

**Southern Nuclear Operating Company
Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

ND-15-2108

Enclosure 1

**Responses to NRC RAI
(Non-Proprietary)**

(This Enclosure consists of 17 pages, including this cover page)

1.0 Summary

The information in the "SNC Evaluation" column of Table S-1 contains SNC's responses to the questions contained in the NRC's RAI that was received by SNC on November 10, 2015 (ML15313A561).

Since SNC's original CAS submittal, some of the issues for which the NRC requested additional information have been closed. For those issues, SNC did not provide detailed closure information in its response. However, additional closure details are available should the NRC require this information.

The items in Table S-1 generally follow the sequence of the questions that appeared in the RAI received from the NRC. However, SNC did group, or re-group, some questions in order to enhance clarity and understanding when commonality amongst the issues existed.

Table S-1

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> • Have additional changes been made since the ISV to manage feedwater flow oscillations? • For the simulator, what is the expected performance for SFW valve cycling and when will it be obtained? • Please confirm that this discrepancy is limited to shutdown conditions. It was the staff's understanding from ISV observations that this discrepancy was observed at low power during startup activities. • The first 3 discrepancies were noted as key drivers associated with secondary plant challenges. The last two (6157/6172) were not included. None of the 5 are on the index of proposed corrections. Please explain what corrective actions are being taken to address the secondary control challenges. • Please address the following staff concern: Increased workload distracts from operator's attention from analysis and decision making requirements of exam scenario. The workload is being created by incomplete modeling of expected plant performance. This creates the potential for a license applicant who does not pass the exam scenario to challenge the results knowing that the simulator doesn't model actual workload. 	E5-1 E9-1	Feedflow oscillations	6151	Multiple corrections have been implemented in the plant secondary side systems since the Integrated Systems Validation (ISV). These include: - Adjustments to the tuning characteristics of the Startup Feedwater (SFW) Control Valves have resulted in reducing feedflow oscillations such that Feedwater flow now controls in automatic during steady state conditions and when raising power during startup. SFW is not normally in service during power operation.
	E9-1	Plant issue with automatic control of DST level and autostart of standby Condensate pump	5655	- Main Steam System Steam Dump modeling, Condenser Hotwell Makeup/Reject modeling and timing sequence of secondary plant system component calculations performed by the model. Observations of these indications, prior to corrections, found a 6 minute cycle time of Deaerator Storage Tank (DST) level from top to bottom of control band. After corrections were made, observations were made for multiple secondary plant configurations/conditions without similar oscillations. Operator intervention was not required to maintain plant secondary side system tank levels.
	E9-1	FWS-V037 Control issue	6156	Southern Nuclear Company (SNC) has determined DST level and feedflow oscillations no longer impact the complexity or workload on the operator and the resolution of these issues removes any impact on the suitability of the simulator for the conduct of operating tests.

