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REFERENCE
CATAWBA NUCLEAR STATION
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Date: **04/05/11**

Document Transmittal #: **DUK110950002**

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LOES (4 PAGES)	NA	047 03/24/11	CADM-03	V1	V2	V1	V1	V1	V1	V1	V1	V1	T1	V10	V1	X	V26	V1	74
CHAPTER 16.7-2	NA	004 03/24/11																	
CHAPTER 16.7-3	NA	002 03/24/11																	
CHAPTER 16.9-1	NA	006 03/24/11																	
CHAPTER 16.9-3	NA	003 03/24/11																	

REMARKS: PLEASE REFER TO THE ATTACHED MEMO FOR FILING INSTRUCTIONS

J R MORRIS
VICE PRESIDENT
CATAWBA NUCLEAR STATION

BY:
T K PASOUR CN01RC TKP/RJA

*AD53
NCR*



March 24, 2011

Re: Catawba Nuclear Station
Selected Licensee Commitments Manual
Revision Date: 02/03/11

Attached are revisions to the Catawba Nuclear Station Selected Licensee Commitments Manual. Please remove and replace the following pages:

REMOVE THESE PAGES

INSERT THESE PAGES

LIST OF EFFECTIVE SECTIONS

Pages 1 through 4
Revision 46

Pages 1 through 4
Revision 47

TAB 16.7

SLC 16.7-2
Revision 3

SLC 16.7-2
Revision 4

SLC 16.7-3
Revision 1

SCL 16.7-3
Revision 2

TAB 16.9

SLC 16.9-1
Revision 5

SLC 16.9-1
Revision 6

SLC 16.9-3
Revision 2

SLC 16.9-3
Revision 3

If you have any questions concerning the contents of this package update, contact Toni Pasour at (803)701-3566.

Randy Hart
Manager, Regulatory Compliance

Attachment

LIST OF EFFECTIVE SECTIONS

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16.5-3	1	02/20/04
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REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.3 Prepare and submit a Special Report to the Commission describing the magnitude, frequency spectrum, and resultant effect upon facility features important to safety.	10 days

TESTING REQUIREMENTS

-----NOTE-----
Refer to Table 16.7-2-1 to determine which TRs apply for each seismic instrument.

TEST	FREQUENCY
TR 16.7-2-1 -----NOTE----- CHANNEL CHECK not required for seismic trigger of 1IEEVD 1030 or 1IEEVD 1040. ----- Perform CHANNEL CHECK.	14 days for first 3 months of service after initial system startup <u>AND</u> 31 days thereafter
TR 16.7-2-2 Perform COT.	6 months
TR 16.7-2-3 Perform CHANNEL CALIBRATION.	18 months

Table 16.7-2-1

Seismic Monitoring Instrumentation

INSTRUMENTS AND SENSOR LOCATIONS	MEASUREMENT RANGE	REQUIRED CHANNELS	TESTING REQUIREMENTS
1. Triaxial Accelerographs			
1.a 1IEEVD 1020 (Remote Sensor A) Unit 1 Containment Base Slab Elev. 553' 0"	-2 g to +2 g	1 ⁽¹⁾	TR 16.7-2-1 TR 16.7-2-2 TR 16.7-2-3
1.b 1IEEVD 1010 (Remote Sensor B) Unit 1 AFW Pump Room Elev. 544' 0"	-2 g to +2 g	1 ⁽¹⁾	TR 16.7-2-1 TR 16.7-2-2 TR 16.7-2-3
1.c 1IEEVD 1000 Control Room Elev. 595' 0"	-2 g to +2 g	1 ⁽¹⁾	TR 16.7-2-1 TR 16.7-2-2 TR 16.7-2-3
1.d 1IEEVD 1030 Unit 1 Containment Bldg. Elev. 652' 0", Azimuth 0°	-2 g to +2 g	1 ⁽¹⁾	TR 16.7-2-2 TR 16.7-2-3
1.e 1IEEVD 1040 Unit 1 Containment Bldg. Elev. 612' 10", Azimuth 0°	-2 g to +2 g	1 ⁽¹⁾	TR 16.7-2-2 TR 16.7-2-3

(1) With reactor control room indication.

