Duke Energy®

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August 7, 2012

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station
Docket Numbers 50-269, 50-270, and 50-287
Selected Licensee Commitments Manual (SLC)

Gentlemen:

Pursuant to 10CFR 50.4 and 50.71, please find attached the latest revisions to the Oconee Selected Licensee Commitments (SLC) Manual. SLC 16.6.1, Containment Leakage Tests; SLC 16.8.5, Keowee Hydro Unit Steady State Frequency; and SLC 16.9.7, Keowee Lake Level were revised to correct editorial errors. SLC 16.14.2, Control Rod Verification Program was revised to remove obsolete references to the "Control Rod Drive Control System with the digital upgrade not complete."

Sincerely,

TPGillespie

T. Preston, Gillespie, Jr.
Vice President
Oconee Nuclear Station

Attachment

ADD1
NRR

xc:

Mr. Victor M. McCree, Administrator, Region II
U.S. Nuclear Regulatory Commission
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

Mr. John P. Boska, Project Manager
(By electronic mail only)
U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
One White Flint North, M/S O-8G9A
11555 Rockville Pike
Rockville, MD 20852

Mr. Andrew T. Sabisch
NRC Senior Resident Inspector
Oconee Nuclear Station

August 7, 2012

Subject: Oconee Selected Licensee Commitments Manual (SLC) Revision

On July 13, 2012, Station Management approved the following Oconee Selected Licensee Commitments. SLC 16.6.1, Containment Leakage Tests; SLC 16.8.5, Keowee Hydro Unit Steady State Frequency; and SLC 16.9.7, Keowee Lake Level were revised to correct editorial errors. SLC 16.14.2, Control Rod Verification Program was revised to remove obsolete references to the "Control Rod Drive Control System with the digital upgrade not complete."

Please revise your manual as instructed below.

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Any questions concerning these revisions may be directed to Kent Alter at 864-873-3255.

Regulatory Compliance
By: Gail Joyner
Regulatory Compliance

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16.6 ENGINEERED SAFETY FEATURES

16.6.1 Containment Leakage Tests

COMMITMENT The local leak rate shall be measured for the containment penetrations listed in Table 16.6-1 in accordance with ITS SR 3.6.1.1.

APPLICABILITY MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. NA	A.1 NA	NA

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 16.6.1.1 NA	NA

BASES

This commitment establishes the list of penetrations that require local leak rate testing in accordance with ITS SR 3.6.1.1. This list was removed from the Technical Specifications in accordance with the guidance in NRC Generic Letter 91-08.

The requirement to leak test the blind isolation flanges on the containment Hydrogen Recombiner System permanent piping after each installation was relocated from CTS 4.4.3.1.b during conversion to the ITS.

The Containment Leak Rate Testing Program (Type A and Type B Tests only) is credited in Oconee License Renewal with managing aging of steel components of the Reactor Building Containment for the period of extended operation.

REFERENCES

1. 10 CFR 50, Appendix J.
2. NRC Generic Letter 91-08.
3. UFSAR section 3.8.1.7.4, 6.2.3, 6.2.4, and Table 18-1.
4. OSS-0274.00-00-0016, Oconee License Renewal Commitments.

Table 16.6-1
List of Penetrations With 10 CFR 50 Appendix J Requirements

Penetration Number	System	Type A Test System Condition	Local Leak Test	Remarks
1	Pressurizer sample line (Unit 1 only)	Vented - Note 1, 2	Type C	
2	OTSG A Sample line	Not Vented	None Required	
3	Component Cooling inlet line	Vented - Note 1, 2	Type C	
4	OTSG B drain line	Not Vented	None required	
5a	RB normal sump drain line portion	Not Vented	None required	
5a	Hydrogen Recombiner drains portion	Not Vented	None required	
5b	Post Accident Liquid Sample Line	Vented - Note 1, 2	Type C	
6	Letdown line	Vented - Note 1, 2	Type C	
7	RC Pump seal return line	Not Vented	Type C	Note 3
8a	Pressurizer Aux. Spray Line	Not Vented	None Required	
8b	Loop A nozzle warming line	Not Vented	None Required	
9	RCS normal makeup line and HP injection "A" loop	Not Vented	None Required	
10a	RC Pump B1 seal injection	Not Vented	Type C	
10b	RC Pump B2 seal injection	Not Vented	Type C	
11a	Fuel transfer tube cover portion	Not Vented	Type B	
11b	RC Makeup Pump suction portion	Vented - Note 1, 2	Type C	
11c	Fuel transfer tube drain portion	Vented - Note 1, 2	Type C	
12a	Fuel transfer tube cover portion	Not Vented	Type B	
12b	RC Makeup Pump discharge portion	Vented - Note 1, 2	Type C	
13	RB Spray inlet line	Not Vented	None Required	
14	RB Spray inlet line	Not Vented	None Required	
15	LPI and DHR inlet line	Not Vented	None Required	
16	LPI and DHR inlet line	Not Vented	None Required	
17	OTSG B Emergency FDW line	Not Vented	None Required	
18	Quench tank vent line	Vented - Note 1, 2	Type C	Note 3
19	RB purge inlet line	Vented – Note 1	Type C	Note 3
20	RB purge outlet line	Vented – Note 1	Type C	Note 3

