ATTACHMENT 1

Proposed McGuire Unit 1 and 2 Technical Specifications Changes

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. Two physically independent circuits between the offsite transmission network and the Onsite Essential Auxiliary Power System, and
- b. Two separate and independent diesel generators, each with:
 - A separate day tank containing a minimum volume of 120 gallons of fuel,
- 2) A separate Fuel Storage System containing a minimum volume of 28,000 gallons of fuel, and
 - 3) A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; separately demonstrate the operability of two diesel generators by performing Surveillance Requirements 4.8.1.1.2a.4 and 4.8.1.1.2a.5 within 24 hours unless this surveillance was performed within the previous 24 hours, or unless the diesel is operating , restore at least two offsite circuits and two diesel generators to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable*, demonstrate the OPERABILITY of the remaining A.C. source by performing Surveillance Requirement 4.8.1.1.1a. within 1 hour and at least once per 8 hours _ thereafter; demonstrate the operability of the remaining diesel generator by performing Surveillance Requirements 4.8.1.1.2a.4 and 4.8.1.1.2a.5 within 8 hours unless this surveillance was performed within the previous 24 hours, or unless the diesel is operating**; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; with the diesel

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Amendment No. 71 (Unit 1) Amendment No. 52 (Unit 2) ^{*}A diesel generator shall be considered to be inoperable from the time of failure until it satisfies the requirements of Surveillance Requirements 4.8.1.1.2a.4) and 4.8.1.1.2a.5).

^{**}This test is required to be completed regardless of when the inoperable diesel generator is restored to OPERABLE status. The provisions of Specification 3.0.2 are not applicable.

EOR INFORMATION

3/4.8 ELECTRICAL POWER SYSTEMS

BASES

3/4.8.1, 3/4.8.2 AND 3/4.8.3 A.C. SOURCES, D.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the A.C. and D.C power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for: (1) the safe shutdown of the facility, and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix A to 10 CFR 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. and D.C. source allowable out-ofservice times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources", December 1974. When one diesel generator is inoperable, there is an additional ACTION requirement to verify that all required systems, subsystems, trains, components and devices, that depend on the remaining OPERABLE diesel generator as a source of emergency power, are also OPERABLE, and that the steam-driven auxiliary feedwater pump is OPERABLE. This requirement is intended to provide assurance that a loss-of-offsite power event will not result in a complete loss of safety function of critical systems during the period one of the diesel generators is inoperable. The term verify as used in this context means to administratively check by examining logs or other information to determine if certain components are out-of-service for maintenance or other reasons. It does not mean to perform the Surveillance Requirements needed to demonstrate the OPERABILITY of the component. The ACTION requirements for diesel generator testing in the event of the inoperability of other electric power sources also reflect the potential for degradation of the diesel generator due to excessive testing. This concern has developed, concurrently with iscreased industry experience with diesel generators, and has been acknowledged by the NRC staff in Generic Letter 84-15.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that: (1) the facility can be maintained in the shutdown or refueling condition for extended time periods, and (2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status.

The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guides 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971, 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977, and 1.137, "Fuel-Oil Systems for Standby Diesel Generators." Revision 1, October 1979; also, Generic Letter 84-15, which modified the testing frequencies specified in Regulatory Guide 1.108.

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Justification and Safety Analysis

Background/Justification:

The main function of the Diesel Generator Fuel Oil System is to supply fuel oil to the diesel engines that drive the emergency generators. Each of the four diesel generators at McGuire has a corresponding 50,000-gallon capacity fuel oil storage tank located underground.

NRC Information Notice No. 89-50, "Inadequate Emergency Diesel Generator Fuel Supply", was issued May 30, 1989. This Information Notice indicated that while the McGuire FSAR specifies that the storage tank for each diesel generator is sized so that the diesel can carry the required essential loads for seven days, the McGuire Technical Specification-required minimum volume of 28,000 gallons of fuel is not sufficient to ensure seven days of diesel operation.

During the licensing of McGuire, calculations were performed to determine the proper fuel oil requirements to ensure an adequate fuel oil supply to cope with an extended loss of offsite power. These calculations, and discussions with the NRC staff, resulted in a Technical Specification requirement of 28,000 gallons of fuel oil per diesel generator. Since the fuel oil storage tanks for each train (but not for each unit) can be cross connected to supply a single diesel, 28,000 gallons per tank is sufficient to supply one required diesel for greater than seven days.

