

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

June 23, 2004

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 04-361
NL&OS/GDM R0
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
PROPOSED TECHNICAL SPECIFICATIONS CHANGE
REVISION OF ACTIONS FOR UNPLANNED EMERGENCY DIESEL GENERATOR
INOPERABILITY

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests amendments, in the form of changes to the Technical Specifications (TS) to Facility Operating License Numbers DPR-32 and DPR-37 for Surry Power Station Units 1 and 2, respectively. The proposed change revises the TS requirements for verifying the operability of the remaining operable emergency diesel generator (EDG) when either unit's dedicated EDG or the shared backup EDG is inoperable. A related TS Basis change is also being implemented to: 1) provide an explanation of the revised TS requirements, 2) correct an erroneous statement regarding the sole dedication of the Unit 1 and Unit 2 EDGs to their respective unit, 3) note the preferential unit loading of the shared EDG and 4) update the TS Basis references. The TS Basis revision is included for the NRC's information. A minor editorial change to the TS is also being implemented. A discussion of the proposed TS change is provided in Attachment 1. The marked-up and proposed TS pages are provided in Attachments 2 and 3, respectively.

We have evaluated the proposed TS change and determined that it does not involve a significant hazards consideration as defined in 10 CFR 50.92. The basis for our determination is provided in Attachment 1. We have also determined that operation with the proposed change will not result in any significant increase in the amount of effluents that may be released offsite or any significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment is eligible for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed changes.

If you have any further questions or require additional information, please contact Mr. Gary Miller at 804-273-2771.

Very truly yours,



Leslie N. Hartz
Vice President – Nuclear Engineering

Attachments:

- Attachment 1 – Discussion of Change
- Attachment 2 – Marked-up Technical Specifications Pages
- Attachment 3 – Proposed Technical Specifications Pages

Commitments contained in this letter: None

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Attachment 1

Discussion of Change

**Surry Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)**

DISCUSSION OF CHANGE

Introduction

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests a change to the Technical Specifications (TS) for Surry Power Station Units 1 and 2. The proposed change revises the TS requirements for verifying the operability of the remaining operable emergency diesel generator (EDG) when either unit's dedicated EDG or the shared backup EDG is inoperable. A related TS Basis change is also being implemented to: 1) provide an explanation of the revised TS requirements, 2) correct an erroneous statement regarding the sole dedication of the Unit 1 and Unit 2 EDGs to their respective unit, 3) note the preferential unit loading of the shared EDG and 4) update the TS Basis references. The TS Basis revision is included for the NRC's information.

The proposed change has been reviewed, and it has been determined that no significant hazards consideration exists as defined in 10 CFR 50.92. In addition, it has been determined that the change qualifies for categorical exclusion from an environmental assessment as set forth in 10 CFR 51.22(c)(9); therefore, no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed change.

Background

Surry Power Station Technical Specifications (TS) Section 3.16, Emergency Power System, provides the limiting conditions for operation and associated action statements for the Emergency Power System, including the emergency diesel generators (EDGs). TS 4.6 provides the associated surveillance requirements. TS 3.16.B.1.a includes the requirements for POWER OPERATION or the return to power from HOT SHUTDOWN conditions with either the unit's dedicated diesel generator or the shared backup diesel generator inoperable. The specification as currently written was incorporated into the Surry TS by Amendments 167 and 166 dated March 2, 1992, for Surry Units 1 and 2, respectively, to further define opposite train testing requirements when either a unit's EDG or the shared EDG is inoperable. TS 3.16.B.1.a.2 specifies the testing requirement for the remaining operable (i.e., the opposite train) diesel. This specification requires that if either the unit's dedicated or shared EDG is unavailable or inoperable due to any cause other than preplanned preventive maintenance or testing, then the operability of the remaining operable EDG must be demonstrated daily. The intent of this testing is to ensure that the opposite train EDG is not likewise affected (common cause failure) and to provide added assurance that the operable EDG will continue to be capable of supplying emergency power if the offsite power source for a particular unit becomes inoperable or degraded.

However, there are many potential failure causes of EDG subsystems or components that would cause an EDG to be declared inoperable and yet would not realistically be considered as subject to common cause failure consideration for the opposite EDG.

Nonetheless, as currently written, TS 3.16.B.1.a.2 requires testing of the opposite train's EDG when the other EDG is declared inoperable due to inoperable support equipment or an independently testable component. This unnecessary testing of the operable EDG can result in the opposite effect intended by the requirement by causing component wear and the potential for reduced equipment reliability. In addition, this testing requirement causes both of the affected Unit's EDGs to be rendered inoperable during the opposite train's EDG operability verification test, thus increasing safety equipment unavailability.