Table 16.6-1
List of Penetrations With 10 CFR 50 Appendix J Requirements

Penetration Number	System	Type A Test System Condition	Local Leak Test	Remarks
21	LPSW to RC Pump motors and lube oil coolers inlet	Not Vented	None Required	
22	LPSW from RC Pump motors and lube oil coolers outlet	Not Vented	None Required	
23a	RC Pump A1 seal injection	Not Vented	Type C	
23b	RC Pump A2 seal injection	Not Vented	Type C	
24a	RB H_2 Analyzer Train A	Vented – Note 1	Type C	
24b	RB H_2 Analyzer Train A	Vented – Note 1	Type C	
25	OTSG B Feedwater line	Not Vented	None Required	
26	OTSG A Main steam line	Not Vented	None Required	
27	OTSG A Feedwater line	Not Vented	None required	
28	OTSG B Main steam line	Not Vented	None required	
29	Quench tank drain line	Vented - Note 1, 2	Type C	Note 3
30, 31, 32	LPSW for RB Cooling units inlet line	Not Vented	None required	
33, 34, 35	LPSW for RB cooling units outlet line	Not Vented	None required	
36, 37	RB emergency sump recirculation line	Not Vented	None required	
38	Quench tank cooler inlet line	Vented - Note 1, 2	Type C	
39a (Unit 2, 3 only)	CFT Vent Line	Vented - Note 1, 2	Type C	
39b	HP Nitrogen supply	Vented - Note 1	Type C	
40	RB emergency sump drain line	Not Vented	None required	
40	LDST drain line portion	Not Vented	None required	
41	Instrument air supply & ILRT verification line	Vented – Note 1	Type C	
42a	RB H_2 Analyzer Train B	Vented – Note 1	Type C	
42b	RB H_2 Analyzer Train B	Vented – Note 1	Type C	
43	OTSG A drain line	Not Vented	None required	
44	Component cooling to control rod drive inlet line	Vented - Note 1, 2	Type C	
45a	ILRT instrument line	Vented - Note 1, 2	Type C	
45b	ILRT instrument line	Vented - Note 1, 2	Type C	
45c (Units 2 & 3)	ILRT instrument line	Vented - Note 1, 2	Type C	
48	Breathing air inlet	Vented – Note 1	Type C	

Table 16.6-1
List of Penetrations With 10 CFR 50 Appendix J Requirements

Penetration Number	System	Type A Test System Condition	Local Leak Test	Remarks
49 (Unit 1 only)	LP Nitrogen supply	Vented – Note 1	Type C	
50	OTSG A Emergency FDW line	Not Vented	None required	
51	ILRT Pressurization line	Vented – Note 1	Type C	
52	HP injection to 'B' loop	Not Vented	None required	
53a (All)	HP Nitrogen supply to 'A' core flood tank	Vented - Note 1	Type C	
53b (Units 2,3)	LP Nitrogen supply	Vented – Note 1	Type C	
54	Component cooling outlet line	Vented - Note 1, 2	Type C	Note 3
55	Demineralized water supply	Vented - Note 1, 2	Type C	
56	Spent fuel canal fill and drain	Vented - Note 1, 2	Type C	
57 (Unit 1 only)	DHR return line	Not Vented	None required	
58a (Unit 2, 3)	Pressurizer sample line	Vented - Note 1, 2	Type C	
58b (All)	OTSG B sample line	Not Vented	None required	
59	CF tank sample line	Not Vented	None required	
60	RB sample line (outlet)	Vented - Note 1	Type C	Note 3
61	RB sample line (inlet)	Vented - Note 1	Type C	Note 3
62 (Units 2, 3 Only)	DHR return line	Not Vented	None required	
63	LPSW RBAC Supply	Vented – Note 1,2	Type C	
64	LPSW RBAC Return	Vented - Note 1,2	Type C	
90	Personnel hatch		Type B	
91	Equipment hatch	Vented	Type B	
92	Emergency hatch	Vented	Type B	
101 through 105	Electrical Penetrations	Vented	Type B	

