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United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Duke Energy Corporation
McGuire Nuclear Station Units 1 and 2
Docket Nos. 50-369 and 50-370
Selected Licensee Commitment Manual Revision

Attached is a revision to the McGuire Selected Licensee Commitment (SLC) Manual. This manual constitutes Chapter 16 of the McGuire Updated Final Safety Analysis Report. SLC 16.9.7, Standby Shutdown System (SSS), is revised to clarify that only two out of three pairs of SSS 125 VDC batteries and battery chargers are required operable by this commitment since one pair is spare. Pursuant to 10CFR50.59, Duke Energy has determined that this change can be made without prior NRC approval.

Attachment 1 contains the revised SLC List of Effective Sections. Attachment 2 contains revised SLC 16.9.7.

Please contact P.T. Vu at (704) 875-4302 if you have any questions.

Very truly yours,

for HBB

H. B. Barron

HBB/PTV/s

Attachments

A001

Xc w/attachments:

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McGuire Master File 1.3.2.12

# ATTACHMENT 1

# REVISED SLC LIST OF EFFECTIVE SECTIONS

# 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 | Not Issued | |
| 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 7 | 09/14/00 |
| 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 1 | 4/11/00 |
| 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 2 | 4/11/00 |
| 16.8.2 | REVISION 0 | 12/14/99 |
| 16.8.3 | REVISION 2 | 4/11/00 |
| 16.9.1 | REVISION 10 | 1/29/01 |
| 16.9.2 | REVISION 5 | 5/24/00 |
| 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 14 | 7/26/01 |
| 16.9.8 | REVISION 0 | 12/14/99 |
| 16.9.9 | REVISION 13 | 2/26/01 |
| 16.9.10 | REVISION 13 | 2/26/01 |
| 16.9.11 | REVISION 13 | 2/26/01 |
| 16.9.12 | REVISION 13 | 2/26/01 |
| 16.9.13 | REVISION 13 | 2/26/01 |
| 16.9.14 | REVISION 13 | 2/26/01 |
| 16.9.15 | REVISION 4 | 6/20/00 |
| 16.9.16 | REVISION 0 | 12/14/99 |
| 16.9.17 | REVISION 0 | 12/14/99 |

# SLC LIST OF AFFECTED SECTIONS

| SECTION | REVISION NUMBER | DATE |
|---|---|---|
| 16.9.18 | REVISION 0 | 12/14/99 |
| 16.9.19 | REVISION 0 | 12/14/99 |
| 16.9.20 | REVISION 8 | 11/30/00 |
| 16.9.21 | REVISION 0 | 12/14/99 |
| 16.9.22 | REVISION 0 | 12/14/99 |
| 16.9.23 | Not Issued | |
| 16.9.24 | REVISION 0 | 12/18/00 |
| 16.10.1 | REVISION 0 | 12/14/99 |
| 16.11.1 | REVISION 9 | 2/1/01 |
| 16.11.2 | REVISION 9 | 2/1/01 |
| 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 12 | 3/14/01 |
| 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 1 | 4/11/00 |
| 16.11.17 | REVISION 1 | 4/11/00 |
| 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 |

**ATTACHMENT 2**

**REVISED SLC 16.9.7**

## 16.9 AUXILIARY SYSTEMS - FIRE PROTECTION SYSTEMS

### 16.9.7 Standby Shutdown System

COMMITMENT The Standby Shutdown System (SSS) shall be operable.

APPLICABILITY MODES 1, 2, and 3.

REMEDIAL ACTIONS

----------NOTE----------

1. The SRO should ensure that security is notified 10 minutes prior to declaring the SSS inoperable. Immediately upon discovery of the SSS inoperability, Security must be notified to implement compensatory measures within 10 minutes of the discovery.

2. If inoperable SSS component is located inside containment, repairs shall be made at the first outage which permits containment access.

