

NORTH ANNA POWER STATION

*Section 3.8
Electrical Power Systems – Book 2*



VOLUME 18
Improved Technical Specifications



Dominion

SECTION 3.8 - ELECTRICAL POWER SYSTEMS

CURRENT TECHNICAL SPECIFICATIONS

MARKUP AND DISCUSSION OF CHANGES

ITS

ITS 3.8.1
08-26-98

3.8 3/4.8 ELECTRICAL POWER SYSTEMS

A.1

3.8.1 3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

LCO
3.8.1

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a
b
c, d

- a. Two qualified physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and
- b. Two separate and independent emergency diesel generators (EDGs):
 1. Each with a separate day tank containing a minimum of 450 gallons of fuel, and
 2. A fuel storage system consisting of two underground storage tanks each containing a minimum of 45,000 gallons of fuel (This is a shared system with Unit 2), and
 3. A separate fuel transfer system.

LA.8
LA.8
A.2.2
See ITS SR 3.8.1.4
L.12
A.9

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

Action A
Action L
Action B
Action C
Action L

- a. With one offsite circuit of 3.8.1.1.a inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
- b. (Risk-Informed) With one EDG of 3.8.1.1.b inoperable, demonstrate the OPERABILITY of the offsite A.C. power sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the EDG is 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 EDG by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours, unless the absence of any potential common mode failure for the remaining EDG is demonstrated. Restore the EDG to OPERABLE status within 14 days if the AAC DG and the opposite unit's EDGs are OPERABLE or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In addition:

L.1
INSERT PROPOSED Required Action A.2
INSERT Proposed 2nd Completion Time of A.3
M.1
INSERT PROPOSED Required Action B.2
L.3
L.2
L.14
M.1
Insert proposed Required Action B.4

* This action is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY

L.3

ELECTRICAL POWER SYSTEMS
LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

Action
C

1. If one or more of the three diesel generators (i.e., AAC DG or opposite unit's EDGs) required for entry into the 14 day action statement is(are) inoperable at the start of the 14 day action statement, restore the diesel generator(s) to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next following 30 hours.

(A.3)

Action
L

2. If one or more of the three diesel generators (i.e., AAC DG or opposite unit's EDGs) required for entry into the 14 day action statement become(s) inoperable during the 14 day action statement, restore the diesel generator(s) to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next following 30 hours.

(A.3)

Action
C

Action
L

c. ~~With one offsite circuit and one EDG 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 if the EDG became inoperable due to any cause other than an inoperable support system, an independently testable component, or unplanned preventative maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE EDG by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours*, unless the absence of any potential common mode failure for the remaining EDG is demonstrated. Restore 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 the other A.C. power source (offsite circuit or EDG) to OPERABLE status in accordance with the provisions of Section 3.8.1.1 Action Statement a or b, as appropriate with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable A.C. power source.~~

(A.4)

(A.5)

Action
H

Action
L

(A.5)

(L.4)

Action
G

d. ~~With two of the required offsite A.C. circuits inoperable, restore one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. Following restoration of one offsite source, follow Action Statement a with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable offsite A.C. circuit.~~

Insert proposed Required Action G.1

(A.6)

* This action is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY.

(A.5)

A.1

ITS

ELECTRICAL POWER SYSTEMS

LIMITING CONDITION FOR OPERATION

ACTION: (Continued):

Action
I

Action
L

e. With two of the above required EDGs inoperable, 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 one of the inoperable EDGs 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. Following restoration of one EDG, follow Action Statement b with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable EDG.

A.7

A.7

f. With one underground fuel oil storage tank of 3.8.1.1.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 or for tank repairs:
1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours.
2. Verify a minimum of 100,000 gallons of fuel is maintained in the above ground main fuel oil storage tank at least once per 12 hours.
3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and
4. Restore the storage tank to OPERABLE status within 7 days or place both Units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

see ITS 3.8.3

Action
K

Action
M

INSERT PROPOSED ACTION K

L.12

INSERT PROPOSED ACTION M

A.8

ACTIONS
D, E, F

INSERT PROPOSED ACTIONS D, E, F

A.19

L.11

Action
J

INSERT PROPOSED ACTION J

A.2

A.1

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

ITS

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

SR
3.8.1.1
3.8.1.7

- a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignment indicating power availability.
- b. ~~Demonstrated OPERABLE at least once per 18 months during shutdown~~ by manually transferring the onsite Class 1E power supply from the normal circuit to the alternate circuit.

L.10

4.8.1.1.2 Each emergency diesel generator (EDG) shall be demonstrated OPERABLE:

every 31 days

L.5

a. In accordance with the frequency specified in Table 4.8.2 on a STAGGERED TEST BASIS by:

SR
3.8.1.4
SR
3.8.1.6
SR
3.8.1.2
SR
3.8.1.3

Insert Proposed Notes to SR 3.8.1.2

1. Verifying the fuel level in the day tank. contains 450 gallons <FROM LCO 3.8.1.1(b.1)>
2. Verifying the fuel level in the fuel storage tank. <see ITS 3.8.3>
3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank. every 92 days L.16 A.10
4. Verifying the EDG can start and gradually accelerate to a steady state voltage and frequency of 4160 ± 420 volts and 60 ± 0.5 Hz. Subsequently, verifying the generator is synchronized, gradually loaded** to an indicated 2500-2600 kW and operates for at least 60 minutes. Insert Proposed Note to 3.8.1.3 A.11 M.6
5. Verifying the EDG is aligned to provide standby power to the associated emergency busses. L.A.2

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment. <see ITS 3.8.3>

SR
3.8.1.5

INSERT PROPOSED SR 3.8.1.5

M.2

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine pre-lube and warmup procedures, and as applicable regarding loading recommendations. A.10

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test. A.11

A.1

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

SR
3.8.1.7

4.8.1.1.2 (Continued)

~~INSERT PROPOSED NOTE TO SR 3.8.1.7~~

- c. At least once per 184 days, the EDG shall be started ~~in~~ in less than or equal to 10 seconds after the start signal and achieve voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz. The generator steady state voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.5 Hz. The EDG shall be manually synchronized to its appropriate emergency bus, gradually loaded** to an indicated 2500 to 2600 kw***, and operated for at least 60 minutes. The EDG shall be started for this test by using one of the following signals on a rotating test basis:
- a) Simulated loss of offsite power by itself.
 - b) Simulated loss of offsite power in conjunction with an ESF actuation test signal.
 - c) An ESF actuation test signal by itself.
- This test, if it is performed so it coincides with the testing required by Surveillance Requirement 4.8.1.1.2.a.4, may also serve to concurrently meet those requirements as well.

A.12

A.13

L.17

A.14
L.10
A.7

SR
3.8.1.9

SR
3.8.1.16

Insert proposed Notes

- d. At least once per 18 months ~~during shutdown~~ by:
1. Verifying, on rejection of a load of greater than or equal to 610 kw, the frequency remains less than or equal to 66 Hz, and within 3 seconds, the voltage and frequency are 4160 ± 420 volts and 60 ± 0.5 Hz.
 2. Verifying that the load sequencing timers are OPERABLE with times within the tolerances shown in Table 4.8-1.

single largest post accident load

LA.9

L.15

A.14

LA.4

design

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading recommendations.

A.12

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

A.13

A.1

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

ITS

SR
3.8.1.10

4.8.1.1.2 (Continued)

- 3. ~~Verify~~ Verify on an actuator ~~Simulating a loss of offsite power by itself, and:~~
 - a. Verifying de-energization of the emergency busses and load shedding from the emergency busses.
 - b. Verifying the EDG starts ~~on~~ on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected shutdown loads through the sequencing timers and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization of these loads, the steady state voltage and frequency shall be maintained at 4160 ± 420 volts and 60 ± 0.5 Hz.

L.15 A.12
A.14 L.6

SR
3.8.1.11

- 4. ~~Verify~~ Verify on an actuator ~~Verifying that on an ESF actuation (signal) (without loss of offsite power) the EDG starts on the auto-start signal and achieves voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz within 10 seconds and operates on standby for greater than or equal to 5 minutes with a steady state voltage of 4160 ± 420 volts and a steady state frequency of 60 ± 0.5 Hz.~~

INSERT PROPOSED Part D&E

L.15 L.9
A.12 actuator simulated A.12
L.6 M.4

SR
3.8.1.17

- 5. ~~Verify~~ Verify on actuator ~~Simulating a loss of offsite power in conjunction with an ESF actuation test signal, and:~~
 - a. Verifying de-energization of the emergency busses and load shedding from the emergency busses.
 - b. Verifying the EDG starts ~~on~~ on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected emergency (accident) loads through the sequencing timers and operates for greater than or equal to 5 minutes and maintains the steady state voltage and frequency at 4160 ± 420 volts and 60 ± 0.5 Hz.

L.15 A.12
A.14 L.6
A.12

SR
3.8.1.12

- c. Verifying that all EDG trips, ~~except engine overspeed, generator differential and breaker overcurrent are automatically bypassed upon loss of voltage on the emergency bus and/or a safety injection actuation signal.~~

A.18 actual or simulated automatic start
L.6 L.10
A.20 L.A.1

SR
3.8.1.13

- 6. ~~Verify~~ Verify on actuator ~~Verifying the EDG operates for at least 24 hours. During the first 2 hours of this test, the EDG shall be loaded to an indicated target value of 2950 kw (between 2900-3000 kw) and during the remaining 22 hours of this test, the EDG shall be loaded to an indicated 2500-2600 kw.~~

L.10
A.15

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelude and warmup procedures, and as applicable regarding loading recommendations.

A.12

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

A.15

A.1

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12-10-98

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

SR
3.8.1.15

7. Verifying that the auto-connected loads to each EDG do not exceed the 2000 hour rating of 3000 kw.

L.13

8. Verifying the EDG's capability to:

INSERT PROPOSED NOTE

L.15 A.14

a) Synchronize with the offsite power source while the EDG is loaded with its emergency loads upon a simulated restoration of offsite power,

b) Transfer its loads to the offsite power source, and

c) Proceed through its shutdown sequence. Returns to ready-to-load operation

M.3

9. Verifying that the following EDG lockout features prevent EDG starting only when required:

LA.6

a) Remote Local Selection Switch

b) Emergency Stop Switch

A.12
A.16

SR
3.8.1.14

10. Verifying the EDG's hot restart capability by:

INSERT PROPOSED NOTES

A.12
A.16

a) Operating the EDG loaded to an indicated 2500 to 2600 kw** for 2 hours or until operating temperatures have stabilized, and

b) Within 5 minutes of shutdown verify the EDG can be started** in less than or equal to 10 seconds of the start signal with voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz. The generator steady state voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.5 Hz.

SR
3.8.1.18

e. At least once per 10 years or after any modifications which could affect EDG interdependence by starting both EDGs simultaneously during shutdown, and verifying that both EDGs start in less than or equal to 10 seconds of the start signal and achieve a voltage of greater than or equal to 3960 volts and a frequency of greater than or equal to 59.5 Hz.

L.8

A.12

L.10

M.5

Insert steady state limit requirements

f. At least once per 24 months during any mode of operation, by subjecting each EDG to a preventive maintenance inspection in accordance with maintenance procedures appropriate for diesels used for this class of standby service.

LA.7

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine pre-lube and warmup procedures, and as applicable regarding loading recommendations.

A.12

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

A.16

TABLE 4.8-1

LIST OF LOAD SEQUENCING TIMERS AND DESIGN SETPOINTS
"H" BUS

<u>TIMER IDENTIFICATION</u>	<u>SET POINT (SECONDS)</u>	<u>INITIATING SIGNAL⁽¹⁾</u>	<u>TOLERANCE (SECONDS)</u>
1FWEA01-62	20	SI	+1.00
1FWEA01-62A	25	LOP	+1.25
1SWEA03-62	10	LOP	+0.50
1RSOA01-62B	75	LOP	+1.75
1RSOA01-62A	210	CDA	+21.0
1CCPA01-62Y	15	LOP	+0.75
1CCPA01-62X	20	LOP	+1.00
1RSIA01-62A	20	LOP	+1.00
1RSIA01-62	195	CDA	+9.75
1OSSA01-62A	15	LOP	+0.75
1HVRA03-62	30	LOP	+1.50
1HVRA04-62	10	LOP	+0.50
1HVRB04-62	10	LOP	+0.50
1PGSA02-62A	10	(2)	+0.50
1ENSH06-62A	15	LOP	+0.75
1HVRC04-62	10	LOP	+0.50
1SWSA35-62A1A	15	SI	+1.50
1SWSA35-62B1A	15	SI	+1.50

LA.4

ITS
3.8.1
3-27-87

TABLE 4.8-1 (Continued)

LIST OF LOAD SEQUENCING TIMERS AND DESIGN SETPOINTS
"J" BUS

<u>TIMER IDENTIFICATION</u>	<u>SET POINT (SECONDS)</u>	<u>INITIATING SIGNAL</u> ⁽¹⁾	<u>TOLERANCE (SECONDS)</u>
1FWEBO1-62	20	SI	+1.00
1FWEBO1-62A	25	LOP	+1.25
1SWEBO3-62	10	LOP	+0.50
1RSOBO1-62B	35	LOP	+1.75
1RSOBO1-62A	210	CDA	+21.0
1CCPB01-62Y	15	LOP	+0.75
1CCPB01-62X	20	LOP	+1.00
1RSIB01-62A	20	LOP	+1.00
1RSIB01-62	195	CDA	+9.75
1QSSB01-62A	15	LOP	+0.75
1HVRB03-62	30	LOP	+1.50
1HVRD04-62	10	LOP	+0.50
1HVRE04-62	10	LOP	+0.50
1HVRF04-62	10	LOP	+0.50
1PGSB02-62A	10	(2)	+0.50
1ENSJ06-62A	15	LOP	+0.75
1SWSB35-62A1B	15	SI	+1.50
1SWSB35-62B1B	15	SI	+1.50

LA.4

(1) SI - Safety Injection
LOP - Loss of Offsite Power
CDA - Containment Depressurization Actuation
(2) Low primary grade water header pressure

ITS

08-26-98 3.8.1

ELECTRICAL POWER SYSTEMS

Table 4.8-2

EMERGENCY DIESEL GENERATOR TEST SCHEDULE

<u>Number of Failures in Last 20 Valid Tests*</u>	<u>Number of Failures in Last 100 Valid Tests*</u>	<u>Test Frequency</u>
≤ 1	≤ 4	Once per 31 days
≥ 2**	≥ 5	Once per 7 days

* Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, but determined on a per emergency diesel generator basis.

For the purposes of determining required test frequency, the previous test failure count may be reduced to zero if a complete diesel overhaul to like-new conditions is completed, provided that the overhaul including appropriate post-maintenance operation and testing, is specifically approved by the manufacturer and if acceptable reliability has been demonstrated. The reliability criterion shall be the successful completion of 14 consecutive tests in a single series. Ten of these tests shall be in accordance with Surveillance Requirement 4.8.1.1.2.a.4; four tests, in accordance with Surveillance Requirement 4.8.1.1.2.c. If this criterion is not satisfied during the first series of tests, any alternate criterion to be used to transvalue the failure count to zero requires NRC approval.

** The associated test frequency shall be maintained until seven consecutive failure free demands have been performed and the number of failures in the last 20 valid demands has been reduced to one.

(L.5)

ITS
3.8
3.8.1

3/4.8 ELECTRICAL POWER SYSTEMS
3/4.8.1 A.C. SOURCES

A.1

ITS
3.8.1
08-26-98

OPERATING
LIMITING CONDITION FOR OPERATION

LCO
3.8.1

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a

a. Two qualified ~~physically independent~~ circuits between the offsite transmission network and the onsite Class 1E distribution system, and

L.A.8

b

b. Two ~~separate and independent~~ emergency diesel generators (EDGs)

Insert LCO requirements

L.A.8
A.22

1. Each with a separate day tank containing a minimum of 450 gallons of fuel, and

2. A fuel storage system consisting of two underground storage tanks each containing a minimum of 45,000 gallons of fuel (This is a shared system with Unit 1), and

see ITS SR 3.8.1.4

c,d

3. A separate fuel transfer system.

Insert proposed LCO parts c and d

L.12
A.9

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Action A

a. With one offsite circuit of 3.8.1.1.a inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

L.1
Insert Proposed Required Action A.2

Action L

Action B

b. (Risk-Informed) With one EDG of 3.8.1.1.b inoperable, demonstrate the OPERABILITY of the offsite A.C. power sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the EDG is 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 EDG by performing Surveillance Requirement 4.8.1.2.a.4 within 24 hours, unless the absence of any potential common mode failure for the remaining EDG is demonstrated. Restore the EDG to OPERABLE status within 14 days if the AAC DG and the opposite unit's EDGs are OPERABLE or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In addition:

Insert Proposed Required Action A.3

Insert Proposed Required Action B.2

L.14

L.3

3.8.1.2

M.1

Insert Proposed Required Action B.4

Action C
Action L

* This action is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY

L.3

(A.1)

ELECTRICAL POWER SYSTEMS
LIMITING CONDITION FOR OPERATION

ITS

ACTION: (Continued)

Action
C

Action
L

Action
C

Action
L

Action
H

Action
L

Action
G

1. If one or more of the three diesel generators (i.e., AAC DG or opposite unit's EDGs) required for entry into the 14 day action statement is(are) inoperable at the start of the 14 day action statement, restore the diesel generator(s) to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next following 30 hours.
 2. If one or more of the three diesel generators (i.e., AAC DG or opposite unit's EDGs) required for entry into the 14 day action statement become(s) inoperable during the 14 day action statement, restore the diesel generator(s) to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next following 30 hours.
- c. ~~With one offsite circuit and one EDG 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 if the EDG became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventative maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE EDG by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the absence of any potential common mode failure for the remaining EDG is demonstrated. Restore 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 the other A.C. power source (offsite circuit or EDG) to OPERABLE status in accordance with the provisions of Section 3.8.1.1 Action Statement a or b, as appropriate with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable A.C. power source.~~
- d. ~~With two of the required offsite A.C. circuits inoperable, restore one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. Following restoration of one offsite source, follow Action Statement a with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable offsite A.C. circuit.~~

(A.3)

(A.3)

(A.4)

(A.5)

(A.5)

(L.4)

(A.6)

* ~~This action is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY.~~

(A.5)

A.1

ITS

ELECTRICAL POWER SYSTEMS
LIMITING CONDITION FOR OPERATION

ACTION: (Continued):

Action
I
Action
L

e. With two of the above required EDGs inoperable, 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 one of the inoperable EDGs 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. Following restoration of one EDG, follow Action Statement b with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable EDG.

A.7

A.7

f. With one underground fuel oil storage tank of 3.8.1.1.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 or for tank repairs:
1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours,
2. Verify a minimum of 100,000 gallons of fuel is maintained in the above ground main fuel oil storage tank at least once per 12 hours,
3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and
4. Restore the storage tank to OPERABLE status within 7 days or place both Units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

see ITS 3.8.3

Action
K
Action
M

INSERT PROPOSED ACTION K

L.12

INSERT PROPOSED ACTION M

A.8

Actions
D, E, F

INSERT PROPOSED ACTIONS D, E, F

A.19

L.11

Action
J

INSERT PROPOSED ACTION J

A.2

A.1

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

ITS

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

SR
3.8.1.1

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignment indicating power availability.

b. Demonstrated OPERABLE at least once per 18 months during shutdown by manually transferring the onsite Class 1E power supply from the normal circuit to the alternate circuit.

L.7

4.8.1.1.2 Each emergency diesel generator (EDG) shall be demonstrated OPERABLE.

every 31 days

L.5

a. In accordance with the frequency specified in Table 4.8.2 on a SPAGGERED TEST BASIS by:

SR
3.8.1.4

1. Verifying the fuel level in the day tank contains 450 gallons < from LCO 3.8.1.1 b.1 >

SR
3.8.1.5

2. Verifying the fuel level in the fuel storage tank. < see ITS 3.8.3 >

SR
3.8.1.2

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank every 92 days

L.16
A.10

SR
3.8.1.3

4. ~~INSERT PROPOSED NOTES TO SR 3.8.1.2~~
Verifying the EDG can start** and gradually accelerate to a steady state voltage and frequency of 4160 ± 420 volts and 60 ± 0.5 Hz. Subsequently, verifying the generator is synchronized, gradually loaded to an indicated 2500-2600 kW and operates for at least 60 minutes. INSERT PROPOSED Note to SR 3.8.1.3

A.11
M.6

SR
3.8.1.6

5. ~~Verifying the EDG is aligned to provide standby power to the associated emergency busses.~~ INSERT PROPOSED SR 3.8.1.6

L.A.2
M.2

SR
3.8.1.7

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank obtained as a DRAIN sample in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.

see 3.8.3

c. ~~INSERT PROPOSED NOTES~~
At least once per 184 days, the EDG shall be started in less than or equal to 10 seconds after the start signal and achieve voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz. The generator steady state voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.5 Hz.

A.12

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading recommendations.

A.12

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

A.11

A.1

12-10-98

ELECTRICAL POWER SYSTEMS

ITS
SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

The EDG shall be manually synchronized to its appropriate emergency bus, gradually loaded** to an indicated 2500 to 2600 kw*** and operated for at least 60 minutes. The EDG shall be started for this test by using one of the following signals on a rotating test basis:

- Simulated loss of offsite power by itself.
- Simulated loss of offsite power in conjunction with an ESF actuation test signal.
- An ESF actuation test signal by itself.

This test, if it is performed so it coincides with the testing required by Surveillance Requirement 4.8.1.1.2.a.4, may also serve to concurrently meet those requirements as well.

A.13

L.17

A.14
L.10
M.7

L.A.9

L.15 A.14

L.A.4

L.15 A.12
A.14

L.6

A.12

d. At least once per 18 months during shutdown by:

JR
3.8.1.9

SR
3.8.1.16

SR
3.8.1.10

1. ~~INSERT PROPOSED NOTES~~ Verifying, on rejection of a load of greater than or equal to 610 kw, the frequency remains less than or equal to 66 Hz, and within 3 seconds, the voltage and frequency are 4160 ± 420 volts and 60 ± 0.5 Hz.
2. ~~INSERT PROPOSED NOTES~~ Verifying that the load sequencing timers are OPERABLE with times within the tolerances (shown in Table 4.8-1) design.
3. ~~W~~ Simulating a loss of offsite power by itself, and, ~~INSERT PROPOSED NOTES~~
 - a) Verifying de-energization of the emergency busses and load shedding from the emergency busses actual or simulated signal
 - b) Verifying the EDG starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected shutdown loads through the sequencing timers and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization of these loads, the steady state voltage and frequency shall be maintained at 4160 ± 420 volts and 60 ± 0.5 Hz.

single largest Post Accident Load

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelude and warmup procedures, and as applicable regarding loading recommendations.

A.12

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

A.15

A.1

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

ITS

4.8.1.1.2 (Continued)

SR
3.8.1.11

4. Verifying that on an ESF actuation ~~test~~ ^{signal} (without loss of offsite power) the EDG starts ~~on~~ ^{on} the auto-start signal and achieves voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz within 10 seconds and operates on standby for greater than or equal to 5 minutes with a steady state voltage of 4160 ± 420 volts and a steady state frequency of 60 ± 0.5 Hz.

L.9
A.12
L.15
L.6
A.12

SR
3.8.1.17

5. Simulating a loss of offsite power in conjunction with an ESF actuation test signal, and ~~Verify an actual or~~ ^{Verify an actual or}

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

b) Verifying the EDG starts ~~on~~ ^{on} the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected emergency (accident) loads through the sequencing timers and operates for greater than or equal to 5 minutes and maintains the steady state voltage and frequency at 4160 ± 420 volts and 60 ± 0.5 Hz.

INSERT 3 parts made
M.4
A.12
A.14
L.15
L.6
A.12

SR
3.8.1.12

c) Verifying that all EDG trips, except engine overspeed, generator differential and ~~breaker overcurrent~~ are automatically bypassed upon loss of voltage on the emergency bus and/or a safety injection actuation signal.

A.18
A.20
L.6
A.15
L.9

SR
3.8.1.13

6. Verifying the EDG operate ~~for~~ ^{for} at least 24 hours. During the first 2 hours of this test, the EDG shall be loaded to an indicated target value of 2950 kw (between 2900-3000 kw) ~~and~~ ^{and} during the remaining 22 hours of this test, the EDG shall be loaded to an indicated 2500-2600 kw ~~and~~ ^{and}

L.10

L.10
M.8
A.12
A.15

SR
3.8.1.15

7. Verifying that the auto-connected loads to each EDG do not exceed the 2000 hour rating of 3000 kw.

8. Verifying the EDG's capability to ~~INSERT PROPOSED NOTE~~ ^{INSERT PROPOSED NOTE}

a) Synchronize with the offsite power source while the EDG is loaded with its emergency loads upon a simulated restoration of offsite power.

b) Transfer its loads to the offsite power source, and

c) ~~Proceed through its shutdown sequence~~ ^{Returns to ready-to-load operation}

L.13
L.15
A.14
M.3

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine pre-lube and warm-up procedures, and as applicable regarding loading recommendations.

A.12

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

A.15

Rev. 0

A.1

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

- 9. Verifying that the following EDG lockout features prevent EDG starting only when required:
 - a) Remote Local Selection Switch
 - b) Emergency Stop Switch
- 10. Verifying the EDG's hot restart capability by:
 - a) Operating the EDG ~~loaded~~ to an indicated 2500 to 2600 kw** for 2 hours or until operating temperatures have stabilized, and
 - b) Within 5 minutes of shutdown verify the EDG can be started** in less than or equal to 10 seconds of the start signal with voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz. The generator steady state voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.5 Hz.
- e. At least once per 10 years ~~or after any modifications which could affect EDG interdependence~~ by starting ~~both EDGs simultaneously during shutdown~~ and verifying that both EDGs start in less than or equal to 10 seconds of the start signal and achieve a voltage of greater than or equal to 3960 volts and a frequency of greater than or equal to 59.5 Hz. ~~Y~~ INSERT STEADY STATE limit requirements
- f. At least once per 24 months during any mode of operation, by subjecting each EDG to a preventive maintenance inspection in accordance with maintenance procedures appropriate for diesels used for this class of standby service.

SR
3.8.1.14

SR
3.8.1.18

4.8.1.1.3 Each emergency diesel generator 125-volt battery bank and charger shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that
 - 1. The parameters in Table 4.8-3 meet Category A limits and
 - 2. The total battery terminal voltage is ≥ 129 volts on a float charge.

see 3.8.4

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine pre-lube and warmup procedures, and as applicable regarding loading recommendations. (A.12)

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test. (A.16)

TABLE 4.8-1

LIST OF LOAD SEQUENCING TIMERS AND DESIGN SETPOINTS
"H" BUS

<u>TIMER IDENTIFICATION</u>	<u>SET POINT (SECONDS)</u>	<u>INITIATING SIGNAL</u> ⁽¹⁾	<u>TOLERANCE (SECONDS)</u>
2FWEA01-62	20	SI	±1.00
2FWEA01-62A	25	LOP	±1.25
2SWEA03-62	10	LOP	±0.50
2RSOA01-62B	35	LOP	±1.75
2RSOA01-62A	210	CDA	±21.0
2CCPA01-62Y	15	LOP	±0.75
2CCPA01-62X	20	LOP	±1.00
2RSIA01-62A	20	LOP	±1.00
2RSIA01-62	15	CDA	±9.75
2QSSA01-62A	15	LOP	±0.75
2HVRA03-62	30	LOP	±1.50
2HVRA04-62	10	LOP	±0.50
2HVRB04-62	10	LOP	±0.50
2HVRC04-62	10	LOP	±0.50
2ENSH06-62A	15	LOP	±0.75
2SWSA35-62A2A	15	SI	±1.50
2SWSA35-62B2A	15	SI	±1.50

LA.4

ITS
3.8.1
3-27-87

TABLE 4.8-1 (Continued)
LIST OF LOAD SEQUENCING TIMERS AND DESIGN SETPOINTS
"J" BUS

<u>TIMER IDENTIFICATION</u>	<u>SET POINT (SECONDS)</u>	<u>INITIATING⁽¹⁾ SIGNAL</u>	<u>TOLERANCE (SECONDS)</u>
2FWEB01-62	20	SI	±1.00
2FWEB01-62A	25	LOP	±1.25
2SWEB03-62	10	LOP	±0.50
2RSOB01-62B	35	LOP	±1.75
2RSOB01-62A	210	CDA	±21.0
2CCPB01-62Y	15	LOP	±0.75
2CCPB01-62X	20	LOP	±1.00
2RSIB01-62A	20	LOP	±1.00
2RSIB01-62	195	CDA	±9.75
2QSSB01-62A	15	LOP	±0.75
2HVRB03-62	30	LOP	±1.50
2HVRD04-62	10	LOP	±0.50
2HVRE04-62	10	LOP	±0.50
2HVRF04-62	10	LOP	±0.50
2ENSJ06-62A	15	LOP	±0.75
2SWSB35-62A2B	15	SI	±1.50
2SWSB35-62B2B	15	SI	±1.50

LA.4

(1) SI - Safety Injection
LOP - Loss of Offsite Power
CDA - Containment Depressurization Actuation

Table 4.8/2

EMERGENCY DIESEL GENERATOR TEST SCHEDULE

<u>Number of Failures in Last 20 Valid Tests*</u>	<u>Number of Failures in Last 100 Valid Tests*</u>	<u>Test Frequency</u>
≤ 1	≤ 4	Once per 31 days
≥ 2**	≥ 5	Once per 7 days

* Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, but determined on a per emergency diesel generator basis.

For the purposes of determining required test frequency, the previous test failure count may be reduced to zero if a complete diesel overhaul to like-new conditions is completed, provided that the overhaul including appropriate post-maintenance operation and testing, is specifically approved by the manufacturer and if acceptable reliability has been demonstrated. The reliability criterion shall be the successful completion of 14 consecutive tests in a single series. Ten of these tests shall be in accordance with Surveillance Requirement 4.8.1.1.2.a.4; four tests, in accordance with Surveillance Requirement 4.8.1.1.2.c. If this criterion is not satisfied during the first series of tests, any alternate criterion to be used to transvalue the failure count to zero requires NRC approval.

** The associated test frequency shall be maintained until seven consecutive failure free demands have been performed and the number of failures in the last 20 valid demands has been reduced to one.