NOTE 1 Pathways shall be vented to the containment atmosphere during the test. Vented pathways shall be drained of fluid to the extent necessary to expose the pathway to post accident differential pressure.

NOTE 2 Pathways which are Type B or Type C tested within the previous 24 months need not be vented or drained during the Type A test.

NOTE 3 Reverse direction test of inside containment isolation valve authorized. Leakage results are conservative.

GENERAL NOTE: Refer to OSS-0254.00-00-4001 for specific penetration testing and alignment bases.

16.8 ELECTRIC POWER SYSTEM

16.8.5 Keowee Hydro Unit (KHU) Steady State Frequency

COMMITMENT Keowee Hydro Unit (KHU) Steady State Frequency shall be ≥ 59.4 Hz and ≤ 61.8 Hz when isolated from the grid in emergency mode of operation.

APPLICABILITY: When KHU is OPERABLE.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. KHU Steady State Frequency not met.	A.1 Enter applicable TS Condition(s) and Required Actions for an inoperable KHU(s).	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 16.8.5.1	Verify on an actual or simulated emergency actuation signal each KHU achieves steady state frequency ≥ 59.4 Hz and ≤ 61.8 Hz (≥ 127.3 rpm and ≤ 132.5 rpm).	12 months

BACKGROUND

Each KHU can initially be either idle or generating to the grid. If the KHU is idle when an emergency start signal is generated, the unit is required to be operating between 57 and 63 Hz within 23 seconds by Technical Specifications (TS). If the Unit is initially generating to the grid when the emergency start signal is generated, the Unit is disconnected from the grid, frequency increases as the governor responds to bring the frequency down to 60 Hz, and is connected to Oconee loads when the frequency is less than 66 Hz and decreasing. The frequency is further reduced as the Oconee switchgear is energized and various Oconee loads are started.

TS SR 3.8.1.9 requires frequency to be within 57 to 63 Hz in 23 seconds or less. Discussions with the NRC in 2000 led to issues with the frequency overshoot of KHU and compliance with TS SR 3.8.1.9. A need to update design calculations to include the transient voltage and

frequency effects during a KHU startup was identified. In October 2000, ONS Engineering studied the scope of updating various design calculations to include overshoot effects. The results of this study concluded that modifications should be implemented to reduce the overshoot. Plans were made to implement a digital governor modification as a solution to the overshoot TS compliance issue.

With the digital governor installation, the appropriate calculations were revised to reflect the 5% overshoot conditions expected with the digital governor and were also analyzed to determine steady state frequency limits for Keowee. Acceptable steady state limits were determined to be -1% to +3% nominal frequency (59.4 Hz to 61.8 Hz) and were established based on the effect of frequency variations on key mechanical safety systems. Small perturbations outside of the steady state criteria (-1% to +3%) due to expected load additions or removals are permitted. However the transient peak values shall be within ±5% frequency limits and of short time duration being no more than 10 seconds. This SLC addresses the steady state frequency requirements for those periods when Keowee is operating as an emergency power source for Oconee.

APPLICABLE SAFETY ANALYSIS

The KHUs provide emergency power for Oconee Nuclear Station. The OPERABILITY of the KHU is required to ensure the OPERABILITY and the capability of the Emergency Power System. This SLC ensures that Keowee is capable of providing emergency power within acceptable limits.

APPLICABILITY

The KHU steady state frequency is required to be within specified limits when the KHU is OPERABLE.

ACTIONS

A.1

Condition A applies when the KHU governor steady state frequency is not met. Required Action A.1 requires the associated KHU be declared inoperable since the KHU is no longer capable of meeting design basis requirements.

