June 29, 1995

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: ISSUANCE OF TECHNICAL SPECIFICATION AMENDMENTS FOR THE SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. M91988 AND M91989) (TS 94-19)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment No. 205 to Facility Operating License No. DPR-77 and Amendment No. 195 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Units 1 and 2, respectively. These amendments are in response to your application dated April 6, 1995, which was supplemented by letter dated May 26, 1995.

The amendments revise action statements to eliminate starting of emergency diesel generators in order to verify their operability whenever one of the required electrical power sources is inoperable or a diesel is inoperable unless the diesel inoperability is due to a common cause failure.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

David E. LaBarge, Sr. Project Manager
Project Directorate II-3
Division of Reactor Projects - I/I
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosures: 1. Amendment No. 205 to License No. DPR-77
2. Amendment No. 195 to License No. DPR-79
3. Safety Evaluation

cc w/enclosures: See next page

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AMENDMENT NO. 205 FOR SEQUOYAH UNIT NO. 1 - DOCKET NO. 50-327 and
AMENDMENT NO. 195 FOR SEQUOYAH UNIT NO. 2 - DOCKET NO. 50-328
DATED: JUNE 29, 1995

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Docket Files	
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S. Varga	O-14-E-4
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E. Merschoff	RII
M. Lesser	RII

cc:
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County Judge
Hamilton County Courthouse
Chattanooga, TN 37402-2801

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 205
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Tennessee Valley Authority (the licensee) dated April 6, 1995, and supplemented May 26, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 205, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Frederick J. Hebdon, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: June 29, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 205

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE	INSERT
3/4 8-1	3/4 8-1
3/4 8-2	3/4 8-2
B3/4 8-1	B3/4 8-1
---	B3/4 8-1a

ACTION (Continued)

c. With one offsite circuit and one diesel generator set of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter, and Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours; 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. Restore at least two offsite circuits and four diesel generator sets to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With two of the above required offsite A.C. circuits inoperable, demonstrate the OPERABILITY of 4 diesel generator sets by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the diesel generator sets are already operating; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With either diesel generator sets 1A-A and/or 2A-A inoperable simultaneous with 1B-B and/or 2B-B, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; restore at least 1) 1A-A and 2A-A or 2) 1B-B and 2B-B to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least four diesel generator sets to OPERABLE status within 72 hours from time of initial loss or be in least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring (manually and automatically) unit power supply from the unit generator supported circuit to the preferred power (GDC 17) circuit.

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 Class 1E distribution system, and

b. Four separate and independent diesel generator sets each with:

1. Two diesels driving a common generator

2. Two engine-mounted fuel tanks containing a minimum volume of 250 gallons of fuel, per tank

3. A separate fuel storage system containing a minimum volume of 62,000 gallons of fuel,

4. A separate fuel transfer pump, and

5. A separate 125-volt D.C. distribution panel, 125-volt D.C. battery bank and associated charger.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one offsite A.C. circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining offsite A.C. circuit by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter. Restore at least two offsite circuits 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 diesel generator set(s) 1A-A and/or 2A-A or 1B-B and/or 2B-B of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter, and determining OPERABLE diesel generator sets are not inoperable due to common cause failure or performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours; restore at least four diesel generator sets 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.

*The 72-hour action statement may be extended for an additional 72 hours for one train of diesel generators (either 1A-A and 2A-A, or 1B-B and 2B-B) during the performance of Surveillance Requirement 4.8.1.1.2.f.1. A temporary fuel supply must be connected to the diesel generator set that is having the associated fuel tanks cleaned.

#Required actions, to verify OPERABLE diesel generator sets are not inoperable due to common cause failure or perform SR 4.8.1.1.2.a.4, shall be completed if this action is entered.

3/4.8.1 and 3/4.8.2 A.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 Criteria 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 accident 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 footnote for Action b of LCO 3.8.1.1 requires completion of a determination that the OPERABLE diesel generators are not inoperable due to common cause failure or performance of Surveillance 4.8.1.1.2.a.4 if Action b is entered. The intent is that all diesel generator inoperabilities must be investigated for common cause failures regardless of how long the diesel generator inoperability persists.