(L.5)

DISCUSSION OF CHANGES
ITS 3.8.1 - AC SOURCES - OPERATING

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 CTS LCO 3.7.4.1, Service Water System – Operating, states, “Two service water loops (shared with the other unit) shall be OPERABLE with each loop consisting of two OPERABLE service water pumps (excluding auxiliary service water pumps) with their associated normal and emergency power supplies, and an OPERABLE flow path.” Each unit’s service water system requirements consist of the above requirements for either unit operating in MODES 1, 2, 3, or 4. ITS LCO 3.7.10 specifies the requirements for the Main Control Room (MCR) / Emergency Switchgear Room (ESGR) Habitability System. This system requires the MCR and ESGR fans on both units to be OPERABLE in MODES 1, 2, 3, and 4 and during the movement of recently irradiated fuel assemblies. ITS LCO 3.7.12 requires the fans from the Auxiliary Building central exhaust system to be OPERABLE to support the Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System. This could require a fan powered from the other unit to be required for this unit. The SW pumps and the fans from the MCR/ESGR and Auxiliary Building exhaust ventilation systems are components that may be required by either or both units. Therefore, these pumps and fans are classified as “shared components,” for the electrical power requirements. ITS LCO 3.8.1 Action J states, “Two required LCO 3.8.1.c EDGs inoperable, declare shared components inoperable immediately.” This changes the CTS by specifically stating the requirement in the ITS Action J.

The purpose of the proposed change is to structure the existing electrical requirements for the shared components in the ITS by placing electrical requirements in ITS section 3.8. This change is acceptable because the AC sources requirements for the SW, MCR/ESGR Emergency Habitability System, and ECCS Pump Room Exhaust Cleanup System functions are contained in the electrical requirement section of the unit’s Technical Specifications. The additional requirements of the fans in the ventilation specifications are addressed by more restrictive discussion of changes to the CTS requirements. The additional electrical requirements are classified as administrative because of the systems may require electrical power from both units in order to satisfy the individual safety function. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.3 CTS 3.8.1.1 Actions b.1 and b.2 provide an allowance to have an EDG inoperable for up to 14 days. These Actions require the OPERABILITY of the alternate AC (AAC)

DISCUSSION OF CHANGES
ITS 3.8.1 - AC SOURCES - OPERATING

diesel generator (DG) and the opposite unit's EDGs at the time of the initial inoperability of the EDG and throughout the 14 day allowed outage time. If either the AAC DG or either of the opposite unit's EDGs become inoperable when relied on for this action, a seventy two-hour limit is imposed for the EDG. If the AAC DG and both of the opposite unit's EDGs are returned to an OPERABLE status within the 72-hour limit, the EDG may continue in the 14 day allowed outage. ITS Action B provides the necessary Required Actions for returning the inoperable EDG to OPERABLE status within 14 days. ITS Action C requires with an EDG inoperable and the AAC DG or either of the opposite unit's EDGs inoperable, the AAC DG and the opposite unit's EDG must be restored to OPERABLE status within 72 hours. A Note to ITS Condition C states that the condition is only applicable if either the AAC DG or the opposite unit EDG(s) is inoperable.

This change is acceptable because no technical requirements are added to or deleted from the current requirements. The change in format of the CTS, with the conversion to the ITS, maintains all technical requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.4 CTS 3.8.1.1 Action c applies, "With one offsite circuit and one EDG inoperable." In this condition an emergency bus may be de-energized. CTS LCO 3.8.2.1 provides an Action for an emergency bus that is de-energized. A Note to ITS 3.8.1 Action H in the Required Actions column states, "Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution System - Operating," when Condition H is entered with no AC power source to any train." The addition of the Note does not alter the technical requirements of the CTS and acts as only a reminder to enter appropriate Actions.

This change is acceptable because no changes are made to CTS requirements. The change in format from the CTS to the ITS maintains all technical requirements. The addition of the Note only acts as a reminder to enter all appropriate Actions if any emergency bus becomes de-energized. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.5 CTS 3.8.1.1 Action c for an inoperable offsite circuit and EDG requires the restoration of one of the sources within 12 hours and states "demonstrate the OPERABILITY of the remaining offsite A.C. power sources by performing Surveillance Requirement 4.8.1.1.a within one hour and at least once per 8 hours thereafter." That is, when the EDG is declared inoperable and Action b is entered and either earlier or later an offsite circuit is declared inoperable, Action a. and Action c. are also required to be entered. The only mechanism for entering Action c is to be in Action a and Action b concurrently. ITS 3.8.1 Action H states that when one offsite circuit and one EDG are inoperable, one source must be returned to OPERABLE status within twelve hours. The only mechanism to enter this Condition is to have entered ITS 3.8.1 Actions A and B concurrently. ITS Required Action B.1 states that SR 3.8.1.1 will be performed for offsite circuit(s). It also requires in Required Action

DISCUSSION OF CHANGES
ITS 3.8.1 - AC SOURCES - OPERATING

B.3, an evaluation of the OPERABLE EDG is made. With the requirements of the CTS stated in this manner, CTS 3.8.1.1 Action c repeated the requirements of Action b, for the performance of CTS requirement 4.8.1.1.1.a and the evaluation of the OPERABLE EDG. This requirement is redundant and therefore is eliminated.

This change is acceptable because the technical requirements remain the same. If an offsite circuit and an EDG become inoperable at the same time, the requirement to perform a breaker and power availability check on the OPERABLE offsite circuit and an evaluation or start on the OPERABLE EDG, continue to be required. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.6 CTS 3.8.1.1, Action d, applies when two offsite circuits are inoperable and requires one offsite circuit be restored to OPERABLE status within twenty-four hours, or be in at least HOT STANDBY within the next 6 hours. The requirement also states, "Following restoration of one offsite source, follow Action Statement a with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable offsite A.C. circuit." CTS Action a states, "Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next six hours and COLD SHUTDOWN within the following 30 hours." If both inoperable offsite circuits are not restored when the unit reaches HOT STANDBY, the required actions do not specify any further actions. With the unit in HOT STANDBY and no offsite circuits, LCO 3.0.3 must be entered. This requires the unit to be placed in HOT SHUTDOWN in 6 hours and COLD SHUTDOWN within the next 24 hours. ITS Actions A and G are constructed to track the inoperability of one and two offsite circuits. ITS Action A requires an inoperable offsite circuit be restored to OPERABLE status within 72 hours. ITS Action G must be entered when two circuits are concurrently inoperable and allows 24 hours to restore one offsite circuit to OPERABLE status. If ITS Actions A or G are not met within either allowed Completion Times, ITS Action K must be entered and requires the unit to be placed in MODE 3 within 6 hours and MODE 5 within 36 hours. This change maintains the technical requirements of the CTS requirements in the ITS format.

This change is acceptable because the technical requirements remain the same. The ITS requires multiple condition entry. Therefore, ITS Actions A and G would both be entered if two offsite circuits were inoperable and Action A would be followed until both offsite circuits were restored to OPERABLE status. This has the same effect as the CTS requirements. Therefore, the deletion of the wording in CTS 3.8.1.1 Action d does not modify the technical requirements of the CTS and the unit would be required to be in MODE 5 (COLD SHUTDOWN) within 30 hours after reducing to MODE 3 (HOT STANDBY). This change is designated as administrative because it does not result in a technical change to the CTS.

- A.7 CTS 3.8.1.1 Action e applies when two EDGs are inoperable and requires one EDG to be restored to OPERABLE status within two hours. This requirement also states,

DISCUSSION OF CHANGES
ITS 3.8.1 - AC SOURCES - OPERATING

“demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.a within one hour and at least once per 8 hours thereafter.” In addition the CTS requires, “Following restoration of one EDG, follow Action Statement b. with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable EDG.” ITS Actions B and I are constructed to track the inoperability of one and two EDGs. ITS Action B requires that each inoperable EDG be tracked and ITS Action I applies when both EDGs are inoperable. Therefore, ITS Action B must be entered if one or two EDGs are inoperable and requires the performance of SR 3.8.1.1 within one hour and every eight hours thereafter. This maintains the CTS requirement to demonstrate the OPERABILITY of two offsite AC circuits within an hour and every 8 hours thereafter when one or two EDGs are inoperable.

This change is acceptable because the technical requirements remain the same. The ITS requires multiple condition entry. Therefore, ITS Actions B and I would both be entered if two EDGs were inoperable and Action B would be followed until both EDGs were restored to OPERABLE status. This has the same effect as the CTS requirements. Therefore, the deletion of the wording in CTS 3.8.1.1 Action e does not modify the technical requirements of the CTS and the unit would be required to be in MODE 5 (COLD SHUTDOWN) within 30 hours after reducing to MODE 3 (HOT STANDBY). This change is designated as administrative because it does not result in a technical change to the CTS.

- A.8 CTS LCO 3.8.1.1 does not contain an Action for more than two sources of either offsite circuits or EDGs inoperable. Having more than two sources inoperable requires entering CTS LCO 3.0.3. ITS 3.8.1, Action M, requires entering LCO 3.0.3 immediately if three or more AC sources are inoperable.

The change is acceptable because the CTS Actions for more than two sources inoperable are the same as the ITS Actions. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.9 CTS LCO 3.7.4.1, Service Water System – Operating, states, “Two service water loops (shared with the other unit) shall be OPERABLE with each loop consisting of two OPERABLE service water pumps (excluding auxiliary service water pumps) with their associated normal and emergency power supplies, and an OPERABLE flow path.” Each unit’s service water system specification applies when either unit is operating in MODES 1, 2, 3, or 4. ITS LCO 3.7.10 specifies the requirements for the Main Control Room (MCR) / Emergency Switchgear Room (ESGR) Habitability System. This system requires the MCR and ESGR fans on both units to be OPERABLE in MODES 1, 2, 3, and 4 and during the movement of recently irradiated fuel assemblies. ITS LCO 3.7.12 requires the fans from the Auxiliary Building central exhaust system to be OPERABLE to support the Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System. This could require a fan powered from the other unit to be required for this unit. The SW pumps and the fans

DISCUSSION OF CHANGES
ITS 3.8.1 - AC SOURCES - OPERATING

from the ventilation systems are components that may be required by either or both units. Therefore, these pumps and fans are classified as “shared components,” for the electrical power requirements. ITS LCO 3.8.1, “AC Sources,” part c states, “One qualified circuit between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System and one EDG capable of supplying the onsite Class 1E AC power distribution subsystem on the other unit for each required shared component; and.” This change maintains the CTS requirements for AC sources in the ITS format.

The purpose of the proposed change is to structure the existing electrical requirements for the shared components in the ITS by placing electrical requirements in ITS Section 3.8. This change is acceptable because the AC sources requirements for the SW, MCR/ESGR Emergency Habitability System, and ECCS Pump Room Exhaust Cleanup System functions are moved to the electrical requirement section of the unit’s Technical Specifications. The additional requirements of the fans in the ventilation specifications are addressed by more restrictive discussion of changes to the CTS requirements. The movement of the electrical requirements is classified as administrative because of the systems may require electrical power from both units in order to satisfy the individual safety function. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.10. CTS SR 4.8.1.1.2.a.4 states “Verifying the EDG can start ** and voltage and frequency at 4160 ± 420 volts and 60 ± 0.5 Hz.” The note ** states, “This test shall be conducted in accordance with the manufacturer’s recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading recommendations.” ITS SR 3.8.1.2 states, “Verify each EDG starts from standby conditions and achieves steady state voltage of ≥ 3740 V to ≤ 4580 V, and the frequency from ≥ 59.5 Hz to ≤ 60.5 Hz.” Two Notes modify SR 3.8.1.2. Note 1 states, “All EDG starts may be preceded by an engine prelube period and followed by a warm up period prior to loading.” Note 2 states, “A modified EDG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When a modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.7 must be met.” This changes the CTS by specifically stating the requirements and allowances in the ITS format.

This change is acceptable because the requirements of the CTS are maintained in the ITS requirements. ITS Note 1 maintains the allowances provided by the CTS note for a prelube and warmup period prior to loading. ITS Note 2 establishes that ITS SR 3.8.1.2 may involve idling and gradual acceleration to synchronous speed and SR 3.8.1.2 may be credited when performing SR 3.8.1.7. This is acceptable because the CTS note allows loading in accordance with loading recommendations and SR 3.8.1.7 meets or exceeds the technical requirements of SR 3.8.1.2. This change is designated as administrative because it does not result in a technical change to the CTS.

DISCUSSION OF CHANGES
ITS 3.8.1 - AC SOURCES - OPERATING

- A.11 CTS SR 4.8.1.1.2.a.4 states after a successful start of the EDG, “Subsequently, verifying the generator is synchronized, gradually loaded ** to an indicated 2500 - 2600 kW *** and operates for at least 60 minutes.” CTS notes ** and *** allow the test to be conducted in accordance with manufacturer’s recommendations regarding engine warmup and loading. These notes also allow momentary variations in loads, due to changing in bus loads, to not invalidate the test. ITS SR 3.8.1.3 states, “Verify each EDG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2500 kW and ≤ 2600 kW.” Four Notes modify the SR. Notes 1 and 2 allow EDG loading as recommended by the manufacturer and momentary transients outside the load range to not invalidate the test. Notes 3 and 4 are addressed by DOC M.6.

This change is acceptable because Notes 1 and 2 in ITS SR maintain the allowances provided by the CTS notes. The changes to the notes are editorial and conform to the format of the ISTS. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.12 CTS 4.8.1.1.2 c, d.3, d.4, d.5.b, d.6, d.10.b and e state that the EDG shall be started and are modified by a note labeled **. The ** note requires the test to be conducted in accordance with the manufacturer’s recommendations, “regarding engine prelude and warmup procedure, and as applicable regarding loading recommendations.” ITS SRs 3.8.1.7, 3.8.1.10, 3.8.1.11, 3.8.1.14, 3.8.1.17, and 3.8.1.18 state this allowance as a Note to each SR. The ITS Note for the SRs states, “All EDG starts may be preceded by an engine prelude period.” This changes the CTS SRs by specifically stating that the EDG may be prelubed before starting and eliminates the warmup and loading recommendation allowance.

This change is acceptable because the allowance permitted by the CTS note ** for a prelude is maintained by the ITS Note. The recommendations for warmup and loading are not applicable because the SRs require the EDG to start, or start and load, within 10 seconds. The elimination of these allowances does not affect the technical requirements of the testing. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.13 CTS requirement 4.8.1.1.2.c states that the EDG shall be started at least once per 184 days and manually synchronized to its appropriate emergency bus, gradually loaded** to an indicated 2500 to 2600 kW***, and operated for at least 60 minutes. ITS SR 3.8.1.7 requires the start of the EDG every 184 days. ITS SRs 3.8.1.3 requires the synchronization and loading of the EDG from 2500 to 2600 kW for a period of 60 minutes. SR 3.8.1.3 contains a Note, which states that the requirement shall be preceded by and immediately follows without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.7. This changes the CTS by eliminating the duplicated requirements of 4.8.1.1.2.c (ITS SR 3.8.1.7), which are now contained in ITS SR 3.8.1.3 (CTS SR 4.8.1.1.2.a.4).

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This change is acceptable because the division of the current requirement 4.8.1.1.2.c into ITS SR 3.8.1.2 or SR 3.8.1.7 and 3.8.1.3 maintains the requirements of starting, synchronizing with the emergency bus, and fully loading the EDG for 60 minutes. Additional changes to requirement 4.8.1.1.2.c are discussed in other discussion of changes. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.14 CTS requirements 4.8.1.1.2.d.2, d.3, d.5, and d.8 require the testing of the EDGs, at least once per 18 months “during shutdown.” ITS SRs 3.8.1.10, 3.8.1.15, 3.8.1.16 and 3.8.1.17 incorporate this requirement and state it as a Note. The Note states, “This Surveillance shall not be performed in MODES 1, 2, 3, or 4.” This changes the CTS by specifically stating the applicable MODES of operation that the SRs may be performed.

This change is acceptable because the CTS requirements for testing the AC sources do not specifically state the MODES in which the tests must be performed, but simply state “during shutdown.” The ITS SRs’ Note provides specific MODES in which test is not to be performed. With the unit in MODE 5, 6, or defueled (no MODE), the performance of these required tests can be conducted with minimum effects on the electrical system for the EDG that is not required to be OPERABLE. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.15 CTS SR 4.8.1.1.2.a.6 states, in part, that the EDG shall be operated to an indicated load of 2500 - 2600 kW and is modified by a footnote labeled ***. CTS note *** allows momentary variations in loads, due to changing in bus loads, to not invalidate the test. ITS SR 3.8.1.13 states in Note 1, “Momentary transients outside the load range to not invalidate the test.” The portion of the Note that addresses the power factor limitation is discussed later in these discussions of changes.

This change is acceptable because this portion of Note 1 in ITS SR maintains the allowance provided by the CTS note. The changes to the note are editorial and conform to the format of the ISTS. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.16 CTS SR 4.8.1.1.2.a.10 states, in part, that the EDG shall be operated to an indicated load of 2500 - 2600 kW *** for 2 hours, or until operating temperatures have stabilized, then the EDG must be shutdown. Within 5 minutes of shutting down, verify the EDG can start and achieve the required voltage and frequency within 10 seconds. The CTS footnote *** allows momentary variations in loads, due to changes in bus loads to not invalidate the test. ITS SR 3.8.1.14 states in Note 1, “This Surveillance shall be performed within 5 minutes of shutting down the EDG after the EDG has operated ≥ 2 hours loaded ≥ 2500 kW and ≤ 2600 kW or after operating temperatures have stabilized.” The Note 1 also allows, “Momentary transients outside the load range to not invalidate the test.”

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This change is acceptable because Note 1 of the ITS SR maintains the requirement provided in the CTS. The changes to the requirements and note are editorial and conform to the format of the ISTS. This change is designated as administrative because it does not result in a technical change to the CTS.

A.17 Not used.

A.18 CTS Surveillance Requirement 4.8.1.1.2.d.5.c requires the verification that all EDG trips, except engine overspeed, generator differential and breaker overcurrent are automatically bypassed on an emergency start. The output breaker overcurrent for the EDG is not a trip for the diesel and should not be included in the exception. ITS SR 3.8.1.12 requires the verification of each EDG's automatic trips are bypassed on an actual or simulated automatic start signal except for engine overspeed and generator differential current. This changes the CTS by eliminating the EDG output breaker overcurrent from the list of EDG trips.

This change is acceptable because the output breaker overcurrent does not provide a trip of the EDG. With the deletion of the output breaker overcurrent, no technical requirement is added or deleted with the conversion of the CTS requirements to the ITS requirements. The output breaker overcurrent should not have been included in the CTS requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

A.19 CTS LCO 3.7.4.1, Service Water System – Operating, states, “Two service water loops (shared with the other unit) shall be OPERABLE with each loop consisting of two OPERABLE service water pumps (excluding auxiliary service water pumps) with their associated normal and emergency power supplies, and an OPERABLE flow path.” Each unit's service water system specification applies when either unit is operating in MODES 1, 2, 3, or 4. ITS LCO 3.7.10 specifies the requirements for the Main Control Room (MCR) / Emergency Switchgear Room (ESGR) Habitability System. This system requires the MCR and ESGR fans on both units to be OPERABLE in MODES 1, 2, 3, and 4 and during the movement of recently irradiated fuel assemblies. ITS LCO 3.7.12 requires the fans from the Auxiliary Building central exhaust system to be OPERABLE to support the Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System. This could require a fan powered from the other unit to be required for this unit. The SW pumps and the fans from the ventilation systems are components that may be required by either or both units. Therefore, these pumps and fans are classified as “shared components,” for the electrical power requirements. ITS 3.8.1 Action F states if the required offsite circuit and EDG on the other unit that support a required shared components become inoperable, the supported shared components will be declared inoperable immediately. The differences between the requirements for the shared systems of the CTS and the ITS are addressed in ITS LCOs 3.7.8, 3.7.10, and 3.7.12. This change maintains the CTS requirements in the ITS format.

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This change is acceptable because the technical requirements of the CTS are maintained in the ITS. If a shared components is required to be OPERABLE for this unit and the pump or fan is powered from the other unit's electrical system, the loss of the normal and emergency AC source would required the pump or fan to be declared inoperable and appropriate Action for the affected system to be entered. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.20 CTS SR 4.8.1.1.2.d.5.c states that all non-critical EDG trips will be bypassed on a loss of voltage on the emergency bus and/or a safety injection actuation signal. The non-critical trips do not include engine overspeed, generator differential, and EDG output breaker overcurrent. The output breaker overcurrent is addressed in DOC A.18. ITS 3.8.1.12 states, "Verify each EDG's automatic trip are bypassed on actual or simulated automatic start signal except engine overspeed and generator differential current. This changes the CTS specifically stating that the non-critical EDG trips are bypassed on any automatic start signal. The specific automatic start signal is moved to the ITS Bases by DOC LA.1.

This change is acceptable because the technical requirements remain unchanged. The EDGs will continue to have their non-critical trips verified to be bypassed on a start from a signal from either an ESF or loss of voltage signal. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.21 Not used.

- A.22 CTS LCO 3.8.1.1 requires two EDGs to be OPERABLE. ITS LCO 3.8.1 states two EDGs capable of supplying the onsite Class 1E power distribution subsystem(s) shall be OPERABLE. This changes the CTS by stating the requirement that the EDG must be capable of supplying the onsite Class 1E power distribution subsystem.

This change is acceptable because the EDGs may only be connected to the onsite Class 1E subsystems. The change in wording does not modify the technical requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

- M.1 CTS 3.8.1.1 Actions would allow the LCO to not be met for an indefinite period of time, as long as the allowed outage time of each individual Action is not exceeded. For example, an EDG may be inoperable for a period of 14 days. During the allowed time, an offsite circuit may become inoperable. This would require a 12-hour action to be entered, until either the EDG or offsite circuit is restored to OPERABLE status. The restoration of either the EDG or offsite circuit is allowed within the CTS Actions

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for an unlimited period of time. This could allow the LCO to not be met for a period that could exceed many weeks. ITS Required Actions A.3 and B.4 require the restoration of all required features within 17 days from discovery of failure to meet the LCO. This changes the CTS by limiting the total time that any combination of offsite circuits and EDGs may be inoperable to a total of 17 days.

This change is acceptable because it limits the total time required equipment is allowed to be without one or more normal power supplies. The purpose of this new requirement is to limit the time that emergency equipment is subjected to having either offsite circuit(s) or EDG(s) inoperable. The change is designated more restrictive because the CTS does not place a limit on the maximum time the LCO is not met.

- M.2 CTS requirement 4.8.1.1.2 for the EDG day tank does not require a periodic surveillance to monitor the fuel oil tank for water. ITS SR 3.8.1.5 requires each EDG's day tank be checked and any accumulated water removed at a Frequency of every 92 days. This changes the CTS by adding an additional Surveillance Requirement.

This change is acceptable because the requirement parallels CTS requirement 4.8.1.1.2.b for the fuel oil storage tanks. Fouling of the fuel oil contained in the diesel day tank with water could lead to an environment that would be favorable for the growth of microbiological organisms. Checking for and removing of water from the day tank is the most effective means of controlling this possible contamination. In addition, it eliminates the potential for water entrainment in the fuel oil. Frequent checking for and removal of any water reduces this potentially degrading condition. This change is designated more restrictive because the CTS does not currently require the performance of this surveillance.

- M.3 CTS Surveillance Requirement 4.8.1.1.2.d.8 requires that the EDG must be capable of transferring loads to and from offsite electrical source. Once the capability has been demonstrated, in part c) the EDG may, "proceed through its shutdown sequence." ITS SR 3.8.1.15 verifies the capability of the EDG to transfer loads from and to the offsite electrical source. The SR requires in part c that the EDG, "Returns to ready-to-load operation." This changes the CTS by stating that the EDG is capable of re-powering the emergency bus by being returned to the ready-to-load condition.

This change is acceptable because the EDG is capable of re-powering the emergency bus when the EDG output breaker has been opened and the EDG output voltage is above the minimum voltage. This occurs when load is transferred back to the offsite source. This change is designated more restrictive because the CTS does not specifically require the EDG to return to the ready-to-load condition.

- M.4 CTS requirement 4.8.1.1.2.d.4 verifies that on an ESF signal without the loss of offsite power, the EDG starts in ≤ 10 seconds with voltage ≥ 3960 V and frequency

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≥ 59.5 Hz and operates in a standby condition ≥ 5 minutes. The steady state voltage and frequency are required to be ≥ 3740 and ≤ 4580 volts and ≥ 59.5 and ≤ 60.5 Hz. ITS SR 3.8.1.11 states the EDG will start in ≤ 10 seconds with voltage ≥ 3960 V and frequency ≥ 59.5 Hz and operates in a standby condition ≥ 5 minutes. The steady state voltage and frequency are required to be ≥ 3740 to ≤ 4580 volts and ≥ 59.5 to ≤ 60.5 Hz. The ITS also requires verification that each permanently connected load remains energized from the offsite electrical power system and emergency loads are energized or auto-connected through the sequencing timing relays are energized from the offsite electrical power system. This changes the CTS by requiring the verification of permanently connected loads and auto-connected loads, through their sequencing timing relays, remain energized from offsite circuits.

This change is acceptable because the safety analyses assume the permanently connected loads remain energized and emergency loads are connected through the sequencing timing relays from the offsite power electrical system. Therefore, the additional requirements verify safety analyses assumptions. These additional requirements are consistent with CTS 4.8.1.1.2.d.3 and d.5 (ITS SR 3.8.1.10 and 3.8.1.17). This change is designated more restrictive because a new SR is added to the CTS.

- M.5 CTS SR 4.8.1.1.2.e requires, at least every 10 years, that both EDGs are started simultaneously with a verification that both EDGs start in less than 10 seconds. A minimum voltage and frequency must be obtained at this time to satisfy the requirement. ITS SR 3.8.1.18 states, “Verify when started simultaneously from standby condition, each EDG must obtain minimum voltage and frequency requirements within 10 seconds, and achieve steady state voltage of ≥ 3960 V to ≤ 4580 V and steady state frequency of ≥ 59.5 Hz to ≤ 60.5 Hz.” This changes the CTS by placing a steady state limits on voltage and frequency for the EDG during this test.

This change is acceptable because after the start of the EDGs, the governor regulates the speed of each machine to regulate the frequency within the steady state band. The voltage regulating circuit for each EDG provides a similar control for the steady state voltage requirements. This change is designated as more restrictive because specific requirements are added to the CTS for the EDG testing.

- M.6 CTS SR 4.8.1.1.2.a.4 states that after a successful start of the EDG, “Subsequently, verifying the generator is synchronized, gradually loaded ** to an indicated 2500 - 2600 kW *** and operates for at least 60 minutes.” ITS SR 3.8.1.3 states, “Verify each EDG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2500 kW and ≤ 2600 kW.” Four Notes modify ITS SR 3.8.1.3. Notes 1 and 2 are addressed in DOC A.11. Notes 3 and 4 modify the CTS requirements by stating that the SR shall be conducted on only one EDG at a time, and the SR shall be preceded

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by and immediately follow, without a shutdown of the EDG, by a successful performance of ITS SR 3.8.1.2 or ITS SR 3.8.1.7.

This change is acceptable because CTS 4.8.1.1.2.a.4 is normally conducted on one EDG at a time. In addition, the loading of an EDG is usually conducted, without shutdown, and after a successful start from either SR 3.8.1.2 or SR 3.8.1.7. This change is designated as more restrictive because specific requirements are added to the CTS for the EDG testing.

- M.7 CTS 4.8.1.1.2.d.1 requires the testing of an EDG with the loss of a load ≥ 610 kW. This requirement does not specify that an EDG shall be tested at a specific power factor. ITS SR 3.8.1.9 requires the verification that each EDG can reject a load equal to or greater than its associated single largest post-accident load. Following the load rejection, the EDG must maintain frequency ≤ 66 Hz and within 3 seconds voltage and frequency must return to the steady state limits. The SR additionally states in a Note, "If performed with EDG synchronized with offsite power, it shall be performed at a power factor ≤ 0.9 . However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable." This changes the CTS requirement by specifying a power factor of ≤ 0.9 , if the testing is conducted by synchronizing with the offsite sources.

This change is acceptable because the testing should be conducted as close as possible to the conditions that would be experienced by an EDG following an accident. Loading the EDG solely with the inductive characteristics of a large motor will create a power factor less than unity. The design of the EDG is set for full power operation with a power factor of ≥ 0.8 . Therefore, testing of the EDG for a loss of the single largest load is acceptable with a power factor ≤ 0.9 . The change from 610 kW to the single largest post accident load is addressed in these discussion of changes LA.9. This change is designated as more restrictive because the testing required by the CTS does not currently contain this limitation.

- M.8 CTS 4.8.1.1.2.d.6 states that each EDG shall be verified to operate at full power for 24 hours. ITS SR 3.8.1.13 includes the above requirements and additionally requires that the EDG shall be operated with a power factor ≤ 0.9 during the 24-hour run in a Note. The Note states, "If performed with EDG synchronized with offsite power, it shall be performed at a power factor ≤ 0.9 . However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable." This changes the CTS requirement by adding additional conditions for performing the required Surveillance.

This change is acceptable because the testing should be conducted as close as possible to the conditions that would be experienced by an EDG following an accident. Loading the EDG solely with the inductive characteristics of a large motor will create

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a power factor less than unity (i.e., < 1.0). The design of the EDG is set for full power operation with a power factor of ≥ 0.8 . Therefore, requiring a power factor of ≤ 0.9 is reasonable. This change is designated as more restrictive because the testing required by the CTS does not currently contain this limitation.

REMOVED DETAIL CHANGES

- LA.1 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) CTS SR 4.8.1.1.2.d.5.c states that all non-critical EDG trips will be bypassed on a loss of voltage on the emergency bus and/or a safety injection actuation signal. The non-critical trips do not include engine overspeed, generator differential, and EDG output breaker overcurrent. ITS 3.8.1.12 states, “Verify each EDG’s automatic trip are bypassed on actual or simulated automatic start signal except engine overspeed and generator differential current. This changes the CTS specifically stating that the non-critical EDG trips are bypassed on any automatic start signal. The specific automatic start signals of a safety injection, a loss of voltage on the emergency bus, and a loss of voltage on the emergency bus with a safety injection actuation are moved to the ITS Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still requires that the EDGs must start and bypass not critical trips on automatic starts. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

- LA.2 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) CTS SR 4.8.1.1.2.a.5 requires the verification that each EDG is aligned to provide standby power to the associated emergency bus. ITS 3.8.1 SRs do not contain this requirement. This changes the CTS by deleting the requirement from the Technical Specifications and moving it to the ITS Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still requires the EDGs to be OPERABLE. The definition of OPERABLE requires the EDGs to be capable of providing power to the associated emergency bus and provides that one EDG is connected or capable of being connected to the required emergency bus. This is the technical intent of the moved requirement. Also, this change is acceptable because the removed information will be adequately

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controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA.3 Not used.