SURVEILLANCE REQUIREMENTS

SR 16.8.5.1

This surveillance verifies the KHUs steady state frequency to ensure key mechanical safety systems and equipment have adequate frequency for accident mitigation. Numerous mechanical calculations referenced in PIP 00-3229 (Ref. 5) established the 59.4 Hz to 61.8 Hz (127.3 rpm to 132.5 rpm) steady state frequency requirement. This surveillance is required to be performed every 12 months. The 12 month frequency for this SR is adequate based on the installation of an Out of Tolerance (OOT) statalarm which will alarm if frequency exceeds the -1% to +3% nominal frequency limits. The 12 month frequency is consistent with KHU TS testing.

REFERENCES

1. NSM ON-53080, Replace existing KHU Governor with Digital Controls.
2. NSM ON-53014, Keowee Out of Tolerance Logic Protection.
3. AP/0/A/2000/002, Keowee Hydro Station – Emergency Start.
4. Probablistic Risk Assessment for Oconee Nuclear Station
5. PIP O-00-3229
6. PIP O-03-2846
7. DBD OSS-0254.00-00-2005, Keowee Emergency Power Design Basis Document.

16.9 AUXILIARY SYSTEMS

16.9.7 Keowee Lake Level

COMMITMENT

a. Maintain lake level ≥ 793.7 ft to support CCW gravity induced reverse flow.

b. Maintain lake level ≥ 793 ft when "A" HPSW Pump running or switch in BASE.

c. Maintain lake level ≥ 793 ft when "A" HPSW Pump is capable of auto-starting on low EWST level and the "B" HPSW Pump is inoperable, switch OFF or switch in STANDBY.

d. Maintain lake level ≥ 792 ft to support CCW gravity induced reverse flow to the SSF service water pumps.

e. Maintain lake level ≥ 791 ft to assure that the "A" HPSW Pump shall be OPERABLE.

f. Maintain lake level ≥ 791 ft to assure that the LPSW Pumps shall be OPERABLE.

g. Maintain lake level ≥ 790 ft to assure that the Chiller Condenser Service Water Pumps shall be OPERABLE.

h. Maintain lake level ≥ 789 ft to assure that the "B" HPSW Pump shall be OPERABLE.

i. Maintain lake level ≥ 787 ft to prevent additional administrative controls on the Radwaste Equipment Cooling alignment.

j. Maintain lake level ≥ 787 ft to assure that adequate water supply shall be available for 7 days of Keowee emergency operation.

k. Maintain lake level ≥ 786 ft to assure that the ECCW System shall be OPERABLE.

l. Maintain lake level ≥ 783 ft to assure that the Keowee Oil Storage Room Water Spray System shall be OPERABLE.

m. Maintain lake level ≥ 780 ft to assure that the Keowee Step-up Transformer Mulsifyre System shall be OPERABLE.

----------NOTES----------

1. Commitments b, c, f, i, and k do not apply when defueled.

2. Commitment g applies only in MODE 1, 2, 3, and 4.

3. Commitment m does not apply in MODE 5, 6, or defueled when the Keowee Step-up Transformer is not required to be OPERABLE.

APPLICABILITY: At all times

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Keowee Lake Level < 793.7 ft.	----------NOTE---------- Entry into the associated Condition results in unavailability for all three units. ----------	
	A.1 Log unavailability duration in the Operations Log for Maintenance Rule Performance Monitoring.	Immediately
	AND	
	A.2 Perform a risk assessment using the Electronic Risk Assessment Tool or other means considering CCW gravity induced reverse flow not met for all three units.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. Keowee Lake Level < 793 ft. AND "A" HPSW Pump running or switch in BASE.	B.1	Verify all Required Unit 1 and 2 LPSW pumps OPERABLE. AND	Immediately
	B.2.1	Restore Keowee Lake Level to ≥ 793 ft. OR	72 hours
	B.2.2	Place "A" HPSW Pump switch in OFF or STANDBY.	72 hours
C. Keowee Lake Level < 793 ft. AND "A" HPSW Pump capable of auto-starting on low EWST level. AND "B" HPSW Pump inoperable, switch OFF or switch in STANDBY.	C.1	Verify all Required Unit 1 and 2 LPSW pumps OPERABLE. AND	Immediately
	C.2.1	Restore Keowee Lake Level to ≥ 793 ft. OR	72 hours
	C.2.2	Place "A" HPSW Pump switch in OFF. OR	72 hours
	C.2.3	Restore "B" HPSW Pump to OPERABLE status with switch in BASE.	72 hours
D. Keowee Lake Level < 792 ft.	D.1	Notify Security.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. Keowee Lake Level < 791 ft.	E.1	Declare 'A' HPSW pump inoperable.	Immediately
	AND		
	E.2	Verify all Required LPSW pumps OPERABLE.	Immediately
	AND		
	E.3	Restore Keowee Lake Level to ≥ 791 ft.	72 hours
F. Keowee Lake Level < 790 ft.	F.1	Declare both WC trains inoperable.	Immediately
G. Keowee Lake Level < 789 ft.	G.1	Declare 'B' HPSW pump inoperable.	Immediately
H. Keowee Lake Level < 787 ft.	H.1	Declare all ECCW Headers aligned to Radwaste Equipment Cooling inoperable.	Immediately
	AND		
	H.2	Cease commercial power generation using KHUs.	Immediately
	AND		
	H.3	Notify the Plant Operations Review Committee (PORC) per NSD-308 and request plant operation (and reportability) guidance.	Immediately