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| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|---|
| ----------NOTE---------- Not applicable to the SSS Diesel Generator or 24 V Battery Bank and Charger. ---------- | A.1 Verify the OPERABILITY of fire detection and suppression systems in the associated areas identified in Table16.9.7-1. | 1 hour |
| A. One or more required SSS components identified in Table 16.9.7-1 inoperable. | AND<br>A.2 Restore the component to OPERABLE status. | 7 days |
| B. SSS Diesel Generator or 24 V Battery Bank and Charger inoperable. | B.1 Verify the OPERABILITY of fire detection and suppression systems in the associated areas identified in Table16.9.7-1.<br>AND | 1 hour<br>(continued) |

REMEDIAL ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|---|---|---|
| B. (continued). | B.2 Verify offsite power and one emergency diesel generator OPERABLE.<br><br>AND<br><br>B.3 Restore the component to OPERABLE status. | 1hour<br><br><br><br>60 days |
| C. Total Unidentified LEAKAGE, Identified LEAKAGE, and reactor coolant pump seal leakoff > 20 gpm. | C.1 Declare the standby makeup pump and SSS inoperable. | Immediately |
| D. Required Action and associated Completion Time of Condition A or C not met. | D.1 Prepare and submit a Special Report to the NRC outlining the cause of the inoperability, corrective actions taken, and plans for restoring the SSS to OPERABLE status. | 30 days |
| E. Required Action and associated Completion Time of Condition B not met. | E.1 Prepare and submit a Special Report to the NRC outlining the extent of repairs required, schedule for completing repairs, and basis for continued operation. | 14 days |

TESTING REQUIREMENTS

| | TEST | FREQUENCY |
|---|---|---|
| TR 16.9.7.1 | Verify total Identified LEAKAGE, Unidentified LEAKAGE, and reactor coolant pump seal leakoff are ≤ 20 gpm. | 72 hours |
| TR 16.9.7.2 | Verify the requirements for spent fuel water level in Surveillance Requirement 3.7.13.1 are met and the boron concentration in the spent fuel storage pool is within the limits specified in the COLR.<br><br>OR<br><br>Verify the refueling water storage tank is capable of being aligned to the SSS standby makeup pump. | 7 days |
| TR 16.9.7.3 | Verify fuel oil level in the SSS diesel generator fuel storage tank is ≥ 4.0 ft. | 31 days |
| TR 16.9.7.4 | Verify the SSS diesel generator starts from ambient conditions and operates for ≥ 30 minutes at ≥ 700 kW. | 31 days |
| TR 16.9.7.5 | Verify fuel oil properties of new fuel oil for the SSS diesel generator are tested in accordance with the Diesel Fuel Oil Testing Program. | In accordance with the Diesel Fuel Oil Testing Program |
| TR 16.9.7.6 | Verify the SSS diesel generator 24 V battery voltage is ≥ 24 volts. | 31 days |
| TR 16.9.7.7 | Perform a CHANNEL CHECK of the SSS Instrumentation as required by Table 16.9.7-2. | 31 days |
| TR 16.9.7.8 | Verify the electrolyte level of each SSS 250/125 V battery bank is above the plates. | 31 days |

(continued)

TESTING REQUIREMENTS (continued)

| TEST | | FREQUENCY |
|---|---|---|
| TR 16.9.7.9 | Verify the total battery terminal voltage of each SSS 250/125 V battery bank is ≥ 258/129 V on float charge. | 31 days |
| TR 16.9.7.10 | Verify the average specific gravity of each SSS 250/125 V battery bank is ≥ 1.200. | 92 days |
| TR 16.9.7.11 | Verify the standby makeup pump's developed head and capacity is greater than or equal to that required by the Inservice Testing Program. | 92 days |
| TR 16.9.7.12 | Verify the SSS diesel generator 24 V batteries and battery racks show no visual indication of physical damage or abnormal deterioration. | 18 months |
| TR 16.9.7.13 | Verify SSS diesel generator 24 V battery to battery and terminal connections are clean, tight, and free of corrosion. | 18 months |
| TR 16.9.7.14 | Perform a CHANNEL CALIBRATION of the SSS Instrumentation as required by Table 16.9.7-2. | 18 months |
| TR 16.9.7.15 | Perform inspection of SSS diesel generator in accordance with procedures prepared in conjunction with manufacturer's recommendations for class of service. | 18 months |
| TR 16.9.7.16 | Verify the SSS 250/125 V batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration. | 18 months |
| TR 16.9.7.17 | Verify the SSS 250/125 V battery to battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material. | 18 months |
| TR 16.9.7.18 | Verify the "C" solenoid to valve SA48ABC can be deenergized to provide steam supply to the turbine driven auxiliary feedwater pump. | 18 months |