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> The first 3 discrepancies (6151/5655/6156) were noted as key drivers associated with secondary plant challenges. The last two were not included. None of the 5 are on the index of proposed corrections. Please explain what corrective actions are being taken to address the secondary control challenges. Please address the following staff concern: Increased workload distracts from operator's attention from analysis and decision making requirements of exam scenario. The workload is being created by incomplete modeling of expected plant performance. This creates the potential for a license applicant who does not pass the exam scenario to challenge the results knowing that the simulator doesn't model actual workload. 	E9-1	SGS MSL drain pot erratic indication	6157	<p>The main steam line drain pot erratic indications were observed twice during testing. There have been no occurrences during training scenarios and no operator action was required in either of the occurrences during testing. The intermittent flashing of the condensate responsible for the erratic indications results in intermittent high level alarms on the main steam line drain. Operators will respond to the drain pot high level alarm per the Alarm Response Procedure. If the drain valve is operating properly and has opened to reduce drain pot level, no operator action is required outside of monitoring system response. If an automatic action should fail to occur, the operator will be required to take manual control of the drain valve and open it to reduce level. When level is restored, the valve is placed back in automatic. These actions have minimal impact on the workload or complexity of operator actions required.</p> <p>SNC has determined Main Steam Line Drain Pot erratic indications do not impact the suitability of the simulator for the conduct of operating tests.</p>
	E9-1	Polisher bypass valve control	6172	<p>The condensate polisher bypass valve operation requires experience with the operation of the valve and system response to obtain stable flow conditions when the condensate polishers are in service. At the time this discrepancy was identified, operators did not have this experience. However, operators have now demonstrated that they are able to achieve stable flow conditions and proper operation of the condensate polisher bypass valve has been observed.</p> <p>SNC has determined the condensate polisher bypass valve control does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> Why is an alarm reflecting a power loss occurring when the power loss has not occurred? The CAS submittal appears to address an inconsistent alarm initiation following a power loss. Is the problem statement accurate? (Current problem statement, "Rod control urgent failure on loss of EK-12 appears inconsistently without loss of power.") 	E5-1	Rod control urgent failure on loss of EK-12 appears inconsistently without loss of power	6726	<p>Closed. Corrected with training-load, simulator software; version 1.2.0.</p> <p>Verification and validation testing was performed successfully.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> Does training reinforce the procedural direction to maintain plant conditions within the more restrictive operating curves? 	E9-1	RCP Net Positive Suction Head Curve - Display 60029 needs extension	5577	<p>The graphical display in question is an operator aid used during transition in plant conditions where Net Positive Suction Head (NPSH) margins are reduced. The actual limits associated with maintaining NPSH are in the System Operating Procedure (3-RCS-SOP-001 Att. 9) with individual graphs for each Reactor Coolant Pump (RCP) speed setting. Crews adhere to the requirements of the procedure. The use of the procedure graphs provide correct limitations for the transition period when the crew shifts to and from the use of the Normal Residual Heat Removal System (RNS) suction pressure for determination of NPSH margin.</p> <p>SNC has determined display graphic 60029 does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> What is the design condition that must be alleviated? Explain how it affects the simulator capability to support license exams. 	E5-1 E9-2	Determine if ventilation system response is correct (VAS, VRS, (VFS) systems)	6410	<p>Closed. Corrected with training-load, simulator software; version 1.2.0.</p> <p>Verification and validation testing was performed successfully.</p>
<ul style="list-style-type: none"> Significant CET swings were noted during the ISV but were not addressed in the aggregate study. Explain how these swings were addressed for the SNC simulators. 	N/A	CET temperature goes erratic after a LBLOCA with no passive cooling in place	6428	<p>Closed.</p> <p>[</p> <p>]a,c</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none">Response appears to address NRC#22 (PZR water level variation) but not NRC#20 (Decreasing PZR water level). Explain why water level goes down on a leak through the PZR safety.	E5-1	<p>Pressurizer (PZR) Level went down in 2 of 3 training scenarios with the leak through the PZR safety</p> <p>PZR Water Level response during Safety valve malfunctions has variations in tests</p>	6484	<p>Closed.</p> <p>A review of NRC Unresolved Items #20 and #22 was performed. These issues were reported at a non-SNC AP1000 simulator and were grouped together by SNC under SCR #6484. These issues are related in that they both pertain to Pressurizer (PZR) level response to a leak through the PZR Safety Valve. [</p> <p>] a,c The issue with NRC Item #20 was the repeatability of the simulator indications. SNC attempted to duplicate the inconsistencies described by running the scenario three times. There were no noticeable differences in the indications obtained by SNC during this testing. SNC reviewed graphs of the response in comparison with a 4 loop Westinghouse Pressurized Water Reactor design and saw a similar overall response.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none">• Explain how updated procedure basis documents ensure the timely assessment of CMT operating status.• Does 6217 (bad quality on WR level indication) affect this assessment?• Did HED#2 contribute to HED#3? (In Table E8-1, HED#3 says see #2.)	E5-1	Manual DAS ADS stage 1-3 and 4 actuation. Manual DAS IRWST injection actuation.	5998	<p>Reactor Trip or Safeguards Actuation (E-0) Step 8.b was changed as follows: []_{a,c}</p> <p>A discussion on the design of the Core Makeup Tank (CMT) outlet check valves and the proper temperature indications to verify proper CMT operation was added to the basis document. In addition, another "KNOWLEDGE" item was added to the basis document to clarify the proper temperature response as follows []_{a,c}</p> <p>The CMT Wide Range (WR) level does affect the evaluation of CMT status in that the WR level instruments are one of three different indications that could be used during this diagnosis. The Narrow Range (NR) level and CMT top temperature indications can be used and therefore, the lack of a CMT WR level indication does not prevent operators from making this determination.</p> <p>Both requirements have a specified time window for actions to be taken. Delays resulting from crew discussions regarding the determination of CMT operation ultimately prevented those time requirements from being met. The two HEDs are related in that they share the same solution.</p> <p>The procedure and basis document changes provide the operator with the required direction and understanding to properly determine the CMT status. As a result of these changes, this issue no longer impacts the suitability of the simulator to conduct operator tests.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> • Explain how updated procedure basis documents ensures the timely operation for: 	N/A	Failure to recognize the need and failure to open recirculation valves to flood reactor cavity after core damage.	HED #5	<p>The updated background document for F-0 now specifies that []_{a,c} Specifically, the following statement was added: []_{a,c}</p>