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. Keowee Lake Level < 786 ft.	I.1 Declare all ECCW Siphon Headers inoperable.	Immediately
J. Keowee Lake Level < 783 ft.	J.1 Declare the Keowee Oil Storage Room Water Spray System inoperable.	Immediately
K. Keowee Lake Level < 780 ft.	K.1 Declare Keowee Step-up transformer Mulsifyre inoperable.	Immediately
L. Required Action and associated Completion Time not met for Condition B, C or E.	L.1 Declare all required LPSW pumps inoperable on applicable unit(s).	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 16.9.7.1	Verify Keowee lake level is within limits.	12 hours

BASES:

Instrument error must be added to the absolute lake levels in this SLC if using a computer point to verify level (Ref. 1). Lake level can be determined manually at the Keowee Hydro intake structure, but measurement error must also be added when using manual methods (Ref. 1).

HPSW System Commitments:

With lake level below 793 ft, additional administrative controls are placed on HPSW pump alignment to prevent adversely affecting LPSW pump NPSH (ref. 2). The worst case configuration for LPSW pump NPSH is the simultaneous operation of the "A" LPSW Pump, "B" LPSW Pump, and "A" HPSW Pump and a postulated single failure of the "C" LPSW Pump. This configuration is worst case because all operating pumps take suction from a common 36" supply header. At lake levels below 793 ft, adequate LPSW pump NPSH is maintained if the "B" HPSW pump is the first HPSW pump to start on low EWST level. With the "B" HPSW Pump switch in BASE, the pump starts upon EWST low level. With the "A" HPSW Pump switch in STANDBY, the pump starts upon EWST emergency low level.

With lake level below 793 ft and the "A" HPSW pump running or its switch in Base, Unit 1 and 2 are in a condition where the LPSW System is vulnerable to single failure. In this condition, all required Unit 1 and 2 LPSW pumps shall be verified OPERABLE immediately to ensure adequate LPSW pump NPSH. Lake Level must be restored to $\geq$ 793 ft within 72 hours (Required Action B.2.1) or the "A" HPSW Pump switch shall be placed in OFF or STANDBY within 72 hours (Required Action B.2.2). The applicable Condition of SLC 16.9.1 (Ref. 13) must also be entered.

With lake level below 793 ft, the "A" HPSW pump capable of auto-starting on low EWST level, and the "B" HPSW pump inoperable, switch OFF, or switch in STANDBY; Unit 1 and 2 are in a condition where the LPSW System is vulnerable to single failure. In this condition, all required Unit 1 and 2 LPSW pumps shall be verified OPERABLE immediately to ensure adequate LPSW pump NPSH. Lake level must be restored to $\geq$ 793 ft within 72 hours (Required Action C.2.1), or the "A" HPSW Pump switch shall be placed in OFF within 72 hours (Required Action C.2.2), or the "B" HPSW pump restored to OPERABLE status with switch in BASE within 72 hours (Required Action C.2.3). The applicable Condition of SLC 16.9.1 (Ref. 13) must also be entered.

If the Required Actions and associated Completion Times of Condition B or C are not met, all required LPSW pumps must be declared inoperable immediately.

