



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 20, 2000

Mr. W. R. McCollum, Jr.
Vice President, Oconee Site
Duke Energy Corporation
P. O. Box 1439
Seneca, SC 29679

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 RE: TECHNICAL
SPECIFICATION BASES CHANGE

Dear Mr. McCollum:

A page check of the Oconee Nuclear Station, Units 1, 2, and 3 Technical Specification Bases, found that five pages were missing and one (page B 3.4.10-3) needed to be upgraded. Please replace page B 3.4.10-3 with the enclosed and insert the remaining pages into the Bases manual at the appropriate locations.

Sincerely,

David E. LaBarge, Senior Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287

Enclosure: Bases Pages

cc w/encl: See next page

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BASES (continued)

SURVEILLANCE
REQUIREMENTS

SR 3.3.7.1

SR 3.3.7.1 is the performance of a CHANNEL FUNCTIONAL TEST on a 31 day Frequency. The test demonstrates that each digital automatic actuation logic channel successfully performs the two-out-of-three logic combinations every 31 days. The test simulates the required one-out-of-three inputs to the logic circuit and verifies the successful operation of the automatic actuation logic. The Frequency is based on operating experience that demonstrates the rarity of more than one channel failing within the same 31 day interval.

REFERENCES

1. 10 CFR 50.46.
 2. UFSAR, Chapter 15.
 3. 10 CFR 50.36.
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BASES

APPLICABLE SAFETY ANALYSES (continued) Load Shed and Transfer to Standby function reenergizes the affected unit's MFBs from the standby buses which are powered from Keowee or Lee.

The analyses assume that the maximum time the MFBs will be deenergized is 33 seconds. This time is derived from the 53 second time requirement for full LPI injection minus the 15 second ECCS valve stroke time requirement and 5 seconds for the pump to get to rated speed.

EPSL automatic transfer functions are part of the primary success path and function to mitigate an accident or transient that presents a challenge to the integrity of a fission product barrier. The EPSL automatic transfer function satisfies Criterion 3 of 10 CFR 50.36 (Ref. 2).

LCO Two channels of the Automatic Transfer Function, with one channel consisting of Channel A of the Load Shed and Transfer to Standby function and Channel A of the Retransfer to Startup function and the other consisting of Channel B of both of these functions, are required to be OPERABLE. Failure of one channel reduces the reliability of the affected Functions.

The requirement for two channels to be OPERABLE ensures that one channel of the function will remain OPERABLE if a single failure has occurred. The remaining channel can perform the safety function.

APPLICABILITY The automatic transfer function of EPSL is required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that power is provided from AC Sources to the AC Distribution system within the time assumed in the accident analyses.

The EPSL automatic transfer function is not required to be OPERABLE in MODES 5 and 6 since more time is available for the operator to respond to a loss of power event.

ACTIONS A.1

If one channel is inoperable, it must be restored to OPERABLE status within 24 hours. With one channel inoperable, the remaining channel is capable of providing necessary transfer functions to ensure power is provided to the MFBs. The 24 hour Completion Time is considered appropriate based on engineering judgement, taking into consideration the time required to complete the required action.

BASES (continued)

APPLICABILITY In MODES 1 and 2, the reactor is critical and has the potential to produce maximum THERMAL POWER. To ensure that the assumptions of the accident analyses remain valid, all RCS loops are required to be OPERABLE and in operation in these MODES to prevent DNB and core damage.

The decay heat production rate is much lower than the full power heat rate. As such, the forced circulation flow and heat sink requirements are reduced for lower, noncritical MODES as indicated by the LCOs for MODES 3, 4, and 5.

Operation in other MODES is covered by:

- LCO 3.4.5, "RCS Loops – MODE 3";
- LCO 3.4.6, "RCS Loops – MODE 4";
- LCO 3.4.7, "RCS Loops – MODE 5, Loops Filled";
- LCO 3.4.8, "RCS Loops – MODE 5, Loops Not Filled";
- LCO 3.9.4, "Decay Heat Removal (DHR) and Coolant Circulation – High Water Level" (MODE 6); and
- LCO 3.9.5, "Decay Heat Removal (DHR) and Coolant Circulation – Low Water Level" (MODE 6).