		Failure to manually actuate DAS containment recirculation/IWST drain	HED #6	<p>[]_{a,c} In addition, the portion of the background document which provided guidance regarding a condition coming in and clearing was modified to include: []_{a,c}</p>
		Failure to manually actuate VLS using DAS	HED #8	<p>The basis document change provides the operator with the required knowledge to implement FR-C.1 when conditions warrant. The clarification of the condition where plant indications are oscillating around an entry condition aid in proper entry of FR-C.1 and any other FRP where this may occur. As a result of these changes, this issue no longer impacts the suitability of the simulator to conduct operator tests.</p>
<ul style="list-style-type: none"> • Need more info on why this condition is acceptable. Why does this not challenge approach to criticality? • What is the impact on the automatic functions (demin water isolation from the RCS and charging makeup pump trips)? 	E9-1	Flux doubling difference between divisions	6175	<p>Closed. Corrected prior to simulator delivery. This issue was incorrectly identified as an outstanding open item by the vendor on simulator delivery due to incomplete documentation closeout by vendor.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> Understand the aggregate but not the individual impact. Do M1 and M2 banks always move together so the correct RIL alarm on M1 provides sufficient alarm? 	E9-1	OPDMS RIL for M2 does not match COLR Rev. 0	5736	<p>Per the Core Operating Limits Report (COLR) M2 rods are required to be fully withdrawn for all power levels. M2 and M1 rods overlap during the last []_{a,c} steps of M2 rod withdrawal. Therefore, when M1 rods are at []_{a,c} steps withdrawn, M2 rods are at the top and meet the required Rod Insertion Limit (RIL). M1 rods have a linear RIL based on current power levels with the lowest RIL level being 15 steps withdrawn at 0% power. The M1 RIL alarms, established at []_{a,c} respectively, before M2 rods begin to move with normal rod sequencing. This will result in operators taking action per the M1 RIL alarm to restore rod positions. If a malfunction were to occur, causing M2 rods to begin inserting before the bank overlap was met, a "Bank Out of Sequence" alarm would occur, directing operators to the Rod Control Malfunction Abnormal Operating Procedure which, in turn, would lead them to identify the RIL violation and to initiate the appropriate actions.</p> <p>For this reason, SNC has determined that this does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> Will Bank overlap indication still be in error? If so what is the expected operator action? From the problem statement and disposition it appears that indication is changing but the change has no meaning yet it is part of the design. This seems like a very confusing situation for the operator on a reactivity related parameter. 	E7-1 E9-1	Improper bank overlap occurs when data point OCB07CE00C_OUTAV is incremented during Rx startup	6302	<p>Westinghouse provided input that invalidates this issue. This point is internal to the Instrumentation & Control (I&C) control sheet only and is transparent to the operator.</p> <p>SNC has determined this issue has no impact on the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> When these alarms occur, what priority is assigned by APS? How frequently do they occur? Do the answers to the previous questions cause one to think they could be a distraction? 	E9-2	Simulator Operations (SIMOPS) datalink alarms incorrect	5608	<p>These alarm points only occur on a datalink failure. These alarms are low priority, and are addressed after all higher priority alarms. Operator action for these alarms is to check a display and notify I&C to investigate.</p> <p>Datalink failures have not occurred during training or evaluation scenarios.</p> <p>SNC has determined that this does not impact the suitability of the simulator for the conduct of operating tests.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> These discrepancies (5603/5621/6186/5686/6099/5903) contain generic disposition statements that do not directly explain why the discrepancy does not affect the simulator's ability to implement exam scenarios. However, the staff was able to reach a conclusion on the discrepancy without additional information. Since we quoted your disposition and noted that the disposition delta in our safety evaluation conclusions, we are providing this list so you can provide additional basis information if you choose too. 	E9-1	Investigate validity of low flow alarm on TCS-FT007	5603	Closed. Corrected with training-load, simulator software; version 1.2.0. Verification and validation testing was performed successfully.
	E9-1	Problems with Alarm Cutout and RWS pressure alarms	5621	The low pressure audible and display alarm should be suppressed when the pump is turned off. An audible alarm may sound, no alarm is displayed, and no operator action is required for this expected alarm. SNC has determined that this does not impact the complexity or workload of actions required by the operator and does not impact the suitability of the simulator for the conduct of operating tests.
	E9-1	Tracking issue for rod step sound problems	6186	Although the audible step counter does not synchronize exactly with the actual rod step indication, the operator is still alerted to automatic rod motion. Operators are trained to use all indications when monitoring rods while in automatic or manual. SNC has determined that since the audible step counter still alerts the operator of rod movement it does not impact the suitability of the simulator for the conduct of operating tests.
	E9-1	Degasifier Level Alarm Limits	5686	The Liquid Waste System (WLS) degasifier works as designed. Operators use the alarm procedure to respond to degasifier alarms. For that reason, this issue is transparent to the operator. If the High-3 value is reached, the system responds as designed and provides all the correct indications to an operator via the control graphics. SNC has determined the Point Information page issue does not impact the suitability of the simulator for the conduct of operating tests.

