

March 22, 2000

MEMORANDUM

To: All McGuire Nuclear Station Selected Licensee Commitments (SLC) Manual Holders

Subject: McGuire Units 1 and 2 SLC Manual Update  
SLC 16.9.1 – Fire Suppression Water System

Changes are marked by vertical bars on the right margin.

Please revise your copy of the manual as follows:

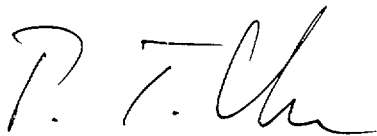
REMOVE

Entire LOEP, Rev. 1  
Entire SLC 16.9.1, Rev. 0

INSERT

Entire LOEP, Rev. 2  
Entire SLC 16.9.1, Rev. 1

Please call me if you have questions.



P.T. Vu  
Regulatory Compliance, x 4302

A001

# SLC LIST OF AFFECTED SECTIONS

SECTION	REVISION NUMBER	DATE
16.1	REVISION 0	12/14/99
16.2	REVISION 0	12/14/99
16.3	REVISION 0	12/14/99
16.4	REVISION 0	12/14/99
16.5.1	REVISION 0	12/14/99
16.5.2	REVISION 0	12/14/99
16.5.3	REVISION 0	12/14/99
16.5.4	REVISION 0	12/14/99
16.5.5	REVISION 0	12/14/99
16.5.6	REVISION 0	12/14/99
16.5.7	REVISION 0	12/14/99
16.5.8	REVISION 0	12/14/99
16.5.9	REVISION 0	12/14/99
16.5.10	REVISION 0	12/14/99
16.6.1	REVISION 0	12/14/99
16.6.2	REVISION 0	12/14/99
16.6.3	REVISION 0	12/14/99
16.7.1	REVISION 0	12/14/99
16.7.2	REVISION 0	12/14/99
16.7.3	REVISION 0	12/14/99
16.7.4	REVISION 0	12/14/99
16.7.5	REVISION 0	12/14/99
16.7.6	REVISION 0	12/14/99
16.7.7	REVISION 0	12/14/99
16.7.8	REVISION 0	12/14/99
16.7.9	REVISION 0	12/14/99
16.7.10	REVISION 0	12/14/99
16.8.1	REVISION 1	03/02/00
16.8.2	REVISION 0	12/14/99
16.8.3	REVISION 0	12/14/99
16.9.1	REVISION 1	3/22/00
16.9.2	REVISION 0	12/14/99
16.9.3	REVISION 0	12/14/99
16.9.4	REVISION 1	03/02/00
16.9.5	REVISION 0	12/14/99
16.9.6	REVISION 0	12/14/99
16.9.7	REVISION 0	12/14/99
16.9.8	REVISION 0	12/14/99
16.9.9	REVISION 0	12/14/99
16.9.10	REVISION 0	12/14/99
16.9.11	REVISION 0	12/14/99
16.9.12	REVISION 0	12/14/99
16.9.13	REVISION 0	12/14/99
16.9.14	REVISION 0	12/14/99
16.9.15	REVISION 0	12/14/99
16.9.16	REVISION 0	12/14/99

## SLC LIST OF AFFECTED SECTIONS

SECTION	REVISION NUMBER	DATE
16.9.17	REVISION 0	12/14/99
16.9.18	REVISION 0	12/14/99
16.9.19	REVISION 0	12/14/99
16.9.20	REVISION 0	12/14/99
16.9.21	REVISION 0	12/14/99
16.9.22	REVISION 0	12/14/99
16.10.1	REVISION 0	12/14/99
16.11.1	REVISION 0	12/14/99
16.11.2	REVISION 0	12/14/99
16.11.3	REVISION 0	12/14/99
16.11.4	REVISION 0	12/14/99
16.11.5	REVISION 0	12/14/99
16.11.6	REVISION 0	12/14/99
16.11.7	REVISION 0	12/14/99
16.11.8	REVISION 0	12/14/99
16.11.9	REVISION 0	12/14/99
16.11.10	REVISION 0	12/14/99
16.11.11	REVISION 0	12/14/99
16.11.12	REVISION 0	12/14/99
16.11.13	REVISION 0	12/14/99
16.11.14	REVISION 0	12/14/99
16.11.15	REVISION 0	12/14/99
16.11.16	REVISION 0	12/14/99
16.11.17	REVISION 0	12/14/99
16.11.18	REVISION 0	12/14/99
16.11.19	REVISION 0	12/14/99
16.11.20	REVISION 0	12/14/99
16.12.1	REVISION 0	12/14/99
16.12.2	REVISION 0	12/14/99
16.13.1	REVISION 0	12/14/99
16.13.2	REVISION 0	12/14/99
16.13.3	REVISION 0	12/14/99
16.14.1	REVISION 0	12/14/99

## 16.9 AUXILIARY SYSTEMS

### 16.9.1 Fire Suppression Water System

**COMMITMENT** The Fire Suppression Water System shall be OPERABLE with:

- a. Fire suppression pump C and one other fire suppression pump, with their discharge aligned to the fire suppression header, and
- b. An OPERABLE flow path capable of taking suction from Lake Norman and transferring water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrants, the last valve ahead of the water flow alarm device on each sprinkler or hose standpipe, and the last valve ahead of the deluge valve on each Deluge or Spray System required to be OPERABLE per SLC 16.9.2 and 16.9.4.