TABLE 16.9.7-1

STANDBY SHUTDOWN SYSTEM
FIRE DETECTION & SUPPRESSION SYSTEMS VERIFICATION[1]

| INOPERABLE SSS COMPONENT | FIRE DETECTION & SUPPRESSION SYSTEMS LOCATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | EL 716 EE-KK | EL 733 EE-KK | EL 750 EE-KK | Control Room | Battery Room | Cable Rooms | Turbine Driven AFW Pump | Motor Driven AFW Pump | Containment |
| SSS Diesel Generator[3] | X | X | X | X | X | X | X | X | Note 2 |
| SSS DG Starting 24 V Battery Bank and Charger[3] | X | X | X | X | X | X | X | X | Note 2 |
| Standby Makeup Pump and Water Supply | X | X | X | | | | | | |
| SSS 250/125V Battery and Charger[3] | | | | X | X | X | | | Note 2 |
| Turbine Driven AFW Pump Solenoid "C" | | | | | | | | X | |
| INSTRUMENTATION: | | | | | | | | | |
| 1. RCS Pressure | | | | X | X | X | | | Note 2 |
| 2. Pressurizer Level | | | | X | X | X | | | Note 2 |
| 3. SG Level | | | | X | X | X | | | Note 2 |
| 4. Incore Temperature | | | | X | X | X | | | Note 2 |

NOTES:

1 If fire detection and/or suppression systems are inoperable, then the ACTION statement(s) of the applicable fire detection and/or suppression SLC shall be complied with.

2. Monitor containment air temperature at least once per hour at the locations specified in Technical Specification Surveillance Requirement 3.6.5.1 or 3.6.5.2, in lieu of verification of operability of systems inside containment.

3. With this component inoperable, then denoted areas of both units are affected.

TABLE 16.9.7-2

STANDBY SHUTDOWN SYSTEM
INSTRUMENTATION TESTING REQUIREMENTS

| | INSTRUMENT | REQUIRED CHANNELS | TESTING REQUIREMENTS | READOUT LOCATION |
|---|---|---|---|---|
| 1. | Reactor Coolant Pressure | 1 | TR 16.9.7.7<br>TR 16.9.7.14 | SSF Control Panel |
| 2. | Pressurizer Level | 1 | TR 16.9.7.7<br>TR 16.9.7.14 | SSF Control Panel |
| 3. | Steam Generator Level (Wide Range) | 1 per SG | TR 16.9.7.7<br>TR 16.9.7.14 | SSF Control Panel |
| 4. | Incore Temperature | 1 | TR 16.9.7.7<br>TR 16.9.7.14 | SSF Control Panel |
| 5. | Standby Makeup Pump Flow | 1 | TR 16.9.7.14 | SSF Control Panel |

BASES

The Standby Shutdown System (SSS) is designed to mitigate the consequences of certain postulated fire incidents by providing capability to maintain HOT STANDBY conditions and by controlling and monitoring vital systems from locations external to the main control room. This capability is consistent with the requirements of 10 CFR Part 50, Appendix R.

By design, the SSS is intended to respond to those low-probability fire and/or sabotage events which render both the control room and automatic safety systems inoperable. Because of the low probability of occurrence of these events, the remedial actions rely on compensatory action, timely repair or return to operability and, if necessary, a justification for continued operation.

Because the SSS performs a redundant fire protection function, compensatory action relies largely on assurance of the operability of fire detection and suppression systems. Table 16.9.7-1 establishes requirements for operability of fire detection and suppression systems.

The Testing Requirements ensure that the SSS systems and components are capable of performing their intended functions. The testing requirements were based largely on SSS Technical Specifications for the Catawba Nuclear Station, which was approved prior to the issuance of the fuel load license for Unit 1 of that plant. Also considered in the formulation of the testing requirements were existing McGuire Technical Specifications, such as those for the 1E Diesel Generators, Refueling Water Storage Tank, Fire Protection & Detection Systems, and other Tech Specs which are related to the safe operation and/or shutdown of the plant.