Design Basis

The Surry Power Station Class IE AC electrical power distribution system AC sources consist of the offsite power sources and the onsite standby sources. The design of the AC electrical power system provides independence and redundancy to ensure an available source of power to the Engineered Safeguards systems. The onsite Class IE AC Distribution System is divided into redundant load groups (trains) so that the loss of any one group does not prevent the minimum safety functions from being performed. Each train has connections to one preferred offsite power source and a single emergency diesel generator (EDG). Offsite power is supplied to the switchyard from the transmission network by multiple transmission lines. From the switchyard, two electrically and physically separated circuits provide AC power through reserve station service transformers to the 4.16 kV emergency buses.

The safety-related onsite standby power source for the 4.16 kV emergency buses is provided by three 100 percent capacity EDGs for the two units. The Unit 1 EDG and the Unit 2 EDG are dedicated to emergency buses 1H and 2H, respectively. A third EDG is provided as a "swing diesel" and is shared by Units 1 and 2 and automatically aligns to emergency bus 1J (Unit 1) or 2J (Unit 2) depending on which unit sends an actuation signal and which signal is sent. Upon a loss of offsite power with no safety injection (SI) signal present, the third diesel generator is configured to preferentially load to the Unit 2 emergency bus. On a loss of offsite power coincident with an SI signal on a unit, the third diesel generator automatically aligns to the accident unit. The EDGs start automatically on an SI signal, Consequence Limiting Safeguards (CLS) signal, or on an emergency bus degraded voltage or undervoltage signal. After the EDG has started, it will automatically tie to its dedicated bus after offsite power is tripped as a consequence of emergency bus undervoltage or degraded voltage. The EDGs will also start and operate in the standby mode without tying to the emergency bus on an SI signal or a momentary degraded voltage condition. Following the loss of offsite power, an undervoltage signal initiates stripping of non-permanent loads from the emergency bus. When the EDG is tied to the emergency bus, loads are sequentially connected to their respective emergency bus by sequencing timing relays. The specific Engineered Safeguards equipment sequencing timers control the permissive and starting signals to motor breakers to prevent overloading the EDG by automatic load application. In the event of a loss of the offsite power source, the Engineered Safeguards electrical loads are then automatically connected to the EDGs in sufficient time to provide for safe reactor shutdown and to mitigate the consequences of a Design Basis Accident (DBA) such as a loss of coolant accident.

The opposite unit's offsite power source and EDG supplying the opposite unit's emergency bus are also required to be operable to support operation of certain common or shared systems/components (e.g., the Auxiliary Feedwater System, Main Control Room and Emergency Switchgear Room Air Conditioning and Emergency Ventilation Systems, Auxiliary Building Ventilation System, and the Containment Hydrogen Analyzer functions for the other unit.)

Licensing Basis

In December 1992, the NRC completed a comprehensive examination of surveillance requirements in the TS that require testing at power. The evaluation was documented in NUREG-1366, "Improvements to Technical Specification Surveillance Requirements." The NRC staff determined that while the majority of testing that is required to be performed at power is important, safety can be improved, equipment degradation can be decreased, and an unnecessary burden on personnel resources can be eliminated by reducing the amount of testing at power that is required by the TS. Based on the evaluation results that were documented in NUREG-1366, the NRC issued Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operations," dated September 27, 1993. Item 10.1 of GL 93-05 includes recommendations for TS changes associated with EDG surveillance requirements. Recommendation number 1 under Item 10.1 states that "When a EDG itself is inoperable (not including a support system or independently testable component), the other EDG should be tested only once (not every 8 hours) and within 8 hours unless the absence of any potential common mode failure can be demonstrated." Proposed TS wording acceptable to the NRC was also provided for licensees to incorporate the above recommendation into their TS as follows:

"If the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirements 4.8.1.1.2.a.5 and 4.8.1.1.2.a.6 within 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated."
(The underlined wording was added to the Standard TS by GL 93-05.)

NUREG-1366 stated that "The NRC staff recommends that the requirements to test the remaining diesel generator(s) when one diesel generator is inoperable due to any cause other than preplanned preventative maintenance or testing be limited to those situations where the cause for inoperability has not been conclusively demonstrated to preclude the potential for a common mode failure. However, when such testing is required, it should be performed within 8 hours of having determined that the diesel generator is inoperable."