BASES

The FUNCTIONALITY of the seismic monitoring instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix A of 10 CFR Part 100. The instrumentation is consistent with the recommendations of Regulatory Guide 1.12, "Nuclear Power Plant Instrumentation for Earthquakes", Revision 2.

The seismic monitoring instrumentation system records seismic data acquired by five triaxial accelerographs (at locations per Table 16.7-2-1, Items 1.a through 1.e); each accelerograph consists of a solid state recording device (using static random access memory (SDRAM) storage) and an integral micro electro-mechanical sensor (or MEMS accelerometer).

All five accelerographs are connected to the network control center (NCC) 1IEECS 1000 located in the control room (on the 1MC8 back panel, near 1IEEVD 1000). The NCC provides a centralized location for: on-line system monitoring (including continuous self-checking of significant functions and power supply status); data retrieval from each accelerograph; data transfer (download) to the dedicated system computer 1IEECO 9000 for required analysis purposes (i.e., analysis required following a seismic event); system status indications (associated with the NCC and all five accelerographs); date/time synchronization (for each accelerograph); and generation of a common "start recording" trigger command (to all accelerographs) in the event that a trigger acceleration threshold is exceeded on two (2) of the three (3) accelerographs required for generation of the Operating Basis Earthquake (OBE) exceedance signal. The required channels for generation of the OBE exceedance signal are: 1IEEVD 1000 (control room); 1IEEVD 1010 (Unit 1 AFW pump room); and 1IEEVD 1020 (Unit 1 annulus). System failures will result in an alarm condition on the NCC and a remote alarm sent to the Unit 1 Operator Aid Computer.

The two upper containment accelerographs (1IEEVD 1030 and 1IEEVD 1040) were excluded from the CHANNEL CHECK required by TR 16.7-2-1, since they are not used to generate the OBE exceedance signal (indicated by the Unit 1 control room annunciator system). The other three accelerographs were chosen since they are either: 1) located at the base of a Category 1 structure (1IEEVD 1010 and 1IEEVD 1020), consistent with measurement locations per Regulatory Guide 1.12 guidance; or 2) within the control room area (1IEEVD 1000), to confirm that the seismic event was felt by operators.

REFERENCES

1. 10 CFR Part 100, Appendix A.
2. Regulatory Guide 1.12, "Nuclear Power Plant Instrumentation for Earthquakes", Revision 2, March 1997.
3. Catawba Updated Final Safety Analysis Report, Section 3.7.4, "Seismic Instrumentation Program".

TESTING REQUIREMENTS

-----NOTE-----

Refer to Table 16.7-3-1 to determine which TRs apply for each meteorological instrument.

TEST	FREQUENCY
TR 16.7-3-1 Perform CHANNEL CHECK.	24 hours
TR 16.7-3-2 Perform instrument calibration.	6 months

Table 16.7-3-1

Meteorological Monitoring Instrumentation

INSTRUMENT AND LOCATION		REQUIRED CHANNELS	TESTING REQUIREMENTS
1.	Wind Speed		
1.a	Meteorological Tower Nominal Elev. 663.5'	1	TR 16.7-3-1 TR 16.7-3-2
1.b	Meteorological Tower Nominal Elev. 830.5'	1	TR 16.7-3-1 TR 16.7-3-2
2.	Wind Direction		
2.a	Meteorological Tower Nominal Elev. 663.5'	1	TR 16.7-3-1 TR 16.7-3-2
2.b	Meteorological Tower Nominal Elev. 830.5'	1	TR 16.7-3-1 TR 16.7-3-2
3.	Air Temperature		
3.a	Ambient Meteorological Tower Nominal Elev. 660.25'	1	TR 16.7-3-1 TR 16.7-3-2
3.b	Delta Temperature Meteorological Tower Nominal Elev. 827.25-660.25'	1	TR 16.7-3-1 TR 16.7-3-2
4.	Precipitation ⁽¹⁾		
4.a	Precipitation Sensor Pad (Near Meteorological Tower) Nominal Elev. 630.0'	1	TR 16.7-3-1 TR 16.7-3-2

(1) Not required by Regulatory Guide 1.23, Revision 0.