The action to determine that the OPERABLE diesel generators are not inoperable due to common cause failure provides an allowance to avoid unnecessary testing of OPERABLE diesel generators. If it can be determined that the cause of the inoperable diesel generator does not exist on the OPERABLE diesel generators, Surveillance Requirement 4.8.1.1.2.a.4 does not have to be performed. If the cause of inoperability exists on other diesel generator(s), the other diesel generator(s) would be declared inoperable upon discovery and Action e of LCO 3.8.1.1 would be entered as applicable. Once the common failure is repaired, the common cause no longer exists, and the action to determine inoperability due to common cause failure is satisfied. If the cause of the initial inoperable diesel generator cannot be confirmed not to exist on the remaining diesel generators, performance of Surveillance 4.8.1.1.2.a.4 suffices to provide assurance of continued OPERABILITY of the other diesel generators.

According to Generic Letter 84-15, 24 hours is reasonable to confirm that the OPERABLE diesel generators are not affected by the same problem as the inoperable diesel generator.

Additional ACTION requirements are specified for performance of the chemical cleaning required by Surveillance Requirement 4.8.1.1.2.f.1. The motor-driven fuel pumps for the diesel generator set with the tanks being cleaned will be temporarily connected to the underground storage tanks for the other diesel generator set with the same train designation. An additional fuel-oil inventory of approximately 68,000 gallons will be available in one of

3/4.8.1 and 3/4.8.2 A.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

the yard storage tanks prior to the start of the chemical cleaning of any underground storage tank. Within practical limits, the chemical cleaning of an underground storage tank will be performed during a refueling or other scheduled outage for the associated unit.

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, and 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. The surveillance requirements for the diesel generator load-run test and the 24-hour endurance and margin test are in accordance with Regulatory Guide 1.9, Revision 3, July 1993, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class 1E Onsite Electric Power Systems at Nuclear Power Plants." During the diesel generator endurance and margin surveillance test, momentary transients outside the kw and kvar load ranges do not invalidate the test results. Similarly, during the diesel generator load-run test, momentary transients outside the kw load range do not invalidate the test results.

The Surveillance Requirement for demonstrating the OPERABILITY of the Station batteries are based on the recommendations of Regulatory Guide 1.129 "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
License No. DPR-79

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Tennessee Valley Authority (the licensee) dated April 6, 1995, and supplemented May 26, 1995, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.195 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Frederick J. Hebdon, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: June 29, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 195

FACILITY OPERATING LICENSE NO. DPR-79

DOCKET NO. 50-328

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE	INSERT
3/4 8-1	3/4 8-1
3/4 8-2	3/4 8-2
B3/4 8-1	B3/4 8-1
---	B3/4 8-1a

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 Class 1E distribution system, and

b. Four separate and independent diesel generator sets each with:

1. Two diesels driving a common generator

2. Two engine-mounted fuel tanks containing a minimum volume of 250 gallons of fuel, per tank

3. A separate fuel storage system containing a minimum volume of 62,000 gallons of fuel,

4. A separate fuel transfer pump, and

5. A separate 125-volt D.C. distribution panel, 125-volt D.C. battery bank and associated charger.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one offsite A.C. circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining offsite A.C. circuit by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter. Restore at least two offsite circuits 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 diesel generator set(s) 1A-A and/or 2A-A or 1B-B and/or 2B-B of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter, and determining OPERABLE diesel generator sets are not inoperable due to common cause failure or performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours; restore at least four diesel generator sets 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.

*The 72-hour action statement may be extended for an additional 72 hours for one train of diesel generators (either 1A-A and 2A-A, or 1B-B and 2B-B) during the performance of Surveillance Requirement 4.8.1.1.2.f.1. A temporary fuel supply must be connected to the diesel generator set that is having the associated fuel tanks cleaned.

#Required actions, to verify OPERABLE diesel generator sets are not inoperable due to common cause failure or perform SR 4.8.1.1.2.a.4, shall be completed if this action is entered.

ACTION (Continued)

c. With one offsite circuit and one diesel generator set of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter, and Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours; 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. Restore at least two offsite circuits and four diesel generator sets to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With two of the above required offsite A.C. circuits inoperable, demonstrate the OPERABILITY of 4 diesel generator sets by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the diesel generator sets are already operating; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With either diesel generator sets 1A-A and/or 2A-A inoperable simultaneous with 1B-B and/or 2B-B, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; restore at least 1) 1A-A and 2A-A or 2) 1B-B and 2B-B to OPEPABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least four diesel generator sets to OPERABLE status within 72 hours from time of initial loss or be in least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring (manually and automatically) unit power supply from the unit generator supported circuit to the preferred power (GDC 17) circuit.