LA.4 (*Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems*) CTS Surveillance Requirement 4.8.1.1.2.d.2 states at least once per 18 months during shutdown, verify that the load sequencing timers are OPERABLE with times within the tolerances shown in Table 4.8-1. ITS SR 3.8.1.16 requires the verification of each sequenced load block is within the design tolerance for each emergency load sequencing timer. This changes the CTS by moving the list of required setpoints, tolerances, and initiating signals from the Technical Specifications to the TRM.

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the list of sequencing timing relays allowable settings are not necessary for the Technical Specification to ensure OPERABILITY. ITS still requires the components to be OPERABLE. This is similar to the allowance provided by NRC Generic Letter 91-08 for the movement of tables from the Technical Specifications to licensee controlled documents. Also, this change is acceptable because these types of procedural details will be adequately controlled in the Technical Requirements Manual. Any changes to the TRM are made under 10 CFR 50.59, which ensures changes are properly evaluated. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA.5 Not used.

LA.6 (*Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems*) CTS Surveillance Requirement 4.8.1.1.2.d.9 requires at least once per 18 months, during shutdown, the verification that the EDG lockout features of the remote local selection switch and the emergency stop switch prevent the EDG from starting. This changes the CTS by moving the requirement for verifying lockout feature requirements from the Technical Specifications to the TRM.

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The lockout features for the EDG are not a

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design consideration but a personnel safety issue. Therefore, the lockout features for the EDG are not necessary to ensure OPERABILITY. Also, this change is acceptable because these types of procedural details will be adequately controlled in the Technical Requirements Manual. Any changes to the TRM are made under 10 CFR 50.59, which ensures changes are properly evaluated. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

- LA.7 (*Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems*) CTS requirement 4.8.1.1.2.f states once per 24 months during any mode of operation, each EDG will be subjected to a preventive maintenance inspection, in accordance with maintenance procedures appropriate for the diesel used for this class of service. The requirement is not appropriate for the Technical Specifications and is moved to the TRM.

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The verification of preventive maintenance inspection is not used to demonstrate OPERABILITY for the EDG. Also, this change is acceptable because these types of procedural details will be adequately controlled in the Technical Requirements Manual. Any changes to the TRM are made under 10 CFR 50.59, which ensures changes are properly evaluated. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

- LA.8 (*Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems*) CTS LCO 3.8.1.1 describes the two required offsite circuits as, “physically independent” and the emergency diesel generators (EDGs) as “separate and independent.” ITS LCO 3.8.1 describes the two offsite circuits as “qualified” and states the requirements for the EDGs as “two.” The descriptive information, “physically independent” and “separate and independent” is not appropriate for the Technical Specification and is moved to the Bases.

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirements for two OPERABLE offsite sources and EDGs. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of

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detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

- LA.9 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) CTS Surveillance Requirement 4.8.1.1.2.d.1 requires verification that on a load rejection of 610 kW, the EDG frequency remains ≤ 66 Hertz and recovers to a steady state voltage and frequency within specified limits. ITS SR 3.8.1.9 utilizes the phrase “single largest post-accident load” and the specific value of 610 kW is moved to the ITS Bases.

The removal of these details for performing surveillance requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to test the EDG for the rejection of the largest load. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

- L.1 (*Category 3 – Relaxation of Completion Time*) CTS LCO 3.0.5 allows a system, subsystem, train, component, or device to be considered OPERABLE with an inoperable emergency or normal power source provided its normal or emergency power source is OPERABLE and its redundant system(s), subsystem(s), train(s), component(s), and device(s) are OPERABLE. If the redundant feature is not OPERABLE, a shutdown to a MODE in which the feature is not required must be started within one hour. ITS 3.8.1 Required Action A.2 requires the declaration of required feature(s), with no offsite power available, inoperable when its redundant required feature(s) is inoperable. The Completion Time allowed by the new action is 24 hours from discovery of no offsite power to one train concurrent with inoperability of redundant required feature(s). This changes the CTS to allow 24 hours before declaring a required feature inoperable, when an offsite source and a redundant required feature are inoperable.

This change is acceptable because the Completion Time is consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the allowed Completion Time. The Required Action and Completion Time only begin on discovery of both the inoperability of the offsite circuit to supply the emergency loads and the inoperability of the required

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feature on the other train. If at any time during the existence of ITS Condition A, a redundant required feature becomes inoperable, the Completion Time begins. The required feature with its emergency power supplies remain OPERABLE. Twenty-four hours is acceptable because it allows time for restoration before subjecting the unit to transients associated with shutting down. This change is designated as less restrictive because additional time is allowed to restore parameters to within the LCO limits than was allowed in the CTS.

- L.2 *(Category 3 – Relaxation of Completion Time)* CTS LCO 3.0.5 allows a system, subsystem, train, component, or device to be considered OPERABLE with an inoperable emergency or normal power source provided its normal or emergency power source is OPERABLE and its redundant system(s), subsystem(s), train(s), component(s), and device(s) are OPERABLE. If the redundant feature is not OPERABLE, a shutdown to a MODE in which the feature is not required must be started within one hour. ITS Required Action B.2 requires the declaration of required feature(s), with no EDG available, inoperable when its redundant required feature(s) is inoperable. The Completion Time allowed by the new action is 4 hours from discovery of inoperable EDG on one train concurrent with inoperability of redundant required feature(s). This changes the CTS to allow 4 hours before declaring a required feature inoperable, with an EDG and a redundant required feature inoperable.

The purpose of this change is to allow the operator time to evaluate and repair a discovered inoperability. The Required Action and Completion Time only begin on discovery of both the inoperability of the EDG and the required feature on the other train. If at any time during the existence of ITS Condition B (one EDG inoperable) a redundant required feature becomes inoperable, the Completion Time begins to be tracked. This change is acceptable because the Completion Time is consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the allowed Completion Time. The required feature with its emergency power supply remains capable of providing 100% of that requirement for accident mitigation. Four hours is acceptable because it allows time for restoration before subjecting the unit to transients associated with shutting down. This change is designated as less restrictive because additional time is allowed to restore parameters to within the LCO limits than was allowed in the CTS.

- L.3 *(Category 4 – Relaxation of Required Action)* CTS 3.8.1.1 Action b requires that within the next twenty-four hours of one EDG becoming inoperable, the other train's OPERABLE EDG must be started and fully loaded for one hour in accordance with CTS SR 4.8.1.1.2.a.4. This is required regardless of whether or not the inoperable EDG is restored to OPERABLE status. This is not required to be performed if the absence of any potential for common mode failure can be demonstrated for the OPERABLE EDG. ITS Action B.3 requires a determination that the OPERABLE EDG is not inoperable due to a common cause failure. This evaluation is required to

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ITS 3.8.1 - AC SOURCES - OPERATING

be completed within twenty-four hours or the performance of ITS SR 3.8.1.2 is required. This Surveillance only requires the start of the OPERABLE EDG. This changes the CTS requirements by not requiring the EDG to be run at full load for one hour and eliminates the requirement that the test be completed regardless of whether the inoperable EDG is restored to OPERABLE status.

This change is acceptable because the Completion Time is consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the allowed Completion Time. A start of the OPERABLE EDG is sufficient to assure continued OPERABILITY of the EDG. The OPERABLE EDG will be declared inoperable and additional Actions will be required if the cause of inoperability on the inoperable EDG exists on the OPERABLE EDG. The requirement to test on the OPERABLE EDG regardless of when the inoperable EDG is returned to OPERABLE status is also eliminated. The elimination of requiring the OPERABLE EDG to be started, even if the inoperable EDG is returned to OPERABLE status, is acceptable because the plant's corrective action program will continue to assess the common cause evaluation for the inoperable EDG. With the return of the EDG to OPERABLE status, the evaluation will not be restricted by the twenty-four hours limit currently imposed. This change is designated as less restrictive because additional time is allowed to restore parameters to within the LCO limits than was allowed in the CTS.

- L.4 (*Category 3 – Relaxation of Completion Time*) CTS LCO 3.0.5 allows a system, subsystem, train, component, or device to be considered OPERABLE with an inoperable emergency or normal power source provided its normal or emergency power source is OPERABLE and its redundant system(s), subsystem(s), train(s), component(s), and device(s) are OPERABLE. LCO 3.0.5 requires a unit shutdown to start within one hour with two offsite circuits inoperable. ITS 3.8.1 Required Action G.1 requires the declaration of required feature(s) with no offsite power available, inoperable when its redundant required feature(s) is inoperable. The Completion Time allowed by the Required Action G.1 is 12 hours from discovery of no offsite power concurrent with inoperability of redundant required feature(s). This changes the CTS by allowing 12 hours before declaring a required feature inoperable.

This change is acceptable because the Completion Time is consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the allowed Completion Time. The required feature with its emergency power supplies remains OPERABLE. Twelve hours is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to a transient associated with a unit shutdown. This change is

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ITS 3.8.1 - AC SOURCES - OPERATING

designated as less restrictive because additional time is allowed to restore parameters to within the LCO limits than was allowed in the CTS.

- L.5 *(Category 7 – Relaxation of Surveillance Frequency)* CTS surveillance requirement 4.8.1.1.2.a requires that each EDG be demonstrated OPERABLE in accordance with the frequency specified in Table 4.8-2 on a STAGGERED TEST BASIS (STB). CTS Table 4.8-2 specifies the test frequency based on the number of failures that have occurred in testing each EDG during the previous 20 or 100 tests. If the number of failures do not exceed the specified limit, testing is to be performed every 31 days. If failures occur above the specified limits, then testing is conducted every 7 days. ITS SR 3.8.1.2 states that each EDG be started and reach steady state voltage and frequency within a fixed Frequency of 31 days. This changes the CTS by eliminating the requirements to test on a staggered test basis and an increasing frequency of testing based on the number of test failures.

This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. Additional testing of the EDGs has been shown to decrease reliability and create additional equipment inoperabilities. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

- L.6 *(Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS requirements 4.8.1.1.2.d.3, 4, and 5 state that an EDG will respond to a loss of offsite power, an ESF actuation, and a loss of offsite power in conjunction with ESF actuation. These requirements do not specifically state that an actual or simulated signal may be used for the requirements. ITS SRs 3.8.1.10, 3.8.1.11, 3.8.1.12, and 3.8.1.17 state the EDG may be started for these requirements with an actual or simulated signal. This changes the CTS to allow either an actual or simulated signal to be credited in the performance of these requirements.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. Equipment can not discriminate between an actual or simulated signal and the tests are unaffected by the type of signal used for initiation. This change allows credit to be taken for unplanned actuation, if sufficient information is collected to satisfy the test requirements. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.7 *(Category 5 – Deletion of Surveillance Requirement)* Unit 2 CTS requirement 4.8.1.1.1.b requires the demonstration of OPERABILITY for the alternate offsite circuit by the manual transferring of the onsite Class 1E power source from the normal circuit to the alternate circuit every 18 months with the plant shutdown. This change eliminates this requirement.

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This change is acceptable because the deleted Surveillance Requirement is not necessary to verify that the equipment used to meet the LCO are consistent with the safety analysis. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the assumptions in the safety analysis are protected. The offsite circuits that normally feed these buses are the “E” transfer bus for the 2H emergency bus and the “F” transfer bus for the 2J emergency bus. The only other feed to either emergency bus is supplied by closing breaker 25H1. Closing this breaker cross ties the emergency buses. The requirements of GDC 17 from 10 CFR 50, Appendix A states, in part, “The onsite electric power supplies shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure.” In MODES 1, 2, 3, and 4 closing, or requiring breaker 25H1 to be capable of being closed, would immediately decrease the independence and redundancy of both emergency buses and each would be inoperable. This change is acceptable because the testing of the cross tie, or the capability to cross tie emergency buses 2H and 2J in MODES 1, 2, 3, and 4, is not allowed. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

- L.8 *(Category 5 – Deletion of Surveillance Requirement)* CTS Surveillance 4.8.1.1.2.e describes the testing that must be performed following any modification that could affect EDG interdependence. ITS 3.8.1 does not include these testing requirements.

This change is acceptable because the deleted Surveillance Requirement is not necessary to verify that the equipment used to meet the LCO is consistent with the safety analysis. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the assumptions in the safety analysis are protected. Following repair, maintenance, modification, or replacement of a component has may affect OPERABILITY, post maintenance testing is required to demonstrate OPERABILITY of the system or component. This is described in the Bases of ITS SR 3.0.1 and required under SR 3.0.1. The OPERABILITY requirements of the EDGs are described in the Bases for Specification 3.8.1. In addition, the requirements of 10 CFR 50, Appendix B, Section XI (Test Control) provide adequate controls for test programs to ensure that testing incorporates applicable acceptance criteria. Compliance with 10 CFR 50 is required under the unit’s operating license. As a result, post maintenance testing will continue to be performed and an explicit requirement in the Technical Specifications is not necessary. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

- L.9 *(Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS Surveillance Requirements 4.8.1.1.1 and 4.8.1.1.2 contain the requirements to perform various testing “during shutdown.” Surveillance Requirement for 4.8.1.1.2.d is required to be performed during shutdown. ITS SR 3.8.1.11 states in a Note that the required Surveillance shall not be performed in MODE 1 or 2. This changes the CTS

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requirements for testing of the AC sources by allowing the listed test to be performed in MODES 3 or 4.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The required tests may be performed in the indicated MODES without a significant perturbation of the required electrical system. The performance of the EDG start on a simulated or actual SI signal ITS SR 3.8.1.11 does not result in any change in emergency bus voltage or frequency. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.10 *(Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS Surveillance Requirement 4.8.1.1.2 contains the requirement to perform various testing “during shutdown.” ITS SRs 3.8.1.8, 3.8.1.9, 3.8.1.12, 3.8.1.13, and 3.8.1.18 remove the MODE restrictions for performing the required testing. This changes the CTS requirements for testing of the AC sources by allowing these tests to be performed in any MODE.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The performance of the required tests does not significantly perturbate the required electrical system. For Unit 1, manual transfer of the onsite Class 1E power supply from the normal to alternate circuit does not cause any distribution system loss of power or voltage variations for the emergency buses. The performance of ITS SR 3.8.1.9, load reject equal to the single largest post-accident load, is significantly less of a perturbation to the emergency buses being supplied by offsite power, than starting the same load under the same conditions. ITS SR 3.8.1.12, which requires verification that the EDG automatic trips are by-passed on an actual or simulated signal, can be performed on any ESF start, performed every 184 days, without any perturbation to the emergency bus or EDG. This test verifies trips, such as jacket cooling high temperature, will not shutdown a required EDG on an emergency start. SR 3.8.1.13 requires the EDG to be loaded by varying amounts up to 24 hours. This tested is conducted after major maintenance to ensure OPERABILITY. Major maintenance is now performed during the 14 day Completion Time of Condition B in MODES 1, 2, 3, and 4, and therefore, the SR is performed at power. SR 3.8.1.18 only starts the two EDGs and does not perform any loading to perturbate the electrical system. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.11 *(Category 4 – Relaxation of Required Action)* CTS LCO 3.7.4.1, Service Water System – Operating, states, “Two service water loops (shared with the other unit) shall be OPERABLE with each loop consisting of two OPERABLE service water

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ITS 3.8.1 - AC SOURCES - OPERATING

pumps (excluding auxiliary service water pumps) with their associated normal and emergency power supplies, and an OPERABLE flow path” Each unit’s service water system requirements consist of the above requirements for either unit operating in MODES 1, 2, 3, or 4. ITS LCO 3.7.10 specifies the requirements for the Main Control Room (MCR) / Emergency Switchgear Room (ESGR) Habitability System. This system requires the MCR and ESGR fans on both units to be OPERABLE in MODES 1, 2, 3, and 4 and during the movement of recently irradiated fuel assemblies. ITS LCO 3.7.12 requires the fans from the Auxiliary Building central exhaust system to be OPERABLE to support the Emergency Core Cooling System (ECCS) Pump Room Exhaust Air Cleanup System. This could require a fan powered from the other unit to be required for this unit. The SW pumps and the fans from the ventilation systems are components that may be required by either or both units. Therefore, these pumps and fans are classified as “shared components,” for the electrical power requirements. ITS LCO 3.8.1 Actions A, B, and C provide for an evaluation of all safety functions powered by this unit’s AC sources and provide 72 hours for an inoperable offsite circuit and up to 14 days for an inoperable EDG. ITS 3.8.1 Action D for one or more offsite circuit(s), and Actions E and F for an inoperable EDG on the other unit that is needed to support a shared components. This changes the CTS by allowing a shared components to be considered OPERABLE for up to 72 hours with a required offsite circuit(s) inoperable and up to 14 days for an inoperable EDG on the other unit.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the repair period. The shared components will have either an OPERABLE offsite circuit or EDG available to perform their safety function. If both AC sources are lost, the shared components will be immediately declared inoperable. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.12 (*Category 1 – Relaxation of LCO Requirements*) CTS SR 4.8.1.1.2.d.2 states, “Verifying that the load sequencing timers are OPERABLE with times within the tolerances shown in Table 3.8-1.” If the requirement can not be met, the EDG is declared inoperable and the appropriate Action entered. ITS LCO 3.8.1.c requires the following AC electrical sources shall be OPERABLE with the sequencing timing relays for Train H and Train J. ITS Required Action K.1 states with one or more sequencing timing relay(s) inoperable, immediately enter appropriate Conditions and Required Actions for system, subsystem, or component made inoperable by sequencing timing relay(s). Required Action K.2.1 states, “Place the component(s) with the inoperable sequencing timing relay in a condition where it can not

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ITS 3.8.1 - AC SOURCES - OPERATING

automatically load to the associated emergency electrical bus.” Required Action K.2.2 provides an option to declare the associated EDG inoperable. This changes the CTS requirements by allowing a system, subsystem or component served by an inoperable sequencing timing relay to be declared inoperable, instead of the electrical source(s).

This change is acceptable because the LCO requirements continue to ensure that the systems, subsystem, and components are maintained consistent with the safety analyses and licensing basis. The system, subsystem, or components are provided with emergency bus electrical power by individual relays actuating breakers depending on the design basis accident. If the sequencing timing relay does not connect the device to the electrical bus, then the associated component will not provide its required safety function. Therefore, the individual system, subsystem, or components can only be affected by its own sequencing timing relays. By requiring the component with the inoperable sequencing timing relay to be placed in a condition where it can not automatically load to the emergency bus, the bus is protected from potential overload conditions. The electrical source will continue to provide emergency electrical power for the other required functions. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

- L.13 *(Category 5 – Deletion of Surveillance Requirement)* CTS Surveillance Requirement 4.1.1.2.d.7 states, “Verifying that the auto-connected loads to each EDG do not exceed the 2000 hour rating of 3000 kw.” ITS 3.8.1 does not require the verification of loading limit to ensure OPERABILITY of the EDGs. This changes the CTS by deleting the surveillance requirement.

This change is acceptable because the deleted Surveillance Requirement is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the equipment can perform its assumed safety function. Each EDG will continue to be tested in a manner to ensure the safety analyses assumption will be met. Changes to the auto-connected loads will be controlled and evaluated by the appropriate design change control mechanisms to ensure the EDG is not overloaded. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

- L.14 *(Category 4 – Relaxation of Required Action)* CTS Action b states that the OPERABLE EDG must be tested within 24 hours, if the inoperable EDG is due to any cause, “other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing.” The OPERABLE EDG will be tested, “unless the absence of any potential common mode failure is demonstrated.” ITS Required Action B.3.1 states the requirement as, “Demonstrate OPERABLE EDG(s) are not inoperable due to common cause failure.” This changes

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ITS 3.8.1 - AC SOURCES - OPERATING

the CTS by allowing a determination for common cause failure, instead of requiring a demonstration for a potential common mode failure, for the OPERABLE EDG.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the repair period. This change allows a determination that the EDG is OPERABLE and does not require a test to be performed unless a common cause failure affects the OPERABLE EDG. The CTS requirement requires a demonstration of the OPERABLE EDG, where the ITS requirement may not require a test to be performed. The determination that the OPERABLE EDG is not susceptible to a common cause failure ensures the EDG will continue to be OPERABLE. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.15 (*Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria*) CTS Surveillance Requirement 4.8.1.1.2 contains the requirement to perform various tests for the EDGs “during shutdown.” ITS SRs 3.8.1.10, 3.8.1.11, 3.8.1.15, 3.8.1.16, and 3.8.1.17 are modified in a Note that states the Surveillance shall not normally be performed in specific MODES. An additional statement modifies the Note. It allows a full or partial Surveillance to be performed to reestablish OPERABILITY provided an assessment determines the safety of the unit is maintained or enhanced. This changes the CTS requirements for testing of the EDGs by allowing the listed tests to be performed in MODES in which they are normally prohibited from being conducted.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The required EDG tests may be performed in the indicated MODES without a significant perturbation of the required electrical system. An evaluation must be performed to determine that unit safety is maintained or enhanced with the full or partial performance of the Surveillance under specific conditions. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.16 (*Category 7 – Relaxation Of Surveillance Frequency*) CTS 4.8.1.1.2.a.3 states, “Verifying the fuel oil transfer pump can be started and transfers fuel from the storage tank to the day tank.” This requirement shall be performed with a frequency specified in Table 4.8-2 on a Staggered Test Basis (STB). Table 4.8-2 states that the EDG test schedule is once per 31 days when the number of test failures is less than one in the

DISCUSSION OF CHANGES
ITS 3.8.1 - AC SOURCES - OPERATING

past 20 valid tests, and once per 7 days if the number of test failures is two or more in the previous 20 valid test. ITS SR 3.8.1.6 states, "Verify each required fuel oil transfer pump operates to transfer fuel oil from the storage tank to the day tank," and the requirement is required to be performed every 92 days. This changes the CTS by decreasing the SR Frequency from 7 or 31 days on a STB to every 92 days.

The purpose of ITS SR Frequency change is to provide consistent testing requirements between the Technical Specifications and safety related pump testing program. This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. The safety related pump testing program requires the EDG fuel oil pumps to be tested on a quarterly (92-day) frequency to ensure various parameters are consistently monitored to ensure the pumps will perform their safety function. The deletion of the STB is addressed by discussion of change L.5. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

- L.17 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS 4.8.1.1.1.2.c states that every 184 days the EDG will be started within 10 seconds by one of the following signals on a rotating test basis. The signals are a simulated loss of offsite power, simulated loss of offsite power with an ESF actuation, and an ESF actuation. The start requires specific values of voltage and frequency to be obtained within specified limits. ITS SR 3.8.1.7 states that each EDG is started within 10 seconds every 184 days. The start requires specific values of voltage and frequency to be obtained within specified limits. This changes the CTS by eliminating the specific start signals.

The purpose of ITS SR 3.8.1.7 is to perform a "fast start" on the EDG once every 184 days. This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The ITS SR for the EDG start must continue to meet the same requirements for time, voltage, and frequency that are required by the CTS. The type or specific start signal used to start the EDG does not affect the acceptability of the test. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

A.1

ITS 3.8.2
08-26-98

ITS
3.8
3.8.2

ELECTRICAL POWER SYSTEMS

SHUTDOWN AC-SOURCES

LIMITING CONDITION FOR OPERATION

LCD
3.8.2

3.8.1.2 As a minimum, one of the following trains of A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One emergency diesel generator with:
 - 1. A day tank containing a minimum volume of 450 gallons of fuel:
 - 2. A fuel storage system consisting of two underground storage tanks each containing a minimum volume of 45,000 gallons of fuel (This is a shared system with Unit 2), and
 - 3. A fuel transfer system.

(see ITS 3.8.3)

SR 3.8.2.1

APPLICABILITY:

- a. Modes 5 and 6
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

recently

L.6

L.5

A.2

L.11

L.4

ACTION:

~~INSERT PROPOSED NOTE~~
~~INSERT PROPOSED REQUIRED ACTION A.1~~

- a. With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies until the minimum required A.C. electrical power sources are restored to OPERABLE status.

INSERT PROPOSED ITS REQUIRED ACTIONS A.2.3 and B.1

L.5

M.1

recently

L.6

- b. With one underground fuel oil storage tank of 3.8.1.2.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 or for tank repairs:

1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours,
2. Verify a minimum of 100,000 gallons of fuel oil is maintained in the above ground main fuel oil storage tank at least once per 12 hours,
3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and
4. Restore the storage tank to OPERABLE status within 7 days or place both Units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours, and perform ACTION a. above.

(SEE ITS 3.8.3)

SURVEILLANCE REQUIREMENTS

~~INSERT PROPOSED NOTES~~

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3 and 4.8.1.1.4. (see ITS 3.8.3)

L.2

with the exception of 4.8.1.1.1, 4.8.1.1.2, d and e

(see ITS 3.8.3)

L.3

SR
3.8.2.1

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Amendment No. 11, 83, 128, 156, 203, 214

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ITS

ITS 3,8,2
08-26-98

A.1

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 SHUTDOWN Ac Sources

LIMITING CONDITION FOR OPERATION

LCO
3.8.2

3.8.1.2 As a minimum, one of the following trains of A.C. electrical power sources shall be OPERABLE:

SR 3.8.2.1

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One emergency diesel generator with:
 1. A day tank containing a minimum volume of 450 gallons of fuel;
 2. A fuel storage system consisting of two underground storage tanks each containing a minimum volume of 45,000 gallons of fuel (This is a shared system with Unit 1), and
 3. A fuel transfer system.

see ITS 3.8.3

APPLICABILITY:

- a. Modes 5 and 6 recently
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

L.6
L.5

ACTION:

~~INSERT PROPOSED NOTE ACTION A~~

ACTIONS
A and B

- a. ~~With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies until the minimum required A.C. electrical power sources are restored to OPERABLE status.~~

INSERT PROPOSED
ITS Required Action
A.2.3 and B.3
L.4
L.5
L.6
M.1

- b. ~~With one underground fuel oil storage tank of 3.8.1.2.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 or for tank repairs:~~
 1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours.
 2. Verify a minimum of 100,000 gallons of fuel oil is maintained in the above ground main fuel oil storage tank at least once per 12 hours.
 3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and
 4. Restore the storage tank to OPERABLE status within 7 days or place both Units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours, and perform ACTION a. above.

see ITS 3.8.3

SURVEILLANCE REQUIREMENTS

~~INSERT PROPOSED NOTES~~

SR
3.8.2.1

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3 and 4.8.1.1.4. see ITS 3.8.3

L.2

with the exception of 4.8.1.1.b and 4.8.1.1.2. see ITS 3.8.5
L.3

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3/4 8-10

Amendment No. 48, 70, 112, 138, 184, 195

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ITS 3.8.2 - AC SOURCES - SHUTDOWN

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1. "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 CTS LCO 3.8.1.2 Action a. states with required AC sources inoperable immediately suspend operations involving CORE ALTERATIONS, positive reactivity additions, movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies until the required AC sources are restored to OPERABLE status. ITS 3.8.2 Action B adds a Note to these requirements that states, "Enter applicable Conditions and Required Actions of LCO 3.8.10, with one required train de-energized as a result of Condition B." Other changes to CTS ACTION are addressed in by additional discussion of changes in this section.

The purpose of the Note is to remind the user that if an emergency bus becomes de-energized with the loss of the offsite circuit and the required EDG, ITS LCO 3.8.10 would be entered for specific Required Actions. The change is acceptable because the requirements of the CTS would require an evaluation of potential Actions for inoperable buses and equipment. The change is designated as administrative because the Note only acts as a reminder to enter all necessary specifications for a specific condition and does not change the technical requirements of the CTS.

MORE RESTRICTIVE CHANGES

- M.1 CTS Action a. states that with less than the minimum AC sources OPERABLE specific plant activities (CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel assemblies, etc.) shall be immediately suspended until the minimum required AC sources are restored to OPERABLE status. ITS Actions B.2.4 and C.4 require that immediate action be initiated to restore the required offsite circuit and EDG to OPERABLE status. This changes the CTS to require immediate action to restore the required AC sources to OPERABLE status.

This change is acceptable because it requires immediate action to restore the plant's minimum electrical sources. The restoration of the required AC electrical power sources should be completed as quickly as possible in order to minimize the time during which the unit safety systems may be without sufficient electrical power. This change is designated as more restrictive because it specifically requires an action not stated in the current requirements.

DISCUSSION OF CHANGES
ITS 3.8.2 - AC SOURCES - SHUTDOWN

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

- L.1 *(Category 4 – Relaxation of Required Action)* CTS 3.8.1.2 Action a requires with less than the minimum required A.C. electrical power sources of one train (one circuit, between the offsite transmission network and the onsite Class 1E distribution system, and one diesel generator) immediately suspend all operations involving specific tasks. These activities include CORE ALTERATIONS, positive reactivity changes, and the movement, or movement of load over, irradiated fuel assemblies. ITS 3.8.2 Action A.1 adds an allowance to this requirement. This allows the affected required feature(s) with no offsite power available to be declared inoperable and enter the feature(s) Conditions and Required Actions requirements for the specific function. This would allow the utilization of the feature(s) Required Actions while continuing with activities, such as a plant cooldown. The CTS requirements do not allow this provision.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the repair period. The Required Actions of the affected features will provide appropriate compensatory measures to ensure the required safety functions can be performed. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.2 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS surveillance requirement 4.8.1.2 states, “The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3, and 4.8.1.1.4.” ITS SR 3.8.2.1 states the required SRs but adds a Note which states, “The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9, SR 3.8.1.13, SR 3.8.1.14, and SR 3.8.1.15.” This changes the CTS to allow specific surveillance requirements to not be performed on the required equipment during the time that only one offsite source and one EDG are required to be OPERABLE.

This change is acceptable because it has been determined that the eliminated Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The intent of the required testing for AC sources in a condition of limited resource is to ensure the

DISCUSSION OF CHANGES
ITS 3.8.2 - AC SOURCES - SHUTDOWN

source remain OPERABLE and performing required tests is undesirable in a condition when only one offsite circuit or EDG is required to be OPERABLE. The Note precludes the performance of the SRs that would parallel the EDG with an offsite source. These are SRs 3.8.1.3, 3.8.1.9, 3.8.1.13, and 3.8.1.15. SR 3.8.1.14 is only performed on the EDG within 5 minutes of shutdown after it has been fully loaded. If the EDG is not loaded in the SRs above, then SR 3.8.1.14 should also be excluded because it has not been loaded. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.3 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS Surveillance Requirement 4.8.1.2 states, “The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3, and 4.8.1.1.4.” ITS SR 3.8.2.1 states that the listed SRs are applicable. The list is composed of SRs 3.8.1.1, 3.8.1.2, 3.8.1.3, 3.8.1.4, 3.8.1.5, 3.8.1.6, 3.8.1.7, 3.8.1.9, 3.8.1.13, 3.8.1.14, and 3.8.1.15. This changes the CTS by not requiring Surveillances 4.8.1.1.1.b, 4.8.1.1.2.d.2, 4.8.1.1.2.d.3, 4.8.1.1.2.d.4, 4.8.1.1.2.d.5, and 4.8.1.1.2.e to be performed on the AC circuit and EDG that are OPERABLE.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The EDG requirements in 4.8.1.1.2.d.2, 3, 4, and 5 (ITS SRs 3.8.1.10, 3.8.1.11, 3.8.1.12, 3.8.1.16, and 3.8.1.17) require instrumentation signals from loss of offsite power or ESF to actuate the start of the EDG or to energize the emergency train’s sequencing timing relays for loading. In MODE 5 or 6 the instrumentation that provides these signals is not required to be OPERABLE and the function to start or load the EDG is also not required. Therefore, these SRs are not required for EDG OPERABILITY. CTS requirement 4.8.1.1.2.e (ITS SR 3.8.1.18) requires that both EDGs be started simultaneously. Since only one EDG is required to be OPERABLE, two EDGs cannot be required to start at the same time. The offsite circuit requirement in CTS 4.8.1.1.1.b (ITS SR 3.8.1.8) requires the transfer from the normal to the alternate circuit. Since only one circuit is required to be OPERABLE, the transfer is not required to be performed to an inoperable circuit and the requirement is eliminated. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.4 *(Category 4 – Relaxation of Required Action)* CTS 3.8.1.2 Action a. specifies with less than the required AC electrical sources OPERABLE, operations involving positive reactivity changes shall be immediately suspended. ITS 3.8.2 Required Actions B.2.3 and C.3 modify this requirement and state, “Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.” This changes the CTS requirement by allowing operations that are a positive reactivity change.