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
	E9-1	DWS-LT006 has insufficient range	6099	<p>The current range indication functions as designed. The control circuit closes the Condensate Storage Tank (CST) makeup valve at the required level and an alarm is received at the design level of []_{a,c}. The issue with the total inches of the indication in the calculation note relates to the model and where the model begins to initiate overflow out of the CST. The model initiates overflow before the alarm is received and therefore prevents level from rising to a point which would result in an alarm. However, there is no indication of overflow available to an operator in the Main Control Room and the CST level indications available to an operator are able to be manipulated at the simulator instructor station to raise level indications to cause a high level alarm and force operator action if desired.</p> <p>SNC has determined this issue is transparent to the operator and has no impact on the suitability of the simulator for the conduct of operating tests.</p>
	E9-1	Inconsistent OPDMS QPTR Indications	5903	<p>The Quadrant Power Tilt Ratio (QPTR) indications in the Online Power Distribution Monitoring System (OPDMS) are correct for both upper and lower excore detectors and the incore detectors. The issue is related to how these indications are oriented on the respective graphics (i.e. "North" side of core points toward the top of the display monitor on one graphic and points toward left side of display monitor on the other graphic). The orientation of the graphics have no impact on an operator's ability to determine QPTR</p> <p>SNC has determined this does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> • Describe impact of this discrepancy. When are the indications used and for what? • Does the "Crossed alarms" create potential confusion in understanding rod position? 	E7-1 E9-1	DRPI Health Screen has alarms for Data Cabinet A and B crossed	5924	<p>Closed. Corrected with training-load, simulator software; version 1.2.0.</p> <p>Verification and validation testing was performed successfully.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> Alarm labeling appears to introduce confusion on the status of a significant component. This confusion could challenge exam consistency. Explain why this does not happen. The discrepancy disposition in the CAS submittal addressed impact on training rather than the impact on the simulator's capability to support license exams. 	E9-1	RCP Vibration Alarms	6025	<p>When a Reactor Coolant Pump (RCP) vibration alarm is received, the text description shown in Alarm Presentation System (APS) uses []^{a,c} with the intention for these to mean []^{a,c}. Standard AP1000 practice is the L1 & L2 would indicate []^{a,c}. A level of alarm []^{a,c} appears in the next APS column and the correct alarm response procedure is linked to each of the alarm points. When the alarm is received, the operator accesses the Alarm Response Procedure and takes action as directed by the procedure.</p> <p>SNC has determined that this does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> Clarify disposition statement. What is meant by 'other faults are available? Are other independent alarms and indications available to identify the regulator failure? 	E9-1	APS ZVS and ZBS alarm scaling	6171	<p>This issue was identified during Integrated Systems Validation. The intent of inserting a malfunction is to drive the operator to a certain set of procedures and demonstrate plant knowledge and operating capabilities. Although this particular simulator fault did not achieve the desired operator response due to alarm issues, there are other system faults that can be used which will result in the same procedure entries and plant manipulations and thereby provide the same operator evaluation capability.</p> <p>SNC has determined this does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> Is the operator able to use the narrow range for all procedural requirements (including verification of plant performance)? 	E9-1	CMT WR Level Indications go Bad Quality	6217	<p>Verification of proper Core Makeup Tank (CMT) operation is verified using CMT Wide Range (WR) level, Narrow Range (NR) level and/or Top temperature. If CMT WR level becomes Bad Quality, the operator is able to use CMT NR level or Top temperature for CMT operational determination. For this reason, SNC has determined that this issue does not impact the suitability of the simulator for the conduct of operating tests.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> Provide more information on the impact of this discrepancy on the simulator's capability to implement exam scenarios. How frequently does the initiating condition occur? (It is acknowledged that any alarm condition can be addressed by an operator response following procedures. But if the condition occurs without being scripted in the exam scenario it can create complexity and confusion that challenge the exam objectives) 	E7-1 E9-1	Received Bank Sequence Out of Sequence Alarm	6259	<p>Closed. Corrected with training-load, simulator software; version 1.2.0.</p> <p>Verification and validation testing was performed successfully.</p>
<ul style="list-style-type: none"> Verify the problem statement is correct – the first paragraph seems to imply two cases but it is not clear what the second case is. Is the alarm valid? If the simulator reflects the plant design what is the discrepancy? Provide more information on the impact of this discrepancy on the simulator's capability to implement exam scenarios. 	E7-1 E9-1	Urgent Alarm during Case 2 CRE at 90% Power	6267	<p>Closed. Corrected with training-load, simulator software; version 1.2.0.</p> <p>Verification and validation testing was performed successfully.</p>
<ul style="list-style-type: none"> Are there alternate indications the operator would use that have sufficient range to address procedure requirement for isolation? Note: This is another example of where the disposition does not address the simulator capability to support licensing exams. 	E9-1	During simulator scenario validation CDS-TE040A/B range found to be inadequate.	5921	<p>The Blowdown System (BDS) Heat Exchangers (HXs) only have one Condensate System (CDS) outlet temperature for each BDS HX and there are no alternate indications available to an operator.</p> <p>Instrument indications are provided with an up or down triangle next to the reading to indicate the detector has reached the top or bottom of the indicating range, respectively. The detector in question displays this triangle when the temperature reaches []_{a,c}. The indication continues to rise to a max reading of []_{a,c}. At []_{a,c} the BDS should, and does, isolate as expected. The information associated with the detector range requires correction to cause the end of range (up or down triangle) to appear at the correct level. This issue does not prevent an automatic function from occurring and therefore does not impact the complexity or workload of actions taken by an operator.