PECO NUCLEAR
A Unit of PECO Energy

Nuclear Group Headquarters
200 Exelon Way
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U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Subject: Limerick Generating Station, Units 1 & 2
Revised Technical Specification Bases 3/4.8.1, 3/4.8.2, and 3/4.8.3

Dear Sir/Madam:

PECO Energy Company recently revised Technical Specifications Bases for Limerick Generating Station (LGS) Units 1 and 2, in accordance with 10 CFR 50.59. Bases sections 3/4.8.1, 3/4.8.2, and 3/4.8.3 have been revised to clarify operability of offsite sources and emergency buses.

Attached are the revised Bases Pages B 3/4 8-1 and B 3/4 8-1a for LGS Units 1 and 2. The attached pages are provided for updating NRC records as appropriate.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

J. A. Hutton /for

James A. Hutton
Director - Licensing

Attachments

cc: H. J. Miller, Administrator, Region 1, USNRC
A. L. Burritt, USNRC Senior Resident Inspector, LGS

A001

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 Part 50.

An offsite power source consists of all breakers, transformers, switches, interrupting devices, cabling, and controls required to transmit power from the offsite transmission network to the onsite Class 1E emergency bus or buses. The determination of the OPERABILITY of an offsite source of power can be made using three factors, that when taken together, describe the design basis calculation requirements for voltage regulation. The combination of these factors, described below, ensures that the offsite source(s), which provide power to the plant emergency buses, will be fully capable of supporting the equipment required to achieve and maintain safe shutdown during postulated accidents and transients.

An offsite source of electrical power is considered OPERABLE if it is within the bounds of analyzed conditions. The most limiting analysis provides the following bounds:

1. The Startup Transformer (#10 and/or #20) Load Tap Changer(s) (LTC) are in service and in automatic operation,
2. offsite source grid voltages are maintained above 218.5 kV on the 230 kV system and 498 kV on the 525 kV networks,
3. electrical buses and breaker alignments (13 kV and 4 kV) are maintained within the bounds of approved plant procedures.

Based on specific design analysis, variations to any of these parameters can be determined, usually at the sacrifice of another parameter, based on plant conditions. Specifics regarding these variations must be controlled by plant procedures or by operability determinations, backed by specific design calculations.

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 two of the onsite A.C. and the corresponding 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. or D.C. source. At least two onsite A.C. and their corresponding D.C. power sources and distribution systems providing power for at least two ECCS divisions (1 Core Spray loop, 1 LPCI pump and 1 RHR pump in suppression pool cooling) are required for design basis accident mitigation as discussed in FSAR Table 6.3-3. Under Modes 1, 2 and 3, an offsite circuit is considered to be inoperable if it is not capable of supplying at least three Unit 1 4 kV emergency buses. If both offsite sources are capable of supplying

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

only three Unit 1 4 kV emergency buses, then each of the four Unit 1 4 kV emergency buses must be supplied from at least one operable offsite source. Onsite A.C. operability requirements for common systems such as RHRSW and ESW are addressed in the appropriate system specification action statements.

The A.C. and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources," December 1974. When one or more diesel generators are 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 generators as a source of emergency power, are also OPERABLE. The LPCI mode of the RHR system is considered a four train system, of which only two trains are required. The verification for LPCI is not required until two diesel generators are inoperable. 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 when one or more 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 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. Under Modes 4, 5 and *, an offsite source is considered operable if it is capable of supplying all 4 kV emergency buses necessary for operating in that Mode.

The surveillance requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guide 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971, Regulatory Guide 1.137 "Fuel-Oil Systems for Standby Diesel Generators," Revision 1, October 1979 and Regulatory Guide 1.108,

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 Part 50.

An offsite power source consists of all breakers, transformers, switches, interrupting devices, cabling, and controls required to transmit power from the offsite transmission network to the onsite Class 1E emergency bus or buses. The determination of the OPERABILITY of an offsite source of power can be made using three factors, that when taken together, describe the design basis calculation requirements for voltage regulation. The combination of these factors, described below, ensures that the offsite source(s), which provide power to the plant emergency buses, will be fully capable of supporting the equipment required to achieve and maintain safe shutdown during postulated accidents and transients.

An offsite source of electrical power is considered OPERABLE if it is within the bounds of analyzed conditions. The most limiting analysis provides the following bounds:

1. The Startup Transformer (#10 and/or #20) Load Tap Changer(s) (LTC) are in service and in automatic operation,
2. offsite source grid voltages are maintained above 218.5 kV on the 230 kV system and 498 kV on the 525 kV networks,
3. electrical buses and breaker alignments (13 kV and 4 kV) are maintained within the bounds of approved plant procedures.

Based on specific design analysis, variations to any of these parameters can be determined, usually at the sacrifice of another parameter, based on plant conditions. Specifics regarding these variations must be controlled by plant procedures or by operability determinations, backed by specific design calculations.

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 two of the onsite A.C. and the corresponding 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. or D.C. source. At least two onsite A.C. and their corresponding D.C. power sources and distribution systems providing power for at least two ECCS divisions (1 Core Spray loop, 1 LPCI pump and 1 RHR pump in suppression pool cooling) are required for design basis accident mitigation as discussed in FSAR Table 6.3-3. Under Modes 1, 2 and 3, an offsite circuit is considered to be inoperable if it is not capable of supplying at least three Unit 2 4 kV emergency buses. If both offsite sources are capable of supplying

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

only three Unit 2 4 kV emergency buses, then each of the four Unit 2 4 kV emergency buses must be supplied from at least one operable offsite source. Onsite A.C. operability requirements for common systems such as CREFAS, SGTS, RHRSW and ESW are addressed in the appropriate system specification action statements.

The A.C. and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources," December 1974. When one or more diesel generators are inoperable, there is an additional ACTION requirement to verify that all remaining required systems, subsystems, trains, components, and devices, that depend on the OPERABLE diesel generators as a source of emergency power, are also OPERABLE. The LPCI mode of the RHR system is considered a four train system, of which only two trains are required. The verification for LPCI is not required until two diesel generators are inoperable. 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 when one or more of the diesel generators are 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 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. Under Modes 4, 5 and *, an offsite source is considered operable if it is capable of supplying all 4 kV emergency buses necessary for operating in that Mode.

The surveillance requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guide 1.9, "Selection of Diesel Generator Set Capacity for Standby Power