

ELECTRICAL POWER SYSTEMS

AC SOURCES

AC SOURCES - OPERATING

SURVEILLANCE REQUIREMENTS

4.8.1.1.2.e (Continued)

8. Verify the diesel generator operates for at least 24 hours.†

- a) For Divisions I and II:

During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 4840 kW*. During the remaining 22 hours of this test, the diesel generator shall be loaded to greater than or equal to 4400 kW*. The generator voltage and frequency shall be 4160 ± 416 volts and 60 ± 3.0 Hz within 10 seconds and 4160 ± 416 volts and 60 ± 1.2 Hz within 13 seconds after the start signal; the steady state generator voltage and frequency shall be maintained within these limits during this test.

- b) For Division III:

During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 2860 kW*. During the remaining 22 hours of this test, the diesel generator shall be loaded to greater than or equal to 2600 kW*. The generator voltage and frequency shall be 4160 ± 416 volts and 60 ± 1.2 Hz within 15 seconds after the start signal; the steady state generator voltage and frequency shall be maintained within these limits during this test.

9. Verifying that the autoconnected loads to each diesel generator do not exceed the 2000-hour rating of 4750 kW for diesel generators EDG*1 and EDG*3 and 2850 kW for diesel generator EDG*2.

10. Verifying the diesel generator's capability to:

- a) Manually synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,
- b) Transfer its loads to the offsite power source, and
- c) Be restored to its standby status.

11. Verifying that with the diesel generator operating in a test mode and connected to its bus, a simulated ECCS actuation signal overrides the test mode by (1) returning the diesel generator to standby operation and (2) automatically energizes the emergency loads with offsite power.

* Momentary transients due to changing bus loads shall not invalidate the test.

† This test may be performed during power operation provided that the other two diesel generators are operable. Should either of the two diesel generators become inoperable, the test will be aborted.

ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION LICENSE NO. NPF-69 DOCKET NO. 50-410

Supporting Information and No Significant Hazards Considerations Analysis

Introduction

Niagara Mohawk Power Corporation (NMPC) proposes a revision to Surveillance Requirement 4.8.1.1.2.e.8 to add a footnote regarding the 24 hour functional test of the diesel generators. The proposed change would permit functional testing to be performed during power operation.

The current Technical Specifications require that this test be performed during shutdowns. Performing this test during power operation could save as much as three days from a refueling outage and result in a cost savings of approximately \$720,000. This change could result in a total cost savings of \$10,800,000 over the life of the plant.

Description

This amendment proposes to add a footnote to the Surveillance Requirement for the 24 hour functional test of the diesel generators which will permit functional testing of the diesels to be performed during power operation.

Proposed footnote to 4.8.1.1.2.e.8

This test may be performed during power operation provided that the other two diesel generators are operable. Should either of the two diesel generators become inoperable, the test will be aborted.

Evaluation

Regulatory Guide 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," requires a demonstration once per refueling cycle that the diesel generators can start and run continuously at full load capability for an interval of not less than 24 hours. This test is presently performed during shutdown to prevent any perturbations of the electrical distribution system that would challenge continued steady state operation and, as a result, plant safety systems.

At Nine Mile Point Unit 2, the diesel generators are run monthly during power operation to satisfy Technical Specification requirements. There is no difference between the system lineup for this monthly test of the diesels and the lineup for the 24 hour functional test. Performing the 24 hour functional test during power operation would not introduce any new operating modes. The provision to require the other two diesel generators to be operable during the test addresses the concerns raised in Information Notice 84-69

regarding the operation of emergency diesel generators connected in parallel with offsite power. In the event of a loss of offsite power during the test, the breakers would open and automatic load shedding would occur. The diesel being tested would remain running at idle ready to supply emergency loads if necessary. If the diesel were to trip, the other two operable diesels would be available to provide emergency power if necessary.