This Technical Specification requirement was further revised under the Improved Technical Specifications (ITS) as stated in NUREG 1431, "Standard Technical

Specifications – Westinghouse Plants.” NUREG-1431 includes the following requirements to address the potential for a common cause failure when a required EDG is declared inoperable:

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One LCO 3.8.1.b EDG inoperable.</p>	<p>B.1 Perform SR 3.8.1.1 for the required offsite circuits.</p>	<p>1 hour</p> <p><u>AND</u></p> <p>Once per 8 hours thereafter</p>
	<p><u>AND</u></p>	
	<p>B.2 Declare required feature(s) supported by the inoperable EDG inoperable when its required redundant feature(s) is inoperable.</p>	<p>4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)</p>
	<p>B.3.1 Determine OPERABLE LCO 3.8.1.b EDG is not inoperable due to common cause failure.</p>	<p>24 hours</p>
	<p><u>OR</u></p>	
	<p>B.3.2 Perform SR 3.8.1.2 for OPERABLE LCO 3.8.1.b EDG.</p>	<p>24 hours</p>
<p><u>AND</u></p>		
<p>B.4 Restore EDG to OPERABLE status.</p>	<p>72 hours</p>	<p><u>AND</u></p> <p>17 days from discovery of failure to meet LCO</p>

Although Surry Power Station has custom TS, ITS Required Actions 3.8.1.B.1 and B.2 above are currently addressed by Surry TS 3.16.B.1.a.1 and TS 3.0.2, respectively. ITS Required Actions 3.8.1.B.3.1 and .2 for an inoperable EDG streamline the wording for determining whether a common cause failure exists for the remaining operable diesel generator(s) and revises the time for EDG testing from 8 hours to 24 hours. This action time is also consistent with the operable EDG testing requirements included in Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," dated July 2, 1984, and was determined to be acceptable in a letter to Virginia Electric and Power Company dated July 18, 1994 for a similar TS change approved for North Anna Power Station in Amendment Nos. 184 and 165 for North Anna Units 1 and 2, respectively. (Reference TAC Nos. M89208 and M89209.) North Anna subsequently converted to ITS and now includes TS requirements similar to those indicated in the above table. Therefore, to preclude unnecessary testing of the remaining operable EDG(s) consistent with NUREG-1366, GL 93-05 and NUREG-1431 guidance, Dominion proposes to revise TS 3.16.B.1.a.2 to generally incorporate the TS wording provided in NUREG-1431 for testing the remaining operable EDG (ITS 3.8.1, Action B.3).

ITS Required Action 3.8.1.B.4 addresses the restoration of the inoperable EDG to OPERABLE status. Existing Surry TS 3.16.B.1.a.3 currently addresses restoration of the inoperable EDG.

TS Basis Change

- The TS 3.16 Basis will be revised to add a paragraph explaining the reason for testing (or not testing) an operable EDG when either a unit's EDG or the shared EDG is inoperable.
- The offsite power source and EDG supplying one unit's emergency bus are also required to be operable to support operation of common/shared equipment and systems such as the Auxiliary Feedwater System, Main Control Room and Emergency Switchgear Room Air Conditioning and Emergency Ventilation Systems, Auxiliary Building Ventilation System, and the Containment Hydrogen Analyzer functions for the other unit. These functions share components that are electrically powered from both units. However, the Basis section for TS 3.16 currently states that "The Emergency Power System consists of three diesel generators for two units. One generator is used exclusively for Unit 1, the second generator for Unit 2, and the third functions as a backup for either Unit 1 or 2." Consequently, the TS 3.16 Basis will be revised to note that the EDGs for Unit 1 and Unit 2 also have power supply requirements associated with certain common/shared components.
- The TS 3.16 Basis will also be revised to note the preferential alignment of the third (shared) diesel generator to a specific unit. References will be updated to: 1) refer to the UFSAR versus the FSAR, 2) number the references, and 3) add Generic Letter 84-15 as a reference.

Editorial Change

The term “power operation” in TS 3.16.B is a defined term in the Technical Specifications. As defined TS terms are capitalized throughout the TS, the term “power operation” will be capitalized in TS 3.16.B.

Description of Proposed Change

The specific changes to the Surry Units 1 and 2 Technical Specifications are proposed as follows:

- TS 3.16.B will be revised to replace the defined term “power operation” with “POWER OPERATION” for consistency with the capitalization format used for other defined TS terms.
- TS 3.16.B.1.a.2 will be revised to delete the following wording:

“If the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the operability of the remaining OPERABLE diesel generator daily.”

And replace it with the revised wording as follows:

“Within 24 hours, determine that the OPERABLE diesel generator is not inoperable due to common cause failure or demonstrate the operability of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.6.A.1.a.