BASES

3/4.8.1 and 3/4.8.2 A.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 Criteria 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 accident 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 footnote for Action b of LCO 3.8.1.1 requires completion of a determination that the OPERABLE diesel generators are not inoperable due to common cause failure or performance of Surveillance 4.8.1.1.2.a.4 if Action b is entered. The intent is that all diesel generator inoperabilities must be investigated for common cause failures regardless of how long the diesel generator inoperability persists.

The action to determine that the OPERABLE diesel generators are not inoperable due to common cause failure provides an allowance to avoid unnecessary testing of OPERABLE diesel generators. If it can be determined that the cause of the inoperable diesel generator does not exist on the OPERABLE diesel generators, Surveillance Requirement 4.8.1.1.2.a.4 does not have to be performed. If the cause of inoperability exists on other diesel generator(s), the other diesel generator(s) would be declared inoperable upon discovery and Action e of LCO 3.8.1.1 would be entered as applicable. Once the common failure is repaired, the common cause no longer exists, and the action to determine inoperability due to common cause failure is satisfied. If the cause of the initial inoperable diesel generator cannot be confirmed not to exist on the remaining diesel generators, performance of Surveillance 4.8.1.1.2.a.4 suffices to provide assurance of continued OPERABILITY of the other diesel generators.

According to Generic Letter 84-15, 24 hours is reasonable to confirm that the OPERABLE diesel generators are not affected by the same problem as the inoperable diesel generator.

Additional ACTION requirements are specified for performance of the chemical cleaning required by Surveillance Requirement 4.8.1.1.2.f.1. The motor-driven fuel pumps for the diesel generator set with the tanks being cleaned will be temporarily connected to the underground storage tanks for the other diesel generator set with the same train designation. An additional fuel-oil inventory of approximately 68,000 gallons will be available in one of the yard storage tanks prior to the start of the chemical cleaning of any

3/4.8.1 and 3/4.8.2 A.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

underground storage tank. Within practical limits, the chemical cleaning of an underground storage tank will be performed during a refueling or other scheduled outage for the associated unit.

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, and 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. The surveillance requirements for the diesel generator load-run test and the 24-hour endurance and margin test are in accordance with Regulatory Guide 1.9, Revision 3, July 1993, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class 1E Onsite Electric Power Systems at Nuclear Power Plants." During the diesel generator endurance and margin surveillance test, momentary transients outside the kw and kvar load ranges do not invalidate the test results. Similarly, during the diesel generator load-run test, momentary transients outside the kw load range do not invalidate the test results.

The Surveillance Requirement for demonstrating the OPERABILITY of the Station batteries are based on the recommendations of Regulatory Guide 1.129 "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," February 1978, and IEEE Std 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations."

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 205 TO FACILITY OPERATING LICENSE NO. DPR-77

AND AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-79

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

1.0 INTRODUCTION

By application dated April 6, 1995, and supplemented May 26, 1995, the Tennessee Valley Authority (the licensee) proposed an amendment to the Technical Specifications (TS) for Sequoyah Nuclear Plant (SQN) Units 1 and 2. The proposed changes would revise the Action statement for Technical Specification 3.8.1.1 by inserting a new Action a, relabeling and modifying existing Action a to become Action b, adding a footnote referenced to Action b, renumbering the subsequent action statements, and adding information to the Bases that amplifies the action statements. The May 26, 1995, letter provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

The proposed new Action a would no longer address required actions for diesel generator testing. It would require that, should one of the ac electrical power sources listed be inoperable, operability of the remaining offsite ac circuit be demonstrated by performing Surveillance Requirement 4.8.1.1.1.a (verification of correct breaker alignment) within one hour and at least once per 8 hours thereafter. If two offsite circuits cannot be restored with 72 hours, the requirement to place the unit in hot standby within the next 6 hours and in cold shutdown within the following 30 hours would continue to be applicable.