In the test mode the diesel generators are loaded by paralleling with the offsite power system and cannot, therefore, affect the plant electrical distribution system. Should an emergency occur with the diesel generator operating in the test mode and connected to its bus, the actuation signal overrides the test mode by returning the diesel to standby operation and automatically energizes the emergency loads with offsite power. This transfer is tested once per cycle in accordance with Surveillance Requirement 4.8.1.1.2.e.11. Should offsite power be unavailable, the diesel generator will automatically supply emergency loads. Therefore, the diesel will be available to perform its intended safety function. Furthermore, in the case of unavailability of any one diesel generator, the remaining two generators are capable of feeding the loads necessary for safe shutdown of the plant in the event of a design basis accident or loss of offsite power. Requiring the other two diesels to be operable during the performance of this test provides assurance that emergency power will be available. If either of the two diesel generators become inoperable, the 24 hour test will be aborted. This will assure that the remaining diesels are available to feed the loads necessary for safe shutdown of the plant and cannot be affected by offsite power disturbances.

Conclusion

The proposed amendment to add a footnote that would permit the 24 hour functional test of the diesel generators during power operation is justified. The capability to supply emergency power is not impaired and the operation of the diesel for 24 hours at full load will not result in any perturbation of the plant electrical distribution systems. Therefore, there is reasonable assurance that the operation of Nine Mile Point Unit 2 in the proposed manner will not endanger the public health and safety.

10CFR50.91 requires that at the time a licensee requests an amendment, it must provide to the Commission its analysis using the standards in 10CFR50.92 concerning the issue of no significant hazards consideration. Therefore, in accordance with 10CFR50.91, the following analysis has been performed:

The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change to permit the 24 hour functional test of the diesels to be performed during power operation does not increase the chances for a previously analyzed accident to occur. The function of the diesels is to supply emergency power in the event of a loss of offsite power. Operation of the diesels is not a precursor to any accident. Furthermore, the diesel generator being tested will remain operable and will be available to supply emergency loads within the required time. In addition, the two remaining diesel generators will be operable during the test. Consequently, if an offsite disturbance were to occur that

affected the operability of the diesel being tested, the two remaining diesels would be capable of feeding the loads necessary for safe shutdown of the plant. This addresses the concerns raised in Information Notice 84-69 regarding the operation of emergency diesel generators connected in parallel with offsite power. In summary, the proposed changes do not adversely affect the performance or the ability of the diesel generators to perform their intended function.

Therefore, the proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not create the possibility of a new or different kind of accident from any previously evaluated.

The proposed amendment to the 24 hour functional surveillance test will not affect the operation of any safety system or alter its response to any previously analyzed accident. The diesel will automatically transfer from the test mode if necessary to supply emergency loads in the required time. The test mode is used for the monthly surveillance of the diesel generators as well, therefore, no new plant operating modes are introduced. In the event the diesel fails the functional test it will be declared inoperable and the actions required for an inoperable diesel will be performed. The remaining two diesel generators will be operable and are capable of feeding the loads necessary for safe shutdown of the plant.

Therefore, the proposed change will not create the possibility of a new or different kind of accident from any previously evaluated.

The operation of Nine Mile Point Unit 2, in accordance with the proposed amendment, will not involve a significant reduction in a margin of safety.

The proposed amendment will not reduce availability of the diesel generator being tested to provide emergency power in the event of a loss of offsite power. If a loss of offsite power or a loss of coolant accident occurs during the surveillance test, the emergency bus would de-energize and shed load. The diesel generator would then transfer from the test mode to the emergency mode. It would then be available to automatically supply emergency loads. In addition, the two remaining generators will be operable during the test. Consequently, if an offsite disturbance were to occur that affected the operability of the diesel being tested, the two remaining diesels would be capable of feeding the loads necessary for safe shutdown of the plant. The time required for the diesel being tested to pick up emergency loads will not be affected by performing the 24 hour functional test during power operation.

Therefore, the proposed change will not involve a significant reduction in a margin of safety.