- The TS 3.16 Basis is being revised as follows:

1. Delete the following sentence in the first paragraph of the Basis section:

“One generator is used exclusively for Unit 1, the second generator for Unit 2, and the third generator functions as a backup for either Unit 1 or Unit 2.”

And replace it with the following text:

“The Unit 1 diesel generator and the Unit 2 diesel generator are dedicated to emergency buses 1H and 2H, respectively. A third diesel generator is provided as a “swing diesel” and is shared by Units 1 and 2. Upon receipt of a safety injection signal on a unit, the shared diesel generator automatically aligns to either emergency bus 1J (Unit 1) or 2J (Unit 2) as a backup power supply for the accident unit. The shared diesel is configured to preferentially load to the Unit 2 emergency bus on a loss of offsite power without a safety injection signal. The Unit 1 and Unit 2 diesel generators also supply power for certain common or shared plant systems/components.”

2. Add the following paragraph to the end of the current TS 3.16 Basis text:

“TS action statement 3.16.B.1.a.2 provides an allowance to avoid unnecessary testing of an OPERABLE EDG(s). If it can be determined that the cause of an inoperable EDG does not exist on the OPERABLE EDG(s), operability testing does not have to be performed. If the cause of the inoperability exists on the other EDG(s), then the other EDG(s) would be declared inoperable upon discovery, and the applicable required action(s) would be entered. Once the failure is repaired, the common cause failure no longer exists and the operability testing requirement for the OPERABLE EDG(s) is satisfied. If the cause of the initial inoperable EDG cannot be confirmed not to exist on the remaining EDG(s), performance of the operability test within 24 hours provides assurance of continued operability of those EDG(s).

In the event the inoperable EDG is restored to OPERABLE status prior to completing the operability testing requirement for the OPERABLE EDG(s), the corrective action program will continue to evaluate the common cause possibility, including the other unit’s EDG or the shared EDG. This continued evaluation, however, is no longer under the 24-hour constraint imposed by the action statement.

According to Generic Letter 84-15 (Ref. 6), 24 hours is reasonable to confirm that the OPERABLE EDG(s) is not affected by the same problem as the inoperable EDG.”

3. Update and number the TS 3.16 Basis References and add GL 84-15 to the References list.

Safety Implications of the Proposed Change

The proposed TS change does not modify the EDGs, associated components or support systems. There is no impact on their capability to perform nor is there any change in the likelihood that any individual EDG or any component or subsystem will fail to perform since conditions indicating a common cause failure possibility will continue to be evaluated and tested if appropriate. TS required EDG surveillance tests will continue to ensure that the EDGs can perform their required safety functions. As a result, the proposed change does not involve any increase in the probability or consequences of any accident or malfunction of equipment important to safety previously evaluated. There are no physical changes to the plant or to its methods of operation. Therefore, there is no possibility of a new or different kind of accident or malfunction of equipment important to safety being created. The proposed TS change makes no actual changes to the condition or performance of equipment or systems used in accident mitigation or assumed for any accident analysis that could reduce a margin of safety as described in the basis for any TS. Furthermore, the proposed TS change will not result in a design basis limit for a fission product barrier being exceeded or altered nor will it result in a

departure from a method of evaluation used in establishing the design bases or in the safety analyses, as dependable emergency power will continue to be available.

The elimination of unnecessary EDG operability verification testing requirements at power has been examined and accepted by the NRC staff in Generic Letter 93-05, Item 10.1. The NRC staff determined that, while the majority of testing at power is important, safety can be improved, equipment degradation can be decreased and an unnecessary burden on personnel resources eliminated by reducing the amount of testing at power required by the TS. The proposed TS change will improve overall EDG reliability by eliminating unnecessary starting and loading of the EDGs, thereby eliminating unnecessary wear and tear on the diesels. Safety system availability will be improved by not requiring an operable EDG to be taken out of service for testing while the opposite train's EDG is inoperable when it can be demonstrated that a common cause failure mechanism does not exist.