</p> <p>SNC has determined that this issue does not impact the suitability of the simulator for the conduct of operating tests.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> The discrepancy states that the procedure may not be correct yet the disposition credits the procedure for providing appropriate guidance. Resolve this disconnect. Explain why the graphic issue does not affect operational decisions. 	E9-1	WPIS RCS inventory screen issues	6154	<p>Hot legs are shown as []_{a,c} diameter on Wall Panel Information System (WPIS) graphic & procedure but are actually[]_{a,c} per APP-RCS-M6-001. Condition Report, CR 1014063, was generated to modify the procedure. Operators are trained to utilize the procedure. This graphic would only be used during mid-loop operations and therefore is infrequently used. This is a design issue with regards to display of the hot leg level span on the Ovation graphic (documented in CR 10140630).</p> <p>SNC has determined that this issue does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> Explain the impact of missing power supplies on the simulator's capability to support license exams 	E9-1	EDS Power Supply to PLS/DDS cabinets not IAW EDS Load List	5546	<p>The impact of the non-modeled power supplies with regard to Ovation "Drops" only impacts Priority 4 Equipment alarms. The action required by an operator in response to a Priority 4 Equipment alarm is to notify I&C. This does not impact the complexity or workload of actions required by an operator and, as such, does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> Discrepancy is characterized as occurring with low frequency. Quantify low frequency. How complicated are the recovery actions? How does the loss of communication between WPIS displays and operator stations affect analysis and decision making? 	E9-2	OCS Wall Panel Navigation System (WPNS) and Reactor Operator Peer Check System (ROPCS) Rebuild Required	6197	<p>This issue appears most commonly during the initial setup of the simulator prior to operators entering the simulator. To date, no occurrences of this issue have been reported during training scenarios on SNC's simulator.</p> <p>If communication is lost during a scenario, the operator would respond per the Abnormal Operating Procedure, Malfunction of Data Display and Processing System (DDS). The actions required would be to verify conditions are stable and then contact I&C to investigate. All indications would still be available to an operator at the operating station.</p> <p>For this reason, SNC has determined this issue does not impact the suitability of the simulator for the conduct of operating tests.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> The disposition indicates the discrepancy is acceptable because there is a design change tracking it and current documentation states that the behavior is correct. This seems contradictory. Explain how the condition affects the simulator's capability to support license exams. 	E9-1	VCS fan response due to loss of power	216	<p>The issue was identified when [] a,c The simulator responded as designed. Westinghouse is evaluating a possible change to the control scheme to change the inputs used for the auto-start feature. Containment Recirculation Cooling System (VCS) fan configuration is checked in multiple Emergency Network procedures. If the fans are not aligned properly, the operator is required to establish the correct configuration by starting fans and opening dampers. These actions do not impact the complexity or workload of actions taken by an operator. SNC has determined that this design feature and its affect on the operators does not impact the suitability of the simulator for the conduct of operating tests.</p>
<ul style="list-style-type: none"> Are procedures, operator aids, mimics and training consistent with current power supply lineup? 	E9-1	CVS-V094 Power Failure	6019	<p>The power supply for CVS-V094 is inconsistent with current design documents in that it is powered by Protection and Safety Monitoring System (PMS) Division C Integrated Logic Cabinet #4 vice Cabinet #2 as expected. The only time this would cause a possible concern is if a fault was inserted to de-energize Cabinet #4, and only Cabinet #4. When a loss of power occurs to the entire PMS Division C (normal method used to initiate desired actions during scenarios) the valve closes as expected. There are no concerns associated with the indications available to, the procedures used or the controls manipulated by an operator due to the alternate power supply. SNC has determined this has no impact on the suitability of the simulator for the conduct of operating tests.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none"> • Which loads are not modeled? • Which of these loads requires some kind of operator action and what is that action? • Do these actions add limitations or significant confusion or complexity to exam scenarios? 	E9-1	Model ECS-EC-313 loads	6593	<p>The loads which are not modeled are:</p> <ul style="list-style-type: none"> - Control System Cabinet Room (CSCR) Air Handler Unit (AHU) A MS-04A Supply Fan (VTS-MA-10A) (this fan is modeled) - []_{a,c} • Turbine Building Roof Ventilation dampers • Direct Expansion Units (DX Units which supplies Air conditioning to office spaces and a security room) • Turbine Bldg Unit Heater 23, 24, 25 and 26 • Turbine Bldg Roof Exhaust Unit Ventilator A • Turbine Bldg Roof Exhaust Unit Ventilator A Motor Heater (Mtr Htr) • Turbine Bldg Roof Exhaust Unit Ventilator C • Turbine Bldg Roof Exhaust Unit Ventilator C Mtr Htr • Turbine Bldg Roof Exhaust Unit Ventilator E • Turbine Bldg Roof Exhaust Unit Ventilator E Mtr Htr • Turbine Bldg Roof Exhaust Unit Ventilator G • Turbine Bldg Roof Exhaust Unit Ventilator A • Turbine Bldg Roof Exhaust Unit Ventilator G Mtr Htr • Turbine Bldg Roof Exhaust Unit Ventilator L • Turbine Bldg Roof Exhaust Unit Ventilator L Mtr Htr • Turbine Bldg Roof Exhaust Unit Ventilator M • Turbine Bldg Roof Exhaust Unit Ventilator M Mtr Htr • Heater Bay Roof Exhaust Ventilator 2A • Heater Bay Roof Exhaust Ventilator 2A Mtr Htr • Heater Bay Roof Exhaust Ventilator 2C • Heater Bay Roof Exhaust Ventilator 2C Mtr Htr • Heater Bay Roof Exhaust Ventilator 2E • Heater Bay Roof Exhaust Ventilator 2E Mtr Htr <p>- Turbine Building Ventilation System (VTS) Control System Cabinet Rooms 1, 2, & 3 air conditioning systems.</p> <p>The loss of ECS-EC-313 requires no operator action and adds no limitations, significant confusion or complexity to exam scenarios. SNC has determined that these loads not being modeled has no impact on the suitability of the simulator for the conduct of operating tests.</p>