DISCUSSION OF CHANGES
ITS 3.8.2 - AC SOURCES - SHUTDOWN

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the repair period. Maintaining SDM or refueling boron concentration requirements ensures the unit will remain in analyzed conditions. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.5 (*Category 2 – Relaxation of Applicability*) CTS LCO 3.8.1.2 Applicability states, “loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.” CTS 3.8.1.2 Action a. requires with less that the minimum required A.C. electrical power sources, all operations involving movement of loads over irradiated fuel assemblies shall be immediately suspended. ITS LCO and Actions of 3.8.2 do not specify these requirements. This changes the CTS by deleting the applicability during movement of loads over irradiated fuel assemblies.

This change is acceptable because the requirements continue to ensure that the irradiated fuel assemblies are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The safety analyses do not assume the dropping of loads onto irradiated fuel assemblies is sufficient to create a condition that would release fission products as assumed in the fuel handling accident. The movement of irradiated fuel assemblies continues to require the minimum AC sources. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

- L.6 (*Category 2 – Relaxation of Applicability*) The Applicability for CTS 3.8.2.1, AC sources, states, “during the movement of irradiated fuel assemblies.” The associated Action states with the required AC sources not fully OPERABLE immediately suspend all operations involving movement of irradiated fuel assemblies. ITS LCO 3.8.5 Applicability states, “during the movement of recently irradiated fuel assemblies.” This changes the CTS by restricting the AC sources requirements to during the movement of fuel assemblies that have been recently irradiated.

This change is acceptable because the requirements continue to ensure that the systems are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The movement of recently irradiated fuel assemblies that contain a sufficient quantity of radioactive nuclides to exceed the regulatory limits are the only assemblies that have the potential for producing a significant radiological consequence following a fuel handling accident. The fuel assemblies that have been allowed to sufficiently decay and reduce the radioactive

DISCUSSION OF CHANGES
ITS 3.8.2 - AC SOURCES - SHUTDOWN

source term below a specified level will not violate the regulatory limits. Therefore, the requirements for AC sources only apply to recently irradiated fuel assemblies. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

ITS 3.8.3 - DIESEL FUEL OIL AND STARTING AIR

UNIT 1

ITS

ITS 3.8.3
08-26-98

3.8

3/4.8 ELECTRICAL POWER SYSTEMS

A.1

3.8.3

3/4.8.1 A.C. SOURCES Diesel Fuel Oil and Starting Air

A.2

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

LCO
3.8.3

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

see ITS LCO 3.8.1

b. Two separate and independent emergency diesel generators (EDGs):

INSERT proposed LCO 3.8.3 M.1 A.2

1. Each with a separate day tank containing a minimum of 450 gallons of fuel, and

see ITS LCO 3.8.1

2. A fuel storage system consisting of two underground storage tanks each containing a minimum of 45,000 gallons of fuel (This is a shared system with Unit 2), and

LA.1

3. A separate fuel transfer system

see ITS SA 3.8.3.1

APPLICABILITY: MODES 2, 3 and 4 INSERT PROPOSED APPLICABILITY

M.1 A.2

ACTION: X INSERT PROPOSED ACTION NOTE

A.3

a. With one offsite circuit of 3.8.1.1.a inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

b. (Risk-Informed) With one EDG of 3.8.1.1.b inoperable, demonstrate the OPERABILITY of the offsite A.C. power sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the EDG is 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 EDG by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours*, unless the absence of any potential common mode failure for the remaining EDG is demonstrated. Restore the EDG to OPERABLE status within 14 days if the AAC DG and the opposite unit's EDGs are OPERABLE or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In addition:

see ITS 3.8.1

* This action is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY.

ELECTRICAL POWER SYSTEMS
LIMITING CONDITION FOR OPERATION

ACTION: (Continued):

e. With two of the above required EDGs inoperable, 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 one of the inoperable EDGs 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. Following restoration of one EDG, follow Action Statement b with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable EDG.

see ITS 3.8.1

f. With one underground fuel oil storage tank of 3.8.1.1.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.a or for tank repairs: or inspection

L.A.1

L.2

1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours.

L.A.1

2. Verify a minimum of 100,000 gallons of fuel is maintained in the above ground main fuel oil storage tank at least once per 12 hours.

3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and

L.A.2

4. Restore the storage tank to OPERABLE status within 7 days or place both Units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

INSERT PROPOSED ACTION C

L.1

INSERT PROPOSED ACTION D

M.2

INSERT PROPOSED ACTION E

L.3

INSERT PROPOSED ACTION F

M.1

INSERT PROPOSED ACTION G

A.4

Action A
A.2
A.3
A.1
A.4
Action B

Action C

Action D

Action E

Action F

Action G

ITS

ITS 3.8.3
12-10-98

A.1

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required physically 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 alignment indicating power availability.
- b. Demonstrated OPERABLE at least once per 18 months during shutdown by manually transferring the onsite Class 1E power supply from the normal circuit to the alternate circuit.

See ITS 3.8.1

4.8.1.1.2 Each emergency diesel generator (EDG) shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8.2 on a STAGGERED TEST BASIS by:

From CTS LCO 3.8.1.1 b.2

- 1. Verifying the fuel level in the day tank
- 2. Verifying the fuel level in the fuel storage tank (45,000 gallons) every 31 days

A.5

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the EDG can start** and gradually accelerate to a steady state voltage and frequency of 4160 ± 420 volts and 60 ± 0.5 Hz. Subsequently, verifying the generator is synchronized, gradually loaded** to an indicated 2500-2600 kw*** and operates for at least 60 minutes.

See ITS 3.8.1

5. Verifying the EDG is aligned to provide standby power to the associated emergency busses.

- b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank is within the acceptable limits specified in Table 1 of ASTM D975-74

LA.3

(when checked for viscosity, water and sediment)

and removal of accumulated water

M.3

SR 3.8.3.1

SR 3.8.3.4

SR 3.8.3.2

INSERT PROPOSED SR 3.8.3.2

M.2

SR 3.8.3.3

INSERT PROPOSED SR 3.8.3.3

M.1

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine pre-lube and warmup procedures, and as applicable regarding loading recommendations.

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

See ITS 3.8.1

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.4 For each underground EDG fuel oil storage tank perform the following at least once per 10 years:

1. Drain each fuel oil storage tank
2. Remove sediment from each fuel oil storage tank
3. Inspect each fuel oil storage tank for integrity
4. Clean each fuel oil storage tank.

L.2

A.1

ELECTRICAL POWER SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, one of the following trains of A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One emergency diesel generator with:
 1. A day tank containing a minimum volume of 450 gallons of fuel;

See ITS 3.8.2

2. A fuel storage system consisting of two underground storage tanks each containing a minimum volume of 45,000 gallons of fuel (This is a shared system with Unit 2), and

L.A.1

See ITS 3.8.3.1

3. A fuel transfer system.

APPLICABILITY:

- a. Modes 5 and 6
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

See ITS 3.8.2

ACTION:

a. With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies until the minimum required A.C. electrical power sources are restored to OPERABLE status.

b. With one underground fuel oil storage tank of 3.8.1.2.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 for tank repairs; OF INSPECTIONS

L.A.1

L.1.2

1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours.

L.A.1.1

2. Verify a minimum of 100,000 gallons of fuel oil is maintained in the above ground main fuel oil storage tank at least once per 12 hours.

3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and

L.A.2

4. Restore the storage tank to OPERABLE status within 7 days or place both Unit the Unit in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours, and perform ACTION a. above.

A.1

Action A

Action B

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3, and 4.8.1.1.4.

See ITS 3.8.2

See ITS 3.8.5

L.1.2

ITS
3.8
3.8.3

A.1

ITS 3.8.3
08-26-98

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES DIESEL FUEL OIL AND STARTING AIR

A.2

OPERATING

LIMITING CONDITION FOR OPERATION

LCO
3.8.3

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. Two separate and independent emergency diesel generators (EDGs):
 1. Each with a separate day tank containing a minimum of 450 gallons of fuel, and
 2. A fuel storage system consisting of two underground storage tanks each containing a minimum of 45,000 gallons of fuel (This is a shared system with Unit 1), and
 3. A separate fuel transfer system.

< see ITS 3.8.1 >

INSERT PROPOSED LCO 3.8.3

M.1
A.2

< see ITS 3.8.1 >

(LA.1)

< see ITS SR 3.8.3.1 >

APPLICABILITY: MODES 1, 2, 3 and 4.

INSERT PROPOSED APPLICABILITY

M.1
A.2
A.3

ACTION:

INSERT PROPOSED NOTE

- a. With one offsite circuit of 3.8.1.1.a inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.
- b. (Risk-Informed) With one EDG of 3.8.1.1.b inoperable, demonstrate the OPERABILITY of the offsite A.C. power sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter. If the EDG is 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 EDG by performing Surveillance Requirement 4.8.1.1.2.a.4 within 24 hours*, unless the absence of any potential common mode failure for the remaining EDG is demonstrated. Restore the EDG to OPERABLE status within 14 days if the AAC DG and the opposite unit's EDGs are OPERABLE or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In addition:

< see ITS 3.8.1 >

* This action is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY

A.1

LIMITING CONDITION FOR OPERATION

ACTION: (Continued):

e. With two of the above required EDGs inoperable, 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 one of the inoperable EDGs 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. Following restoration of one EDG, follow Action Statement b with the time requirement of that Action Statement based on the time of initial loss of the remaining inoperable EDG.

SEE ITS 3.8.1

f. With one underground fuel oil storage tank of 3.8.1.1.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 or for tank repairs: BY INSPECTION

LA.1
L1.2

Action A

A.2

1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours,

LA.1

A.3

2. Verify a minimum of 100,000 gallons of fuel is maintained in the above ground main fuel oil storage tank at least once per 12 hours,

A.1

3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and

LA.2

Action B

A.4

4. Restore the storage tank to OPERABLE status within 7 days or place both Units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

Action C

X INSERT PROPOSED ACTION C

L.1

Action D

X INSERT PROPOSED ACTION D

M.2

Action E

X INSERT PROPOSED ACTION E

L.3

Action F

X INSERT PROPOSED ACTION F

M.1

Action G

X INSERT PROPOSED ACTION G

A.4

A.1

ITS 3.8.3
12-10-98

ITS ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required physically 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 alignment indicating power availability.
- b. Demonstrated OPERABLE at least once per 18 months during shutdown by manually transferring the onsite Class 1E power supply from the normal circuit to the alternate circuit.

See ITS 3.8.1

4.8.1.1.2 Each emergency diesel generator (EDG) shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8.2 on a STAGGERED TEST BASIS by:

SR
3.8.3.1

1. Verifying the fuel level in the day tank.
2. Verifying the fuel level in the fuel storage tank. 45,000 gallons Every 31 days
3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.
4. Verifying the EDG can start** and gradually accelerate to a steady state voltage and frequency of 4160 ± 420 volts and 60 ± 0.5 Hz. Subsequently, verifying the generator is synchronized, gradually loaded** to an indicated 2500-2600 kw*** and operates for at least 60 minutes.
5. Verifying the EDG is aligned to provide standby power to the associated emergency busses.

From ITS LCO 3.8.1.1 b.2 A.5

See ITS 3.8.1

SR
3.8.3.4

- b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank obtained as a DRAIN sample in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.
- c. At least once per 184 days, the EDG shall be started** in less than or equal to 10 seconds after the start signal and achieve voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz. The generator steady state voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.5 Hz.

L.A.3

M.3

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine pre-lube and warmup procedures, and as applicable regarding loading recommendations.

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

See ITS 3.8.1

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.3 (continued)

<see 3.8.6>

- b. At least once per 92 days and within 7 days after a battery discharge where the battery terminal voltage decreased below 110 volts or battery overcharge above 150 volts, by verifying that:
 - 1. The parameters in Table 4.8-3 meet Category B limits and
 - 2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms.
- c. At least once per 18 months by verifying that:
 - 1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
 - 2. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material.
 - 3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms.
 - 4. The battery charger will supply at least ten amperes at 125 volts for at least 4 hours.
- d. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test.
- e. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating.

<see ITS 3.8.6>

- 4.8.1.1.4 For each underground EDG fuel oil storage tank perform the following at least once per 10 years:
- 1. Drain each fuel oil storage tank
 - 2. Remove sediment from each fuel oil storage tank
 - 3. Inspect each fuel oil storage tank for integrity
 - 4. Clean each fuel oil storage tank

(L.2)

(M.2)

(M.1)

SR 3.8.3.2
SR 3.8.3.3

INSERT PROPOSED SR 3.8.3.2

INSERT PROPOSED SR 3.8.3.3

RevD

A.1

ITS ELECTRICAL POWER SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, one of the following trains of A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One emergency diesel generator with:
 - 1. A day tank containing a minimum volume of 450 gallons of fuel;
 - 2. A fuel storage system consisting of two underground storage tanks each containing a minimum volume of 45,000 gallons of fuel (This is a shared system with Unit 1), and
 - 3. A fuel transfer system.

LA.1

See ITS 3.8.3.1

APPLICABILITY:

- a. Modes 5 and 6
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

See ITS 3.8.2

ACTION:

a. With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies until the minimum required A.C. electrical power sources are restored to OPERABLE status.

b. With one underground fuel oil storage tank of 3.8.1.2.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 or for tank repairs. per inspection

LA.1

L.2

LA.1

Action A

A.2

1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours,

A.3

2. Verify a minimum of 100,000 gallons of fuel oil is maintained in the above ground main fuel oil storage tank at least once per 12 hours,

A.1

3. Verify an available source of fuel oil and transportation to supply 80,000 gallons of fuel in less than a 48 hour period, and

LA.2

Action B

A.4

4. Restore the storage tank to OPERABLE status within 7 days or place both units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours, and perform ACTION a. above.

the UNIT A.1

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3 and 4.8.1.1.4.

See ITS 3.8.2

See ITS 3.8.5

L.2

DISCUSSION OF CHANGES
ITS 3.8.3 - DIESEL FUEL OIL AND STARTING AIR

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 CTS LCOs 3.8.1.1 and 3.8.1.2 state the requirements for the electrical power sources - operating and shutdown. These requirements are used to form the LCO and Applicability for the diesel fuel oil and starting air systems. ITS LCO 3.8.3, "Diesel Fuel Oil and Starting Air," states "The stored diesel fuel oil and starting air subsystems shall be within limits for each required emergency diesel generator (EDG)." The Applicability for these requirements are, "When associated EDG is required to be OPERABLE. The addition of the starting air requirements is addressed in DOC M.1. This changes the CTS by stating the LCO and Applicability requirements for the diesel fuel oil in the ITS format.

This change is acceptable because the current requirements are translated into ITS form with no technical changes. The fuel oil is a support system for each EDG that is required to maintain the EDG's OPERABILITY. The CTS and ITS maintain this relationship between the EDGs and the fuel oil system without any changes in the technical requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.3 CTS LCO 3.8.1.1 states the requirements for the diesel fuel oil in the LCO, Action, and Surveillance Requirements for the EDGs when the unit is operating. CTS LCO 3.8.1.2 lists the requirements for diesel fuel oil in the LCO, Action, and Surveillance Requirements when the unit is in a shutdown condition. Both CTS 3.8.1.1 and 3.8.1.2 provide the requirements on the fuel oil system needed to support the OPERABILITY of the associated EDG. ITS 3.8.3 Actions are provided with a Note that states, "Separate Condition entry is allowed for each EDG." The addition of the Note provides clarity to the CTS by specifically stating that a separate entry is allowed for each EDG.

This change is acceptable because each EDG is provided with an independent source for starting air. Each EDG requires an independent fuel oil supply by separate transfer lead and backup pumps and day tank. The requirements of the CTS deal only the fuel oil requirements and separate condition entry is allowed by the current requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

DISCUSSION OF CHANGES
ITS 3.8.3 - DIESEL FUEL OIL AND STARTING AIR

- A.4 CTS 3.8.1.1 Actions do not specifically state Required Actions for an EDG if sufficient fuel oil is not available. ITS Condition G states, "Required Action and associated Completion Time for Condition C, D, E, or F not met, or one or more EDGs diesel fuel oil or starting air systems not within limits for reasons other than Condition C, D, E, or F, declare associated EDG inoperable immediately." Starting air requirements are addressed in DOC M.1. This changes the CTS by specifically stating that if Actions are not met, the associated EDG would be declared inoperable.

This change is acceptable because the CTS requirements are structured as a support system for EDGs OPERABILITY. Specifically stating the requirement to declare the EDG(s) inoperable does not change the technical intent of the current requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.5 CTS Surveillance 4.8.1.1.2 specifies that each EDG shall be tested in accordance with CTS Table 4.8.2. This requirement is modified in ITS Section 3.8.1 and specifies the frequency of testing an EDG as 31 days. CTS requirement 4.8.1.1.2.a.2 requires the verification of fuel oil tank level to support the OPERABILITY of the EDG. ITS SR 3.8.3.1 requires verification of fuel oil volume every 31 days. This changes the CTS by specifically stating the frequency for verification of fuel oil tank level as 31 days.

This change is acceptable because the requirements in LCO 3.8.1 specify the testing frequency of the EDG. The fuel oil level is verified to ensure OPERABILITY of the EDG. Therefore, the frequency of the testing is dependent on the testing requirements of the EDG. This change reflects the requirements of the CTS in the ITS format. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

- M.1 CTS LCO 3.8.1.1 does not contain requirements for the EDG starting air subsystems. ITS 3.8.3 LCO, Actions, and Surveillance Requirements add additional requirements on the EDG starting air system. This changes the CTS by placing additional requirements on the support systems required for each EDG to be considered OPERABLE.

This change is acceptable because the starting air subsystem is required to provide the motive force to start the EDG. The addition of requirements in the ITS LCO, Action, and SR provide the necessary requirements to ensure each EDG is capable of starting and achieving the required voltage and frequency within the 10 seconds assumed by the accident analyses. This change is designated as more restrictive because additional requirements are added to the Technical Specifications.

- M.2 CTS 3.8.1.1 Surveillance Requirement 4.8.1.1.2.b contains requirements for fuel oil viscosity, water and sediment. There is no specific Action if the fuel oil exceeds the

DISCUSSION OF CHANGES
ITS 3.8.3 - DIESEL FUEL OIL AND STARTING AIR

requirements. ITS 3.8.3 Action D is added to impose specific limits on diesel fuel oil for total particulates. The Action requires the fuel oil total particulate be restored within limits in 7 days. ITS SR 3.8.3.2 requires the verification of new and stored fuel oil properties by testing in accordance with the requirements of the Diesel Fuel Oil Testing Program. This changes the CTS requirements by setting specific limits and testing requirements on diesel fuel oil established by the testing program.

This change is acceptable because it establishes a requirement for diesel fuel oil properties and requirements for testing to determine if fuel oil is acceptable to support EDG OPERABILITY. The proposed Required Actions and associated Completion Times provide limits for factors that could cause a degradation of the EDG's capability. The ITS Completion Times allow sufficient time to correct most out of limit conditions while ensuring corrective actions are completed without significant impact on EDG OPERABILITY. This change is designated as more restrictive because new requirements are added to the CTS.

- M.3 CTS requirement 4.8.1.1.2.b requires verification at least once per 92 days that a sample of diesel fuel from the fuel storage tank is within the acceptable limits for water. ITS SR 3.8.3.4 adds the requirement that water accumulated in the tank will be removed. This changes the CTS by specifying that any water contained in the fuel oil tank will be removed.

This change is acceptable because the elimination of accumulated water will prevent an environment from being established to allow bacteria to survive and grow. The bacteria in fuel oil can cause microbiological fouling, the major cause of fuel oil degradation. Elimination of the accumulated water periodically prevents the environmental conditions necessary for the growth of the bacteria. This also will reduce the potential for entrainment of water in the fuel oil when the EDG is operating as fuel oil is transferred from the underground tank to the EDG's day tank. This change is designated as more restrictive because the requirement to remove accumulated water is not specifically required in the CTS.

REMOVED DETAIL CHANGES

- LA.1 *(Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems)* CTS LCO 3.8.1.1.b.2 and 3 and LCO 3.8.1.2.b.2 and 3 state a fuel oil system consisting of two underground tanks each containing a minimum of 45,000 gallons of fuel (This is a shared system with the other unit), and a separate fuel oil transfer system. The inoperability of the fuel oil system affects both units and both units would be required to shutdown if an inoperable fuel oil system were not restored to OPERABLE status within allowed outage times. ITS 3.8.3 does not state the specifics of the fuel oil system, such as the fact that the tanks are underground and that it is a shared system. This information is contained in the ITS Bases.

DISCUSSION OF CHANGES
ITS 3.8.3 - DIESEL FUEL OIL AND STARTING AIR

The removal of these details for performing actions from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirements for the fuel oil system that are necessary to ensure the OPERABILITY of the required EDG(s). Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

- LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems)* CTS 3.8.1.1 Action f and 3.8.1.2 Action b require with one underground fuel oil storage tank of 3.8.1.1.b.2 inoperable for the performance of Surveillance 3.8.1.1.4 or tank repairs, that replacement fuel oil must be verified as available. This includes the verification of availability of 50,000 gallons of fuel oil and transportation that can deliver it within a 48-hour period. ITS Condition A states, “One fuel oil storage tank not within limits for performance of tank-repair or inspection,” verify replacement oil is available, prior to removing tank from service. This changes the CTS by moving the details of transportation of 50,000 gallons of fuel oil within a 48-hour period from the Technical Specifications to the ITS Bases.

The removal of these details for performing actions from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to verify the availability of replacement fuel oil. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

- LA.3 *(Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems)* CTS Surveillance Requirement 4.8.1.1.2.b states that the fuel oil tank is within the acceptable limits specified in Table 1 of ASTM D975 when checked for viscosity, water, and sediment. ITS SR 3.8.3.4 states check for and remove accumulated water from each stored fuel oil tank. This changes the CTS by moving the requirements of viscosity and sediment from the Technical Specifications to the ITS Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be

DISCUSSION OF CHANGES
ITS 3.8.3 - DIESEL FUEL OIL AND STARTING AIR

included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement contained within the fuel oil testing program with the appropriate standards referenced. This change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

- L.1 *(Category 4 – Relaxation of Required Action)* CTS 3.8.1.1 requirements for diesel fuel oil states the fuel oil tanks will contain 45,000 gallons each to support the EDGs' OPERABILITY requirements. If the volume is less than this amount, the associated EDGs are to be declared inoperable. ITS 3.8.3 Condition C allows 48 hours to restore a fuel oil level to 45,000 gallons, provided the level is 38,600 gallons or greater, before declaring the EDG(s) inoperable. This changes the CTS by allowing the diesel fuel oil requirement to decrease below the current limit.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the repair period. A minimum of 38,600 gallons of diesel fuel oil will continue to be required for the EDGs. This represents the amount of fuel oil needed for one EDG to run at full load for 6 days instead of the normal limit of 7 days. The limited period of time, 48 hours, that the allowance provides is reasonable to restore the inventory to the 45,000-gallon limit. It is very unlikely that an event would occur that would require an EDG to run at full load for greater than 6 days. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.2 *(Category 5 – Deletion of Surveillance Requirement)* CTS 3.8.1.1 Action f allows the inoperability of one underground fuel oil tank for the performance of Surveillance Requirement 4.8.1.1.4 or tank repairs. CTS SR 4.8.1.1.4 requires each underground EDG fuel oil storage tank every 10 years to be drained, sediment removed, the tank inspected for integrity, and to be cleaned. This changes the CTS by deleting the Surveillance Requirement from the Technical Specifications.

This change is acceptable because the deleted Surveillance Requirement is not necessary to verify that the equipment used to meet the LCO can perform its required

DISCUSSION OF CHANGES
ITS 3.8.3 - DIESEL FUEL OIL AND STARTING AIR

functions. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the equipment can perform its assumed safety function. The fuel oil tank will continue to be inspected by the ASME requirements. Cleaning of the tank will also occur with the required inspection. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

- L.3 *(Category 3 – Relaxation of Completion Time)* CTS 3.8.1.1.2.b states that every 92 days a sample from the fuel oil storage tank is verified to be within acceptable limits. If this requirement can not be met, the associated EDGs are declared inoperable. ITS Action E states that with one or more EDGs with new fuel oil properties not within limits, 30 days is allowed to restore stored fuel oil properties within limits. This changes the CTS by allowing 30 days to restore fuel oil within required limits.

This change is acceptable because the Completion Time is consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the allowed Completion Time. Diesel fuel oil is capable of powering EDGs in an acceptable manner with elevated particulate levels. The effect of higher than normal particulate levels does not immediately impact the capability of the EDG to perform its required safety function. This change is designated as less restrictive because additional time is allowed to restore parameters to within the LCO limits than was allowed in the CTS.

A.1

ITS

3.8

3.8.4

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

LCO
3.8.4

3.8.2.3 The following D.C. bus trains shall be energized and OPERABLE with tie breakers between bus trains open: (See ITS 3.8.9)

TRAIN "A" consisting of 125-volt D.C. bus No. 1-I and 1-II, 125-volt D.C. battery bank No. 1-I and 1-II and a full capacity charger. (LA.1)

TRAIN "B" consisting of 125-volt D.C. bus No. 1-III and 1-IV, 125-volt D.C. battery bank No. 1-III and 1-IV and a full capacity charger. (A.5)

APPLICABILITY: MODES 1, 2, 3 and 4. Insert proposed LCO part C

ACTION:

Action
A and B

a. With one 125-volt D.C. bus inoperable, restore the inoperable bus 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.

b. With one 125-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger 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. (LA.3)

(A.6)
Insert proposed Action D

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with tie breakers open at least once per 7 days by verifying correct breaker alignment and indicated power availability. (SEE ITS 3.8.9)

4.8.2.3.2 Each 125-volt battery bank and charger shall be demonstrated OPERABLE: (LA.3)

a. -At least once per 7 days by verifying that:

1. The parameters in Table 4.8-3 meet Category A limits and (See ITS 3.8.6)
2. The total battery terminal voltage is greater than or equal to 129 volts on float charge.

SR
3.8.4.1

ITS

A.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR
3.8.4.2

b. At least once per 92 days and within 7 days after a battery discharge where the battery terminal voltage went below 110 volts or battery overcharge above 150 volts, by verifying that:

L.2

1. The parameters in Table 4.8-3 meet the Category B limits.

See ITS 3.8.6

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150 x 10 to the minus 6 ohms, and

3. Average electrolyte temperature of at least 10 connected cells is above 60°F.

See ITS 3.8.6

c. At least once per 18 months by verifying that:

SR
3.8.4.3

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.

A.2

Remove visible terminal corrosion

That could degrade battery performance

SR
3.8.4.4

2. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material.

SR
3.8.4.6

3. The battery charger will supply at least ²⁷⁰ ~~200~~ amperes at 125 volts for at least 4 hours.

M.2

M.1

SR
3.8.4.5

4. The resistance of each cell-to-cell and terminal connection is less than or equal to 150 x 10⁻⁶ ohms.

L.5

Note 1

L.4

SR
3.8.4.8

d. At least once per 18 months, during shutdown, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subject to a battery service test.

Note 2

Note 3

A.3

SRs
3.8.4.9
7.8.4.8

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in place of the battery service test.

L.3

A.3

SR
3.8.4.9

f. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating.

L.3

A.3

or modified performance test

L.1

Rev. 0

A.1

ITS 3.8.4

08-26-98

ITS

LCO
3.8.4
CONDITION
C

SR
3.8.4.1

SR
3.8.4.2

SR
3.8.4.3

SR
3.8.4.4

SR
3.8.4.5

SR
3.8.4.7

SR
3.8.4.9

SR
3.8.4.9

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS

4.8.1.1.3 ~~INSERT LCO AND CONDITION~~ Each emergency diesel generator 125-volt battery bank and charger shall be demonstrated OPERABLE:

A.4
LA.3

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8-3 meet Category A limits and <see ITS 3.8.6>
2. The total battery terminal voltage is greater than or equal to 129 volts on a float charge.

b. At least once per 92 days and within 7 days after a battery discharge where the battery terminal voltage decreased below 110 volts or battery overcharge above 150 volts by verifying that:

L.2

1. The parameters in Table 4.8-3 meet Category B limits and <see ITS 3.8.6>
2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms.

c. At least once per 18 months, by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration. ~~that could degrade battery performance~~
2. ~~Remove visible corrosion~~ The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material. ~~M.2~~
3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms.
4. The battery charger will supply at least 10 amperes at 125 volts for at least 4 hours.

A.2
M.2

d. ~~note~~ At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test ~~or modified performance test~~

L.3
A.3

e. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating.

L.3
A.3
LA.2

ITS

A.1

3.8

ELECTRICAL POWER SYSTEMS

3.8.4

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION:

LCO
3.8.4

3.8.2.3 The following D.C. bus trains shall be energized and OPERABLE:

< see ITS 3.8.9 >

TRAIN "A" consisting of 125-volt D.C. bus No. 2-I and 2-II, 125-volt D.C. battery bank No. 2-I and 2-II and a full capacity charger.

TRAIN "B" consisting of 125-volt D.C. bus No. 2-III and 2-IV, 125-volt D.C. battery bank No. 2-III and 2-IV and a full capacity charger.

LA.1

APPLICABILITY: MODES 1, 2, 3 and 4.

INSERT PROPOSED LCO part c

A.5

ACTION:

Action
A and B

a. With one 125-volt D.C. bus inoperable, restore the inoperable bus 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.

b. With one 125-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger 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.