ACTIONS A.1

If the requirements of the LCO are not met, the Required Action is to reduce power and bring the unit to MODE 3. This lowers power level and thus reduces the core heat removal needs and minimizes the possibility of violating DNB limits.

The Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging safety systems.

SURVEILLANCE REQUIREMENTS SR 3.4.4.1

This SR requires verification every 12 hours of the required number of loops in operation. Verification includes flow rate, temperature, or pump status monitoring, which help ensure that forced flow is providing heat removal while maintaining the margin to DNB. The 12 hour interval has been shown by operating practice to be sufficient to regularly assess degradation and verify operation within safety analyses assumptions. In addition, control room indication and alarms will normally indicate loop status.

BASES

APPLICABILITY
(continued)

The LCO is not applicable in MODE 3 when any RCS cold leg temperature is $\leq 325^{\circ}\text{F}$, MODE 4 and MODE 5 because LTOP protection is provided. Overpressure protection is not required in MODE 6 with the reactor vessel head detensioned.

The Note allows entry into MODE 3 with the lift settings outside the LCO limits. This permits testing and examination of the safety valves at high pressure and temperature near their normal operating range, but only after the valves have had a preliminary cold setting. The cold setting gives assurance that the valves are OPERABLE near their design condition. Only one valve at a time will be removed from service for testing. The 36 hour exception is based on an 18 hour outage time for each of the two valves. The 18 hour period is derived from operating experience that hot testing can be performed in this time frame.

ACTIONS

A.1

With one pressurizer safety valve inoperable, restoration must take place within 15 minutes. The Completion Time of 15 minutes reflects the importance of maintaining the RCS overpressure protection system. An inoperable safety valve coincident with an RCS overpressure event could challenge the integrity of the RCPB.

B.1 and B.2

If the Required Action cannot be met within the required Completion Time or if both pressurizer safety valves are inoperable, the unit must be brought to a MODE in which the requirement does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours and to MODE 3 with any RCS cold leg temperature $\leq 325^{\circ}\text{F}$ within 18 hours. The 12 hours allowed is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. Similarly, the 18 hours allowed is reasonable, based on operating experience, to reach MODE 3 with any RCS cold leg temperature $\leq 325^{\circ}\text{F}$ without challenging unit systems. With any RCS cold leg temperature at or below 325°F , overpressure protection is provided by LTOP. Reducing the RCS temperature to $\leq 325^{\circ}\text{F}$ reduces the RCS energy (core power and pressure), lowers the potential for large pressurizer insurges, and thereby removes the need for overpressure protection by two pressurizer safety valves.

BASES (continued)

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|------------|----|-----------------------|
| REFERENCES | 1. | UFSAR, Section 6.2. |
| | 2. | UFSAR, Section 15.14. |
| | 3. | 10 CFR 50.36. |
| | 4. | UFSAR, Table 6-7. |
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BASES

ACTIONS
(continued)

B.1

With one of the reactor building cooling trains inoperable in MODE 1 or 2, the inoperable reactor building cooling train must be restored to OPERABLE status within 7 days. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Reactor Building Spray System and Reactor Building Cooling System and the low probability of an accident occurring during this period.

The 14 day portion of the Completion Time for Required Action B.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this LCO coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

C.1

With one reactor building spray train and one reactor building cooling train inoperable in MODE 1 or 2, at least one of the inoperable trains must be restored to OPERABLE status within 24 hours. In this Condition, the remaining OPERABLE spray and cooling trains are adequate to provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 24 hour Completion Time takes into account the heat removal capability afforded by the remaining OPERABLE spray train and cooling trains, reasonable time for repairs, and the low probability of an accident occurring during this period.

D.1

If the Required Action and associated Completion Time of Condition A, B or C are not met, the unit must be brought to a MODE in which the LCO, as modified by the Note, does not apply. To achieve this status, the unit must be brought to at least MODE 3 within 12 hours. The allowed Completion Time is reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

April 20, 2000

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Enclosure: Revised Bases Pages

cc w/encl: See next page

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