With lake level below 791 ft, the "A" HPSW Pump must be declared inoperable and the applicable Condition of SLC 16.9.1 (Ref. 13) entered because the pump has inadequate NPSH during ECCW siphon flow mode. With lake level below 789 ft, the "B" HPSW Pump must be declared inoperable and the applicable Condition of SLC 16.9.1 (Ref. 13) entered because the pump has inadequate NPSH during ECCW siphon flow mode (Ref. 3).

LPSW System Commitments:

With lake level below 791 ft, the LPSW pumps could experience inadequate NPSH during ECCW siphon flow mode if a single failure causes the loss of one required LPSW pump. The lake level limit also accounts for a postulated pipe break at a normally open seismic boundary valve. For Unit 1 and 2, the NPSH analysis (Ref. 2, 9) assumes the "A" HPSW Pump is in STANDBY and the "B" HPSW Pump is in BASE. For Unit 3, the analysis (Ref. 2, 9) assumes one HPSW pump is in operation. If all required LPSW pumps are available, adequate NPSH is available. Thus the Unit 1&2 and Unit 3 LPSW System are unable to withstand a single failure at lake levels below 791 ft. In this Condition, all required LPSW pumps shall be verified OPERABLE immediately to ensure adequate LPSW pump NPSH. Required Action E.3 requires lake level be restored to ≥ 791 ft within 72 hours. If the Required Actions and associated Completion Times of Condition E are not met, all required LPSW pumps must be declared inoperable immediately.

WC System Commitments:

With lake level below 790 ft, the Chiller Condenser Service Water Pumps (CCSWPs) may be adversely affected because the potential exists for air to de-entrain during ECCW siphon flow mode (Ref. 4). Since the CCSWPs support the Chilled Water (WC) System, both WC trains must be declared inoperable.

CCW System Commitments:

With lake level below 793.7 ft, gravity induced reverse flow through the CCW discharge piping and through the Condensate Coolers cannot supply adequate flow to the suction of the LPSW pumps and SSF ASW pump. See SLC 16.9.11 for additional information. (Note that commitment c of SLC 16.9.11 is not required to be met at lake levels below 793.7 feet). The licensing basis for Oconee takes credit for the SSF to mitigate a Turbine Building Flood, and there is no commitment to meet single failure criteria. However, maintaining the capability for decay heat removal using LPSW can reduce overall plant risk for some flood scenarios. There is no commitment to maintain the lake level above 793.7 ft at all times. The PRA addresses the probability of lake levels below 793.7 ft, resulting in loss of gravity induced reverse flow capability. However, reducing the lake level below 793.7 ft changes the risk levels associated with equipment out of service. Therefore, commitment A is included as a means to ensure that the loss of gravity induced reverse flow capability is adequately addressed for equipment out of service, as required by the Maintenance Rule, 10 CFR 50.65, paragraph a(4).

If Keowee lake level is ≥ 792 ft and at least one gravity induced reverse flow path through the Unit 2 Condensate Cooler is aligned and OPERABLE to supply the Unit 2 CCW inlet pipe, gravity induced reverse flow is a viable method for supplying the SSF service water pumps. Refer to SLC 16.9.19 for additional information.

With lake level below 787 ft, all ECCW Siphon Headers aligned to the Radwaste Equipment Cooling System must be declared inoperable immediately due to potential air inleakage from non-seismic piping during ECCW siphon flow mode. Seismic boundary valves CCW-319 and CCW-320 shall be closed to maintain operability of the ECCW Siphon Headers (Ref. 5, 9).

With lake level below 786 ft, all ECCW Siphon Headers must be declared inoperable immediately because the ECCW test acceptance criteria would be invalid (Ref. 6).

Keowee Hydro Station Commitment:

With lake level below 787 ft, the water supply (for Keowee Hydro Station to provide emergency power to the overhead path at 42.8 MVA and the underground path at 22.35 MVA) could be inadequate for 7 days of continuous operation at these levels. Neither Keowee Hydro or Oconee Nuclear Station should be considered inoperable at this lake level. Keowee Hydro should not generate to the grid at lake levels below 787 ft in order to ensure ample water capacity for emergency power operation (Ref. 8).

Keowee Oil Storage Room Commitment:

Should lake level fall below 783 ft, the Keowee Oil Storage Room water spray system may not provide the required flow rates because the system is dependent on lake level for driving head. For this reason, the spray system must be declared inoperable (Ref. 7).

