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Docket Nos.: 50-424
50-425

NL-13-2479

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

Vogtle Electric Generating Plant
Response to Request for Additional Information Regarding Technical
Specification 3.7.14, "Engineered Safety Features (ESF) Room Cooler and
Safety Related Chiller System" Condition A Completion Time Extension

Ladies and Gentlemen:

By letters dated September 26, 2012, and August 7, 2013, Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) to revise the Completion Time for Technical Specification 3.7.14, "Engineered Safety Features (ESF) Room Cooler and Safety Related Chiller System." By letter dated November 7, 2013, the Nuclear Regulatory Commission (NRC) sent SNC a Request for Additional Information (RAI) letter. The Enclosure contains the SNC response to the NRC RAI letter.

This letter contains no NRC commitments. If you have any questions, please contact Ken McElroy at (205) 992-7369.

Mr. C. R. Pierce states he is Regulatory Affairs Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

A handwritten signature in black ink that reads "C R Pierce".

C. R. Pierce
Regulatory Affairs Director

CRP/RMJ/lac

Sworn to and subscribed before me this 5 day of December, 2013.

A handwritten signature in black ink, appearing to read "James L. ...".

Notary Public

My commission expires: 10/8/17



Enclosure: SNC Response to NRC RAIs

cc: Southern Nuclear Operating Company
Mr. S. E. Kuczynski, Chairman, President & CEO
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer
Mr. T. E. Tynan, Vice President – Vogtle
Mr. B. L. Ivey, Vice President – Regulatory Affairs
Mr. D. R. Madison, Vice President – Fleet Operations
RType: CVC7000

U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Senior Project Manager - Vogtle
Mr. L. M. Cain, Senior Resident Inspector – Vogtle

State of Georgia
Mr. J. H. Turner, Environmental Director Protection Division

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Enclosure

SNC Response to NRC RAIs

Background

The table in Enclosure 6 (page E6-1) of the licensee's submittal dated September 26, 2012, provides a listing of areas served and room numbers for the Unit 1 Train 1A ESF room chiller. The safety functions of the safety-related loads in the rooms listed on page E6-1 provide the required redundancy of the safety functions provided by the similar Unit 1 Train 1B ECW loads. When the inoperability of the 1A ECW chiller train is extended to 7 days, the safety-related loads in the rooms listed on page E6-1 are inoperable for 7 days and the required redundancy of the associated safety functions are lost.

Some safety-related functions have Technical Specifications (TSs) and corresponding Completion Times (CTs) that are greater than or equal to 7 days. The temporary loss of redundancy is already satisfactorily taken into account by the TS. However, some loads have CTs less than 7 days {e.g. residual heat removal, containment spray, component cooling water pump rooms} and some loads may not have associated TSs.

Issue

The staff needs to know the extent of safety-related systems and functions that are affected or become inoperable as a result of loss of an ESF chiller, including those that do not have TS.

RAI-1

For each room number listed on page E6-1, please provide a listing by room number of all safety-related systems and functions [that are listed or described in TS and/or the Updated Final Safety Analysis Report] that have any safety-related component(s) in the room. Also, for each identified safety-related system and/or function, identify all associated TS.

SNC Response to RAI-1

The requested table is provided below.