The proposed change to Action b would address the testing requirements should a diesel generator become inoperable. It would (1) eliminate the requirement for demonstrating operability by starting diesel generators when an offsite circuit is inoperable, (2) eliminate the requirement for demonstrating operability by starting the remaining diesel generators if it can be determined within 24 hours that there is no common cause failure between the inoperable diesel generator and the remaining operable diesel generators, (3) require testing of operable diesel generators if the inoperability of the affected diesel generator has the potential to be the result of a common cause failure, and (4) clarify in a footnote that the common cause determination must be completed regardless of how long the diesel generator inoperability persists or Surveillance 4.8.1.1.2.a.4 must be completed to verify diesel generator operability.

TVA supplied the following as a basis for the changes:

a. The 24 hour completion time is based on Generic Letter 84-15.

b. The 24 hour completion time provides a reasonable time to confirm that the operable diesel generators are not affected by the same problem as the inoperable diesel generator.

c. The new action provides allowance to avoid unnecessary testing of operable diesel generators.

d. If it can be determined that the cause of failure does not exist on the remaining operable diesel generators, the remaining diesel generators do not have to be started to confirm no common cause failures.

e. If it cannot be determined that the cause of failure does not exist on the remaining diesel generators, starting of the remaining diesel generators suffices to provide assurance of no common cause failures.

f. If it is determined that the cause of failure does exist on the remaining redundant diesel generators, the failure must be repaired or plant shutdown must be initiated within two (2) hours. If the failure is repaired, the required action to determine no common cause failures is satisfied.

For the situation when the inoperable diesel generator is returned to operable status (within 24 hours) before the remaining diesel generators are either demonstrated or determined operable, TVA proposed adding a note referenced to the new Action b to indicate that the required actions to verify that the operable diesel generator sets are not inoperable due to common cause failure determination starting the diesel generators be completed if the Action item is entered. In the submittal, TVA indicated that this requirement is intended to assure that all diesel generator inoperabilities are investigated for common cause failures.

A proposed change to the Bases would provide guidance on the use of common cause failure determination to eliminate unnecessary diesel generator testing and would define when testing is required to verify diesel generator operability.

In justification for the proposed TS changes, TVA stated that testing of operable diesel generators when there is no possibility of a common cause failure with the inoperable diesel generators, does not provide a benefit and increases the degradation of the diesel generators unnecessarily. In addition, TVA indicated (1) that the proposed changes are consistent with the standard TS (NUREG 1431) and (2) that Generic Letter 84-15 recommended that licensees take actions to reduce unnecessary starts of the diesel generators because of the degradation that results.

Moreover, in their May 26, 1995 letter, TVA indicated that the normal routine testing (that is, once per 31 days) provides adequate assurance of diesel generator operability and that this position is supported by the overall reliability of the diesel generators. Of the 190 diesel generator tests conducted in 1994, there has been only one failure. Based upon this exhibited reliability, TVA indicated that the likelihood of diesel generator failure is judged to be sufficiently low during the time when the plant is operating with either an offsite circuit or a diesel generator inoperable. In addition, TVA indicated that the future implementation of the maintenance rule will further ensure that diesel generator reliability remains high.

EVALUATION

In NRC's program for enhancing the safety impact of TS (NUREG-1366 and Generic Letter 93-05), the staff recommended that the diesel generator(s) should be start tested only once (not every 8 hours) and within 8 hours of a failure unless the absence of any potential common mode failure can be demonstrated. Generic Letter 93-05 also recommended that when an offsite circuit becomes inoperable, start testing of the diesel generator should be deleted from TS requirements. In addition, NUREG-1366 indicated that diesel generator testing appears to be an area that would benefit from a reliability-based testing program. The report indicated that unnecessary testing may be further reduced by a reliability based program which includes a detailed root-cause analysis procedure, a good preventive maintenance program, detailed monitoring, and trending.

Therefore, the staff concludes that an additional start test will not significantly improve the level of assurance that the plant is not being operated with more than one ac power source inoperable. In addition, the drawbacks of testing may offset this benefit; that is, the potential for increased unavailability, unnecessary shutdowns, and diversion of operating personnel time and attention due to testing may eliminate or counter this benefit. The staff therefore considers the proposed elimination of the additional start test to be acceptable.

Also as part of the proposed TS change, TVA indicated that the additional start test will continue to be required if the existence of common cause failure cannot be established. In order to clarify common cause failure, changes to the surveillance requirement and its bases were also proposed. The staff considers these additional changes to be clarifications of existing requirements that are not being eliminated. These proposed changes do not alter existing requirements and are, therefore, acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Tennessee State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (60 FR 20529). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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