The required level in the SSS diesel generator fuel storage tank ensures sufficient fuel for 48 hours of uninterrupted operation. It is assumed that, within 48 hours, either off-site power can be restored or additional fuel can be added to the storage tank.

New fuel oil is sampled in accordance with ASTM D4057-81 prior to addition to the storage tanks. In accordance with the tests specified in ASTM D975-81, the sample is verified to have:

1. an API Gravity of within 0.3 degrees at 60°F or a specific gravity of within 0.0016 at 60/60°F, when compared to the supplier's certificate, or an absolute specific gravity at 60/60°F of greater than or equal to 0.83 but less than or equal to 0.89, or an API gravity at 60°F of greater than or equal to 27 degrees but less than or equal to 39 degrees,

2. a kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes but less than or equal to 4.1 centistokes (or a Saybolt Universal Viscosity at 100°F of greater than or equal to 32.6 SUS but less than or equal to 40.1 SUS),

3. a flash point equal to or greater than 125°F, and

4. a clear and bright appearance with proper color when tested in accordance with ASTM D4176-82.

BASES (continued)

Within 31 days of obtaining the new fuel sample, the other properties specified in Table 1 of ASTM D975-81 are verified to be met when tested in accordance with ASTM D975-81, except that the analysis for sulfur may be performed in accordance with ASTM D1552-90 or ASTM D2622-82.

Although the Standby Makeup Pump is not nuclear safety-related and was not designed according to ASME code requirements, it is tested quarterly to ensure its OPERABILITY. The Standby Makeup Pump (SMP) functions as part of the SSF to provide makeup capacity to the reactor coolant system and cooling flow to the reactor coolant pump seals. The reactor coolant pump seal leak-off flow is temperature dependent (i.e., the higher the temperature the higher the leak-off flow). During normal operation the NCP seals are supplied from the Centrifugal Charging Pump (CCP) drawing from the Volume Control Tank (VCT). During the SSF event, the SMP draws from the Spent Fuel Pool (SFP). During the SSF event there is no SFP cooling, so water injected into the NCP seals will have a higher temperature than during normal operation. The SMP is capable of providing a makeup capacity of at 26 gpm. The revised SLC limit of 20 gpm total accumulative leakage is based on a calculation that was performed by Westinghouse, indicating increased seal leak-off at higher seal water temperatures, to relate the SSF event leakage of 26 gpm at elevated NCP seal temperatures. This more conservative limit will ensure that the SMP will be capable of providing makeup and seal cooling flow equal to or greater than total leakage during the SSF event, increased seal leak-off flow due to heat-up of the SFP, and still provide a margin of safety. As a conservative measure, during normal power operation the total accumulative system leakage (unidentified + identified + seal leak-off flows) shall be limited to 20 gpm. The Testing Requirement concerning the Standby Makeup Pump water supply ensures that an adequate water volume is available to supply the pump continuously for 72 hours.

While the SSS 24 VDC battery charger is isolated for battery surveillance testing, the SSS Diesel Generator remains operable as long as the battery voltage is $\geq$ 24 volts.

The SSS 125V batteries and battery chargers consist of three pairs SDSP1, SDSP2 and SDSS. Each pair consists of a battery and associated battery charger. Pair SDSS can be used to substitute for either pair SDSP1 or SDSP2. Only two of these pairs are required operable since pair SDSS is spare.

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 Nuclear Station SER Supplement 6, Chapter 9.5.1 and Appendix C

5. McGuire Fire Protection Review, as revised

6. McGuire Fire Protection Safe Shutdown Review

7. IEEE 308-1974, Class 1E Power Systems

8. IEEE 450-1975, Maintenance Testing & Replacement of Large Lead Storage Batteries

9. OP/O/B/6350/04, Standby Shutdown Facility Diesel Operation

10. McGuire Nuclear Station Facility Operating Licenses, Unit 1 License Condition C.(4) and Unit 2 License Condition C.(7)

11. PIP 0-M-99-03926