LA.3

INSERT PROPOSED Action D

A.6

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with tie breakers open at least once per 7 days by verifying correct breaker alignment and indicated power availability.

< see ITS 3.8.9 >

4.8.2.3.2 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

LA.3

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8-3 meet Category A limits and
2. The total battery terminal voltage is greater than or equal to 129 volts on float charge.

< see ITS 3.8.6 >

SR
3.8.4.1

A.1

ITS 3.8.4

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days and within 7 days after a battery discharge where the battery terminal voltage decreased below 110 volts or battery overcharge above 150 volts, by verifying that:

L.2

- 1. The parameters in table 4.8-3 meet the Category B limits. <see ITS 3.8.6>
- 2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms, and
- 3. Average electrolyte temperature of at least 10 connected cells is above 60°F. <see ITS 3.8.6>

SR
3.8.4.2

c. At least once per 18 months by verifying that:

- 1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration. *That could degrade battery performance*
- 2. *Remove visible terminal corrosion* The cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material. M.2
- 3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms.

SR
3.8.4.3

SR
3.8.4.4

SR
3.8.4.5

4. The battery charger will supply at least 270 amperes at ≥ 125 volts for at least 4 hours. L.5 M.1 L.4

SR
3.8.4.6

SR
3.8.4.8

d. At least once per 18 months, during shutdown, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test. *Note 1* L.3 A.3

SR
3.8.4.9

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this discharge performance test may be performed in place of the battery service test. *Note 2* L.3 A.3

SR
3.8.4.9

f. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating. L.3 A.3 L.2

A.1

12-10-98

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

- 9. Verifying that the following EDG lockout features prevent EDG starting only when required:
 - a) Remote Local Selection Switch
 - b) Emergency Stop Switch
- 10. Verifying the EDG's hot restart capability by:
 - a) Operating the EDG** loaded to an indicated 2500 to 2600 kw*** for 2 hours or until operating temperatures have stabilized, and
 - b) Within 5 minutes of shutdown verify the EDG can be started** in less than or equal to 10 seconds of the start signal with voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz. The generator steady state voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.5 Hz.
- e. At least once per 10 years or after any modifications which could affect EDG interdependence by starting** both EDGs simultaneously, during shutdown, and verifying that both EDGs start in less than or equal to 10 seconds of the start signal and achieve a voltage of greater than or equal to 3960 volts and a frequency of greater than or equal to 59.5 Hz.
- f. At least once per 24 months during any mode of operation, by subjecting each EDG to a preventive maintenance inspection in accordance with maintenance procedures appropriate for diesels used for this class of standby service.

(See ITS 3.8.1)

LCD
3.8.4
CONDITION
C

~~INSERT LCD and CONDITION~~
4.8.1.1.3 Each emergency diesel generator 125-volt battery ~~bank and charge~~ shall be demonstrated OPERABLE:

A.4
LA.3

- a. At least once per 7 days by verifying that:
 - 1. The parameters in Table 4.8-3 meet Category A limits and (see ITS 3.8.6)
 - 2. The total battery terminal voltage is ≥ 129 volts on a float charge.

SR
3.8.4.1

** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelude and warmup procedures, and as applicable regarding loading recommendations.

*** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

(see ITS 3.8.1)

A.1

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.3 (continued)

b. At least once per 92 days and within 7 days after a battery discharge where the battery terminal voltage decreased below 110 volts or battery overcharge above 150 volts, by verifying that: L.2

- 1. The parameters in Table 4.8-3 meet Category B limits and < see ITS 3.8.6 >
- 2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms.

SR
3.8.4.2

c. At least once per 18 months by verifying that:

- 1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration. A.2
- 2. Remove visible corrosion. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material. M.2
- 3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms.
- 4. The battery charger will supply at least ten amperes at 125 volts for at least 4 hours.

SR
3.8.4.3
SR
3.8.4.4
SR
3.8.4.5
SR
3.8.4.7

d. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. L.3 A.3
L.1

SR
3.8.4.9

e. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating. L.3 A.3
L.A.2

SR
3.8.4.9

4.8.1.1.4 For each underground EDG fuel oil storage tank perform the following at least once per 10 years:

- 1. Drain each fuel oil storage tank
 - 2. Remove sediment from each fuel oil storage tank
 - 3. Inspect each fuel oil storage tank for integrity
 - 4. Clean each fuel oil storage tank
- < see ITS 3.8.3 >

DISCUSSION OF CHANGES
ITS 3.8.4 - DC SOURCES - OPERATING

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 CTS Surveillance Requirements 4.8.2.3.2 c.1 for the station batteries and 4.8.1.1.3 c.1 for the EDG batteries require, at least once per 18 months, the verification that battery cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration. ITS SR 3.8.4.3 requires the verification of station and EDG battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance. This changes the CTS requirements by adding the clarification, "that could degrade battery performance."

This change is acceptable because the intent of the CTS is maintained in the ITS requirements. The ITS adds a clarifying statement that expresses the CTS requirements with no modifications to technical requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.3 CTS 4.8.2.3.2 e and f Surveillance Requirements for the station batteries, and 4.8.1.1.3 d and e for the EDG batteries, both require a test to verify battery capacity. Each battery is tested every 60 months to ensure capacity is at least 80% of the manufacturer's rating during a performance discharge test. A discharge test is required every 18 months if the battery shows signs of degradation, or has reached 85% of its service life. ITS SR 3.8.4.9 requires the verification of the station and EDG battery capacity $\geq 80\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test. The allowance of the modified performance discharge test is addressed in a less restrictive change L.1. The Frequency requirements for the SR are 60 and 18 months when the battery shows degradation or has reached 85% of expected life. This change retains the CTS requirements for the batteries by expressing the testing requirements in a conditional Frequency.

This change is acceptable because the technical requirements of the CTS are maintained in the ITS requirements. The re-arrangement of the SR in the ITS format does not add or delete any required testing of the CTS. This change is designated as administrative because it does not result in a technical change to the CTS.

DISCUSSION OF CHANGES
ITS 3.8.4 - DC SOURCES - OPERATING

- A.4 CTS Surveillance Requirement 4.8.1.1.3 provides the testing requirements and acceptance criteria for determining EDG DC system OPERABILITY. These requirements relate to the OPERABILITY of the associated EDG in LCO 3.8.1.1. ITS LCO 3.8.4 is constructed to include the LCO, Condition, and SRs for the EDG's DC system. This change retains the CTS requirements for the EDG's DC system and ensures the EDG's OPERABILITY requirements are maintained.

This change is acceptable because the CTS requirements for the EDG's DC requirements are maintained in the ITS format without any technical requirements being modified. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.5 CTS LCO 3.8.2.3 is modified with the requirement that the DC electrical power subsystem on the other unit that supplies the DC electrical power for each required Service Water (SW) pump must be OPERABLE for this unit. This requirement is derived from the CTS LCO 3.7.4.1, Service Water System – Operating. ITS LCO 3.8.4 states that the following DC electrical power subsystems shall be OPERABLE, including, “ One DC electrical power subsystem on the other unit for each required shared component.” This maintains the CTS requirements for the shared components, powered from the other unit that are required by this unit.

This change is acceptable because the electrical requirement contained in CTS LCO 3.7.4.1 is moved into the appropriate LCO of the ITS without technical change. The required DC subsystems of the other unit must be required to be OPERABLE for this unit in order to maintain the required shared components OPERABLE. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.6 CTS LCO 3.8.2.3 Actions are modified with the requirement that the DC electrical power subsystem on the other unit that supplies the DC electrical power for each required shared components that must be OPERABLE for this unit. This requirement is derived from the CTS LCO 3.7.4.1, Service Water System – Operating. ITS LCO 3.8.4 Condition D states, “one or more required LCO 3.8.4.c DC electrical power subsystem(s) inoperable, declare associated shared component(s) inoperable, immediately.” A Note that states “Separate Condition entry is allowed for each DC subsystem” modifies condition D. This maintains the CTS requirements for the shared components, powered from the other unit that are required by this unit.

This change is acceptable because the electrical requirement contained in CTS LCO 3.7.4.1 are moved into the appropriate Condition of the ITS without technical change. If the required DC subsystems of the other unit become inoperable for the required shared components, then the shared components will be declared inoperable immediately. This change is designated as administrative because it does not result in a technical change to the CTS.

DISCUSSION OF CHANGES
ITS 3.8.4 - DC SOURCES - OPERATING

MORE RESTRICTIVE CHANGES

- M.1 CTS Surveillance Requirement 4.8.2.3.2.c.3 specifies for the battery charger to supply 200 amps at 125 volts for at least 4 hours. ITS SR 3.8.4.6 states, "Verify each required station battery charger supplies ≥ 270 amps at ≥ 125 V for ≥ 4 hours. This changes the CTS by increasing the required current for the battery charger from 200 amps to 270 amps.

This change is acceptable because the required current to fully recharge a station battery within a 4-hour period at 125 volts is 270 amps. This change is designated as more restrictive because the CTS requirement has been increased from 200 to 270 amps.

- M.2 CTS Surveillance Requirements 4.8.2.3.2 c.2 for the station batteries and 4.8.1.1.3 c.2 for the EDG batteries do not require the removal of visible corrosion from each station and EDG battery cell-to-cell and terminal connections. ITS SR 3.8.4.4 for station and EDG batteries states, "remove visible terminal corrosion." This changes the CTS requirements by specifying that any visible corrosion is removed.

This change is acceptable because visible corrosion has a cumulative effect on battery cell or terminal connections. With the removal of the corrosion, the batteries are restored to a condition that prevents further deterioration. This change is designated as more restrictive because the CTS do not specifically require the removal of visible corrosion.

REMOVED DETAIL CHANGES

- LA.1 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) CTS LCO 3.8.2.3 describes the specific 125 volt DC buses and batteries, and associated chargers that define Trains H and J requirements. ITS LCO 3.8.4 does not contain these specific requirements and states that the Train H and J DC electrical power subsystems shall be OPERABLE. This changes the CTS by moving information from the Specifications to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. ITS retains the Train requirements for the station batteries to ensure OPERABILITY. This change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

DISCUSSION OF CHANGES
ITS 3.8.4 - DC SOURCES - OPERATING

- LA.2 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS surveillance requirements 4.8.2.3.2 f. and 4.8.1.1.3 e. describe the limits of degradation of batteries in terms of capacity. ITS SR 3.8.4.9 does not contain these specific requirements, but continues to require specific testing requirements to ensure battery OPERABILITY. This changes the CTS by moving information from the Specifications to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. ITS retains the testing requirements for the station and EDG batteries to ensure OPERABILITY. This change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

- LA.3 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Action b. states that when the 125 volt D.C. battery and /or its charger is inoperable, that they must be restored to OPERABLE status within 2 hours or the unit must be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Surveillance requirements for station and EDG batteries specify requirement for the batteries and chargers. ITS Action A requires both Trains of DC Sources to be OPERABLE and if one becomes inoperable, it must be restored within 2 hours or the unit be placed in MODE 3 in the next 6 hours and MODE 5 in the next 30 hours. This changes the CTS by moving the references to batteries and chargers from the specifications to the ITS Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. ITS retains the requirements for the station and EDG DC Sources to be OPERABLE. This change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

- L.1 *(Category 6 – Relaxation of Surveillance Requirements Acceptance Criteria)* CTS Surveillance Requirements 4.8.2.3.2 e. and 4.8.1.1.3 d. require verification at least

DISCUSSION OF CHANGES
ITS 3.8.4 - DC SOURCES - OPERATING

every 60 months that the station and EDG battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. ITS SR 3.8.4.9 requires verification that the station and EDG battery capacity is $\geq 80\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test. This changes the CTS by allowing a modified performance discharge test to be substituted for a performance discharge test.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. This modified test has been shown to be as effective in determining battery capacity as the standard discharge test. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.2 *(Category 7 – Relaxation Of Surveillance Frequency)* CTS Surveillance Requirements 4.8.2.3.2 b.2 and 4.8.1.1.3 b.2 require the station and EDG batteries, within 7 days after a battery discharge where battery terminal voltage went below 110 volts or batter overcharge above 115 volts, that there is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150 micro-ohms. ITS SR 3.8.4.2 requires for the station and EDG batteries that no visible corrosion at the battery terminal connections and connectors, or the battery connection resistance is $\leq 1.5 \text{ E-4}$ ohms for the inter-cell, inter-rack, inter-tier, or terminal connections. This changes the CTS by eliminating the verification of visible corrosion or connection resistance after a battery discharge or overcharge.

This change is acceptable because the new Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. ITS SR 3.8.6.2 verifies that the station and EDG batteries that the Category B limits within 24 hours after an overcharge to greater than 150 volts or a discharge to less than 110 volts. The Category B limits require electrolyte level, float voltage, and specific gravity be maintained within specific ranges, and are a measure to ensure the OPERABILITY of the batteries for the required function. This change is designated as less restrictive because Surveillances will be performed less frequently under the ITS than under the CTS.

- L.3 *(Category 6 – Relaxation of Surveillance Requirement Acceptance Criteria)* CTS Surveillance Requirements 4.8.2.3.2 d, e, and f, and 4.8.1.1.3 d. and e. contain the requirement to perform various tests for batteries "during shutdown." ITS SRs 3.8.4.8 and 3.8.4.9 are modified in a Note that states the Surveillance shall not normally be performed in specific MODES. An additional statement modifies the Note. It allows a partial Surveillance to be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. This changes the CTS requirements for testing of the EDGs by allowing the listed tests to

DISCUSSION OF CHANGES
ITS 3.8.4 - DC SOURCES - OPERATING

be performed in MODES in which they are normally prohibited from being conducted.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The required battery tests may be performed in the indicated MODES without a significant perturbation of the required electrical system. An evaluation must be performed to determine that plant safety is maintained or enhanced with the partial performance of the Surveillance under specific conditions. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.4 *(Category 6 – Relaxation of Surveillance Requirements Acceptance Criteria)* CTS Surveillance Requirements 4.8.2.3.2 d. requires verification of the station battery capacity when the battery is subjected to a service test. ITS SR 3.8.4.8 requires verification that the station battery capacity when subjected to a service test. The SR is modified by Note 1 that states, “The modified performance discharge test in SR 3.8.4.9 may be performed in lieu of the service test in SR 3.8.4.8.” This changes the CTS by allowing a modified performance discharge test to be substituted for a service test.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The modified test requires a shorter duration, but higher amperage testing of the battery than does the discharge test. This modified test has been shown to be as effective in determining battery capacity as the standard discharge test. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

- L.5 *(Category 6 – Relaxation of Surveillance Requirements Acceptance Criteria)* CTS Surveillance Requirement 4.8.2.3.2.c.3 specifies for the battery charger to supply 200 amps at 125 volts for at least 4 hours. ITS SR 3.8.4.6 states, “Verify each required station battery charger supplies ≥ 270 amps at ≥ 125 V for ≥ 4 hours. This changes the CTS by allowing the battery charger voltage to be 125 volts or greater for the required surveillance test.

This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The 125-volt requirement sets a minimum voltage to recharge the battery. The allowance to be at 125 volts or greater ensures the battery charger meets the minimum standard for the test requirements. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

A.1

ITS
3.8
3.8.5

ELECTRICAL POWER SYSTEMS

A.C. and D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCD
3.8.5

3.8.2.2 As a minimum, one of the following trains of A.C. and D.C. busses shall be OPERABLE and energized in the specified manner:

see ITS 3.8.7

see ITS 3.8.10

INSERT LCD 3.8.5 L.6

- a. "H" Train (Orange) consisting of the following:
 1. 4160-volt Emergency Bus 1H
 2. 480-volt Emergency Busses 1H and 1H1
 3. 120-volt A.C. Vital Bus 1-1 energized from its associated inverter connected to D.C. bus 1-1, and
 4. 120-volt A.C. Vital Bus 1-2 energized from its associated inverter connected to D.C. bus 1-2.
 5. 125-volt D.C. Busses No. 1-1 & 1-2, and
 6. 125-volt D.C. Battery Banks 1-I & 1-II and Chargers 1-I & 1-II D.C. Battery Charger 1C-I may be used in place of either of the above Chargers.
- b. "J" Train (Purple) consisting of the following:
 1. 4160-volt Emergency Bus 1J
 2. 480-volt Emergency Busses 1J and 1J1
 3. 120-volt A.C. Vital Bus 1-3 energized from its associated inverter connected to D.C. bus 1-3, and
 4. 120-volt A.C. Vital Bus 1-4 energized from its associated inverter connected to D.C. bus 1-4.
 5. 125-volt D.C. Busses No. 1-3 & 1-4, and
 6. 125-volt D.C. Battery Banks 1-III & 1-IV and Chargers 1-III & 1-IV D.C. Battery Charger 1C-II may be used in place of either of the above Chargers.

LA.1

APPLICABILITY:

- a. Modes 5 and 6 recently
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

L.5

L.1

A.1

4-21-92

recently L.15

ITS ACTION:

See ITS 3.8.17

Action A

With the above required train of A.C. and D.C. electrical equipment and busses not fully OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, ~~positive reactivity changes~~ movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies. Initiate corrective action to restore the required train of A.C. and D.C. electrical equipment and busses to OPERABLE status as soon as possible.

INSERT Proposed Required Action A.2.3 L.13

L.1

L.2

Action B

INSERT Proposed Required Action A.1.1

SURVEILLANCE REQUIREMENTS

INSERT Proposed Action B A.2

4.8.2.2.1 The specified busses shall be determined energized in the required manner once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

SEE ITS 3.8.10

SR 3.8.5.1

4.8.2.2.2 ^{NOTE} The above required 125-volt battery bank and chargers shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

L.14

INSERT Proposed note

ITS

A.1

ELECTRICAL POWER SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, one of the following trains of A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One emergency diesel generator with:

<see ITS 3.8.2>

- 1. A day tank containing a minimum volume of 450 gallons of fuel;
- 2. A fuel storage system consisting of two underground storage tanks each containing a minimum volume of 45,000 gallons of fuel (This is a shared system with Unit 2), and
- 3. A fuel transfer system.

<see ITS 3.8.3>

APPLICABILITY:

- a. Modes 5 and 6
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

ACTION:

a. With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies until the minimum required A.C. electrical power sources are restored to OPERABLE status.

<see ITS 3.8.2>

b. With one underground fuel oil storage tank of 3.8.1.2.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 or for tank repairs:

- 1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours,
- 2. Verify a minimum of 100,000 gallons of fuel oil is maintained in the above ground main fuel oil storage tank at least once per 12 hours,
- 3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and
- 4. Restore the storage tank to OPERABLE status within 7 days or place both Units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours, and perform ACTION a. above.

<see ITS 3.8.3>

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3, and

<see ITS 3.8.2>

4.8.1.1.4.

<see ITS 3.8.3>

SR 3.8.5.1

A.1

ITS
3.8
3.8.5

ELECTRICAL POWER SYSTEMS

A.C. and D.C. DISTRIBUTION - SHUTDOWN

see ITS
3.8.10

LIMITING CONDITION FOR OPERATION

see ITS
3.8.7

LCO
3.8.5

3.8.2.2 As a minimum, one of the following trains of A.C. and D.C. busses shall be OPERABLE and energized in the specified manner

IN SEAT LCO
3.8.5 L.6

- a. "H" Train (Orange) consisting of the following:
 1. 4160-volt Emergency Bus 2H
 2. 480-volt Emergency Busses 2H and 2H1
 3. 120-volt A.C. Vital Bus 2-1 energized from its associated inverter connected to D.C. bus 2-1, and
 4. 120-volt A.C. Vital Bus 2-2 energized from its associated inverter connected to D.C. bus 2-2.
 5. 125-volt D.C. Busses No. 2-1 & 2-2, and
 6. 125-volt D.C. Battery Banks 2-I & 2-II and Chargers 2-I & 2-II D.C. Battery Charger 2C-I may be used in place of either of the above Chargers.
- b. "J" Train (Purple) consisting of the following:
 1. 4160-volt Emergency Bus 2J
 2. 480-volt Emergency Busses 2J and 2J1
 3. 120-volt A.C. Vital Bus 2-3 energized from its associated inverter connected to D.C. bus 2-3, and
 4. 120-volt A.C. Vital Bus 2-4 energized from its associated inverter connected to D.C. bus 2-4.
 5. 125-volt D.C. Busses No. 2-3 & 2-4, and
 6. 125-volt D.C. Battery Banks 2-III & 2-IV and Chargers 2-III & 2-IV D.C. Battery Charger 2C-II may be used in place of either of the above Chargers.

LA.1

APPLICABILITY:

- a. Modes 5 and 6 recently
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

L.5

L.1

4-21-92

ITS

Insert proposed Required Action A.2.3

recently

L.5
L.3

ACTION:

(see 3.8.7)

Action A

With the above required train of A.C. and D.C. electrical equipment and busses not fully OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies. Initiate corrective action to restore the required train of A.C. and D.C. electrical equipment and busses to OPERABLE status as soon as possible.

L.1
L.2

Action B

INSERT PROPOSED Required Action A.1.1

insert proposed Action B

A.2

SURVEILLANCE REQUIREMENTS

4.8.2.2.1 The specified busses shall be determined energized in the required manner once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

(see 3.8.10)

3.8.5.1

NOTE
4.8.2.1.2 The above required 125-volt battery bank and chargers shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

INSERT PROPOSED NOTE

L.4

A.1

ITS

ELECTRICAL POWER SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, one of the following trains of A.C. electrical power sources shall be OPERABLE:

see ITS 3, 8, 2

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One emergency diesel generator with:

- 1. A day tank containing a minimum volume of 450 gallons of fuel;
- 2. A fuel storage system consisting of two underground storage tanks each containing a minimum volume of 45,000 gallons of fuel (This is a shared system with Unit 1), and
- 3. A fuel transfer system.

see ITS 3, 8, 3

APPLICABILITY:

- a. Modes 5 and 6
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

ACTION:

a. With less than the above minimum required A.C. electrical power sources OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, movement of irradiated fuel assemblies, and movement of loads over irradiated fuel assemblies until the minimum required A.C. electrical power sources are restored to OPERABLE status.

see ITS 3, 8, 2

b. With one underground fuel oil storage tank of 3.8.1.2.b.2 inoperable for the performance of Surveillance Requirement 4.8.1.1.4 or for tank repairs:

- 1. Verify 45,000 gallons of fuel is available in the operable underground fuel oil storage tank at least once per 12 hours,
- 2. Verify a minimum of 100,000 gallons of fuel oil is maintained in the above ground main fuel oil storage tank at least once per 12 hours,
- 3. Verify an available source of fuel oil and transportation to supply 50,000 gallons of fuel in less than a 48 hour period, and
- 4. Restore the storage tank to OPERABLE status within 7 days or place both Units in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours, and perform ACTION a. above.

see ITS 3, 8, 3

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1, 4.8.1.1.2, 4.8.1.1.3, and 4.8.1.1.4.

see ITS 3, 8, 2

see ITS 3, 8, 3

SR 3, 8, 5, 1

DISCUSSION OF CHANGES
ITS 3.8.5 - DC SOURCES - SHUTDOWN

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 CTS 4.8.1.2 requires the performance of Surveillance Requirement 4.8.1.1.3 for a required EDG. ITS LCO 3.8.5, "DC Sources – Shutdown," states, "EDG DC system shall be OPERABLE for the EDG required by LCO 3.8.2, 'AC Sources – Shutdown.'" ITS Action B states that with the required EDG DC system inoperable, enter the applicable Conditions and Required Actions for the associated EDG immediately. This changes the CTS requirements by specifying the EDG DC subsystems shall be OPERABLE and providing Required Actions for an inoperable EDG DC subsystem.

This change is acceptable because the CTS requirements for the EDGs' DC systems are maintained in the conversion to the ITS requirements. The DC system is required when the supported EDG is required to be OPERABLE. This change is designated as administrative because it does not result in a technical change to the CTS.

REMOVED DETAIL CHANGES

- LA.1 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) CTS LCO 3.8.2.2 lists the specific Train H and J requirements. These consist of the 4160-volt emergency buses, 480-volt buses, 120-volt AC buses, and 125-volt DC buses. ITS LCO 3.8.5 states that the DC electrical power subsystem(s) required by LCO 3.8.10, "Distribution Systems – Shutdown," shall be OPERABLE. ITS 3.8.5 does not contain the list of buses that makeup an electrical train. This changes the CTS by moving the makeup of the electrical train from the Technical Specifications to the ITS Bases of ITS LCO 3.8.9, "Distribution Systems-Operating."

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. ITS retains the requirements for those portions of the DC subsystems that are necessary to support the required safety functions. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is

DISCUSSION OF CHANGES
ITS 3.8.5 - DC SOURCES - SHUTDOWN

designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

- L.1 (*Category 2 – Relaxation of Applicability*) CTS 3.8.2.2 Applicability includes, “During the movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.” ITS 3.8.5 Applicability includes, “During the movement of recently irradiated fuel assemblies.” This changes the CTS by deleting the applicability requirement, “loads over irradiated fuel assemblies when no fuel assemblies are in the in the reactor vessel.” The addition of the word “recently” to the Applicability is discussed in DOC L.5.

The purpose of CTS requirements was to ensure that loads were not moved over irradiated fuel assemblies without the required electrical sources available. This change is acceptable because the requirements continue to ensure that the electrical systems are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The fuel handling accident is assumed to only occur with the movement of the irradiated fuel assemblies. A fuel handling accident is not initiated by movement of heavy loads over irradiated fuel assemblies. Control of heavy loads is required by compliance with Regulatory Guide 0612. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

- L.2 (*Category 4 – Relaxation of Required Action*) CTS 3.8.2.2 Action requires that with less than the minimum DC sources OPERABLE operations, involving CORE ALTERATIONS or positive reactivity additions, be suspended immediately, and corrective action be initiated to restore the required DC source(s) as soon as possible. ITS 3.8.5 Required Action A.1.1 provides an alternative by allowing, “Declare affected required feature(s) inoperable immediately.” This changes the CTS by not requiring the immediate suspension of activities involving CORE ALTERATION or positive reactivity additions.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABILITY status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. The Required Actions of the affected features will provide appropriate compensatory measures to ensure the required safety functions can be performed. This change is designated as less

DISCUSSION OF CHANGES
ITS 3.8.5 - DC SOURCES - SHUTDOWN

restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.3 *(Category 4 – Relaxation of Required Action)* CTS 3.8.2.2 Action states with less than the minimum DC sources OPERABLE immediately suspend positive reactivity changes. ITS 3.8.5 Required Action A.2.3 states “suspend reactivity changes that are more positive than necessary to meet the required SDM or refueling boron concentration limit.” This changes the CTS by allowing positive reactivity changes that are currently not allowed.

The purpose of ITS Required Action A.2.3 is to ensure that the required SDM or refueling boron concentration is maintained without limiting operator actions unnecessarily. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. The change is acceptable because it continues to provide assurance that the requirements of SDM or refueling boron concentration limit are maintained. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.4 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS 4.8.2.2.2 for Unit 1 and 4.8.2.1.2 for Unit 2 state the required equipment shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2. ITS SR 3.8.5.1 includes a Note stating that specified tests are not required to be performed. These include the following SRs: 3.8.4.7, 3.8.4.8, and 3.8.4.9. This changes the CTS by specifically stating that certain SRs are not required to be performed.

The purpose of ITS SR 3.8.5.1 Note is to ensure that required equipment is not made inoperable by testing when the equipment is the only OPERABLE equipment available to support unit operations. This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. The structure of the SR requires the equipment to be capable of meeting the SR, but delays the performance of the SR when it is the only OPERABLE equipment. The performance of the SR could render the equipment inoperable, which in these MODES of operation, could be the only OPERABLE equipment available. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

DISCUSSION OF CHANGES
ITS 3.8.5 - DC SOURCES - SHUTDOWN

- L.5 *(Category 2 – Relaxation of Applicability)* CTS 3.8.2.2 Applicability for the DC source requirement states during the movement of irradiated fuel assemblies. The associated Action states with the required DC buses not fully OPERABLE immediately suspend all operations involving movement of irradiated fuel assemblies. ITS LCO 3.8.5 Applicability states during the movement of recently irradiated fuel assemblies. This changes the CTS by not applying the DC source requirements during the movement of fuel assemblies that have not been recently irradiated.

This change is acceptable because the requirements continue to ensure that the systems are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. Only recently irradiated fuel assemblies contain a sufficient quantity of radioactive nuclides to result in violation of the regulatory requirements in the event of a fuel handling accident. The fuel assemblies that have been allowed to sufficiently decay and reduce the radioactive source term below a specified level will not exceed the regulatory requirements. Therefore, the requirements for DC source(s) only applies to movement of recently irradiated fuel assemblies. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

- L.6 *(Category 1 – Relaxation of LCO Requirements)* CTS 3.8.2.2 LCO states, “As a minimum, one of the following trains of AC and DC busses shall be OPERABLE and energized in the specified manner.” The LCO lists the equipment that makes up the H and J trains electrical subsystems. ITS LCOs 3.8.7 and 3.8.9 addresses the AC buses for shutdown conditions. ITS LCO 3.8.5 states, “DC electrical power subsystem shall be OPERABLE to support the DC electrical power distribution subsystem(s) required by LCO 3.8.10, “Distribution System – Shutdown.” ITS LCO 3.8.10 requires the “necessary portions” of the DC power distribution subsystems to be OPERABLE to support equipment required to be OPERABLE. This changes the CTS by requiring only the necessary portions of the DC subsystem(s) to be OPERABLE, instead of one train.

This change is acceptable because the LCO requirements continue to ensure that the electrical systems are maintained consistent with the safety analyses and licensing basis. The change modifies the DC subsystem requirements by only requiring the portions of the DC subsystems that are necessary to support the distribution systems which supply electrical power to required equipment. CTS requirements specifically state that one DC buses must be OPERABLE. ITS requirements do not state a specific number of buses, but require that the “necessary portions” shall be OPERABLE to support required equipment. The ITS requirements ensure that all equipment assumed to be OPERABLE by the safety analyses will be powered from OPERABLE DC subsystem(s). This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

ITS 3.8.6 - BATTERY CELL PARAMETERS

UNIT 1

ITS

3.8

LCO

3.8.6

A.1

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

~~INSERT PROPOSED LCO~~

LIMITING CONDITION FOR OPERATION

~~INSERT APPLICABILITY and ACTION NOTE~~

3.8.2.3 The following D.C. bus trains shall be energized and OPERABLE with tie breakers between bus trains open:

TRAIN "A" consisting of 125-volt D.C. bus No. 1-I and 1-II, 125-volt D.C. battery bank No. 1-I and 1-II and a full capacity charger.