Table 16.7-3-2

Meteorological Monitoring Instrumentation Data Recovery Requirements

	INSTRUMENT AND LOCATION	TYPE
1.	60M Joint Data Recovery	Joint
1.a	Wind Speed Nominal Elev. 830.5'	
1.b	Wind Direction Nominal Elev. 830.5'	
1.c	Delta Temperature Nominal Elev. 827.25-660.25'	
2.	10M Joint Data Recovery	Joint
2.a	Wind Speed Nominal Elev. 663.5'	
2.b	Wind Direction Nominal Elev. 663.5'	
2.c	Delta Temperature Nominal Elev. 827.25-660.25'	
3.	Ambient Air Temperature Nominal Elev. 660.25'	Individual
4.	Precipitation Nominal Elev. 630.0'	Individual

BASES

The FUNCTIONALITY of the meteorological instrumentation ensures that sufficient meteorological data is available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Programs," February 1972, for wind speed, wind direction, and air temperature at two elevations. Precipitation is not required by Regulatory Guide 1.23, Revision 0. However, it is monitored since it is used by the model for offsite dose assessment calculations.

The regulatory guide states that in lieu of providing redundant digital recorders, digital outputs may be supplemented by strip chart recorders to minimize possible loss of data due to instrument malfunction. Thus, the strip chart recorder in the control room is required in order to comply with the regulatory guide.

An instrument calibration will consist of the following test:

- 1) A bench based test, certification, and/or calibration of the tower mounted sensors for:
 - wind speed
 - wind direction
 - ambient and delta temperature RTDs
- 2) An instrument loop calibration from the input of the signal processors to the end devices. The identification of an out-of-tolerance condition or failure of a component within the instrument loop renders the channel non-functional until the component is calibrated or repaired/replaced.
- 3) For wind direction a line phase differential compensation will be performed, which includes the tower signal cable.
- 4) For precipitation, a measured volume of water will be poured into the sensor and the signal conditioner module's output verified correct.
- 5) A CHANNEL CHECK, subsequent to any work performed. This will verify continuity of the signal cable between the sensor and signal processors.
- 6) The wind speed sensors and cup-sets or wind direction sensors and vanes do not require wind tunnel testing as an assembly.
- 7) Replacement of cup-sets or vanes does not require an instrument calibration of the affected channel.

The greater than or equal to 90% annual data recovery requirement is to ensure that the meteorological instrumentation is maintained to minimize extended periods of instrument outage. The reporting cycle is a calendar year (January 1 through December 31). A 60-day period from the end of the calendar year is allowed for data reduction, validation, and data quality assurance, before the data recovery report is generated.

BASES (continued)

The 90% data recovery is a statistical analysis of the respective data for the required parameters. This analysis includes out-of-service time resulting from components being in Condition A of this SLC and routine calibration/servicing time.

- REFERENCES 1. Regulatory Guide 1.23, Revision 0.

16.9 AUXILIARY SYSTEMS

16.9-1 Fire Suppression Water System

- COMMITMENT The Fire Suppression Water System shall be FUNCTIONAL with:
- a. At least two fire suppression pumps, each with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header, and
 - b. A FUNCTIONAL flow path capable of taking suction from Lake Wylie and transferring the water through distribution piping with FUNCTIONAL sectionalizing control valves and isolation valves for each sprinkler system, hose standpipe, or fire hydrant required to be FUNCTIONAL per SLCs 16.9-2, 16.9-4, and 16.9-23.