Significant Hazards Consideration

Consistent with NRC Generic Letter 93-05, NUREG-1366 and NUREG-1431, Virginia Electric and Power Company (Dominion) is requesting a change to the testing requirement for the remaining operable Emergency Diesel Generator(s) (EDG) when either unit's EDG or the shared EDG is inoperable. Specifically, if it can be demonstrated that the cause of an inoperable EDG does not exist on the opposite train's operable EDG(s), operability testing does not have to be performed. Dominion has reviewed the requirements of 10 CFR 50.92 as they relate to the proposed change to the Surry Power Station Units 1 and 2 Technical Specifications and has determined that a significant hazards consideration does not exist. The basis for this determination is provided as follows:

1. Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed change does not impact the condition or performance of any plant structure, system or component. The proposed change clarifies the testing requirement for the operable EDG(s) to limit testing to only the intended purpose of the requirement, which is to confirm a common cause failure mechanism does not exist in the opposite train's EDG(s). The proposed change does not affect the initiators of analyzed events nor the assumed mitigation of accident or transient events. Common cause failure testing of the remaining operable EDG(s) will still occur unless the reason for the EDG inoperability is demonstrably not due to a common cause failure mechanism. Furthermore, elimination of unnecessary testing of the operable EDG(s) will reduce component wear and thus promote EDG reliability and consequentially safety equipment availability. As a result, the proposed change to the Surry Technical Specifications does not involve any increase in the probability or the consequences of any accident or malfunction of equipment important to safety previously evaluated since neither accident probabilities nor consequences are being affected by this proposed change.

2. Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

The proposed change does not involve a physical alteration of the plant or a change in the methods used to respond to plant transients. No new or different equipment is being installed and no installed equipment is being removed or operated in a different manner. There is no alteration to the parameters within which the plant is normally operated or in the setpoints which initiate protective or mitigative actions. The EDGs will continue to perform their required safety functions. Furthermore, common cause failure testing will continue to occur if the EDG failure mechanism cannot be eliminated as a common cause possibility. Consequently, no new failure modes are introduced by the proposed change. Therefore, the proposed change to the Surry Technical Specifications does not create the possibility of a new or different kind of accident or malfunction of equipment important to safety from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

The proposed TS change does not impact station operation or any plant structure, system or component that is relied upon for accident mitigation. Margin of safety is established through the design of the plant structures, systems and components, the parameters within which the plant is operated, and the establishment of the setpoints for the actuation of equipment relied upon to respond to an event. Since station operations and EDG surveillance requirements are not affected by the proposed change, the EDGs will continue to be available to perform their required safety functions. Furthermore, the change does not impact the condition or performance of structures, systems or components relied upon for accident mitigation or any safety analysis assumptions. Therefore, the proposed change to the Surry Technical Specifications does not involve any reduction in a margin of safety.

Environmental Assessment

This amendment request meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) as follows:

- (i) The amendment involves no significant hazards consideration.

As described above, the proposed TS change does not involve a significant hazards consideration.

- (ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed TS change does not involve the installation of any new equipment or the modification of any equipment that may affect the types or amounts of effluents that may be released offsite. Plant operation is not affected in any manner by this proposed change. Therefore, there is no significant change in the types or

significant increase in the amounts of any effluents that may be released offsite.

- (iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed TS change does not involve plant physical changes or changes in the method of plant operation. Therefore, there is no significant increase in individual or cumulative occupational radiation exposure.

Based on the above assessment, Dominion concludes that the proposed change meets the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.22 relative to requiring a specific environmental assessment or impact statement by the Commission.

Conclusion

The NRC staff determined that, while the majority of testing at power is important, safety can be improved, equipment degradation can be decreased and an unnecessary burden on personnel resources eliminated by reducing the amount of testing at power required by the TS. The elimination of unnecessary operability verification testing of an operable EDG at power has been examined and accepted by the NRC staff in Generic Letter 93-05, Item 10.1. The proposed TS change will improve overall EDG reliability and consequentially system availability by eliminating unnecessary starting and loading of the EDGs thus reducing component wear. Neither station design nor operation is being affected. The Station Nuclear Safety and Operating Committee (SNSOC) and the Management Safety Review Committee (MSRC) have reviewed the proposed change and have concluded that this change does not involve a significant hazards consideration nor will it endanger the health and safety of the public.

References

1. Letter from J. P. O'Hanlon of Virginia Electric and Power Company to the USNRC dated March 1, 1994, (Serial No. 94-120), "Virginia Electric and Power Company, North Anna Power Station Units 1 and 2, Proposed Technical Specifications Changes, Removal of Unnecessary Emergency Diesel Generator Surveillance Requirements in Accordance with NRC Generic Letter 93-05."
2. Letter from J. P. O'Hanlon of Virginia Electric and Power Company to the USNRC dated June 16, 1994, (Serial No. 94-120A), "Virginia Electric and Power Company, North Anna Power Station Units 1 and 2, Supplemental Revision to Proposed Technical Specifications Changes, Removal of Unnecessary Emergency Diesel Generator Surveillance Requirements."
3. Letter from the USNRC to Mr. J. P. O'Hanlon of Virginia Electric and Power Company dated July 18, 1994, "North Anna Units 1 and 2 – Issuance of Amendments Re: Elimination of Certain Surveillance Requirements for Emergency Diesel Generators (EDGs) (TAC nos. M89208 and M89209)."
4. NUREG-1431, "Standard Technical Specifications, Westinghouse Plants."
5. NUREG-1366, "Improvements to Technical Specification Surveillance Requirements," dated December 1992.
6. Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," dated July 2, 1984.
7. Generic Letter 93-05, "Line-Item Technical Specifications Improvements to Reduce Surveillance Requirements for Testing During Power Operations," dated September 27, 1993 (Serial No. 93-645).
8. Surry Updated Final Safety Analysis Report, Section 8.5.