TRAIN "B" consisting of 125-volt D.C. bus No. 1-III and 1-IV, 125-volt D.C. battery bank No. 1-III and 1-IV and a full capacity charger.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one 125-volt D.C. bus inoperable, restore the inoperable bus 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.
- b. With one 125-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger 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.

see ITS 3.8.9

A.2

A.4

A.2

see ITS 3.8.4

Action A

Action B

~~INSERT PROPOSED ACTION A~~

SURVEILLANCE REQUIREMENTS

~~INSERT PROPOSED ACTION B~~

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with tie breakers open at least once per 7 days by verifying correct breaker alignment and indicated power availability.

4.8.2.3.2 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. -At least once per 7 days by verifying that:

- 1. The parameters in Table 4.8-3 meet Category A limits and
- 2. The total battery terminal voltage is greater than or equal to 129 volts on float charge.

see ITS 3.8.9

see ITS 3.8.4

see ITS 3.8.4

L.1

M.1

A.3

SR 3.8.6.1

A.1

ITS

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR
3.8.6.2
FREQUENCIES

SR
3.8.6.2

3.8.6.3
ACTION
B

24 hours

M.2

b. At least once per 92 days and within days after a battery discharge where the battery terminal voltage went below 110 volts or battery overcharge above 150 volts, by verifying that:

1. The parameters in Table 4.8-3 meet the Category B limits,

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms, and

< see ITS
3.8.4 >

3. Average electrolyte temperature of at least 10 connected cells is above 60°F.

representative

LA.1

c. At least once per 18 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.

2. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material.

3. The battery charger will supply at least 200 amperes at 125 volts for at least 4 hours.

4. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms.

< see ITS
3.8.4 >

d. At least once per 18 months, during shutdown, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subject to a battery service test.

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in place of the battery service test.

f. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating.

A.1

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.3 Each emergency diesel generator 125-volt battery bank and charge shall be demonstrated OPERABLE:

See ITS 3.8.4

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8-3 meet Category A limits and

2. The total battery terminal voltage is greater than or equal to 129 volts on a float charge.

See ITS 3.8.4

b. At least once per 92 days and within 7 days after a battery discharge where the battery terminal voltage decreased below 110 volts or battery overcharge above 150 volts, by verifying that:

M.2

1. The parameters in Table 4.8-3 meet Category B limits and

2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms.

See ITS 3.8.4

c. At least once per 18 months, by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.

2. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material.

3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms.

4. The battery charger will supply at least 10 amperes at 125 volts for at least 4 hours.

d. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test.

See ITS 3.8.4

e. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating.

SR
3.8.6.1

SR
3.8.6.2
Frequencies

SR
3.8.6.2

TABLE 4.8-3

A.1

BATTERY SURVEILLANCE REQUIREMENTS

ITS
Table
3.8.6-1

Parameter	CATEGORY A ⁽¹⁾	CATEGORY B ⁽²⁾	CATEGORY C
	Limits for each designated pilot cell	Limits for each connected cell	Allowable value for each connected cell
Electrolyte Level	>Minimum level indication mark, and < 1/4" above maximum level indication mark (a)	>Minimum level indication mark, and < 1/4" above maximum level indication mark (a)	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts (a)	> 2.07 volts
Specific Gravity (b)(c)	≥ 1.200 (b)	≥ 1.195 (b) Average of all connected cells > 1.205	Not more than .020 below the average of all connected cells Average of all connected cells ≥ 1.195 (b)

A.3
L.2
LA.2
L.3
M.3
LA.2
A.3
L.2

(b)
(c)

- (a) Corrected for electrolyte temperature and level. (2)
- (b) Or battery charging current is less than (1.2) amps when on charge (station batteries only).
- (c) For any cell with voltage below the limit and electrolyte temperature > 3°F from the average electrolyte temperature, correct the cell voltage for average electrolyte temperature.

Action A/B
(c)

- (1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 6 days.
- (2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
- (3) Any Category B parameter not within its allowable value indicates an inoperable battery.

Category C

(a)

~~INSERT PROPOSED NOTATION (a)~~

Rev. 0

ITS 3.8.6 - BATTERY CELL PARAMETERS

UNIT 2

A.1

ITS
3.8
LCD
3.8.6

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

> INSERT PROPOSED LCD

LIMITING CONDITION FOR OPERATION:

> INSERT APPLICABILITY AND ACTION NOTE

A.2
A.4
see ITS
3.8.9
A.2

3.8.2.3 The following D.C. bus trains shall be energized and OPERABLE:

TRAIN "A" consisting of 125-volt D.C. bus No. 2-I and 2-II, 125-volt D.C. battery bank No. 2-I and 2-II and a full capacity charger.

TRAIN "B" consisting of 125-volt D.C. bus No. 2-III and 2-IV, 125-volt D.C. battery bank No. 2-III and 2-IV and a full capacity charger.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one 125-volt D.C. bus inoperable, restore the inoperable bus 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.
- b. With one 125-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger 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.

see ITS
3.8.4

Action A

> INSERT PROPOSED Action A

SURVEILLANCE REQUIREMENTS

Action B

> INSERT PROPOSED Action B

L.1
M.1

A.3

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with tie breakers open at least once per 7 days by verifying correct breaker alignment and indicated power availability.

see ITS
3.8.9

4.8.2.3.2 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

see ITS
3.8.4

- a. At least once per 7 days by verifying that:
 1. The parameters in Table 4.8-3 meet Category A limits and
 2. The total battery terminal voltage is greater than or equal to 129 volts on float charge.

see 3.8.4

SR
3.8.6.1

A.1

ITS

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

24 hours

SR
3.8.6.2
Frequencies
SR
3.8.6.2

SR 3.8.6.3
Action B

b. At least once per 92 days and within 7 days after a battery discharge where the battery terminal voltage decreased below 110 volts or battery overcharge above 150 volts, by verifying that:

1. The parameters in Table 4.8-3 meet the Category B limits,
2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} to the minus 6 ohms, and
3. Average electrolyte temperature of at least 10 representative connected cells is above 60°F.

M.2

See ITS 3.8.4

L.A.1

c. At least once per 18 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
2. The cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material.
3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms.
4. The battery charger will supply at least 200 amperes at 125 volts for at least 4 hours.

See ITS 3.8.4

d. At least once per 18 months, during shutdown, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual or simulated emergency loads for the design duty cycle when the battery is subjected to a battery service test.

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this discharge performance test may be performed in place of the battery service test.

f. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating.

A.1

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

- 9. Verifying that the following EDG lockout features prevent EDG starting only when required:
 - a) Remote Local Selection Switch
 - b) Emergency Stop Switch
- 10. Verifying the EDG's hot restart capability by:
 - a) Operating the EDG** loaded to an indicated 2500 to 2600 kw*** for 2 hours or until operating temperatures have stabilized, and
 - b) Within 5 minutes of shutdown verify the EDG can be started** in less than or equal to 10 seconds of the start signal with voltage greater than or equal to 3960 volts and frequency greater than or equal to 59.5 Hz. The generator steady state voltage and frequency shall be 4160 ± 420 volts and 60 ± 0.5 Hz.
- e. At least once per 10 years or after any modifications which could affect EDG interdependence by starting** both EDGs simultaneously, during shutdown, and verifying that both EDGs start in less than or equal to 10 seconds of the start signal and achieve a voltage of greater than or equal to 3960 volts and a frequency of greater than or equal to 59.5 Hz.
- f. At least once per 24 months during any mode of operation, by subjecting each EDG to a preventive maintenance inspection in accordance with maintenance procedures appropriate for diesels used for this class of standby service.

<see ITS 3.8.1>

4.8.1.1.3 Each emergency diesel generator 125-volt battery bank and charger shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that:
 - 1. The parameters in Table 4.8-3 meet Category A limits and
 - 2. The total battery terminal voltage is ≥ 129 volts on a float charge.

<see ITS 3.8.4>

- ** This test shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube and warmup procedures, and as applicable regarding loading recommendations.
- *** This band is meant as guidance to avoid routine overloading of the engine. Loads in excess of this band for special testing under direct monitoring of the manufacturer or momentary variations due to changing bus loads shall not invalidate the test.

<see ITS 3.8.1>

SR
3.8.6.1

A.1

ITS

ELECTRICAL POWER SYSTEMS
SURVEILLANCE REQUIREMENTS

4.8.1.1.3 (continued)

SR
3.8.6.2
Frequencies

SR
3.8.6.2

24 hours

M.2

b. At least once per 92 days and within 7 days after a battery discharge where the battery terminal voltage decreased below 110 volts or battery overcharge above 150 volts, by verifying that:

1. The parameters in Table 4.8-3 meet Category B limits and
2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohms.

(see ITS 3.8.4)

c. At least once per 18 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
2. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material.
3. The resistance of each cell-to-cell and terminal connection is less than or equal to 150×10^{-6} ohms.
4. The battery charger will supply at least ten amperes at 125 volts for at least 4 hours.

(see ITS 3.8.4)

d. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test.

e. At least once per 18 months, during shutdown, perform a performance discharge test of battery capacity if the battery shows signs of degradation or has reached 85% of its service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average from previous performance discharge tests, or is below 90% of the manufacturer's rating.

4.8.1.1.4 For each underground EDG fuel oil storage tank perform the following at least once per 10 years:

1. Drain each fuel oil storage tank
2. Remove sediment from each fuel oil storage tank
3. Inspect each fuel oil storage tank for integrity
4. Clean each fuel oil storage tank

(see ITS 3.8.1)

TABLE 4.8-3

A.1

BATTERY SURVEILLANCE REQUIREMENTS

ITS

TABLE 3.8.6-1

Parameter	CATEGORY A ⁽¹⁾	CATEGORY B ⁽²⁾	
	Limits for each designated pilot cell	Limits for each connected cell	Allowable value for each connected cell
Electrolyte Level	>Minimum level indication mark, and < 1/4" above maximum level indication mark (a)	>Minimum level indication mark, and < 1/4" above maximum level indication mark (a)	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts (a)	> 2.07 volts
Specific Gravity (a)	≥ 1.200 (b)	≥ 1.195 (b) Average of all connected cells > 1.205	Not more than .020 below the average of all connected cells Average of all connected cells ≥ 1.195 (b)

A.3

L.2

LA.2

L.3

M.3

LA.2

A.3

L.2

- (b) (a) Corrected for electrolyte temperature and level. ②
 - (b) Or battery charging current is less than 10 amps when on charge (station batteries only).
 - (c) For any cell with voltage below the limit and electrolyte temperature > 3°F from the average electrolyte temperature, correct the cell voltage for average electrolyte temperature.
- ACTION A/B
- (1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 6 days.
 - (2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameter(s) are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
 - (3) Any Category B parameter not within its allowable value indicates an inoperable battery.

Category C

(a) X INSERT proposed notation (a)

DISCUSSION OF CHANGES
ITS 3.8.6 - BATTERY CELL PARAMETERS

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 CTS testing requirements for station and EDG batteries are contained in Surveillance Requirements 4.8.2.3.2 and 4.8.1.1.3. ITS LCO 3.8.6 is structured to implement the CTS SRs in a standard format for the battery cell parameters. The LCO states, "Battery cell parameters for station Train H and Train J, and EDG batteries shall be within limits." The Applicability for the LCO is stated as, "When associated DC electrical power subsystems or EDG DC systems are required to be OPERABLE." A Note is added for the proposed Actions that states, "Separate Condition entry is allowed for each battery." This changes the CTS by specifying an LCO, Applicability, and Note for the Actions that do not currently exist.

The change is acceptable because these requirements continue to ensure the OPERABILITY for the station and EDG batteries. The specific addition of the ITS LCO, Applicability, and Note does not change any technical requirement of the CTS requirements, but provides a clarifying statement for the current requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.3 CTS 4.8.2.3.2 and 4.8.1.1.3 Surveillance Requirements provide testing requirements for the station and EDG batteries. The requirements include the Category A and B limits of Table 4.8-3 for the station and EDG batteries, and electrolyte temperature for station batteries. CTS Table 4.8-3 lists the allowable value limit for battery cell parameters under Category B limits. ITS LCO 3.8.6 Action B lists three Conditions for the associated batteries. The first Condition is Required Action and associated Completion Time of Condition A not met. Condition A specifies, for station and EDG batteries cell parameters not within Category A or B limits, specific Required Actions to be performed to ensure OPERABILITY of the battery. The second Condition of Action B states one or more station batteries with average electrolyte temperature for the representative cells < 60 °F. The third Condition states one or more station or EDG batteries with one or more battery cell parameters not within Table 3.8.6-1 Category C values. The associated battery is declared inoperable immediately if any part of the Condition B is met. This changes the CTS by specifying specific Conditions for ITS Action B.

DISCUSSION OF CHANGES

ITS 3.8.6 - BATTERY CELL PARAMETERS

The change is acceptable because these requirements ensure the station and EDG batteries are verified within specified parameters or the battery is declared inoperable. This is the intent of the CTS requirements on the battery cell parameters listed in a Note to Table 4.8-3. Other changes to the battery cell parameters are addressed in more and less restrictive changes in these discussion of changes. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.4 CTS LCO 3.7.4.1 requires the normal and emergency power supplies to be OPERABLE for the required Service Water pumps. Requirements for Main Control Room and Emergency Switchgear Room fans and Auxiliary Building central exhaust fans may require electrical power from the other unit. ITS LCO 3.8.6 is modified to include the Station and EDG batteries on the other unit that are required to support shared components that are powered for the other unit. This change maintains the CTS requirements in the ITS format.

The change is acceptable because these requirements ensure the station and EDG batteries that are needed to support shared components on the other unit, needed for this unit, are maintained OPERABLE. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

- M.1 CTS Table 4.8-3 notes (1) and (2) require specific actions for Category A and B parameters not within limits. Note 1 states, "For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next six days." Note 2 states, "For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable limits and restored to within Category B limits within 7 days." ITS 3.8.6 Condition A states, "One or more station or EDG batteries with one or more battery cell parameters not within Table 3.8.6-1 Category A or B limits." If this condition is entered, the Required Actions A.1 requires the verification of pilot cells electrolyte level and float voltage meet Table 3.8.6-1 Category C limits within 1 hour. This changes the CTS by specifying a time of one hour to verify pilot cell electrolyte level and voltage are within limits.

The purpose of this change is to ensure the prompt verification of the pilot cells level and float voltage to provide additional assurance that the overall battery remains OPERABLE. The other parameter, specific gravity, takes longer to verify, but the electrolyte level and float voltage provide a quick determination until specific gravity of all cells can be determined. The change is designated as more restrictive because it specifies a Required Action time that the CTS does not state.

DISCUSSION OF CHANGES
ITS 3.8.6 - BATTERY CELL PARAMETERS

- M.2 CTS surveillance requirements 4.8.2.3.2.b and 4.8.1.1.3.b state that within 7 days after a battery discharge below 110 volts or an overcharge above 150 volts, that the battery parameters in Table 4.8-3 meet the Category B limits. ITS SR 3.8.6.2 requires that the Station and EDG battery cell parameters be verified to meet Table 3.8.6 – 1 Category B limits every 92 days and once within 24 hours after a battery overcharge to > 115 volts or discharge to < 110 volts. This changes the CTS requirement by requiring the Category B limits are verified within 24 hours where the current requirements allow 7 days.

The purpose of this change is to ensure a battery that has experienced a significant discharge or overcharge remains OPERABLE to perform its safety function. This change is acceptable because the twenty-four hours is sufficient to allow the battery to recover from the transient and provide necessary indication of OPERABILITY by meeting the Category B parameters. The Category B limits for level, float voltage, and specific gravity can easily be verified within the 24 hour limit. Specific gravity may be determined by charging current being less than 2 amps. This allowance is addressed in a less restrictive change. This change is more restrictive because the CTS allows 7 days to verify battery cell Category B limits and the ITS allows only 24 hours.

- M.3 CTS Surveillance Requirements 4.8.2.3.2.b for the station batteries and 4.8.1.1.3 for the EDG batteries specify that after an overcharge or a discharge of a battery, the parameters of the Category B limits must be met. The Category B parameters of electrolyte level, float voltage, and specific gravity are listed in Table 4.8–3, and require specific values to be met. The specific gravity limits for Category A and Category B allowable value specify that Note (b) is applicable for the station batteries. Note (b) states, “Or battery charging current is less than 12 amps when on charge (station batteries only).” ITS SR 3.8.6.2 requires verification that the station and EDG Category B battery cell parameters are within limits after a battery overcharge or discharge. The Category B limits listed in Table 3.8.6 – 1 are electrolyte level, float voltage, and specific gravity. Notes (b) and (c) modify the specific gravity requirements. In part, these notes allow a battery charging on float current of less than 2 amps to substitute for direct specific gravity readings for the station and EDG batteries. This changes the CTS requirements by allowing the substitution of charging current of less than 2 amps instead of 12 amps to substitute for specific gravity readings.

This change is acceptable because a charging current of less than 2 amps on float voltage indicates the battery is responding normally and the specific gravity readings may be delayed for up to a week to allow for recovery. In this condition, the battery is fully capable of performing its required function and is considered OPERABLE. This change is designated as more restrictive because more stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

DISCUSSION OF CHANGES
ITS 3.8.6 - BATTERY CELL PARAMETERS

REMOVED DETAIL CHANGES

- LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS surveillance requirement 4.8.2.3.2 b.3 states, “Average electrolyte temperature of a least 10 connected cells is above 60 °F.” ITS Action B and SR 3.8.6.3 require the “electrolyte temperature of representative cells” to be > 60 °F. This changes the CTS by replacing “10” cells with “representative” cells and moving the 10 cell requirement from the Specification to the ITS Bases.

The removal of these details, which are related to specific number of cells that are required to be verified, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to verify average electrolyte temperature from representative cell to provide assurance that all cells temperature will not be less than 60 °F. This change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

- LA.2 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Table 4.8-3, Battery Cell Parameters, note (c) states, “For any cell with voltage below the limit and electrolyte temperature > 3 °F from the average electrolyte temperature, correct the cell voltage for the average temperature.” This note applies to the Category B for the battery cells float voltage of ≥ 2.13 volts. ITS 3.8.6 Category B limit for float voltage is ≥ 2.13 volts. This changes the CTS by moving the requirement to perform temperature correction from the Specification to the ITS Bases.

The removal of this requirement, which is related to the number of degrees that cells are within the cell average temperature, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to verify Category B parameter for float voltage as ≥ 2.13 volts. This change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

DISCUSSION OF CHANGES
ITS 3.8.6 - BATTERY CELL PARAMETERS

LESS RESTRICTIVE CHANGES

- L.1 *(Category 3 – Relaxation of Completion Time)* CTS Table 4.8-3 notes (1) and (2) specify actions for Category A and B parameters not within limits. Note 1 states, “For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next six days.” Note 2 states, “For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are restored to within limits within 7 days.” ITS Condition A states, “One or more station or EDG batteries with one or more battery cell parameters not within Table 3.8.6-1 Category A or B limits.” If this condition is entered, Required Action A.2 requires the verification of battery cell parameters in Table 3.8.6-1 meet Category C limits and Required Action A.3 requires the restoration of battery cell parameters to Table 3.8.6-1 Category A and B limits. Category C limit verification is required within 24 hours and once per 7 days thereafter. The time limit for restoring the cell parameters to within the Category A and B limits is 31 days. This changes the CTS by allowing the Category A and B limits to be exceeded for a period of 31 days where the CTS only allows 7 days.

The purpose of ITS Required Actions A.2 and A.3 are to provide sufficient time to restore the battery cell parameters within Category A and B limits and continues to periodically monitor the required parameters. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features and monitoring the parameters that are not within limits. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABILITY status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. The allowance to restore the battery cell parameters within the specified limits is acceptable because the battery remains fully capable of performing its design function. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.2 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS Table 4.8-3 Battery Surveillance Requirement limits for the electrolyte level, in the Category A and B columns, is greater than the minimum level indication mark, and $\leq \frac{1}{4}$ inch mark above the maximum level indication mark. ITS Table 3.8.6-1 states for the Category A and B limits, “> Minimum level indication mark, and $\leq \frac{1}{4}$ inch above maximum level indication mark ^(a).” Note ^(a) states, “It is acceptable for the electrolyte level to temporarily increase above the specified maximum during

DISCUSSION OF CHANGES
ITS 3.8.6 - BATTERY CELL PARAMETERS

equalizing charges provided it is not overflowing.” This changes the CTS by allowing the electrolyte level to exceed the specified limit under specific conditions.

The purpose of ITS Note ^(a) is to provide an allowance during equalizing charge for level to increase due to a normal increase in level from the charging of the battery. This change is acceptable because it has been determined that the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. This change is acceptable because the electrolyte level normally increases with an increased charging rate provided by an equalized charge, and returns within limits after the re-charge. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

A.1

4-21-92

ITS
3.8

ELECTRICAL POWER SYSTEMS
3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

3.8.7

INVERTERS
A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

A.2

LCO
3.8.7

3.8.2.1 The following A.C. electrical busses shall be OPERABLE and energized with tie breakers open between redundant busses:

- a. H A.C. Emergency Busses consisting of:
 - 1. 4160 volt Emergency Bus # 1H
 - 2. 480 volt Emergency Busses # 1H, 1H1
- b. J A.C. Emergency Busses consisting of:
 - 1. 4160 volt Emergency Bus # 1J
 - 2. 480 volt Emergency Busses # 1J, 1J1
- c. 120 volt A.C. Vital Bus #1-I energized from its associated inverter connected to D.C. Bus # 1-I*
- d. 120 volt A.C. Vital Bus #1-II energized from its associated inverter connected to D.C. Bus # 1-II*
- e. 120 volt A.C. Vital Bus #1-III energized from its associated inverter connected to D.C. Bus # 1-III*
- f. 120 volt A.C. Vital Bus #1-IV energized from its associated inverter connected to D.C. Bus # 1-IV*

H & J
Inverters

see ITS
3.8.9

A.2

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one of the required A.C. Emergency busses not fully energized, re-energize within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one A.C. Vital Bus not energized, re-energize the A.C. Vital Bus within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With one A.C. Vital Bus either not energized from its associated inverter or with the inverter not connected to its associated D.C. Bus, re-energize the A.C. Vital Bus from its associated inverter connected to its associated D.C. Bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

See ITS
3.8.9

A.3

see ITS
3.8.9

M.1

LA.1

A.4

inoperable, restore to OPERABLE status

ACTION A

ACTION B

LCO
Note
Part a
Part b

* one two inverters may be disconnected from their D.C. Busses for up to 24 hours as necessary, for the purpose of performing an equalizing charge on their associated battery banks provided (1) their vital busses are energized and (2) the remaining vital busses are energized from their associated inverters and connected to their associated D.C. Busses

from constant voltage source transformer

NORTH ANNA - UNIT 1

3/4 8-6

Amendment No. 155

ACTION A
Note

INSERT PROPOSED NOTE TO REQUIRED ACTION A.1

page 1 of 2

Rev.0

ITS

A.1

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - OPERATING

SURVEILLANCE REQUIREMENT

SR
3.8.7.1

inverters
4.8.2.1 The specified A.C. busses shall be determined OPERABLE with tie breakers open between redundant busses at least once per 7 days by verifying correct breaker alignment and indicated power availability.

M.2

See IB
3.8.9

ITS

3.8

ELECTRICAL POWER SYSTEMS

A.1

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

INVERTERS

3.8.7

A.C. DISTRIBUTION) OPERATING

LIMITING CONDITION FOR OPERATION

A.2

Inverters

LCO
3.8.7

3.8.2.1 The following A.C. electrical busses shall be OPERABLE and energized with tie breakers open between redundant busses:

- a. H A.C. Emergency Busses consisting of:
 - 1. 4160 volt Emergency Bus # 2H
 - 2. 480 volt Emergency Busses # 2H, 2H1
- b. J A.C. Emergency Busses consisting of:
 - 1. 4160 volt Emergency Bus # 2J
 - 2. 480 volt Emergency Busses # 2J, 2J1
- c. 120 volt A.C. Vital Bus # 2-I energized from its associated inverter connected to D.C. Bus # 2-I*
- d. 120 volt A.C. Vital Bus # 2-II energized from its associated inverter connected to D.C. Bus # 2-II*
- e. 120 volt A.C. Vital Bus # 2-III energized from its associated inverter connected to D.C. Bus # 2-III*
- f. 120 volt A.C. Vital Bus # 2-IV energized from its associated inverter connected to D.C. Bus # 2-IV*

see ITS 3.8.9

H & J
Inverters

A.2

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one of the required A.C. Emergency busses not fully energized, re-energize within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one A.C. Vital Bus not energized, re-energize the A.C. Vital Bus within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With one A.C. Vital Bus either not energized from its associated inverter or with the inverter not connected to its associated D.C. Bus, re-energize the A.C. Vital Bus from its associated inverter connected to its associated D.C. Bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

see ITS 3.8.9

Action A
Action B

inoperable, restore to OPERABLE status A.3

LCO Note part a part b

ONE Two inverters may be disconnected from their D.C. Busses for up to 24 hours as necessary, for the purpose of performing an equalizing charge on their associated battery banks provided (1) their vital busses are energized and (2) the remaining vital busses are energized from their associated inverters and connected to their associated D.C. Busses

M.1

LA.1

A.4

Action A Note

INSERT-PROPOSED NOTE to Required Action A.1

ITS 3.8.7

4-21-92

A.1

ITS

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - OPERATING

SURVEILLANCE REQUIREMENT

SR3.8.7.1

Inverters

4.8.2.1 The specified A.C. busses shall be determined OPERABLE with tie breakers open between redundant busses at least once per 7 days by verifying correct breaker alignment and indicated power availability.

M.2

See ITS 3.8.9

DISCUSSION OF CHANGES
ITS 3.8.7 - INVERTERS - OPERATING

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 CTS 3.8.2.1 for the Onsite Power Distribution Systems lists A.C. Distribution – Operating requirements. CTS LCO 3.8.2.1 states, "The following A. C. electrical busses shall be OPERABLE." The requirement specifies 4 120-volt AC electrical buses are energized from their associated inverter. The inverter receives its power from the associated DC bus. ITS LCO 3.8.7, "Inverters – Operating" requires the H and J Train inverters to be OPERABLE. This changes the CTS by dividing the onsite AC power system into sources and distribution systems.

This change is acceptable because the ITS divides the requirements for the electrical sources from the electrical power distribution systems but does not change the technical requirements. The inverters provide the regulated 120-volt AC electrical source(s) for the 120 VAC distribution systems. The 120 VAC distribution systems are addressed by ITS LCO 3.8.9, "Distribution Systems – Operating." This change retains the technical requirements for the inverters. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.3 CTS 3.8.2.1 Action c states that with one AC vital bus not energized from its associated inverter re-energize the inverter within 24 hours. ITS LCO 3.8.7 Action A states that with one inverter inoperable, restore the inverter to OPERABLE status in 24 hours. This changes the CTS by specifying the 120 VAC inverter as the electrical power source for the 120-volt AC bus.

This change is acceptable because the ITS divides the requirements for the electrical sources from the electrical power distribution systems. The inverters provide the regulated 120-volt AC electrical source(s) for the 120 VAC distribution systems. As a result the ITS states the requirement in terms of the inverter, while the CTS states the requirement in terms of the bus. However, the technical requirements remain unchanged. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.4 CTS 3.8.2.1 Action c. states that with the AC Vital bus not energized from its associated inverter, re-energize the AC Vital bus from its associated inverter within 24 hours. ITS LCO 3.8.7, Action A, states that with one inverter inoperable, restore the inverter to OPERABLE status within 24 hours. The Action is modified by a Note

DISCUSSION OF CHANGES
ITS 3.8.7 - INVERTERS - OPERATING

that states, “Enter applicable Conditions and Required Actions of LCO 3.8.9, “Distribution Systems – Operating” with any vital bus de-energized.” This changes the CTS by providing a reminder to take action for the AC vital bus system that may be affected by the inoperability of an inverter.

This change is acceptable because the ITS separates the requirements of the electrical sources from the distribution systems without changing the technical requirements. ~~The inoperability of the source may lead to the de-energized bus. Therefore, the user~~ is reminded to enter the appropriate Conditions that may occur from the inoperable electrical source. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

- M.1 CTS LCO 3.8.2.1 footnote states, “Two inverters may be disconnected from their D.C. Busses for up to 24 hours as necessary, for the purpose of performing an equalizing charge on their associated batteries provided (1) their vital busses are energized, and (2) the remaining vital busses are energized from their associated inverters and connected to their associated D.C. Busses.” ITS LCO 3.8.7 Note states, “One inverter may be disconnected from its associated DC bus for ≤ 24 hours to perform an equalizing charge on its associated battery, provided: a. The associated AC vital bus is energized from its constant voltage source transformer; and b. All other AC vital buses are energized from their associated OPERABLE inverters.” This changes the CTS by only allowing one inverter to be disconnected and requiring the associated AC bus to be powered from “its constant voltage source transformer.”

This change is acceptable because only one vital bus on a train can be powered through its alternate constant voltage source transformer. Therefore, the vital bus will continue to be supplied from a required power source and all other buses will be powered from their required power supplies. This change is designated as more restrictive because the ITS allows one vital bus to be powered from the constant voltage transformer at a time, where the CTS allows two.

- M.2 CTS 4.8.2.1 states the specified A.C. busses shall be determined OPERABLE at least once per 7 days by verifying indicated power availability. ITS SR 3.8.7.1 requires the verification of the correct inverter voltage to required AC vital buses every 7 days. This changes the CTS by requiring the verification of the correct inverter voltage to the required AC vital buses, where the CTS only requires verification of indicated power.

The purpose of this change is to ensure the instrumentation channels are provided with proper voltage from the AC vital bus when powered by the associated inverter. This change is acceptable because the Surveillance will continue to verify OPERABILITY of the required inverters. Proper voltage from the inverters to the vital AC buses ensures proper voltage is supplied to the instrumentation channels that

DISCUSSION OF CHANGES ITS 3.8.7 - INVERTERS - OPERATING

provide reactor trips and engineered safety features. Verification of the AC vital bus voltage, when energized from the inverter, is one method that is currently used and may continue to be used to ensure proper inverter output voltage. This change is designated as more restrictive because the ITS requires verification of the correct voltage, where the CTS only requires a verification of indicated voltage.