Table S-1 (continued)

RAI	Table	Description	Ref #	SNC Evaluation
<ul style="list-style-type: none">Explain why the failure to repower multiple busses is transparent to the operator and why the operator would not notice this condition (these statements come from the disposition paragraph). These statements seem to contradict the general procedure practice to verify automatic actions have occurred. This discrepancy appears to introduce additional workload which adds complexity and potential confusion into the operational analysis and decision making process and thus challenges the ability to administer consistent exam scenarios. If this is not the case please explain why.	E9-1	Potential issue with DG Sequencer	6610	<p>The busses in question are [I_{a,c}</p> <p>busses/panels that supply power to respective building lighting, receptacles and small pieces of equipment (e.g. water fountains, water heaters, etc.). Loss of these busses does not require entry into any Abnormal or Emergency Operating procedure (AOP and EOP). Additionally, AOPs and EOPs only require verifying the restoration of power to the 480V tier (EC busses).</p> <p>Ovation screens available to the control room operators provide indication of the feeder breaker to these busses/panels. However, there is no control function available for the various loads. Verifying the restoration of power to these busses/panels is not required by AOPs or EOPs and does not add additional complexity or workload to the control room operators.</p> <p>SNC has determined this issue poses no impact on the suitability of the simulator for the conduct of operating tests.</p>

