

ENCLOSURE 2

**REVISED TECHNICAL SPECIFICATION PAGES TO
TECHNICAL SPECIFICATION 3/4.8.1.1
A.C. SOURCES - OPERATING**

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ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

INSERT A

~~f.* With switchyard voltage less than 524 kV and with three startup transformers in service, restore OPERABILITY of one train of A.C. sources by blocking fast bus transfer within 1 hour; AND¹ either:~~

- ~~1. Restore OPERABILITY of the remaining EDG by starting, loading, and separating from offsite power within the next hour; AND² restore the remaining offsite circuit to OPERABLE status within 72 hours AND within 6 days from the discovery of failure to meet the LCO; OR~~
- ~~2. Restore OPERABILITY of the remaining train of A.C. sources by blocking fast bus transfer within the next hour; OR~~
- ~~3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

~~g.* With switchyard voltage less than 525 kV and with two startup transformers in service, restore OPERABILITY of one train of A.C. sources by blocking fast bus transfer within 1 hour; AND¹ either:~~

- ~~1. Restore OPERABILITY of the remaining EDG by starting, loading, and separating from offsite power within the next hour; AND² restore the remaining offsite circuit to OPERABLE status within 72 hours AND within 6 days from the discovery of failure to meet the LCO; OR~~
- ~~2. Restore OPERABILITY of the remaining train of A.C. sources by blocking fast bus transfer within the next hour; OR~~
- ~~3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

DELETE

~~*This amendment will expire upon full implementation of the final modification.~~

DELETE

~~¹ Enter applicable conditions and requirements of TS LCO 3.8.1.1 ACTION a and ACTION b for the INOPERABLE train. In addition, with no A.C. power source to one train, enter applicable conditions and ACTIONS of TS LCO 3.8.3.1, "Onsite Power Distribution Systems Operating."~~

¹ Enter applicable conditions and requirements of TS LCO 3.8.1.1 ACTION a for the INOPERABLE offsite circuit.

REVISE



Handwritten text, possibly a signature or name, located at the bottom of the page. The text is written in a cursive or script style and is somewhat difficult to decipher due to the faintness of the ink. It appears to be a single line of text, possibly a name or a signature.

Insert A

- f. With switchyard voltage less than 524 kV, with three startup transformers in service, and with circuit breakers NANS03B and NANS04B open:
1. Restore OPERABILITY of degraded voltage protection by blocking fast bus transfer for one train within 1 hour and start, load, and separate the opposite train's EDG from offsite power within 1 hour;¹ AND restore switchyard voltage above 524 kV within 72 hours; OR
 2. Restore OPERABILITY of both trains of degraded voltage protection by blocking fast bus transfer on both trains within 1 hour; AND restore switchyard voltage above 524 kV within 72 hours; OR
 3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- g. With switchyard voltage less than 525 kV, with two startup transformers in service, and with circuit breakers NANS03B and NANS04B open:
1. Restore OPERABILITY of degraded voltage protection by blocking fast bus transfer for one train within 1 hour and start, load, and separate the opposite train's EDG from offsite power within 1 hour;¹ AND restore switchyard voltage above 525 kV within 72 hours; OR
 2. Restore OPERABILITY of both trains of degraded voltage protection by blocking fast bus transfer on both trains within 1 hour; AND restore switchyard voltage above 525 kV within 72 hours; OR
 3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ELECTRICAL POWER SYSTEMS

REPLACE

BASES

degraded voltage protection

A.C. SOURCES, D.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS (Continued)

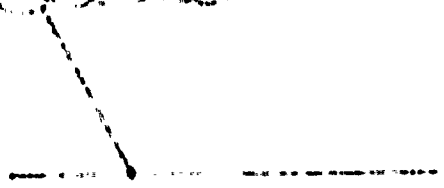
ACTION requirements 3.8.1.1.f and 3.8.1.1.g provide restrictions upon continued unit operation commensurate with degradation of switchyard voltage and restoration of OPERABILITY of the required A.C. sources. In an effort to minimize the risk to the health and safety to the public, ACTIONS 3.8.1.1.f and 3.8.1.1.g balance the risk of a forced shutdown against the risk of remaining at power with a switchyard voltage in the lower portion of the expected range. The risk during ACTIONS 3.8.1.1.f and 3.8.1.1.g due to a switchyard voltage in the lower portion of the expected range and an independent accident is less than the risk associated with a normal shutdown including a reactor trip.