REMOVED DETAIL CHANGES

LA.1 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) A footnote to CTS LCO 3.8.2.1 states, “Two inverters may be disconnected from their D.C. Busses for up to 24 hours as necessary, for the purpose of performing an equalizing charge on their associated batteries provided (1) their vital busses are energized, and (2) the remaining vital busses are energized from their associated inverters and connected to their associated D.C. Busses.” ITS LCO 3.8.7 Notes to the Actions state that inverters may be disconnected from their associated DC bus for ≤ 24 hours to perform an equalizing charge on their associated battery under two conditions. Condition one, the associated AC vital bus is energized from its constant voltage source transformer. Condition two, all other AC vital buses are energized from their associated OPERABLE inverters. This changes the CTS by moving the requirement that the remaining vital buses are “connected to their associated D.C. Busses,” from the Specification to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS retains the requirement for the inverters to be powered from their required power supplies. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

None

ITS 3.8.8 - INVERTERS - SHUTDOWN

UNIT 1

A.1

ITS
3.8
3.8.8

ELECTRICAL POWER SYSTEMS
(Inverters)
A.C. and D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO
3.8.8

3.8.2.2 As a minimum, one of the following trains of A.C. and D.C. busses shall be OPERABLE and energized in the specified manner.

INSERT PROPOSED
ITS LCO

A.2

a. "H" Train (Orange) consisting of the following:

1. 4160-volt Emergency Bus 1H
2. 480-volt Emergency Busses 1H and 1H1
3. 120-volt A.C. Vital Bus 1-1 energized from its associated inverter connected to D.C. bus 1-1, and
4. 120-volt A.C. Vital Bus 1-2 energized from its associated inverter connected to D.C. bus 1-2.
5. 125-volt D.C. Busses No. 1-1 & 1-2, and
6. 125-volt D.C. Battery Banks 1-I & 1-II and Chargers 1-I & 1-II D.C. Battery Charger 1C-I may be used in place of either of the above Chargers.

see ITS
3.8.10

see ITS
3.8.10

b. "J" Train (Purple) consisting of the following:

1. 4160-volt Emergency Bus 1J
2. 480-volt Emergency Busses 1J and 1J1
3. 120-volt A.C. Vital Bus 1-3 energized from its associated inverter connected to D.C. bus 1-3, and
4. 120-volt A.C. Vital Bus 1-4 energized from its associated inverter connected to D.C. bus 1-4.
5. 125-volt D.C. Busses No. 1-3 & 1-4, and
6. 125-volt D.C. Battery Banks 1-III & 1-IV and Chargers 1-III & 1-IV D.C. Battery Charger 1C-II may be used in place of either of the above Chargers.

see ITS
3.8.10

APPLICABILITY:

- a. Modes 5 and 6 recently
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel

L.4

L.1

Action
A.1

INSERT PROPOSED Required Action A.1

L.2

A.1

4-21-92

recently

L.4

ITS

ACTION:

Action
A.2

With the above required train of A.C. and D.C. electrical equipment and busses ^(inverters) not fully OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, ~~positive reactivity changes~~, movement of irradiated fuel assemblies, ~~and movement of loads over irradiated fuel assemblies~~. Initiate corrective action to restore the required train of A.C. and D.C. electrical equipment and busses to OPERABLE status as soon as possible.

see ITS 3.8.5 and 3.8.10

L.1

SURVEILLANCE REQUIREMENTS

(inverters)

(inverter)

SR 3.8.8.1

4.8.2.2.1 The specified busses shall be determined energized in the required manner once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

M.1

4.8.2.2.2 The above required 125-volt battery bank and chargers shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

See ITS 3.8.5

Suspend operations involving positive reactivity additions that could result in a loss of required ^{SOM} or boron concentration

A.1

ITS

3.8

ELECTRICAL POWER SYSTEMS

(Inverters)

3.8.8

(A.C. and D.C.) DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

INSERT PROPOSED ITS LCO

A.2

LCO

3.8.8

3.8.2.2 As a minimum, one of the following trains of A.C. and D.C. busses shall be OPERABLE and energized in the specified manner.

see ITS 3.8.10

a. "H" Train (Orange) consisting of the following:

1. 4160-volt Emergency Bus 2H
2. 480-volt Emergency Busses 2H and 2H1
3. 120-volt A.C. Vital Bus 2-1 energized from its associated inverter connected to D.C. bus 2-1, and
4. 120-volt A.C. Vital Bus 2-2 energized from its associated inverter connected to D.C. bus 2-2.
5. 125-volt D.C. Busses No. 2-1 & 2-2, and
6. 125-volt D.C. Battery Banks 2-I & 2-II and Chargers 2-I & 2-II D.C. Battery Charger 2C-I may be used in place of either of the above Chargers.

see ITS 3.8.10

b. "J" Train (Purple) consisting of the following:

1. 4160-volt Emergency Bus 2J
2. 480-volt Emergency Busses 2J and 2J1
3. 120-volt A.C. Vital Bus 2-3 energized from its associated inverter connected to D.C. bus 2-3, and
4. 120-volt A.C. Vital Bus 2-4 energized from its associated inverter connected to D.C. bus 2-4.
5. 125-volt D.C. Busses No. 2-3 & 2-4, and
6. 125-volt D.C. Battery Banks 2-III & 2-IV and Chargers 2-III & 2-IV D.C. Battery Charger 2C-II may be used in place of either of the above Chargers.

see ITS 3.8.10

APPLICABILITY:

- a. Modes 5 and 6 recently
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

L.4

L.1

Action A.1

INSERT PROPOSED Required Action k11

L.2

Rev. 0

4-21-92

(A.1)

ITS

ACTION:

Inverters

recently

(L.4)

Action
A.2

With the above required train of A.C. and D.C. electrical equipment and busses not fully OPERABLE, immediately suspend all operations involving CORE ALTERATIONS, ~~positive reactivity changes~~ movement of irradiated fuel assemblies, ~~and movement of loads over irradiated fuel assemblies~~. Initiate corrective action to restore the required train of A.C. and D.C. electrical equipment and busses to OPERABLE status as soon as possible.

See ITS
3.8.5 and
3.8.10

(L.1)

Inverters

SURVEILLANCE REQUIREMENTS

SR 3.8.8.1

Inverters

4.8.2.2.1 The specified busses shall be determined energized in the required manner once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

(M.1)

4.8.2.1.2 The above required 125-volt battery bank and chargers shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

See ITS
3.8.5

Suspend operations involving positive reactivity additions that could result in loss of required SOm or boron concentration

(L.3)

DISCUSSION OF CHANGES
ITS 3.8.8 - INVERTERS - SHUTDOWN

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 CTS LCO 3.8.2.2 states that as a minimum either the H or J train AC and DC buses shall be OPERABLE. The H train specifies the two 120 VAC buses (1-1 and 1-2 or 2-1 and 2) are energized from their associated inverter. The J train similarly states that the two 120 VAC buses (1-3 and 1-4 or 2-3 and 2-4) are energized from their associated inverter. ITS LCO 3.8.8 states, "Inverters shall be OPERABLE to support the onsite Class 1E AC vital bus electrical power distribution subsystem(s) required by LCO 3.8.10, 'Distribution System – Shutdown.'" This changes the CTS by dividing the inverter and distribution requirements into two specifications.

This change is acceptable because the requirement for inverters to provide electrical power for the AC buses remains unchanged. The inverters provide the associated AC bus with the necessary power to energize the bus. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

- M.1 CTS 4.8.2.2.1 states the specified busses shall be energized in the required manner once per 7 days by verifying indicated power availability. ITS SR 3.8.8.1 requires the verification of the correct inverter voltage to required AC vital buses every 7 days. This changes the CTS by requiring the verification of the correct inverter voltage to the required AC vital buses, where the CTS only requires verification of indicated power.

The purpose of this change is to ensure the instrumentation channels are provided with proper voltage from the AC vital bus when powered by the associated inverter. This change is acceptable because the Surveillance will continue to verify OPERABILITY of the required inverters. Proper voltage from the inverters to the vital AC buses ensures proper voltage is supplied to the instrumentation channels. Verification of the AC vital bus voltage, when energized from the inverter, is one method that is currently used and may continue to be used to ensure proper inverter output voltage. This change is designated as more restrictive because the ITS requires verification of the correct voltage, where the CTS only requires a verification of indicated voltage.

DISCUSSION OF CHANGES
ITS 3.8.8 - INVERTERS - SHUTDOWN

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

- L.1 *(Category 2 – Relaxation of Applicability)* CTS 3.8.2.2 is applicable in MODES 5 and 6 and during movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel. CTS 3.8.2.2 Action also requires suspension of movement of loads over irradiated fuel assemblies. ITS 3.8.8 is applicable in MODES 5 and 6, and during movement of irradiated fuel assemblies. This changes the CTS by deleting the applicability during movement of loads over irradiated fuel assemblies and the associated required action.

This change is acceptable because the requirements continue to ensure that the systems are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The deletion of the applicability for movement of loads over irradiated fuel is acceptable because movement of heavy loads is not an initiator to any accident in the safety analyses. The heavy loads program is required by other regulatory requirements and limits the movement of objects in the vicinity of irradiated fuel assemblies. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

- L.2 *(Category 4 – Relaxation of Required Action)* CTS 3.8.2.2 Action states that with less than the minimum required electrical busses OPERABLE, immediately suspend CORE ALTERATIONS, positive reactivity changes, and the movement, or movement of load over, irradiated fuel assemblies. ITS 3.8.8 Action A.1 adds an optional Action allowing the affected required feature(s), without the required buses, to be declared inoperable and enter the feature(s) Conditions and Required Actions requirements for the specific function. This allows the performance of the feature(s) Required Actions while continuing with unit operations, such as a plant cooldown. The CTS requirements do not allow this option.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or required features. The capacity and capability of remaining features, a reasonable time for repairs or replacement of required system or features, and the low probability of a DBA occurring during the repair period. The Required Actions of the affected features provide appropriate remedial actions and completion times. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

DISCUSSION OF CHANGES
ITS 3.8.8 - INVERTERS - SHUTDOWN

- L.3 *(Category 4 – Relaxation of Required Action)* CTS 3.8.2.2 Action requires that with less than the required electrical busses OPERABLE, operations involving positive reactivity changes shall be immediately suspended. ITS 3.8.8 Required Action A.2.3 states, “Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.” This changes the CTS requirement by allowing limited operations that include a positive reactivity change.

The purpose of the CTS Action is to precludes positive reactivity addition and reduction in boron concentration to ensure a power level does not increase or boron concentration is not reduced below the required SHUTDOWN MARGIN (SDM). This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or required features. The capacity and capability of remaining features, a reasonable time for repairs or replacement of required system or features, and the low probability of a DBA occurring during the repair period. The limitation of reactivity changes provided will continue to ensure that the accident analyses assumptions of SDM and boron concentration are met. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.4 *(Category 2 – Relaxation of Applicability)* CTS 3.8.2.2 Applicability for the inverter requirement states during the movement of irradiated fuel assemblies. The associated Action states with the required inverter not fully OPERABLE immediately suspend all operations involving movement of irradiated fuel assemblies. ITS LCO 3.8.8 Applicability states during the movement of recently irradiated fuel assemblies. This changes the CTS by excluding the inverter requirement during the movement of fuel assemblies that have not been recently irradiated.

This change is acceptable because the requirements continue to ensure that the systems are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. Only recently irradiated fuel assemblies contain a sufficient quantity of radioactive nuclides to result in violation of the regulatory requirements in the event of a fuel handling accident. The fuel assemblies that have been allowed to sufficiently decay and reduce the radioactive source term below a specified level will not exceed the regulatory requirements. Therefore, the requirements for inverter(s) only applies to movement of recently irradiated fuel assemblies. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

ITS 3.8.9 DISTRIBUTION SYSTEMS - OPERATING

UNIT 1

A.1

ITS 3.8.9

4-21-92

ITS
3.8
3.8.9

ELECTRICAL POWER SYSTEMS
3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS
A.C. DISTRIBUTION - OPERATING
LIMITING CONDITION FOR OPERATION

LC03.8.9 3.8.2.1 The following A.C. electrical busses shall be OPERABLE and energized with the breakers open between redundant busses:

A.4
LA.1

- a. H A.C. Emergency Busses consisting of:
 - 1. 4160 volt Emergency Bus # 1H
 - 2. 480 volt Emergency Busses # 1H, 1H1
- b. J A.C. Emergency Busses consisting of:
 - 1. 4160 volt Emergency Bus # 1J
 - 2. 480 volt Emergency Busses # 1J, 1J1
- c. 120 volt A.C. Vital Bus #1-I energized from its associated inverter connected to D.C. Bus # 1-I
- d. 120 volt A.C. Vital Bus #1-II energized from its associated inverter connected to D.C. Bus # 1-II
- e. 120 volt A.C. Vital Bus #1-III energized from its associated inverter connected to D.C. Bus # 1-III
- f. 120 volt A.C. Vital Bus #1-IV energized from its associated inverter connected to D.C. Bus # 1-IV

LA.2

See ITS 3.8.7

LA.7

A.5

APPLICABILITY: MODES 1, 2, 3, and 4.

INSERT PROPOSED LCO

ACTION:

- a. With one ^{or more} of the required A.C. Emergency busses not fully energized, re-energize within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. ^{inoperable, restore to OPERABLE}
- b. ^{or more} With one A.C. Vital Bus not energized, re-energize the A.C. Vital Bus within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. ^{inoperable, restore to OPERABLE}
- c. With one A.C. Vital Bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. Bus, re-energize the A.C. Vital Bus from its associated inverter connected to its associated D.C. Bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

L.1

LA.1

L.1

LA.1

Action A
Action F
Action B
Action E

* Two inverters may be disconnected from their D.C. Busses for up to 24 hours as necessary, for the purpose of performing an equalizing charge on their associated battery banks provided (1) their vital busses are energized, and (2) the remaining vital busses are energized from their associated inverters and connected to their associated D.C. Busses.

See 3.8.7

A.5

Action D & E

NORTH ANNA - UNIT 1

3/4 8-6

INSERT PROPOSED Action D and E Amendment No. 155

page 1 of 3

A.3

Action G > INSERT PROPOSED ACTION G
Action A, B, C > INSERT 16-hour Completion Time

M.1

Rev. 0

4-21-92

ITS

3.8

A.1

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - OPERATING

SURVEILLANCE REQUIREMENT

SR 3.8.9.1

4.8.2.1 The specified A.C. busses shall be determined OPERABLE with tie breakers open between redundant busses at least once per 7 days by verifying correct breaker alignment and indicated power availability.

M.2

LA.1

3-25-88

ITS
3.8
3.8.9

(A.1)

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.8.9

3.8.2.3 The following D.C. bus trains shall be energized and OPERABLE with tie breakers between bus trains open.

(A.4)

(LA.1)

TRAIN "A" consisting of 125-volt D.C. bus No. 1-I and 1-II, 125-volt D.C. battery bank No. 1-I and 1-II and a full capacity charger.

(LA.2)

TRAIN "B" consisting of 125-volt D.C. bus No. 1-III and 1-IV, 125-volt D.C. battery bank No. 1-III and 1-IV and a full capacity charger.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

(L.1)

Action
C
Action
F

a. With one ^{or more} 125-volt D.C. bus inoperable, restore the inoperable bus 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.

b. With one 125-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger 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.

See ITS 3.8.4

SURVEILLANCE REQUIREMENTS

SR 3.8.9.1

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with tie breakers open at least once per 7 days by verifying correct breaker alignment and indicated power availability.

(M.2)

(LA.1)

4.8.2.3.2 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. - At least once per 7 days by verifying that:

1. The parameters in Table 4.8-3 meet Category A limits and
2. The total battery terminal voltage is greater than or equal to 129 volts on float charge.

See ITS 3.8.4

See ITS 3.8.6

ITS 3.8.9 DISTRIBUTION SYSTEMS - OPERATING

UNIT 2

A.1

ITS
3.8 ELECTRICAL POWER SYSTEMS

3.8.9 3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

LC038.7 3.8.2.1 The following A.C. electrical busses shall be OPERABLE and energized with tie breakers open between redundant busses:

- a. H A.C. Emergency Busses consisting of:
 - 1. 4160 volt Emergency Bus # 2H
 - 2. 480 volt Emergency Busses # 2H, 2H1
- b. J A.C. Emergency Busses consisting of:
 - 1. 4160 volt Emergency Bus # 2d
 - 2. 480 volt Emergency Busses # 2J, 2J1
- c. 120 volt A.C. Vital Bus # 2-I energized from its associated inverter connected to D.C. Bus # 2-I
- d. 120 volt A.C. Vital Bus # 2-II energized from its associated inverter connected to D.C. Bus # 2-II
- e. 120 volt A.C. Vital Bus # 2-III energized from its associated inverter connected to D.C. Bus # 2-III
- f. 120 volt A.C. Vital Bus # 2-IV energized from its associated inverter connected to D.C. Bus # 2-IV

A.4
LA.1

LA.2

LA.2

see ITS 3.8.7

LA.2

APPLICABILITY: MODES 1, 2, 3, and 4. *(INSERT PROPOSED LCU 6.)*

ACTION:

- a. With one of the required A.C. Emergency busses *not fully energized, re-energize within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.* *(or more) inoperable, restore to OPERABLE status*
- b. With one A.C. Vital Bus *not energized, re-energize the A.C. Vital Bus within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.* *(or more) inoperable, restore to OPERABLE status*
- c. With one A.C. Vital Bus either not energized from its associated inverter, or with the inverter not connected to its associated D.C. Bus, re-energize the A.C. Vital Bus from its associated inverter connected to its associated D.C. Bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

A.5 L.1

LA.1

L.1

LA.1

Action A
Action F
Action B
Action F

*Two inverters may be disconnected from their D.C. Busses for up to 24 hours as necessary, for the purpose of performing an equalizing charge on their associated battery banks provided (1) their vital busses are energized, and (2) the remaining vital busses are energized from their associated inverters and connected to their associated D.C. Busses.

see ITS 3.8.7

Action D & E
Action G

INSERT PROPOSED Action D & E

INSERT PROPOSED ACTION E

A.5

A.3

Action A, B, C

INSERT 16-Hour Completion Time

M.1

ITS
3.8

A.1

ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION - OPERATING

SURVEILLANCE REQUIREMENT

SR 3.8.9.1

4.8.2.1 The specified A.C. busses shall be determined OPERABLE with tie breakers open between redundant busses at least once per 7 days by verifying correct breaker alignment and indicated power availability.

M.2

LA.1

A.1

ITS
3.8
3.8.9

ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION:

LCO
3.8.9

3.8.2.3 The following D.C. bus trains shall be energized and OPERABLE:

TRAIN "A" consisting of 125-volt D.C. bus No. 2-I and 2-II, 125-volt D.C. battery bank No. 2-I and 2-II and a full capacity charger.

TRAIN "B" consisting of 125-volt D.C. bus No. 2-III and 2-IV, 125-volt D.C. battery bank No. 2-III and 2-IV and a full capacity charger.

A.4

LA.1

LA.2

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Action
C
Action
F

a. With one 125-volt D.C. bus inoperable, restore the inoperable bus 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.

b. With one 125-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger 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.

OR MORE

L.1

see ITS
3.8.4

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with ~~the breakers open~~ at least once per 7 days by verifying correct breaker alignment and indicated power availability.

M.2

LA.1

4.8.2.3.2 Each 125-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8-3 meet Category A limits and
2. The total battery terminal voltage is greater than or equal to 129 volts on float charge.

see ITS
3.8.4

see ITS
3.8.6

DISCUSSION OF CHANGES
ITS 3.8.9 DISTRIBUTION SYSTEMS - OPERATING

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 Not used.

- A.3 ITS Action G states that with two trains of inoperable distribution subsystems that result in a loss of safety function, enter LCO 3.0.3 immediately. The CTS does not include this specific requirement. This changes the CTS by specifically requiring entry into LCO 3.0.3 when a loss of function occurs.

This change is acceptable because CTS LCO 3.0.3 would be entered when a LCO is not met and there are no Conditions or Required Actions stated. The loss of more than one bus continues to require the entry into LCO 3.0.3 in the CTS and ITS. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.4 CTS LCO 3.8.2.1 states that the following AC electrical busses shall be OPERABLE and energized with the tie breakers open between redundant busses. These busses include H and J trains of AC 4160 and 480 volts subsystems. This requirement also includes that each of the four 120-volt AC vital buses is energized from its associated inverter that is powered from an associated 125-volt DC bus. CTS LCO 3.8.2.3 requires the following DC bus trains to be energized and OPERABLE with tie breakers between bus trains open. The trains consists of two 125-volt DC buses, two batteries, and a charger. The makeup of the 4160, 480, and 120 volt AC buses and the DC buses is addressed by DOC LA.2. The requirement that all buses are energized is addressed by DOC LA.1. ITS LCO 3.8.9 requires that the H and J Trains of AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE. This changes the CTS by combining the requirements for AC and DC distribution systems into one specification.

This change is acceptable because the technical requirements of the CTS are maintained in the ITS requirements. The CTS and the ITS require the various AC and DC subsystems to be OPERABLE. This change is designated as administrative because it does not result in a technical change to the CTS.

- A.5 CTS LCO 3.7.4.1 requires the normal and emergency power supplies to be OPERABLE for the required Service Water pumps. The Control Room ventilation

DISCUSSION OF CHANGES
ITS 3.8.9 DISTRIBUTION SYSTEMS - OPERATING

fans and the Auxiliary Building central exhaust fans may require electrical power from the other unit for fans to be considered OPERABLE. ITS LCO 3.8.9, Actions, and Surveillance Requirements are modified to include the electrical distribution systems on the other unit that are required to support shared components that are powered for the other unit. This change maintains the CTS requirements in the ITS format.

The change is acceptable because these requirements ensure the electrical distribution systems that are needed to support shared components on the other unit, needed for this unit, are maintained OPERABLE. This is the intent of the CTS requirements in LCO 3.7.4.1 for the required shared components are to ensure all electrical system necessary to power these components. This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

- M.1 CTS 3.8.2.1 Action a. states that with one of the required A.C. emergency busses not fully energized, re-energize the bus within 8 hours. Action b. states within one A.C. Vital Bus not energized, re-energize the A. C. Vital bus within 2 hours. CTS 3.8.2.3 Action a states with one 125 VDC bus inoperable, restore the inoperable bus to OPERABLE status within 2 hours. ITS 3.8.9, Action A, states that with one AC subsystem inoperable, restore the subsystem to OPERABLE status within 8 hours and 16 hours from discovery of failure to meet LCO. Action B states that with one AC vital bus inoperable, restore the AC bus to OPERABLE status within 2 hours and 16 hours from discovery of failure to meet LCO. Action C states that with one DC vital bus inoperable restore the DC bus to OPERABLE status within 2 hours and 16 hours from discovery of failure to meet LCO. This changes the CTS by placing a limit of 16 hours for failing to meet the LCO when the CTS does not specify a limit.

This change is acceptable because it provides a reasonable period of time to restore all required subsystems to OPERABLE status, but specifies a finite time the LCO may not be met. This change is designated as more restrictive the ITS imposes a 16-hour Completion Time which the CTS does not impose.

- M.2 CTS 4.8.2.1 states the specified A.C. busses shall be determined OPERABLE at least once per 7 days by verifying indicated power availability. CTS 4.8.2.3.1 states that each D.C. bus train shall be demonstrated OPERABLE at least once per 7 days by verifying indicated power availability. ITS SR 3.8.9.1 requires the verification of the correct voltage to required AC, DC, and AC vital buses electrical power distribution subsystems every 7 days. This changes the CTS by requiring the verification of the correct voltages to the required AC, DC, and AC vital buses electrical power distribution subsystems, where the CTS only requires verification of indicated power.

The purpose of this change is to ensure proper voltage is supplied to the required AC, DC, and AC vital buses electrical power distribution subsystems. This change is

DISCUSSION OF CHANGES
ITS 3.8.9 DISTRIBUTION SYSTEMS - OPERATING

acceptable because the Surveillance will continue to verify OPERABILITY of the required AC, DC, and AC vital buses electrical power distribution subsystems. Proper voltage from the required subsystems ensures proper voltage is supplied to the required safety features. This change is designated as more restrictive because the ITS requires verification of the correct voltage, where the CTS only requires a verification of indicated voltage.

REMOVED DETAIL CHANGES

- LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS LCO 3.8.2.1 states, “The following A.C. electrical busses shall be OPERABLE and energized . . .” CTS LCO 3.8.2.3 states, “The following D.C. bus trains shall be energized and OPERABLE . . .” CTS 3.8.2.1 Actions a and b state, “ With one of the required AC or AC Vital Buses not energized, re-energized bus,” within specific allowed outage times. Similarly, CTS SR 4.8.2.3.1 states, “Each D.C. bus train shall be determined OPERABLE and energized . . .” ITS LCO 3.8.9 states, “The Train H and Train J AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.” ITS SR 3.8.9.1 states, “Verify correct breaker alignments and voltage to required AC, DC, and AC vital bus electrical power distribution subsystems.” This changes the CTS by moving the requirement for the buses to be energized with tie breakers open between redundant buses from the Specification to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. ITS LCO 3.8.9 continues to require the buses to be OPERABLE. The ITS Bases specify that the buses are energized with tie breakers between redundant buses required to be open. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

- LA.2 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS LCO 3.8.2.1 states, “The following A.C. electrical busses shall be OPERABLE . . .H and J A.C. emergency busses,” with 4160, 480, and 120 VAC buses specified. CTS LCO 3.8.2.3 states that the Train A and Train B DC buses with specific designations. ITS 3.8.9 states, “Train H and Train J AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.” This changes the CTS by moving the specific names of the buses from the Specification to the Bases.

DISCUSSION OF CHANGES

ITS 3.8.9 DISTRIBUTION SYSTEMS - OPERATING

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. ITS 3.8.9 still retains the requirement for the required buses to be OPERABLE. The ITS Bases specify that AC vital buses are powered from specific DC buses. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

- L.1 *(Category 4 – Relaxation of Required Action)* CTS 3.8.2.1 Actions a and b state that one of the required buses may not be fully energized and each Action provides appropriate time for the inoperable bus to be re-energized. CTS 3.8.2.3 Action a states that with one 125-volt DC bus inoperable, restore the inoperable bus to OPERABLE status within 2 hours. ITS LCO 3.8.9 Conditions A, B, and C state that with one or more of the required AC electrical power distribution subsystems inoperable, DC, or AC vital buses are inoperable. The required buses must be restore to OPERABLE status within specified times. This changes the CTS by allowing more than one required electrical power distribution subsystems or buses to be inoperable.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or features. This includes the capacity and capability of remaining systems or features, a reasonable time for repairs or replacement, and the low probability of a DBA occurring during the repair period. This change allows more than one required electrical power distribution subsystem or bus to be inoperable at a time. This is allowed provided that any required safety functions are not lost. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

ITS 3.8.10 DISTRIBUTION SYSTEMS - SHUTDOWN

UNIT 1

A.1

ITS

3.8

ELECTRICAL POWER SYSTEMS

SYSTEMS

3.8.10 A.C. and D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO
3.8.10

3.8.2.2 As a minimum, one of the following trains of A.C. and D.C. busses shall be OPERABLE and energized in the specified manner:

INSERT PROPOSED LCO 3.8.10

a. "H" Train (Orange) consisting of the following:

1. 4160-volt Emergency Bus 1H
2. 480-volt Emergency Busses 1H and 1H1
3. 120-volt A.C. Vital Bus 1-1 energized from its associated inverter connected to D.C. bus 1-1, and
4. 120-volt A.C. Vital Bus 1-2 energized from its associated inverter connected to D.C. bus 1-2.
5. 125-volt D.C. Busses No. 1-1 & 1-2, and
6. 125-volt D.C. Battery Banks 1-I & 1-II and Chargers 1-I & 1-II D.C. Battery Charger 1C-I may be used in place of either of the above Chargers.

L.5

See ITS 3.8.8

LA.1

b. "J" Train (Purple) consisting of the following:

1. 4160-volt Emergency Bus 1J
2. 480-volt Emergency Busses 1J and 1J1
3. 120-volt A.C. Vital Bus 1-3 energized from its associated inverter connected to D.C. bus 1-3, and
4. 120-volt A.C. Vital Bus 1-4 energized from its associated inverter connected to D.C. bus 1-4.
5. 125-volt D.C. Busses No. 1-3 & 1-4, and
6. 125-volt D.C. Battery Banks 1-III & 1-IV and Chargers 1-III & 1-IV D.C. Battery Charger 1C-II may be used in place of either of the above Chargers.

See ITS 3.8.8

LA.1

APPLICABILITY:

- a. Modes 5 and 6
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

L.4

L.1

Action
A.1

INSERT PROPOSED Required Action A.1

L.2

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A.1

ITS

ACTION:

Action
A.2

With the above required train of A.C. and D.C. electrical equipment and busses not fully OPERABLE, ^{recently} immediately suspend all operations involving CORE ALTERATIONS, ~~positive reactivity changes~~, movement of irradiated fuel assemblies, ~~and movement of loads over irradiated fuel assemblies~~. Initiate corrective action to restore the required train of A.C. and D.C. electrical equipment and busses to OPERABLE status as soon as possible.

L.4

L.1

SURVEILLANCE REQUIREMENTS

SR 3.8.10.1

4.8.2.2.1 ~~The specified busses shall be determined energized in the required manner~~ once per 7 days by verifying correct breaker alignment and indicated voltage on the busses. AC, DC, AC voltage

M.1

4.8.2.2.2 The above required 125-volt battery bank and chargers shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

See ITS 3.8.5

INSERT PROPOSED REQUIRED ACTION A.2.5

A.2

Operations involving positive reactivity additions that could result in a loss of required SDM or boron concentration

L.3

ITS 3.8.10 DISTRIBUTION SYSTEMS - SHUTDOWN

UNIT 2

ITS

3.8 ELECTRICAL POWER SYSTEMS

3.8.10 AC and DC DISTRIBUTION - SHUTDOWN

A.1

LIMITING CONDITION FOR OPERATION

LCO
3.8.10

3.8.2.2 As a minimum, one of the following trains of A.C. and D.C. busses shall be OPERABLE and energized in the specified manner:

INSERT PROPOSED LCO 3.8.10

a. "H" Train (Orange) consisting of the following:

1. 4160-volt Emergency Bus 2H
2. 480-volt Emergency Busses 2H and 2H1
3. 120-volt A.C. Vital Bus 2-1 energized from its associated inverter connected to D.C. bus 2-1, and
4. 120-volt A.C. Vital Bus 2-2 energized from its associated inverter connected to D.C. bus 2-2.
5. 125-volt D.C. Busses No. 2-1 & 2-2, and
6. 125-volt D.C. Battery Banks 2-I & 2-II and Chargers 2-I & 2-II D.C. Battery Charger 2C-I may be used in place of either of the above Chargers.

L.5

(see ITS 3.8.7)

L.A.1

b. "J" Train (Purple) consisting of the following:

1. 4160-volt Emergency Bus 2J
2. 480-volt Emergency Busses 2J and 2J1
3. 120-volt A.C. Vital Bus 2-3 energized from its associated inverter connected to D.C. bus 2-3, and
4. 120-volt A.C. Vital Bus 2-4 energized from its associated inverter connected to D.C. bus 2-4.
5. 125-volt D.C. Busses No. 2-3 & 2-4, and
6. 125-volt D.C. Battery Banks 2-III & 2-IV and Chargers 2-III & 2-IV D.C. Battery Charger 2C-II may be used in place of either of the above Chargers.