Attachment 2

Marked-up of Technical Specifications Pages

**Surry Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)**

4. Two physically independent circuits from the offsite transmission network to energize the 4,160V and 480V emergency buses. One of these sources must be immediately available (i.e. primary source) and the other must be capable of being made available within 8 hours (i.e. dependable alternate source).
 5. Two OPERABLE flow paths for providing fuel to each diesel generator.
 6. Two station batteries, two chargers, and the DC distribution systems OPERABLE.
 7. Emergency diesel generator battery, charger and the DC control circuitry OPERABLE for the unit diesel generator and for the shared back-up diesel generator.
- B. During ~~power operation~~ ^{operation} or the return to power from HOT SHUTDOWN, the requirements of specification 3.16-A may be modified by one of the following:
- 1.a. With either unit's dedicated diesel generator or shared backup diesel generator unavailable or inoperable:
 1. Verify the operability of two physically independent offsite AC circuits within one hour and at least once per eight hours thereafter.
 2. ^{Insert 1} ~~If the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, demonstrate the operability of the remaining OPERABLE diesel generator daily.~~ For the purpose of operability testing, the second diesel generator may be inoperable for a total of two hours per test provided the two offsite AC circuits have been verified OPERABLE prior to testing.
 3. If this diesel generator is not returned to an OPERABLE status within 7 days, the reactor shall be brought to HOT SHUTDOWN within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
 - 1.b. One diesel fuel oil flow path may be "inoperable" for 24 hours provided the other flow path is proven OPERABLE. If after 24 hours, the inoperable flow path cannot be returned to service for reasons other than buried fuel oil storage tank inspection and related repair, the diesel shall be considered "inoperable." When the emergency diesel generator battery, charger or DC control circuitry is inoperable, the diesel shall be considered "inoperable."

2. If a primary source is not available, the unit may be operated for seven (7) days provided the dependable alternate source can be OPERABLE within 8 hours. If specification A-4 is not satisfied within seven (7) days, the unit shall be brought to COLD SHUTDOWN.
3. One battery may be inoperable for 24 hours provided the other battery and battery chargers remain OPERABLE with one battery charger carrying the DC load of the failed battery's supply system. If the battery is not returned to OPERABLE status within the 24 hour period, the reactor shall be placed in HOT SHUTDOWN. If the battery is not restored to OPERABLE status within an additional 48 hours, the reactor shall be placed in COLD SHUTDOWN.
4. One buried fuel oil storage tank may be inoperable for 7 days for tank inspection and related repair, provided the following actions are taken:
 - a. prior to removing the tank from service, verify that 50,000 gallons of replacement fuel oil is available offsite and transportation is available to deliver that volume of fuel oil within 48 hours, and
 - b. prior to removing the tank from service and at least once every 12 hours, verify that the remaining buried fuel oil storage tank contains $\geq 17,500$ gallons, and
 - c. prior to removing the tank from service and at least once every 12 hours, verify that the above ground fuel oil storage tank contains $\geq 50,000$ gallons.

If these conditions are not satisfied or if the buried fuel oil storage tank is not returned to OPERABLE status within 7 days, both units shall be placed in HOT SHUTDOWN within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

- C. The continuous running electrical load supplied by an emergency diesel generator shall be limited to 2750 KW.