Conformance to GDC-17 requires maintenance of switchyard voltages at or above those identified in ACTIONS 3.8.1.1.f and 3.8.1.1.g. At voltages below those identified, a unit trip resulting from an ESF signal, coincident with low switchyard voltages, will result in sequencing of ESF equipment on preferred offsite power. The Class 1E degraded voltage relays will detect a sustained degraded voltage due to the fast bus transfer of non-Class 1E loads from the auxiliary transformers to the startup transformers. The relays will actuate to strip the ESF equipment and resequence it on the emergency diesel generator. This "double sequencing" causes an interruption in equipment credited with specific response time in the UFSAR Chapter 6 and 15 safety analysis, and is unanalyzed. Maintenance of switchyard voltage at or above the specified value prevents this effect as does the configurations authorized by ACTIONS 3.8.1.1.f and 3.8.1.1.g. The required voltage is higher when three units are operating on two startup transformers, as two secondary windings of the startup transformers must each supply ESF power to two units.

~~ACTIONS 3.8.1.1.f.1 and 3.8.1.1.g.1 are preferred over ACTIONS 3.8.1.1.f.2 and 3.8.1.1.g.2.~~ ~~ACTIONS 3.8.1.1.f.1 and 3.8.1.1.g.1 are designed to balance the probability of double sequencing (should no actions to mitigate be undertaken) due to switchyard voltage in the lower portion of the expected range coincident with an accident, which is unlikely, against the probability of natural circulation (should both trains of fast bus transfer be blocked) due to a unit trip coincident with switchyard voltage in the lower portion of the expected range, which is also unlikely but more probable. ACTIONS 3.8.1.1.f.1 and 3.8.1.1.g.1 provides offsite power to half of the non-class 1E loads for forced circulation to respond to a normal plant trip, as well as EDG power and the second offsite power circuit to the two trains of ESF equipment to respond to any accident. ACTIONS 3.8.1.1.f.2 and 3.8.1.1.g.2 are provided to allow operation of both trains of fast bus transfer blocked in the unlikely event of problems with the emergency diesel generators.~~ ~~DELETE~~ ~~REVISE~~

Add If the switchyard voltage perturbation is less than 28.62 seconds, the current minimum time delay of the Degraded Voltage Relays (DVRs), then the LCD is met and no action is required. If breakers NANS'03B and NANS'04B are closed; i.e., fast bus transfer has already occurred, and the DVRs have not activated, then the LCD is met, regardless of switchyard voltage, and no action is required as the DVRs are capable of determining adequate voltage at the CLASS 1E 4.16 kV buses.

REFERENCE
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REFERENCE

(Faint, illegible text)

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

INSERT B

~~f.* With switchyard voltage less than 518 kV and with three startup transformers in service, restore OPERABILITY of one train of A.C. sources by blocking fast bus transfer within 1 hour; AND¹ either:~~

- ~~1. Restore OPERABILITY of the remaining EDG by starting, loading, and separating from offsite power within the next hour; AND² restore the remaining offsite circuit to OPERABLE status within 72 hours AND within 6 days from the discovery of failure to meet the LCO; OR~~
- ~~2. Restore OPERABILITY of the remaining train of A.C. sources by blocking fast bus transfer within the next hour; OR~~
- ~~3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

~~g.* With switchyard voltage less than 525 kV and with two startup transformers in service, restore OPERABILITY of one train of A.C. sources by blocking fast bus transfer within 1 hour; AND¹ either:~~

- ~~1. Restore OPERABILITY of the remaining EDG by starting, loading, and separating from offsite power within the next hour; AND² restore the remaining offsite circuit to OPERABLE status within 72 hours AND within 6 days from the discovery of failure to meet the LCO; OR~~
- ~~2. Restore OPERABILITY of the remaining train of A.C. sources by blocking fast bus transfer within the next hour; OR~~
- ~~3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