ESF Room Cooler	Room Number	Safety Related System and/or Function Affected	Technical Specification
1-1531-N7-001-000	Main Control Room	Control Room Emergency Filtration System	LCO 3.7.10
1-1532-A7-001-000	B84	MCC1CD1M Train C 125VDC Motor Control Center	LCO 3.8.4
	B76	1AB05 Train A 480V Switchgear	LCO 3.8.9
		1AB04 Train A 480V Switchgear	
		MCC1ABC, Train A 480V Motor Control Center 1ABC	
	B79	MCC1ABE, Train A 480V Motor Control Center 1ABE	LCO 3.8.9
	B60	AC UNIT TRAIN "A"	N/A
	B56	1CD1B Battery	LCO 3.8.4, 3.8.6
	B55	1CD1 Train C 125VDC Switchgear	LCO 3.8.9
		1CD1CA Train C Battery Charger	LCO 3.8.4
		1CD1CB Train C Battery Charger	
		1CD11 Train C VDC Distribution Panel	LCO 3.8.9
		1CY1A Train C 120 VAC Vital Panel 1CY1A	LCO 3.8.9
		1CD1I3 Vital AC Inverter	LCO 3.8.7
		1CD1I5 120V AC Inverter	
	B54	1AD1B Battery	LCO 3.8.4, 3.8.6
	B52	1AD1 Train A 125VDC Switchgear	LCO 3.8.9
		1AD11 125V Distribution Panel	
		1AD12 125V Distribution Panel	
		1AD1M Train A 125VDC Motor Control Center	LCO 3.4.11, 3.7.5
		1AD1CA Train A Battery Charger	LCO 3.8.4
		1AD1CB Train A Battery Charger	
		1AY1A Train A 120 VAC Vital Panel	LCO 3.8.9
		1AD1I1 Vital AC Inverter	LCO 3.8.7
A48	Safety Sequencer Cabinet 1ACPSQ1	LCO 3.8.1	
	4160V Switchgear 1AA02	LCO 3.8.9	
A75	Train A Shutdown Panel 1ACPSDA	LCO 3.3.4	
1-1539-A7-001-000	A45	1ACPAR8 Auxiliary Relay Panel PAR8	N/A
		INCPAR5 Auxiliary Relay Panel PAR5	

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ESF Room Cooler	Room Number	Safety Related System and/or Function Affected	Technical Specification
		IACPAR1 Auxiliary Relay Panel PAR1	
1-1555-A7-001-000	1ABD105	480V SWGR 1AB15	LCO 3.8.9
1-1555-A7-003-000	1AB C109	MCC 1ABD Train A	LCO 3.8.9
1-1555-A7-005-000	1AB118	1ABB MCC Train A	LCO 3.8.9
		Inverter 1AD1111	LCO 3.8.7
		1AY2A 120V AC Vital Panel	LCO 3.8.9
1-1555-A7-007-000	1ABD48	RHR Pump Train A	LCO 3.5.2
1-1555-A7-009-000	1ABD76	Containment Spray Pump Discharge Train "A"	LCO 3.6.6
1-1555-A7-011-000	1ABA05	Train A CCW Pump Room	LCO 3.7.7
1-1555-A7-013-000	1ABC115	CVCS Centrifugal Charging Pump Train A	LCO 3.5.2
1-1555-A7-015-000	1ABB15	Safety Injection Pump Train A	LCO 3.5.2
1-1555-A7-017-000	1ABA53	Spent Fuel Pit Skim Pump	N/A
		Spent Fuel Pit Pump	
		Spent Fuel Heat Exchanger Train A	
1-1561-E7-001-000	N/A	Piping Penetration Area Filtration and Exhaust System	3.7.13
1-1539-A7-005-000	1CB325	480V MCC 1ABA	LCO 3.8.9

RAI-2

Provide technical justification for extending the inoperability of the safety-related systems and/or functions identified in (a) above to 7 days. The technical justification may include, but not limited to, such factors as appropriate compensatory action and the availability of normal chilled water.

[Note: The licensee’s statement in the September 26, 2012 submittal that “the Conditions and Required Actions of the supported systems are not required to be entered as allowed by LCO 3.0.6” is not sufficient technical justification because the exception of TS 3.0.6 is justified when the actions that are required to ensure the unit is maintained in a safe condition are specified in the support system (ECW) LCO's Required Actions. This may not be the case when the support system CT is increased to 7 days.]

The staff recognizes that the licensee’s response to this request for information will also apply to Unit 1 Train B and Unit 2 Trains A and B and will use it accordingly for the staff’s safety evaluation.

SNC Response to RAI-2

The proposed compensatory actions for one chiller out of service were provided as Regulatory Commitments in letter NL-13-1648, dated August 7, 2013. The table below lists each Regulatory Commitment provided in letter NL-13-1648, and a justification stating the benefit to each proposed compensatory action. Each of the Regulatory Commitments listed below are required within 72 hours of entering Condition A, and are specific to the affected unit.