Basis

The Emergency Power System is an on-site, independent, automatically starting power source. It supplies power to vital unit auxiliaries if a normal power source is not available. The Emergency Power System consists of three diesel generators for two units. ~~One generator is used exclusively for Unit 1, the second generator for Unit 2, and the third generator functions as a backup for either Unit 1 or 2.~~ The diesel generators have a cumulative 2,000 hour rating of 2750 KW. The actual loads using conservative

Insert
2

Insert 3

References

- (1) UFSAR Section 8.5 Emergency Power System
- (2) UFSAR Section 9.3 Residual Heat Removal System
- (3) UFSAR Section 9.4 Component Cooling System
- (4) UFSAR Section 10.3.2 Auxiliary Steam System
- (5) UFSAR Section 10.3.5 Condensate and Feedwater System

(6) Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," dated July 2, 1984

INSERTS FOR TS SECTION 3.16 AND ASSOCIATED BASIS

Insert 1 (TS 3.16.B.1.a.2)

Within 24 hours, determine that the OPERABLE diesel generator is not inoperable due to common cause failure or demonstrate the operability of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.6.A.1.a.

Insert 2 (TS 3.16 Basis)

The Unit 1 diesel generator and the Unit 2 diesel generator are dedicated to emergency buses 1H and 2H, respectively. A third diesel generator is provided as a “swing diesel” and is shared by Units 1 and 2. Upon receipt of a safety injection signal on a unit, the shared diesel generator automatically aligns to either emergency bus 1J (Unit 1) or 2J (Unit 2) as a backup power supply for the accident unit. The shared diesel is configured to preferentially load to the Unit 2 emergency bus on a loss of offsite power without a safety injection signal. The Unit 1 and Unit 2 diesel generators also supply power for certain common or shared plant systems/components.

Insert 3 (TS 3.16 Basis)

TS action statement 3.16.B.1.a.2 provides an allowance to avoid unnecessary testing of an OPERABLE EDG(s). If it can be determined that the cause of an inoperable EDG does not exist on the OPERABLE EDG(s), operability testing does not have to be performed. If the cause of the inoperability exists on the other EDG(s), then the other EDG(s) would be declared inoperable upon discovery, and the applicable required action(s) would be entered. Once the failure is repaired, the common cause failure no longer exists and the operability testing requirement for the OPERABLE EDG(s) is satisfied. If the cause of the initial inoperable EDG cannot be confirmed not to exist on the remaining EDG(s), performance of the operability test within 24 hours provides assurance of continued operability of those EDG(s).

In the event the inoperable EDG is restored to OPERABLE status prior to completing the operability testing requirement for the OPERABLE EDG(s), the corrective action program will continue to evaluate the common cause possibility, including the other unit's EDG or the shared EDG. This continued evaluation, however, is no longer under the 24-hour constraint imposed by the action statement.

According to Generic Letter 84-15 (Ref. 6), 24 hours is reasonable to confirm that the OPERABLE EDG(s) is not affected by the same problem as the inoperable EDG.

Attachment 3

Proposed Technical Specifications Pages

**Surry Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)**

TABULATION OF CHANGES

License No. DPR-32 / Docket No. 50-280
License No. DPR-37 / Docket No. 50-281

Summary of Changes:

The proposed change revises the TS requirements for verifying the operability of the remaining OPERABLE emergency diesel generator (EDG) when either unit's dedicated EDG or the shared backup EDG is inoperable. A related TS Basis change is also being implemented to: 1) provide an explanation of the revised TS requirements, 2) correct an erroneous statement regarding the sole dedication of the Unit 1 and Unit 2 EDGs to their respective unit, 3) note the preferential unit loading of the shared EDG and 4) update the TS Basis references. The TS Basis revision is included for the NRC's information. A minor editorial change to the TS is also being implemented.

<u>DELETE</u>	<u>DATED</u>	<u>SUBSTITUTE</u>
TS 3.16-2	09-10-03	TS 3.16-2
TS 3.16-3	09-10-03	TS 3.16-3
TS 3.16-7	12-8-75	TS 3.16-7

4. Two physically independent circuits from the offsite transmission network to energize the 4,160V and 480V emergency buses. One of these sources must be immediately available (i.e. primary source) and the other must be capable of being made available within 8 hours (i.e. dependable alternate source).
 5. Two OPERABLE flow paths for providing fuel to each diesel generator.
 6. Two station batteries, two chargers, and the DC distribution systems OPERABLE.
 7. Emergency diesel generator battery, charger and the DC control circuitry OPERABLE for the unit diesel generator and for the shared back-up diesel generator.
- B. During POWER OPERATION or the return to power from HOT SHUTDOWN, the requirements of specification 3.16-A may be modified by one of the following:
- 1.a. With either unit's dedicated diesel generator or shared backup diesel generator unavailable or inoperable:
 1. Verify the operability of two physically independent offsite AC circuits within one hour and at least once per eight hours thereafter.
 2. Within 24 hours, determine that the OPERABLE diesel generator is not inoperable due to common cause failure or demonstrate the operability of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.6.A.1.a. For the purpose of operability testing, the second diesel generator may be inoperable for a total of two hours per test provided the two offsite AC circuits have been verified OPERABLE prior to testing.
 3. If this diesel generator is not returned to an OPERABLE status within 7 days, the reactor shall be brought to HOT SHUTDOWN within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
 - 1.b. One diesel fuel oil flow path may be "inoperable" for 24 hours provided the other flow path is proven OPERABLE. If after 24 hours, the inoperable flow path cannot be returned to service, the diesel shall be considered "inoperable." When the emergency diesel generator battery, charger or DC control circuitry is inoperable, the diesel shall be considered "inoperable."