APPLICABILITY: At all times.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One required pump and/or associated water supply non-functional.</p>	<p>A.1 Restore non-functional equipment to FUNCTIONAL status.</p> <p><u>OR</u></p> <p>A.2 Provide alternate backup pump or supply.</p>	<p>7 days</p> <p>7 days</p>
<p>B. Automatic starting function for all required pumps non-functional.</p>	<p>B.1 Place at least one pump in continuous operation.</p> <p><u>AND</u></p> <p>B.2 Restore non-functional equipment to FUNCTIONAL status.</p>	<p>Immediately</p> <p>7 days</p>
<p>C. Fire Suppression Water System non-functional for reasons other than Condition A or B.</p>	<p>C.1 Establish backup Fire Suppression Water System.</p>	<p>24 hours</p>

TESTING REQUIREMENTS

TEST	FREQUENCY
TR 16.9-1-1 Start each electric motor-driven pump and operate it for \geq 15 minutes on recirculation flow.	20 days on a STAGGERED TEST BASIS
TR 16.9-1-2 Verify that each manual, power operated, or automatic valve in the flow path, which is accessible during plant operation, is in the correct position.	In accordance with performance based criteria in BASES
TR 16.9-1-3 Perform a system flush of the outside distribution loop and verify no flow blockage by fully opening the hydraulically most remote hydrant.	6 months
TR 16.9-1-4 -----NOTE----- Not applicable to valves RF389B, RF447B, and RF457B. ----- Cycle each testable valve in the flow path through at least one complete cycle of full travel.	12 months
TR 16.9-1-5 Verify that each manual, power operated, or automatic valve in the flow path, which is inaccessible during plant operation, is in the correct position.	18 months
TR 16.9-1-6 Perform a system functional test, including simulated automatic actuation of the system throughout its operating sequence, and: a. Verify that each fire suppression pump starts within 10 psig of its intended starting pressure (A pump, primary switch – 95 psig; B pump, primary switch – 90 psig; and C pump, primary switch – 85 psig); and b. Verify that each pump develops \geq 2500 gpm at a net pressure \geq 144 psig by testing at three points on the pump performance curve.	18 months

(continued)

TESTING REQUIREMENTS (continued)

TEST	FREQUENCY
TR 16.9-1-7 Cycle each valve in the flow path which is not testable during plant operation through at least one complete cycle of full travel.	18 months
TR 16.9-1-8 Perform a system flow test in accordance with Chapter 8, Section 16 of the National Fire Protection Association Fire Protection Handbook, 15th Edition.	3 years

BASES

The FUNCTIONALITY of the Fire Suppression Systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The Fire Suppression System consists of the water supply/distribution system, sprinkler systems, fire hose stations, fire hydrants, and CO₂ systems. The collective capability of the Fire Suppression Systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility Fire Protection Program.

The intent of COMMITMENT b. is to ensure a FUNCTIONAL flow path from the water source (in this case Lake Wylie), through FUNCTIONAL pumps as required in COMMITMENT a., and through the main header distribution piping – up to but not including the branch lines for each sprinkler system, hose standpipe, or fire hydrant required to be FUNCTIONAL per SLCs 16.9-2, 16.9-4, and 16.9-23. When a sectionalizing control valve or an isolation valve becomes non-functional, then the fire suppression features (sprinkler system, hose standpipe, or fire hydrant) affected must be evaluated and the applicable SLC entered (16.9-2, 16.9-4, or 16.9-23). COMMITMENT b. of this SLC would only apply if a non-functional sectionalizing valve(s) or isolation valve(s) rendered the entire main distribution piping non-functional.

The ability to demonstrate that the valves in the RF/RV flow path can be cycled is critical to maintaining the system properly. The containment isolation valves (RF389B and RF447B) and the annulus sprinkler system isolation valve (RF457B) are required to be cycled or stroked in accordance with the Catawba Inservice Testing Program. Therefore, credit can be taken for cycling these valves under the IWV program, and they do not need to be cycled annually to meet the SLC criteria.

The proper positioning of RF/RV valves is critical to delivering fire suppression water at the fire source as quickly as possible. The option of

BASES (continued)

increasing or decreasing the frequency of valve position verification allows the ability to optimize plant operational resources. Should an adverse trend develop with RF/RV valve positions, the frequency of verification shall be increased. Similarly, if the RF/RV valve position trends are positive, the frequency of verification could be decreased. Through programmed trending of RF/RV as found valve positions, the RF/RV System will be maintained at predetermined reliability standards. The Fire Protection Engineer is responsible for trending and determining verification frequencies based on the following:

Initially the frequency shall be monthly.