Keowee Main Start-up Transformer Commitment:

Should lake level fall below 780 ft, the Keowee main Step up Transformer Mulsifyre system may not provide the required flow rates because the system is dependent upon lake level for driving head. For this reason, the Mulsifyre should be declared inoperable (Ref. 7).

REFERENCES:

1. OSC-5325, Rev. 5, Keowee Lake Level Uncertainty Calculation.
2. OSC-2280, Rev. 13, LPSW NPSH and Minimum Required Lake Level.
3. OSC-6176, Rev. 1, HPSW Pump NPSHa.
4. OSC-6550, Rev. 3, Hydraulic Model of Condenser Service Water for Chillers A and B.
5. OSC-5304, Rev. 2, Minimum Lake Level for Radwaste Equipment Cooling (EC) System Isolation.
6. OSC-6961, Rev. 2, ECCW Siphon Air Inleakage Model, ESV System Performance Model and Test Acceptance Criteria.
7. OSC-2895, Rev. 4, Hydraulic Calculations for Keowee Deluge Systems.
8. OSC-3528, Rev. 3, Keowee Lake Level Minimum Administrative Limits
9. OSC-6081, Rev. 4, CCW Seismic-LOOP Response.
10. ITS 3.7.7, Low Pressure Service Water (LPSW) System, Amendment Nos. 300, 300, & 300.
11. ITS 3.7.8, Emergency Condenser Circulating Water (ECCW) System, Amendment Nos. 300, 300, & 300.
12. ITS 3.7.16, Control Room Area Cooling Systems (CRACS), Amendment Nos. 300, 300, & 300.
13. SLC 16.9.1, Fire Suppression Water Supply Systems, 11/30/00.
14. OSC-5349, Rev. 5, Minimum Lake Level Required to Maintain Sufficient NPSH to the LPSW Pumps via Gravity Flow.
15. PIP 04-8459.

16.14 CONTROL RODS AND POWER DISTRIBUTION

16.14.2 Control Rod Program Verification

COMMITMENT CONTROL RODS shall be operated in their programmed functional position and group.

APPLICABILITY: MODES 1 and 2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CONTROL ROD not operating in its programmed functional position and group.	A.1 Declare CONTROL ROD inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 16.14.2.1	Each control rod drive mechanism shall be selected from the control room and exercised by a movement of approximately two inches to verify that the proper rod has responded as shown on the unit computer printout of that rod.	Whenever the TMR Controller software programs have been completed and the input medium has been secured with password protection (after inspection, test, reprogramming, or maintenance).
SR 16.14.2.2	Independently verify that the power or instrumentation cables to control rod drive assemblies atop the reactor are connected.	Upon reconnecting after the cables have been disconnected or removed

BASES

The requirement(s) of this SLC section were relocated from CTS 3.5.2.2.b.6 and CTS 4.7.2 during the conversion to ITS.

Each control rod has a relative and an absolute position indicator system. The PLC serves to process inputs from the reed switch matrix at each CRDM PI tube (for absolute signals), and relative position indication is created by the PLC by counting the number and direction of power pulses sent to the CRDM. Either relative or absolute position display is selectable at the PI Panel, and both signals are sent to the OAC. The OAC associates each CRDM number (1 through 69) with the core position to which it is assigned. In the event a rod assignment error is made in the PLC software or connectors in the cables leading to the control rod drive assemblies or to the control room meter bank (PI Panel) are improperly transposed upon reconnection, these errors and transpositions will be discovered by a comparative check.

The comparative check is performed by: (1) selecting a specific rod from one group (e.g., Rod 1 in Regulating Group 6), (2) noting that the program-approved core position for this rod of the group (assume the approved core position is No. 53), (3) exercising of the selected rod and (4) noting that the computer prints out both absolute and relative position response for the approval core position (assumed to be position No. 53) and that the proper meter responds in the control room display bank (assumed to be Rod 1 in Group 6) for both absolute and relative meter positions. This type of comparative check will not assure detection of improperly connected cables inside the reactor building. For these, it is necessary for a responsible person, other than the one doing the work, to verify by appropriate means that each cable has been matched to the proper control rod drive assembly.

REFERENCES

1. UFSAR, Section 7.6.