2. If a primary source is not available, the unit may be operated for seven (7) days provided the dependable alternate source can be OPERABLE within 8 hours. If specification A-4 is not satisfied within seven (7) days, the unit shall be brought to COLD SHUTDOWN.
 3. One battery may be inoperable for 24 hours provided the other battery and battery chargers remain OPERABLE with one battery charger carrying the DC load of the failed battery's supply system. If the battery is not returned to OPERABLE status within the 24 hour period, the reactor shall be placed in HOT SHUTDOWN. If the battery is not restored to OPERABLE status within an additional 48 hours, the reactor shall be placed in COLD SHUTDOWN.
 4. One buried fuel oil storage tank may be inoperable for 7 days for tank inspection and related repair, provided the following actions are taken:
 - a. prior to removing the tank from service, verify that 50,000 gallons of replacement fuel oil is available offsite and transportation is available to deliver that volume of fuel oil within 48 hours, and
 - b. prior to removing the tank from service and at least once every 12 hours, verify that the remaining buried fuel oil storage tank contains $\geq 17,500$ gallons, and
 - c. prior to removing the tank from service and at least once every 12 hours, verify that the above ground fuel oil storage tank contains $\geq 50,000$ gallons.

If these conditions are not satisfied or if the buried fuel oil storage tank is not returned to OPERABLE status within 7 days, both units shall be placed in HOT SHUTDOWN within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
- C. The continuous running electrical load supplied by an emergency diesel generator shall be limited to 2750 KW.

Basis

The Emergency Power System is an on-site, independent, automatically starting power source. It supplies power to vital unit auxiliaries if a normal power source is not available. The Emergency Power System consists of three diesel generators for two units. The Unit 1 diesel generator and the Unit 2 diesel generator are dedicated to emergency buses 1H and 2H, respectively. A third diesel generator is provided as a "swing diesel" and is shared by Units 1 and 2. Upon receipt of a safety injection signal on a unit, the shared diesel generator automatically aligns to either emergency bus 1J (Unit 1) or 2J (Unit 2) as a backup power supply for the accident unit. The shared diesel is configured to preferentially load to the Unit 2 emergency bus on a loss of offsite power without a safety injection signal. The Unit 1 and Unit 2 diesel generators also supply power for certain common or shared plant systems/components. The diesel generators have a cumulative 2,000 hour rating of 2750 KW. The actual loads using conservative

TS action statement 3.16.B.1.a.2 provides an allowance to avoid unnecessary testing of an OPERABLE EDG(s). If it can be determined that the cause of an inoperable EDG does not exist on the OPERABLE EDG(s), operability testing does not have to be performed. If the cause of the inoperability exists on the other EDG(s), then the other EDG(s) would be declared inoperable upon discovery, and the applicable required action(s) would be entered. Once the failure is repaired, the common cause failure no longer exists and the operability testing requirement for the OPERABLE EDG(s) is satisfied. If the cause of the initial inoperable EDG cannot be confirmed not to exist on the remaining EDG(s), performance of the operability test within 24 hours provides assurance of continued operability of those EDG(s).

In the event the inoperable EDG is restored to OPERABLE status prior to completing the operability testing requirement for the OPERABLE EDG(s), the corrective action program will continue to evaluate the common cause possibility, including the other unit's EDG or the shared EDG. This continued evaluation, however, is no longer under the 24-hour constraint imposed by the action statement.

According to Generic Letter 84-15 (Ref. 6), 24 hours is reasonable to confirm that the OPERABLE EDG(s) is not affected by the same problem as the inoperable EDG.

References

- (1) UFSAR Section 8.5 Emergency Power System
- (2) UFSAR Section 9.3 Residual Heat Removal System
- (3) UFSAR Section 9.4 Component Cooling System
- (4) UFSAR Section 10.3.2 Auxiliary Steam System
- (5) UFSAR Section 10.3.5 Condensate and Feedwater System
- (6) Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," dated July 2, 1984