Regulatory Commitments	Basis
The remaining train ESF Room Cooler and Safety-Related Chiller System will be operated as a Protected Train per procedure NMP-OS-010.	This will maintain the safety function to the redundant ESF Chiller and Room Cooler Train.
The Unit 1 low voltage switchyards and the Unit 2 low voltage switchyards will be maintained available (that is, no routine testing or maintenance activities will be performed).	This action will maintain the reliability of both offsite AC sources of the affected unit.
High voltage switchyards will be maintained available (that is, no routine testing or maintenance activities will be performed) with the exception of work activities which do not challenge both feeders from offsite power sources will be permitted and managed as a high Operational Risk Awareness job.	This action will provide additional oversight of activities and maintain maximum reliability of the grid feed to both offsite AC power sources of the affected unit.

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<p>The Unit 1 and Unit 2 Train A and Train B Emergency Diesel Generators will be maintained available (that is, no routine testing or maintenance activities will be performed).</p>	<p>This action will maintain reliability of both trains of onsite emergency AC power.</p>
<p>The Normal Chilled Water System will be maintained available (that is, no routine testing or maintenance activities will be performed).</p>	<p>The Normal Chilled Water System provides cooling to the safety related components serviced by the affected train of ESF Chiller and Room Coolers with the exception of CCW Pump Room, SI Pump room, CS Pump room, and Piping Penetration Area Filtration and Exhaust System (PPAFES). NSCW provides a backup to ESF Chilled Water for the PPAFES.</p>
<p>The opposite Unit's Essential Chilled Water System and the opposite Unit's CREFS will be maintained available to support control room cooling (that is, no routine testing or maintenance activities will be performed).</p>	<p>This action will maintain Control Room habitability (environmental and radiological) for both the affected and unaffected units.</p>
<p>Equipment room doors will be propped open for safety related 125VDC and 120VAC equipment rooms on the affected train.</p>	<p>This is a compensatory measure to maintain 120VAC and 125VDC capability in the event of a loss of all AC power.</p>

The compensatory actions listed will continue to demonstrate compliance with the single failure criteria and the requirements of General Design Criterion (GDC) – 19 because:

1. The proposed action on the essential chiller only affects the chilled water system. It does not affect airflow into and out of the main control room. Hence, the proposed change does not have any impact on the credited unfiltered in-leakage to the main control room.
2. The airflow to and from the control room will not be affected, and hence the contributing factors which affect the dose in the main control room will not be impacted.
3. The main control room HVAC system has two Unit 1 and two Unit 2 control room filtration/cooling units served by their respective train essential chilled water system. One of the four control room filtration/cooling units is sufficient for maintaining control room habitable conditions. Additionally, the control room has two non-safety related normal air conditioning units which are served by the normal chilled water system. Thus, if one train essential chilled water system is inoperable due to the unavailability of the chiller, the remaining trains (along with the normal air conditioning units) will be available to provide the

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necessary cooling requirements for maintaining the main control room habitable.

4. The redundant filtration/cooling units served by their respective train essential chilled water system and powered from the diesel generator will be available to provide the necessary cooling to the main control room to maintain it habitable during loss of offsite power.

For the supported systems declared inoperable as a result of entering LCO 3.7.14 Condition A, Specification 5.5.15, "Safety Function Determination Program (SFDP)," ensures loss of safety function is detected and appropriate actions are taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other limitations, remedial actions, or compensatory actions may be identified as a result of the support system inoperability and corresponding exception to entering supported system Conditions and Required Actions. The SFDP implements the requirements of LCO 3.0.6.

Cross train checks to identify a loss of safety function for those support systems that support multiple and redundant safety systems are required. The cross train check verifies that the supported systems of the redundant OPERABLE support system are OPERABLE, thereby ensuring safety function is retained. If this evaluation determines that a loss of safety function exists, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.