Bases/Safety Analysis:

During a recent Self-Initiated Technical Audit, the fuel oil requirement in the Technical Specifications was questioned as being inconsistent with the McGuire FSAR, which states a seven-day supply of fuel oil per diesel generator. During the review to respond to this item, no documentation could be located to support the 28,000-gallon requirement. Using the most conservative calculation of fuel oil consumption, as given in ANSI Standard N195-1976, the amount of fuel required to operate the diesel at rated load for seven days plus a 10% margin for testing is 55,440 gallons. The fuel oil storage tanks have a capacity of only 50,000 gallons. This standard was issued after the diesel generator fuel oil system was designed, and therefore the system is not designed in accordance with the standard.

The 39,500-gallon storage requirement was chosen to maximize the available fuel oil while providing necessary operational flexibility; i.e., drawdown of the tank should allow for addition of a full tanker of fuel (7000 gallons) without the risk of overfilling the tank. The 39,500-gallon requirement also gives operational flexibility regarding the ordering of diesel fuel. The amount of fuel oil in storage is monitored through surveillances. By administrative practice, fuel is ordered when the contained volume of a tank reaches approximately 40,000 gallons.

The proposed volume would allow operation of each diesel generator at rated load for approximately five days allowing for a 10% margin for testing. Based upon the past history of the ability of the fuel oil supplier to deliver fuel to the site (fuel is routinely delivered within 24 hours of order), this requirement will allow the diesel generators sufficient fuel to be operated until fuel can be delivered to the site.

The fuel oil requirement is being increased from 28,000 gallons to 39,500 gallons for Modes 1 through 4 only. The 28,000-gallon requirement will remain unchanged for Modes 5 and 6. Due to the reduced loads placed on the diesel generators while the plant is in Modes 5 and 6, the current 28,000-gallon requirement was deemed an adequate supply for these conditions.

Description of Proposed Technical Specifications Changes:

The proposed change to Technical Specification 3/4.8.1 (Limiting Condition for Operation 3.8.1.1) is to increase the required minimum volume of fuel oil in each diesel generator's fuel oil storage tank from 28,000 gallons to 39,500 gallons for Modes 1 through 4. This change will add additional conservatism to the Technical Specifications by increasing the time that each diesel can operate at full rated load before it becomes necessary to add fuel to the tank.

No change to the Bases section of the Technical Specifications is required.

Conclusions:

The proposed amendment would make the McGuire Technical Specifications more conservative than the existing specifications. McGuire has already implemented this change under administrative controls since it is more restrictive than the existing Technical Specifications.

Based upon the preceding safety analysis, Duke Power Company concludes that the proposed amendment will not be inimical to the health and safety of company personnel or the public. ATTACHMENT 3

Analysis of Significant Hazards Consideration

Analysis of Significant Hazards Consideration:

As recurred by 10CFR 50.91, this analysis is provided concerning whether the proposed amendments involve significant hazards considerations, as defined by 10CFR 50.92. Standards for determination that a proposed amendment involves no significant hazards considerations are if operation of the facility in accordance with the proposed amendment would not: 1) involve a significant increase in the probability or consequences of an accident previously evaluated; or 2) create the possibility of a new or different kind of accident from any accident previously evaluated; or 3) involve a significant reduction in a margin of safety.

The proposed amenda would increase the minimum required volume of foel oil in the die generator fuel oil storage tanks from 28,000 gallons to 39,500 ga ions for Modes 1 through 4. This change does not involve a significant increase in the probability or consequences of any accident previously evaluated. The diesel generators serve to mitigate accidents involving or coincident with a loss of offsite power. Increasing the required fuel oil volume in the fuel oil storage tanks will not increase the probability or consequences of any accident and may reduce the consequences of an extended loss of offsite power event, since it will allow the diesels to operate for a longer period of time before fuel oil must be added to the tanks. The amount of fuel oil in storage is not considered to be an initiator or contribute to the initiation of any design basis accident; therefore, the probability of a design basis accident occurring is not affected.

The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated. Increasing the required fuel oil volume is conservative from the standpoint of mitigating a loss of offsite power event and does not create any new accident scenarios that have not been previously evaluated.

The proposed change does not involve a significant reduction in a margin of safety. The proposed change will enhance both the design margin and the overall safety margin by ensuring that the station can better respond to an extended loss of offsite power event.

Finally, the proposed amendment is a change that constitutes an additional limitation not presently included in the Technical Specifications, and as such, increases the overall plant margin of safety. The NRC has previously determined that an amendment constituting such an additional limitation is not likely to involve a Significant Hazards Consideration.

Based upon the preceding analysis, Duke Power Company concludes that the proposed amendment does not involve a Significant Hazards Consideration.