**APPLICABILITY** At all times.

#### REMEDIAL ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Fire suppression pumps A and B inoperable.</p> <p><u>OR</u></p> <p>Water supply to pumps A and B inoperable.</p>	<p>A.1 Restore one pump (A or B) and its associated water supply to OPERABLE status.</p>	7 days
<p>B. Fire suppression pump C inoperable.</p>	<p>B.1 Restore pump to OPERABLE status.</p> <p><u>OR</u></p> <p>B.2 Verify fire suppression pumps A and B and their water supplies are OPERABLE and at least one can be aligned to the blackout diesel generator.</p>	<p>7 days</p> <p>7 days</p>

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Fire suppression pumps primary automatic starting function inoperable.	C.1 Verify secondary automatic starting function for each pump is OPERABLE.	Immediately
	<u>OR</u> C.2 Place at least one fire suppression pump in continuous operation.	Immediately
D. Any fire suppression pump secondary automatic starting function inoperable.	D.1 Verify primary automatic starting function for fire suppression pumps is OPERABLE.	Immediately
	<u>OR</u> D.2 Place at least one fire suppression pump in continuous operation.	Immediately
E. Primary and secondary fire suppression pump automatic starting functions inoperable.  <u>OR</u> Jockey pumps unable to maintain system header pressure.	E.1 Place at least one fire suppression pump in continuous operation.	Immediately
F. Fire Suppression Water System inoperable for reasons other than Condition A, B, C, D, or E.	F.1 Establish a backup fire suppression water system.	24 hours

(continued)

REMEDIAL ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. Required Action and associated Completion Time not met.	G.1 Restore the system to OPERABLE status.	1 hour
	<u>OR</u>	
	G.2.1 Be in MODE 3.	7 hours
	<u>AND</u>	
	G.2.2 Be in MODE 4.	13 hours
	<u>AND</u>	
	G.2.3 Be in MODE 5.	37 hours

TESTING REQUIREMENTS

TEST	FREQUENCY
TR 16.9.1.1 Start each fire pump (A & B, or C) and operate for $\geq 15$ minutes on recirculation flow.	15 days on a STAGGERED TEST BASIS
TR 16.9.1.2 Verify each manual, power operated, or automatic valve in flow path is in its correct position.	31 days
TR 16.9.1.3 Perform a system flush of the outside distribution loop and verify no flow blockage.	6 months

(continued)

TESTING REQUIREMENTS (continued)

TEST	FREQUENCY
TR 16.9.1.4 Cycle each testable valve in flow path through one complete cycle of full travel.	12 months
TR 16.9.1.5 Verify each automatic valve in the flow path actuates to its correct position in response to a simulated automatic actuation signal.	18 months
TR 16.9.1.6 Verify each pump develops $\geq 2500$ gpm at a system pressure of $\geq 125$ psig in response to a simulated automatic actuation signal.	18 months
TR 16.9.1.7 Cycle each valve in flow path that is not testable during plant operation through one complete cycle of full travel.	18 months
TR 16.9.1.8 Verify each fire suppression pump starts automatically (using both primary and secondary auto-start functions) in response to a simulated automatic actuation signal and maintains Fire Suppression Water System pressure $\geq 125$ psig.	18 months
TR 16.9.1.9 Perform a system flow test in accordance with NFPA Fire Protection Handbook, 14 <sup>th</sup> ed., Section 11, Chapter 5.	3 years

**BASES**

The OPERABILITY 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 system, spray, and/or sprinklers, Halon, and fire hose stations. 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.

## BASES (continued)

In the event that portions of the Fire Suppression Systems are inoperable, alternate backup fire-fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable 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 inoperable equipment is the primary means of fire suppression. For McGuire Nuclear Station, fire pumps A and B serve as a backup for each other. Pump C is located separately with an independent dedicated power supply.

The Testing Requirements provide assurance that the minimum OPERABILITY requirements of the Fire Suppression Systems are met.

In the event the Fire Suppression Water System becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant. These corrective measures include unit shutdown if a backup fire suppression water system is not established as required.

Regulatory codes and standards mandate that the fire suppression water system has automatic starting function to preclude the necessity of manual operator action. The fire suppression pumps have dual auto-start design functions to meet this requirement. The primary (ORFLP5000) auto-start control circuit will initiate all pumps operation at a set-point pressure greater than that provided by the secondary (ORYPS5010 for pump A, ORYPS5020 for pump B and ORYPS5030 for pump C) auto-start control circuits. Either primary or secondary auto-start control circuit is fully capable of providing the required automatic starting function.

Since the requirement for fire suppression pump automatic starting functions is intended to provide a high level of system standby readiness, it is equally acceptable to place at least one pump in continuous operation if all automatic starting functions are inoperable. Likewise, if the fire suppression water system jockey pumps are unable to maintain system header pressure, it is acceptable to maintain system OPERABILITY by placing at least one pump in continuous operation.

This selected licensee commitment is part of the McGuire Fire Protection Program and therefore subject to the provisions of McGuire Facility Operating License Conditions C.4 (Unit 1) and C.7 (Unit 2).

## REFERENCES

1. McGuire Nuclear Station UFSAR, Chapter 9.5.1
2. McGuire Nuclear Station SER Supplement 2, Chapter 9.5.1 and Appendix D
3. McGuire Nuclear Station SER Supplement 5, Chapter 9.5.1 and Appendix B
4. McGuire Fire Protection Review, as revised
5. McGuire Nuclear Station SER Supplement 6, Chapter 9.5.1 and Appendix C



6. Fire Protection System OP/1/A/6400/02A
7. McGuire Nuclear Station Facility Operating Licenses, Unit 1 License Condition C.(4) and Unit 2 License Condition C.(7)
8. Fire Protection Handbook, 14th Edition, Published by the National Fire Protection Association, Chapter 5, Section 11