Annually review the results of the completed valve position verification procedures.

- If the results demonstrate that the valves are found in the correct position at least 99% of the time, the frequency of conducting the valve position verification may be decreased from monthly to quarterly or quarterly to semiannually or semiannually to annually as applicable. The frequency shall not be extended beyond annually (plus grace period).
- If the results demonstrate that the valves are not found in the correct position at least 99% of the time, the frequency of conducting the valve position verification shall be increased from annually to semiannually or semiannually to quarterly or quarterly to monthly as applicable. The valve position verification need not be conducted more often than monthly.

In the event that portions of the Fire Suppression Systems are non-functional, alternate backup fire fighting equipment is required to be made available in the affected areas until the non-functional equipment is restored to service. When the non-functional fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the non-functional equipment is the primary means of fire suppression.

In the event the Fire Suppression Water System becomes non-functional, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant.

Since the requirement for fire suppression pump automatic starting functions is intended to provide a high level of system standby readiness, loss of a primary pressure switch renders its associated main fire pump non-functional. If the primary pressure switch for one of the two required pumps is non-functional, its associated pump is non-functional if not placed in continuous operation and Condition A applies. If both primary

BASES (continued)

pressure switches for the required pumps are non-functional, it is acceptable to place at least one of the two required pumps in continuous operation and restore FUNCTIONALITY within 7 days, which is essentially meeting the requirements of Condition A (one of the two required pumps non-functional).

This SLC is part of the Catawba Fire Protection Program and therefore subject to the provisions of the Catawba Facility Operating License Conditions #8 for NPF-35 and #6 for NPF-52.

REFERENCES

1. Catawba UFSAR, Section 9.5.1.
2. Catawba SER, Section 9.5.1, including Supplements 2, 3, 4, and 5.
3. Catawba Plant Design Basis Specification for Fire Protection, CNS-1465.00-00-0006, as revised.
4. Catawba UFSAR, Section 18.2.8.
5. Catawba License Renewal Commitments, CNS-1274.00-00-0016, Section 4.12.1.

16.9 AUXILIARY SYSTEMS

16.9-3 CO₂ Systems

COMMITMENT The following High Pressure and Low Pressure CO₂ Systems shall be FUNCTIONAL:

- a. Low Pressure CO₂ System – diesel generator rooms, and
- b. High Pressure CO₂ System – auxiliary feedwater pump rooms.

APPLICABILITY: Whenever equipment protected by the systems is required to be OPERABLE.

-----NOTE-----
Non-functional or breached fire barrier features (walls, floors, ceilings, doors, dampers, and penetration seals) affect CO₂ System FUNCTIONALITY, since openings affect the ability to achieve and maintain CO₂ concentrations within the room.

REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more Low Pressure CO₂ Systems non-functional.</p>	<p>A.1.1 Verify fire barrier between Train A and Train B diesel generator rooms is FUNCTIONAL.</p> <p><u>AND</u></p>	<p>1 hour</p>
	<p>A.1.2 Verify backup fire suppression equipment is available.</p> <p><u>AND</u></p>	<p>1 hour</p>
	<p>A.1.3 Establish hourly fire watch.</p> <p><u>OR</u></p>	<p>1 hour</p>
	<p>A.2 Establish continuous fire watch.</p>	<p>1 hour</p>
<p>B. One or more High Pressure CO₂ Systems non-functional.</p>	<p>B.1 Establish continuous fire watch.</p>	<p>1 hour</p>