DELETE

~~*This amendment will expire upon full implementation of the final modification.~~

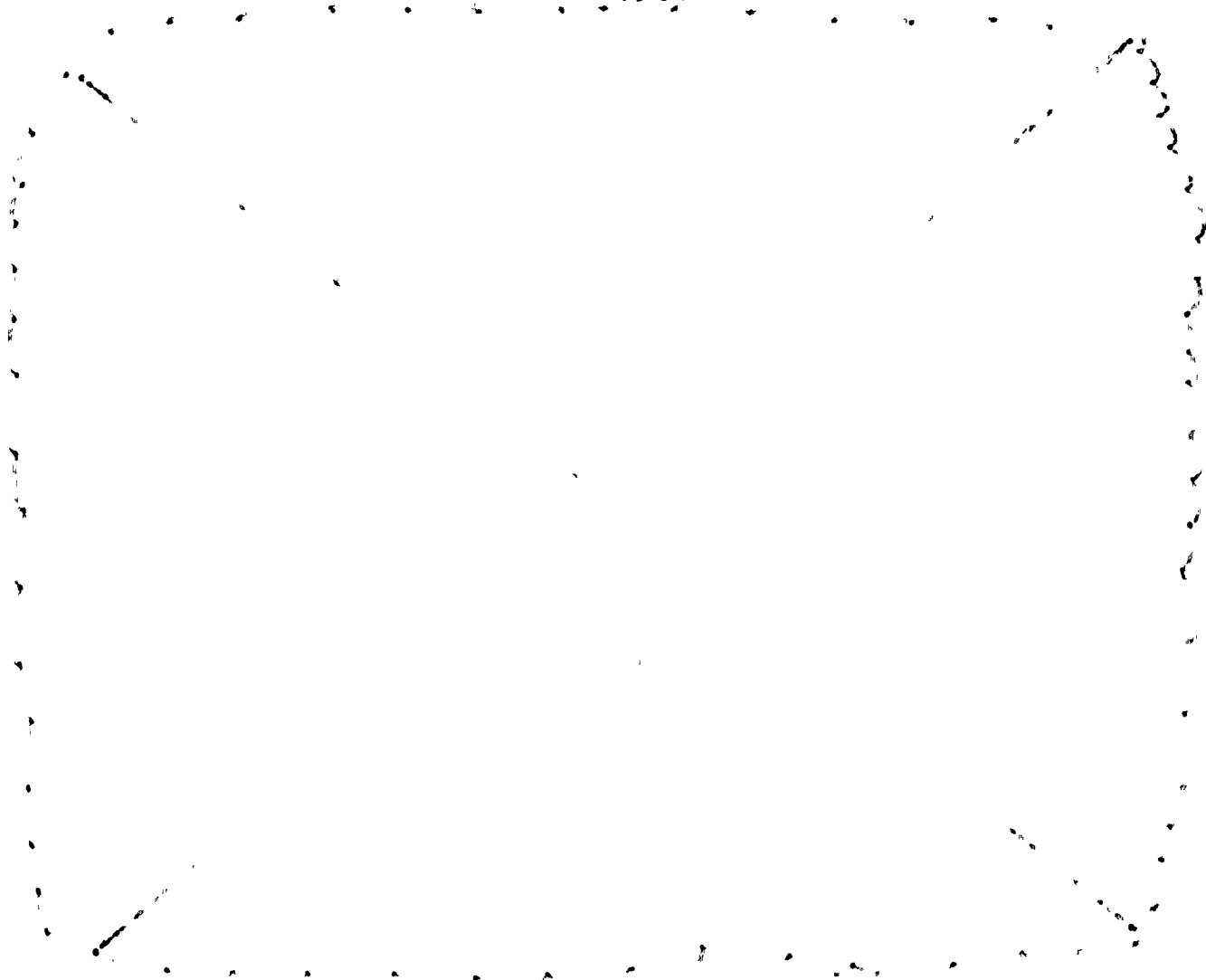
DELETE

~~1 Enter applicable conditions and requirements of TS LCO 3.8.1.1 ACTION a and ACTION b for the INOPERABLE train. In addition, with no A.C. power source to one train, enter applicable conditions and ACTIONS of TS LCO 3.8.3.1, "Onsite Power Distribution Systems Operating."~~