**Southern Nuclear Operating Company
Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

ND-15-2108

Enclosure 2

**Westinghouse Authorization Letter CAW-15-4320, Application for Withholding
Proprietary Information From Public Disclosure, Accompanying Affidavit, Proprietary
Information Notice and Copyright Notice**

(This Enclosure consists of 9 pages, including this cover page)



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Westinghouse Electric Company
New Plants and Major Projects
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CAW-15-4320

11/13/2015

APPLICATION FOR WITHHOLDING PROPRIETARY
INFORMATION FROM PUBLIC DISCLOSURE

Subject: Transmittal of "ND-15-2108, Enclosure 1, Responses to NRC RAI"

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-15-4320 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The Affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by Southern Nuclear Company (SNC).

Correspondence with respect to the proprietary aspects of the Application for Withholding or the Westinghouse Affidavit should reference CAW-15-4320, and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

Very truly yours,

A handwritten signature in black ink, appearing to read "Paul A. Russ".

Paul A. Russ, Director
U.S. Licensing & Regulatory Support

/Enclosures

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1. Affidavit, Proprietary Information Notice, Copyright Notice dated November 13, 2015
2. "ND-15-2108, Enclosure 1P, Responses to NRC RAP" (Proprietary)
3. "ND-15-2108, Enclosure 1, Responses to NRC RAP" (Non-Proprietary)

cc: Gregory Glenn Westinghouse
Sarah DiTommaso Westinghouse
Gerry Couture Westinghouse
Steven Radomski Westinghouse
Mark Chitty SNC
Mark Crosby SNC
David Midlik SNC
Wes Sparkman SNC

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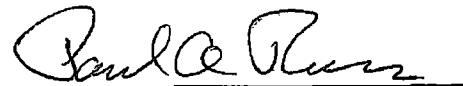
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF BUTLER:

I, Paul A. Russ, am authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.



Paul A. Russ, Director
U.S. Licensing & Regulatory Support

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- (1) I am Director, U.S. Licensing & Regulatory Support, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.
- (2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.
- (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 the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, 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.
 - (ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute Westinghouse policy and provide the rational basis required.

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.
- (iii) There are sound policy reasons behind the Westinghouse system which include the following:
- (a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.
 - (b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

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- (c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.
 - (d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.
 - (e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.
 - (f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.
- (iv) 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.
- (v) 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 to the best of our knowledge and belief.
- (vi) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in "ND-15-2108, Enclosure 1P, Responses to NRC RAI" (Proprietary) for submittal to the Commission, being transmitted by Southern Nuclear Company (SNC) letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with the Vogtle commission approved simulator, and may be used only for that purpose.

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- (a) This information is part of that which will enable Westinghouse to:
- (i) Manufacture and deliver products to utilities based on proprietary designs.
- (b) Further this information has substantial commercial value as follows:
- (i) Westinghouse plans to sell the use of similar information to its customers for the purpose of licensing new nuclear power stations.
- (ii) Westinghouse can sell support and defense of industry guidelines and acceptance criteria for plant-specific applications.
- (iii) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

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.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary 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 (4)(ii)(a) through (4)(ii)(f) of the Affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.390 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.