
Zachary Harper