1 Enter applicable conditions and requirements of TS LCO 3.8.1.1 ACTION a for the INOPERABLE offsite circuit.

REVISE

29 1930



1931

1932

Insert B

- f. With switchyard voltage less than 518 kV, with three startup transformers in service, and with circuit breakers NANS03B and NANS04B open:
1. Restore OPERABILITY of degraded voltage protection by blocking fast bus transfer for one train within 1 hour and start, load, and separate the opposite train's EDG from offsite power within 1 hour;¹ AND restore switchyard voltage above 518 kV within 72 hours; OR
 2. Restore OPERABILITY of both trains of degraded voltage protection by blocking fast bus transfer on both trains within 1 hour; AND restore switchyard voltage above 518 kV within 72 hours; OR
 3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- g. With switchyard voltage less than 525 kV, with two startup transformers in service, and with circuit breakers NANS03B and NANS04B open:
1. Restore OPERABILITY of degraded voltage protection by blocking fast bus transfer for one train within 1 hour and start, load, and separate the opposite train's EDG from offsite power within 1 hour;¹ AND restore switchyard voltage above 525 kV within 72 hours; OR
 2. Restore OPERABILITY of both trains of degraded voltage protection by blocking fast bus transfer on both trains within 1 hour; AND restore switchyard voltage above 525 kV within 72 hours; OR
 3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ELECTRICAL POWER SYSTEMS

REPLACE

degraded voltage protection

BASES

A.C. SOURCES, D.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS (Continued)

ACTION requirements 3.8.1.1.f and 3.8.1.1.g provide restrictions upon continued unit operation commensurate with degradation of switchyard voltage and restoration of OPERABILITY of the required A.C. sources. In an effort to minimize the risk to the health and safety to the public, ACTIONS 3.8.1.1.f and 3.8.1.1.g balance the risk of a forced shutdown against the risk of remaining at power with a switchyard voltage in the lower portion of the expected range. The risk during ACTIONS 3.8.1.1.f and 3.8.1.1.g due to a switchyard voltage in the lower portion of the expected range and an independent accident is less than the risk associated with a normal shutdown including a reactor trip.

Conformance to GDC-17 requires maintenance of switchyard voltages at or above those identified in ACTIONS 3.8.1.1.f and 3.8.1.1.g. At voltages below those identified, a unit trip resulting from an ESF signal, coincident with low switchyard voltages, will result in sequencing of ESF equipment on preferred offsite power. The Class 1E degraded voltage relays will detect a sustained degraded voltage due to the fast bus transfer of non-Class 1E loads from the auxiliary transformers to the startup transformers. The relays will actuate to strip the ESF equipment and resequence it on the emergency diesel generator. This "double sequencing" causes an interruption in equipment credited with specific response time in the UFSAR Chapter 6 and 15 safety analysis, and is unanalyzed. Maintenance of switchyard voltage at or above the specified value prevents this effect as does the configurations authorized by ACTIONS 3.8.1.1.f and 3.8.1.1.g. The required voltage is higher when three units are operating on two startup transformers, as two secondary windings of the startup transformers must each supply ESF power to two units.

~~ACTIONS 3.8.1.1.f.1 and 3.8.1.1.g.1 are preferred over ACTIONS 3.8.1.1.f.2 and 3.8.1.1.g.2.~~ ~~ACTIONS 3.8.1.1.f.1 and 3.8.1.1.g.1 are designed to balance the probability of double sequencing (should no actions to mitigate be undertaken) due to switchyard voltage in the lower portion of the expected range coincident with an accident, which is unlikely, against the probability of natural circulation (should both trains of fast bus transfer be blocked) due to a unit trip coincident with switchyard voltage in the lower portion of the expected range, which is also unlikely but more probable. ACTIONS 3.8.1.1.f.1 and 3.8.1.1.g.1 provides offsite power to half of the non-class 1E loads for forced circulation to respond to a normal plant trip, as well as EDG power and the second offsite power circuit to the two trains of ESF equipment to respond to any accident. ACTIONS 3.8.1.1.f.2 and 3.8.1.1.g.2 are provided to allow operation of both trains of fast bus transfer blocked in the unlikely event of problems with the emergency diesel generators.~~ ~~REVISE~~