TESTING REQUIREMENTS

TEST	FREQUENCY
TR 16.9-3-1 Verify that each manual, power operated, or automatic valve in the flow path is in the correct position.	In accordance with performance based criteria in BASES
TR 16.9-3-2 Verify that the Low Pressure CO ₂ System storage tank level is > 44% of full capacity.	31 days
TR 16.9-3-3 Verify that the weight of each High Pressure CO ₂ System storage cylinder is ≥ 90% of full charge weight.	6 months
TR 16.9-3-4 Perform a visual inspection of all spot type heat detectors in each initiating device circuit.	6 months
TR 16.9-3-5 -----NOTE----- A different detector shall be selected for each test. ----- Simulate system actuation by applying a heat source to one restorable spot type heat detector in each initiating device circuit.	6 months
TR 16.9-3-6 Verify that the supervisory function of the alarm circuits operates properly and provides correct alarm response for each initiating device circuit.	6 months
TR 16.9-3-7 Verify each Low Pressure CO ₂ System actuates manually and automatically, upon receipt of a simulated actuation signal.	18 months
TR 16.9-3-8 Verify that the Low Pressure CO ₂ System normal and emergency ventilation system fans receive an "off" signal upon system operation.	18 months

(continued)

TESTING REQUIREMENTS (continued)

TEST	FREQUENCY
TR 16.9-3-9 Perform a visual inspection of the Low Pressure CO ₂ System discharge nozzles to assure no blockage.	18 months
TR 16.9-3-10 Verify each High Pressure CO ₂ System actuates manually and automatically, upon receipt of a simulated actuation signal.	18 months
TR 16.9-3-11 Verify that damper closure devices receive an actuation signal upon High Pressure CO ₂ System operation.	18 months
TR 16.9-3-12 Perform a visual inspection of the High Pressure CO ₂ System discharge nozzles to assure no blockage.	18 months
TR 16.9-3-13 Deleted.	

BASES

The FUNCTIONALITY of the Fire Suppression Systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The Fire Suppression System consists of the water supply/distribution system, sprinkler systems, fire hose stations, fire hydrants, and CO₂ systems. The collective capability of the Fire Suppression Systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility Fire Protection Program.

The proper positioning of RF/RV valves is critical to delivering fire suppression CO₂ at the fire source as quickly as possible. The option of increasing or decreasing the frequency of valve position verification allows the ability to optimize plant operational resources. Should an adverse trend develop with CO₂ Systems valve positions, the frequency of verification shall be increased. Similarly, if the CO₂ Systems valve position trends are positive, the frequency of verification could be decreased. Through programmed trending of CO₂ Systems as found valve positions, the CO₂ fire protection systems will be maintained at predetermined reliability standards. The Fire Protection Engineer is responsible for trending and determining verification frequencies based on the following:

BASES (continued)

Initially the frequency shall be monthly.

Annually review the results of the completed valve position verification procedures.

- If the results demonstrate that the valves are found in the correct position at least 99% of the time, the frequency of conducting the valve position verification may be decreased from monthly to quarterly or quarterly to semiannually or semiannually to annually as applicable. The frequency shall not be extended beyond annually (plus grace period).
- If the results demonstrate that the valves are not found in the correct position at least 99% of the time, the frequency of conducting the valve position verification shall be increased from annually to semiannually or semiannually to quarterly or quarterly to monthly as applicable. The valve position verification need not be conducted more often than monthly.

The main bank (9 cylinders) or the reserve bank (9 cylinders) provides a sufficient quantity of CO₂ to totally flood any of the three auxiliary feedwater pump pits with the required design concentration. Therefore, the High Pressure CO₂ System is FUNCTIONAL with the system aligned to either the main or the reserve bank of cylinders. The system is aligned to the main or reserve bank of cylinders by means of a local manual toggle switch.

In the event that portions of the Fire Suppression Systems are non-functional, alternate backup fire fighting equipment is required to be made available in the affected areas until the non-functional equipment is restored to service. When the non-functional fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the non-functional equipment is the primary means of fire suppression.

This SLC is part of the Catawba Fire Protection Program and therefore subject to the provisions of the Catawba Facility Operating License Conditions #8 for NPF-35 and #6 for NPF-52.

REFERENCES

1. Catawba UFSAR, Section 9.5.1.
2. Catawba SER, Section 9.5.1, including Supplements 2, 3, 4, and 5.
3. Catawba Plant Design Basis Specification for Fire Protection, CNS-1465.00-00-0006, as revised.