Add If the switchyard voltage perturbation is less than 28.62 seconds, the current minimum time delay of the Degraded Voltage Relays (DVRs), then the LCO is met and no action is required. If breakers NANS03B and NANS04B are closed; i.e. fast bus transfer has already occurred, and the DVRs have not activated, then the LCO is met, regardless of switchyard voltage, and no action is required as the DVRs are capable of determining adequate voltage at the Class 1E 4.16 kV buses.

SECRET
(Classification)

SECRET

SECRET

1. The information contained in this document is classified "Secret" because it contains information the disclosure of which would be injurious to the national defense.

2. This information is being furnished to you for your information only and is not to be distributed outside your agency.

3. The information is being furnished to you for your information only and is not to be distributed outside your agency.

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ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

INSERT C

- ~~f.* With switchyard voltage less than 518 kV and with three startup transformers in service, restore OPERABILITY of one train of A.C. sources by blocking fast bus transfer within 1 hour; AND¹ either:~~
- ~~1. Restore OPERABILITY of the remaining EDG by starting, loading, and separating from offsite power within the next hour; AND² restore the remaining offsite circuit to OPERABLE status within 72 hours AND within 6 days from the discovery of failure to meet the LCO; OR~~
 - ~~2. Restore OPERABILITY of the remaining train of A.C. sources by blocking fast bus transfer within the next hour; OR~~
 - ~~3. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~
- ~~g.* With switchyard voltage less than 525 kV and with two startup transformers in service, restore OPERABILITY of one train of A.C. sources by blocking fast bus transfer within 1 hour; AND¹ either:~~
- ~~1. Restore OPERABILITY of the remaining EDG by starting, loading, and separating from offsite power within the next hour; AND² restore the remaining offsite circuit to OPERABLE status within 72 hours AND within 6 days from the discovery of failure to meet the LCO; OR~~
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12 **REVISE** Enter applicable conditions and requirements of TS LCO 3.8.1.1 ACTION a for the INOPERABLE offsite circuit.

SECRET

5:13

Insert C

- f. With switchyard voltage less than 518 kV, with three startup transformers in service, and with circuit breakers NANS03B and NANS04B open:
1. Restore OPERABILITY of degraded voltage protection by blocking fast bus transfer for one train within 1 hour and start, load, and separate the opposite train's EDG from offsite power within 1 hour;¹ AND restore switchyard voltage above 518 kV within 72 hours; OR
 2. Restore OPERABILITY of both trains of degraded voltage protection by blocking fast bus transfer on both trains within 1 hour; AND restore switchyard voltage above 518 kV within 72 hours; OR
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ELECTRICAL POWER SYSTEMS

REPLACE

degraded voltage protection

BASES

A.C. SOURCES, D.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS (Continued)

ACTION requirements 3.8.1.1.f and 3.8.1.1.g provide restrictions upon continued unit operation commensurate with degradation of switchyard voltage and restoration of OPERABILITY of the required A.C. sources. In an effort to minimize the risk to the health and safety to the public, ACTIONS 3.8.1.1.f and 3.8.1.1.g balance the risk of a forced shutdown against the risk of remaining at power with a switchyard voltage in the lower portion of the expected range. The risk during ACTIONS 3.8.1.1.f and 3.8.1.1.g due to a switchyard voltage in the lower portion of the expected range and an independent accident is less than the risk associated with a normal shutdown including a reactor trip.

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Add: If the switchyard voltage perturbation is less than 28.62 seconds, the current minimum time delay of the Degraded Voltage Relays (DVRs), then the LCD is met and no action is required. If breakers NANS03B and NANS04B are closed; i.e., fast bus transfer has already occurred, and the DVRs have not activated, then the LCD is met, regardless of switchyard voltage, and no action is required as the DVRs are capable of determining adequate voltage at the Class 1E 4.16 kV buses.

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