(see ITS 3.8.7)

L.A.1

APPLICABILITY:

- a. Modes 5 and 6 recently
- b. During movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel.

L.4

L.1

Action
A.1

INSERT PROPOSED Required ACTION A.1

L.2

A.1

ITS

ACTION:

Action A.2

With the above required train of A.C. and D.C. electrical equipment and busses not fully OPERABLE, ^{recently} immediately suspend all operations involving CORE ALTERATIONS, ~~positive reactivity changes~~, movement of irradiated fuel assemblies, ~~and movement of loads over irradiated fuel assemblies~~. Initiate corrective action to restore the required train of A.C. and D.C. electrical equipment and busses to OPERABLE status as soon as possible.

L.4

L.1

SURVEILLANCE REQUIREMENTS

SK 3.8.10.1

4.8.2.2.1 ~~The specified busses shall be determined energized in the required manner~~ once per 7 days by verifying correct breaker alignment and indicated voltage on the busses. ~~AC, DC and AC vital~~

M.1

4.8.2.1.2 The above required 125-volt battery bank and chargers shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

see ITS 3.8.5

INSERT PROPOSED REQUIRED ACTION A.2.5

A.2

operations involving positive reactivity additions that could result in a loss of required SOM or boron concentration

L.3

DISCUSSION OF CHANGES
ITS 3.8.10 DISTRIBUTION SYSTEMS - SHUTDOWN

ADMINISTRATIVE CHANGES

- A.1 In the conversion of the North Anna Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1431, Rev. 1, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

- A.2 ITS 3.8.10 Required Action A.2.5 states, "Declare associated required residual heat removal subsystem(s) inoperable and not in operation." This is required with a Completion Time of "Immediately." CTS 3.8.2.2 does not specifically state this requirement. This changes the CTS by specifically requiring the RHR subsystem(s) to be declared inoperable with a loss of the associated electrical bus.

This change is acceptable because the RHR subsystem(s) would be declared inoperable under the CTS requirements. This addition does not change the technical requirements of the CTS but acts as a reminder to enter the Action for the RHR subsystem(s). This change is designated as administrative because it does not result in a technical change to the CTS.

MORE RESTRICTIVE CHANGES

- M.1 CTS 4.8.2.2.1 states the specified busses shall be determined OPERABLE at least once per 7 days by verifying indicated power availability. ITS SR 3.8.10.1 requires the verification of the correct voltage to required AC, DC, and AC vital buses electrical power distribution subsystems every 7 days. This changes the CTS by requiring the verification of the correct voltages to the required AC, DC, and AC vital buses electrical power distribution subsystems, where the CTS only requires verification of indicated power.

The purpose of this change is to ensure proper voltage is supplied to the required AC, DC, and AC vital buses electrical power distribution subsystems. This change is acceptable because the Surveillance will continue to verify OPERABILITY of the required AC, DC, and AC vital buses electrical power distribution subsystems. Proper voltage from the required subsystems ensures proper voltage is supplied to the required safety features. This change is designated as more restrictive because the ITS requires verification of the correct voltage, where the CTS only requires a verification of indicated voltage.

REMOVED DETAIL CHANGES

DISCUSSION OF CHANGES
ITS 3.8.10 DISTRIBUTION SYSTEMS - SHUTDOWN

- LA.1 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) CTS LCO 3.8.2.2 states, “The following A.C. electrical busses shall be OPERABLE . . . H and J A.C. emergency busses,” with 4160, 480, and 120 VAC busses specified. ITS 3.8.10 states, “The necessary portion of AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE to support equipment required to be OPERABLE.” This changes the CTS by moving description of the busses from the Specification to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. ITS 3.8.10 still retains the requirement for the required busses to be OPERABLE. This change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

- L.1 (*Category 2 – Relaxation of Applicability*) CTS 3.8.2.2 is applicable during MODES 5 and 6 and during movement of irradiated fuel assemblies or loads over irradiated fuel assemblies when no fuel assemblies are in the reactor vessel. CTS 3.8.2.2 Action also prohibits movement of loads over irradiated fuel assemblies. ITS 3.8.10 is applicable in MODES 5 and 6, and during movement of irradiated fuel assemblies. This changes the CTS by deleting from the applicability the movement of loads over irradiated fuel assemblies and the associated required action.

The purpose of CTS requirements was to ensure that loads were not moved over irradiated fuel assemblies without the required electrical sources available. This change is acceptable because the requirements continue to ensure that the electrical systems are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. The fuel handling accident is assumed to only occur with the movement of the irradiated fuel assemblies. A fuel handling accident is not initiated by movement of heavy loads over irradiated fuel assemblies. Control of heavy loads is required by compliance with Regulatory Guide 0612. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

- L.2 (*Category 4 – Relaxation of Required Action*) CTS 3.8.2.2 Action states that with less than the minimum required electrical busses OPERABLE, immediately suspend CORE ALTERATIONS, positive reactivity changes, and the movement, or movement of load over, irradiated fuel assemblies. ITS 3.8.10 Action A.1 adds an optional Action allowing the affected required feature(s), without the required busses,

DISCUSSION OF CHANGES
ITS 3.8.10 DISTRIBUTION SYSTEMS - SHUTDOWN

to be declared inoperable and enter the feature(s) Conditions and Required Actions requirements for the specific function. This would allow the performance of the feature(s) Required Actions while continuing with unit operations, such as a plant cooldown. The CTS requirements do not allow this option.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or required features. The capacity and capability of remaining features, a reasonable time for repairs or replacement of required system or features, and the low probability of a DBA occurring during the repair period. The Required Actions of the affected features will provide appropriate remedial actions and completion times. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.3 *(Category 4 – Relaxation of Required Action)* CTS 3.8.2.2 Action requires that with less than the required electrical busses OPERABLE, operations involving positive reactivity changes shall be immediately suspended. ITS 3.8.10 Required Action A.2.3 states, “Suspend operations involving positive reactivity additions that could result in loss of required SDM or boron concentration.” This changes the CTS requirement by allowing limited operations that includes a positive reactivity change.

This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the OPERABLE status of the redundant systems or required features. The capacity and capability of remaining features, a reasonable time for repairs or replacement of required system or features, and the low probability of a DBA occurring during the repair period. The limitation of reactivity changes provided will continue to ensure that the accident analyses assumptions of SDM and boron concentration are met. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

- L.4 *(Category 2 – Relaxation of Applicability)* CTS 3.8.2.2 for the AC and DC distribution systems in shutdown is applicable during the movement of irradiated fuel assemblies. The associated Action states with the required systems not fully OPERABLE, immediately suspend all operations involving movement of irradiated fuel assemblies. ITS LCO 3.8.10 is applicable during the movement of recently irradiated fuel assemblies. This changes the CTS by excluding distribution systems during the movement of fuel assemblies that have not been recently irradiated.

DISCUSSION OF CHANGES
ITS 3.8.10 DISTRIBUTION SYSTEMS - SHUTDOWN

This change is acceptable because the requirements continue to ensure that the systems are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. Only recently irradiated fuel assemblies contain a sufficient quantity of radioactive nuclides to result in violation of the regulatory requirements in the event of a fuel handling accident. The fuel assemblies that have been allowed to sufficiently decay and reduce the radioactive source term below a specified level will not exceed the regulatory requirements. Therefore, the requirements for distribution systems only applies to movement of recently irradiated fuel assemblies. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

- L.5 *(Category 1 – Relaxation of LCO Requirements)* CTS LCO 3.8.2.2 states, “As a minimum one of the following trains of AC and DC busses shall be OPERABLE . . .” This would require either the H or J train AC and DC buses to be OPERABLE. The H train specifies the two 120 VAC buses (1-1 and 2 or 2-1 and 2) are energized from their associated inverter. The J train similarly states that the two 120 VAC buses (1-3 and 4 or 2-3 and 4) are energized from their associated inverter. ITS LCO 3.8.10 states, “The necessary portion of AC, DC, and AC vital bus power distribution subsystems shall be OPERABLE to support the equipment required to be OPERABLE.” This changes the CTS by requiring only the necessary portions of the AC, DC, and AC vital bus distribution subsystems to be OPERABLE.

This change is acceptable because the LCO requirements continue to ensure that the electrical systems are maintained consistent with the safety analyses and licensing basis. The change modifies the distribution system requirements by only requiring the necessary portions of the distribution systems to supply electrical power to required equipment. The ITS requirements ensure that all equipment assumed to be OPERABLE by the safety analyses will be powered from OPERABLE distribution system(s). This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

**CTS 3.8.2.5, CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT
PROTECTION DEVICES**

UNIT 2

CTS
3.8.25

ELECTRICAL POWER SYSTEMS

4-22-94

CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.2.5 Primary and backup containment penetration conductor overcurrent protective devices associated with each containment electrical penetration circuit shall be OPERABLE. The scope of these protective devices excludes those circuits for which creditable fault currents would not exceed the electrical penetration design rating.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the containment penetration conductor overcurrent protective device (s) inoperable either:

- a. Restore the protective device(s) to OPERABLE status or de-energize the circuit(s) by tripping the associated circuit breaker within 72 hours and verify the circuit breaker to be tripped at least once per 7 days thereafter; the provisions of Specification 3.0.4 are not applicable to overcurrent devices in circuits which have their circuit breakers tripped, or
- b. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.5 All containment penetration conductor overcurrent protective devices shall be demonstrated OPERABLE:

- a. At least once per 18 months:
 - 1. By verifying that, on a rotating basis at least one 4.16 KV circuit breaker is OPERABLE by performing the following:
 - (a) A CHANNEL CALIBRATION of the associated protective relays, and
 - (b) An integrated system functional test which includes simulating automatic actuation of the system and verifying that each relay and associated circuit breakers and control circuits function as designed.

R.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. By verifying the OPERABILITY of molded case circuit breakers, by selecting and functionally testing a representative sample of at least 10% of all the circuit breakers of that type. Circuit breakers selected for functional testing shall be selected on a rotating basis. The functional test shall consist of injecting a current input at the specified setpoint to each selected circuit breaker and verifying that each circuit breaker functions as designed. Circuit breakers found inoperable during functional testing shall be restored to OPERABLE status prior to resuming operation. For each circuit breaker found inoperable during these functional tests, an additional representative sample of at least 10% of all the circuit breakers of the inoperable type shall also be functionally tested until no more failures are found or all circuit breakers of that type have been functionally tested.

3. By verifying the OPERABILITY of fuses, by selecting and functionally testing a representative sample of each type of fuse on a rotating basis. Each representative sample of fuses shall include at least 10% of all fuses of that type. The functional test shall consist of a non-destructive resistance measurement test which demonstrates that the fuse meets its manufacturer's design criteria. Fuses found inoperable during these functional tests shall be replaced with OPERABLE fuses prior to resuming operation. For each fuse found inoperable during these functional tests, an additional representative sample of at least 10% of all fuses of that type shall be functionally tested until no more failures are found or all fuses of that type have been functionally tested.

4. At least once per 60 months by subjecting each circuit breaker to an inspection and preventive maintenance in accordance with procedures prepared in conjunction with its manufacturer's recommendations.

R.1

DISCUSSION OF CHANGES
CTS 3.8.2.5, CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT
PROTECTION DEVICES

RELOCATED SPECIFICATIONS

R.1 Unit 2 CTS 3.8.2.5 states the primary and backup containment penetration conductor overcurrent protective devices associated with each containment electrical penetration circuit shall be OPERABLE. This LCO does not meet the criteria for retention in the ITS; therefore, it will be retained in the Technical Requirements Manual.

This change is acceptable because Unit 2 CTS 3.8.2.5 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. The containment penetration conductor overcurrent protective devices are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The containment penetration conductor overcurrent protective devices do not meet criterion 1.
2. The containment penetration conductor overcurrent protective devices are not a process variable, design feature, or operating restriction that is an initial condition of a DBA or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The containment penetration conductor overcurrent protective devices do not meet criterion 2.
3. not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a DBA or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The containment penetration conductor overcurrent protective devices do not meet criterion 3.
4. The containment penetration conductor overcurrent protective devices are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. As discussed in Section 3.0 (Appendix A, page A-63) of WCAP-11618, the containment penetration conductor overcurrent protective devices were found to be a non-significant risk contributor to core damage frequency and offsite releases. The Company has reviewed this evaluation, considers it applicable to the North Anna Power Station, and concurs with this assessment. The containment penetration conductor overcurrent protective devices are not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. The containment penetration conductor overcurrent protective devices do not meet criterion 4.

DISCUSSION OF CHANGES
CTS 3.8.2.5, CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT
PROTECTION DEVICES

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the containment penetration conductor overcurrent protective devices LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The containment penetration conductor overcurrent protective devices specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as relocation because the LCO did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

**CTS 3.8.2.6, MOTOR OPERATED VALVES THERMAL OVERLOAD
PROTECTION DEVICES**

UNIT 2

ELECTRICAL POWER SYSTEMS

4-22-94

MOTOR-OPERATED VALVES THERMAL OVERLOAD PROTECTION DEVICES

LIMITING CONDITION FOR OPERATION

3.8.2.6 The thermal overload protection devices, integral with the motor starter, of each valve used in safety systems shall be OPERABLE.

APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.

ACTION:

With one or more of the thermal overload protection devices inoperable, declare the affected valve(s) inoperable and apply the appropriate ACTION Statement(s) for the affected valve(s).

SURVEILLANCE REQUIREMENTS

4.8.2.6 The above required thermal overload protection devices shall be demonstrated OPERABLE at least once per 18 months by the performance of a CHANNEL CALIBRATION of a representative sample of at least 25% of all thermal overload devices, such that each device is calibrated at least once per 6 years.

R.1

DISCUSSION OF CHANGES
CTS 3.8.2.6, MOTOR OPERATED VALVES THERMAL OVERLOAD
PROTECTION DEVICES

RELOCATED SPECIFICATIONS

R.1 Unit 2 CTS 3.8.2.6 states the thermal overload protection devices, integral with the motor starter, of each valve in the safety system shall be OPERABLE. This LCO does not meet the criteria for retention in the ITS; therefore, it will be retained in the Technical Requirements Manual.

This change is acceptable because Unit 2 CTS 3.8.2.5 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. The thermal overload protection devices are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The thermal overload protection devices marked for relocation do not meet criterion 1.
2. The thermal overload protection devices are not a process variable, design feature, or operating restriction that is an initial condition of a DBA or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The thermal overload protection devices do not meet criterion 2.
3. The thermal overload protection devices are not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a DBA or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The thermal overload protection devices do not meet criterion 3.
4. The thermal overload protection devices are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. As discussed in Section 3.0 (Appendix A, page A-64) of WCAP-11618, the thermal overload protection devices were found to be a non-significant risk contributor to core damage frequency and offsite releases. The Company has reviewed this evaluation, considers it applicable to the North Anna Power Station, and concurs with this assessment. The thermal overload protection devices are not important for any scenarios modeled in the North Anna Power Station site-specific PRAs. The thermal overload protection devices do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the thermal overload protection devices LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. thermal overload protection devices

DISCUSSION OF CHANGES
CTS 3.8.2.6, MOTOR OPERATED VALVES THERMAL OVERLOAD
PROTECTION DEVICES

specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as relocation because the LCO did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

CTS 3.8.2.7, NORMALLY DE-ENERGIZED POWER CIRCUITS

UNIT 2

CTS
3.8.2.7

ELECTRICAL POWER SYSTEMS

4-22-94

NORMALLY DE-ENERGIZED POWER CIRCUITS

LIMITING CONDITION FOR OPERATION

3.8.2.7 All circuits that have containment penetrations and are not required during reactor operation shall be de-energized.

APPLICABILITY: MODES 1, 2, 3, 4.

ACTION:

With one or more of the circuits described above energized, de-energize the circuit(s) within 72 hours or be in at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

3.8.2.7 At least once per 31 days, verify that all the circuits described above are de-energized by noting the position of the appropriate circuit breakers.

R.1

DISCUSSION OF CHANGES
CTS 3.8.2.7, NORMALLY DE-ENERGIZED POWER CIRCUITS

RELOCATED SPECIFICATIONS

R.1 Unit 2 CTS 3.8.2.7 states that all circuits that have containment penetrations and are not required during reactor operations shall be de-energized. This LCO does not meet the criteria for retention in the ITS; therefore, it will be retained in the Technical Requirements Manual.

This change is acceptable because Unit 2 CTS 3.8.2.5 does not meet the 10 CFR 50.36(c)(2)(ii) criteria for inclusion into the ITS.

10 CFR 50.36(c)(2)(ii) Criteria Evaluation:

1. The circuits that have containment penetrations and are not required during reactor operations are not installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. The circuits that have containment penetrations and are not required during reactor operations do not meet criterion 1.
2. The circuits that have containment penetrations and are not required during reactor operations are not a process variable, design feature, or operating restriction that is an initial condition of a DBA or Transient Analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The circuits that have containment penetrations and are not required during reactor operations do not meet criterion 2.
3. The circuits that have containment penetrations and are not required during reactor operations are not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a DBA or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The circuits that have containment penetrations and are not required during reactor operations do not meet criterion 3.
4. The circuits that have containment penetrations and are not required during reactor operations are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. As discussed in Section 3.0 (Appendix A, page A-62) of WCAP-11618, the circuits that have containment penetrations and are not required during reactor operations were found to be a non-significant risk contributor to core damage frequency and offsite releases. The Company has reviewed this evaluation, considers it applicable to the North Anna Power Station, and concurs with this assessment. The circuits that have containment penetrations and are not required during reactor operations are not important for any scenarios modeled in the North Anna Power Station site-specific

DISCUSSION OF CHANGES
CTS 3.8.2.7, NORMALLY DE-ENERGIZED POWER CIRCUITS

PRAs. The circuits that have containment penetrations and are not required during reactor operations do not meet criterion 4.

Since the 10 CFR 50.36(c)(2)(ii) criteria have not been met, the circuits that have containment penetrations and are not required during reactor operations LCO and associated Applicability, Actions, and Surveillances may be relocated out of the Technical Specifications. The circuits that have containment penetrations and are not required during reactor operations specification will be relocated to the TRM. Changes to the TRM will be controlled by the provisions of 10 CFR 50.59. This change is designated as relocation because the LCO did not meet the criteria in 10 CFR 50.36(c)(2)(ii) and has been relocated to the TRM.

SECTION 3.8 - ELECTRICAL POWER SYSTEMS
DETERMINATION OF NO SIGNIFICANT HAZARDS
CONSIDERATIONS
GENERIC NSHCs

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
SECTION 3.8 - ELECTRICAL POWER SYSTEMS

10 CFR 50.92 EVALUATION
FOR
ADMINISTRATIVE CHANGES

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve reformatting, renumbering, and rewording of Technical Specifications with no change in intent. These changes, since they do not involve technical changes to the Technical Specifications, are administrative.

This type of change is connected with the movement of requirements within the current requirements, or with the modification of wording that does not affect the technical content of the current Technical Specifications. These changes will also include nontechnical modifications of requirements to conform to the Writer's Guide or provide consistency with the Improved Standard Technical Specifications in NUREG-1431. Administrative changes are not intended to add, delete, or relocate any technical requirements of the current Technical Specifications.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change involves reformatting, renumbering, and rewording the existing Technical Specifications. The reformatting, renumbering, and rewording process involves no technical changes to the existing Technical Specifications. As such, this change is administrative in nature and does not affect initiators of analyzed events or assumed mitigation of accident or transient events. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change 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 (no new or different type of equipment will be installed) or changes in methods governing normal plant operation. The proposed change will not impose any new or eliminate any old requirements. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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3. Does this change involve a significant reduction in a margin of safety?

The proposed change will not reduce a margin of safety because it has no effect on any safety analyses assumptions. This change is administrative in nature. Therefore, the change does not involve a significant reduction in a margin of safety.

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**10 CFR 50.92 EVALUATION
FOR
MORE RESTRICTIVE CHANGES**

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve adding more restrictive requirements to the existing Technical Specifications by either making current requirements more stringent or by adding new requirements that currently do not exist.

These changes include additional commitments that decrease allowed outage times, increase the frequency of surveillances, impose additional surveillances, increase the scope of specifications to include additional plant equipment, increase the applicability of specifications, or provide additional actions. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change provides more stringent requirements for operation of the facility. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event. The more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change 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 (no new or different type of equipment will be installed) or changes in methods governing normal plant operation. The proposed change does impose different requirements. However, these changes are consistent with the assumptions in the safety analyses and licensing basis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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3. Does this change involve a significant reduction in a margin of safety?

The imposition of more restrictive requirements either has no effect on or increases the margin of plant safety. As provided in the discussion of change, each change in this category is, by definition, providing additional restrictions to enhance plant safety. The change maintains requirements within the safety analyses and licensing basis. Therefore, this change does not involve a significant reduction in a margin of safety.

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10 CFR 50.92 EVALUATION
FOR
RELOCATED SPECIFICATIONS

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relocating existing Technical Specification LCOs to licensee controlled documents.

The the Company has evaluated the current Technical Specifications using the criteria set forth in 10 CFR 50.36. Specifications identified by this evaluation that did not meet the retention requirements specified in the regulation are not included in the Improved Technical Specifications (ITS) submittal. These specifications have been relocated from the current Technical Specifications to the Technical Requirements Manual.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relocates requirements and surveillances for structures, systems, components or variables that do not meet the criteria of 10 CFR 50.36 (c)(2)(ii) for inclusion in Technical Specifications as identified in the Application of Selection Criteria to the North Anna Technical Specifications. The affected structures, systems, components or variables are not assumed to be initiators of analyzed events and are not assumed to mitigate accident or transient events. The requirements and surveillances for these affected structures, systems, components or variables will be relocated from the Technical Specifications to the Technical Requirements Manual, which will be maintained pursuant to 10 CFR 50.59. In addition, the affected structures, systems, components or variables are addressed in existing surveillance procedures which are also controlled by 10 CFR.50.59 and subject to the change control provisions imposed by plant administrative procedures, which endorse applicable regulations and standards. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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- 2. Does the change 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 (no new or different type of equipment will be installed) or change in the methods governing normal plant operation. The proposed change will not impose or eliminate any requirements and adequate control of existing requirements will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3. Does this change involve a significant reduction in a margin of safety?**

The proposed change will not reduce a margin of safety because it has no significant effect on any safety analyses assumptions, as indicated by the fact that the requirements do not meet the 10 CFR 50.36 criteria for retention. In addition, the relocated requirements are moved without change and any future changes to these requirements will be evaluated per 10 CFR 50.59.

NRC prior review and approval of changes to these relocated requirements, in accordance with 10 CFR 50.92, will no longer be required. This review and approval does not provide a specific margin of safety which can be evaluated. However, since the proposed change is consistent with the Westinghouse Standard Technical Specifications, NUREG-1431 issued by the NRC, revising the Technical Specifications to reflect the approved level of detail gives assurance that this relocation does not result in a significant reduction in the margin of safety.

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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES - REMOVED DETAIL

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve moving details out of the Technical Specifications and into the Technical Specifications Bases, the UFSAR, the TRM or other documents under regulatory control such as the Quality Assurance Program Topical Report. The removal of this information is considered to be less restrictive because it is no longer controlled by the Technical Specification change process. Typically, the information moved is descriptive in nature and its removal conforms with NUREG-1431 for format and content.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relocates certain details from the Technical Specifications to other documents under regulatory control. The Bases, UFSAR, and Technical Requirement Manual will be maintained in accordance with 10 CFR 50.59. In addition to 10 CFR 50.59 provisions, the Technical Specification Bases are subject to the change control provisions in the Administrative Controls Chapter of the Technical Specifications. The UFSAR is subject to the change control provisions of 10 CFR 50.71(e). Other documents are subject to controls imposed by Technical Specifications or regulations. Since any changes to these documents will be evaluated, no significant increase in the probability or consequences of an accident previously evaluated will be allowed. Therefore this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change 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 (no new or different type of equipment will be installed) or a change in the methods governing normal plant operations. The proposed change will not impose or eliminate any requirements, and adequate control of the information will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

The proposed change will not reduce a margin of safety because it has no effect on any safety analysis assumptions. In addition, the details to be moved from the Technical Specifications to other documents are not being changed. Since any future changes to these details will be evaluated under the applicable regulatory change control mechanism,

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no significant reduction in a margin of safety will be allowed. A significant reduction in the margin of safety is not associated with the elimination of the 10 CFR 50.92 requirement for NRC review and approval of future changes to the relocated details. The proposed change is consistent with the Westinghouse Standard Technical Specifications, NUREG-1431, issued by the NRC Staff, revising the Technical Specifications to reflect the approved level of detail, which indicates that there is no significant reduction in the margin of safety.

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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 1
RELAXATION OF LCO REQUIREMENTS

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relaxation of the current Technical Specification (CTS) Limiting Conditions for Operation (LCOs) by the elimination of specific items from the LCO or Tables referenced in the LCO, or the addition of exceptions to the LCO.

These changes reflect the ISTS approach to provide LCO requirements that specify the protective conditions that are required to meet safety analysis assumptions for required features. These conditions replace the lists of specific devices used in the CTS to describe the requirements needed to meet the safety analysis assumptions. The ITS also includes LCO Notes which allow exceptions to the LCO for the performance of testing or other operational needs. The ITS provides the protection required by the safety analysis and provides flexibility for meeting the conditions without adversely affecting operations since equivalent features are required to be OPERABLE. The ITS is also consistent with the plant current licensing basis, as may be modified in the discussion of individual changes. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change provides less restrictive LCO requirements for operation of the facility. These less restrictive LCO requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event in that the requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the current safety analyses and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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- 2. Does the change 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 (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change does impose different requirements. However, the change is consistent with the assumptions in the current safety analyses and licensing basis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3. Does this change involve a significant reduction in a margin of safety?**

The imposition of less restrictive LCO requirements does not involve a significant reduction in the margin of safety. As provided in the discussion of change, this change has been evaluated to ensure that the current safety analyses and licensing basis requirements are maintained. Therefore, this change does not involve a significant reduction in a margin of safety.

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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 2
RELAXATION OF APPLICABILITY

The North Anna Nuclear Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relaxation of the applicability of current Technical Specification (CTS) Limiting Conditions for Operation (LCOs) by reducing the conditions under which the LCO requirements must be met.

Reactor operating conditions are used in CTS to define when the LCO features are required to be OPERABLE. CTS Applicabilities can be specific defined terms of reactor conditions or more general such as, "all MODES" or "any operating MODE." Generalized applicability conditions are not contained in ITS, therefore the ITS eliminates CTS requirements such as "all MODES" or "any operating MODE," replacing them with ITS defined MODES or applicable conditions that are consistent with the application of the plant safety analysis assumptions for operability of the required features.

CTS requirements may also be eliminated during conditions for which the safety function of the specified safety system is met because the feature is performing its intended safety function. Deleting applicability requirements that are indeterminate or which are inconsistent with application of accident analyses assumptions is acceptable because when LCOs cannot be met, the TS may be satisfied by exiting the applicability which takes the plant out of the conditions that require the safety system to be OPERABLE.

This change provides the protection required by the safety analysis and provides flexibility for meeting limits by restricting the application of the limits to the conditions assumed in the safety analyses. The ITS is also consistent with the plant current licensing basis, as may be modified in the discussion of individual changes. The change is generally made to conform with NUREG-1431 and has been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relaxes the conditions under which the LCO requirements for operation of the facility must be met. These less restrictive applicability requirements for the LCOs do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event in that the requirements continue to ensure that process variables, structures, systems, and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. Therefore, this change

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does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change 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 (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The proposed change does impose different requirements. However, the requirements are consistent with the assumptions in the safety analyses and licensing basis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

The relaxed applicability of LCO requirements does not involve a significant reduction in the margin of safety. As provided in the discussion of change, this change has been evaluated to ensure that the LCO requirements are applied in the MODES and specified conditions assumed in the safety analyses and licensing basis. Therefore, this change does not involve a significant reduction in a margin of safety.

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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 3
RELAXATION OF COMPLETION TIME

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relaxation of the Completion Times for Required Actions in the current Technical Specifications (CTS).

Upon discovery of a failure to meet an LCO, the ITS specifies times for completing Required Actions of the associated TS Conditions. Required Actions of the associated Conditions are used to establish remedial measures that must be taken within specified Completion Times (referred to as Allowed Outage Times (AOTs) in the CTS). These times define limits during which operation in a degraded condition is permitted. Adopting Completion Times from the ITS is acceptable because the Completion Times take into account the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. In addition, the ITS provides consistent Completion Times for similar conditions. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relaxes the Completion Time for a Required Action. Required Actions and their associated Completion Times are not initiating conditions for any accident previously evaluated and the accident analyses do not assume that required equipment is out of service prior to the analyzed event. Consequently, the relaxed Completion Time does not significantly increase the probability of any accident previously evaluated. The consequences of an analyzed accident during the relaxed Completion Time are the same as the consequences during the existing AOT. As a result, the consequences of any accident previously evaluated are not significantly increased. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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- 2. Does the change 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 (no new or different type of equipment will be installed) or a change in the method governing normal plant operation. The Required Actions and associated Completion Times in the ITS have been evaluated to ensure that no new accident initiators are introduced. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3. Does this change involve a significant reduction in a margin of safety?**

The relaxed Completion Time for a Required Action does not involve a significant reduction in the margin of safety. As provided in the discussion of change, the change has been evaluated to ensure that the allowed Completion Time is consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. Therefore, this change does not involve a significant reduction in a margin of safety.

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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 4
RELAXATION OF REQUIRED ACTION

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve relaxation of the Required Actions in the current Technical Specifications (CTS).

Upon discovery of a failure to meet an LCO, the ITS specifies Required Actions to complete for the associated Conditions. Required Actions of the associated Conditions are used to establish remedial measures that must be taken in response to the degraded conditions. These actions minimize the risk associated with continued operation while providing time to repair inoperable features. Some of the Required Actions are modified to place the plant in a MODE in which the LCO does not apply. Adopting Required Actions from the ISTS is acceptable because the Required Actions take into account the operability status of redundant systems of required features, the capacity and capability of the remaining features, and the compensatory attributes of the Required Actions as compared to the LCO requirements. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relaxes Required Actions. Required Actions and their associated Completion Times are not initiating conditions for any accident previously evaluated and the accident analyses do not assume that required equipment is out of service prior to the analyzed event. Consequently, the relaxed Required Actions do not significantly increase the probability of any accident previously evaluated. The Required Actions in the ITS have been developed to provide appropriate remedial actions to be taken in response to the degraded condition considering the operability status of the redundant systems of required features, and the capacity and capability of remaining features while minimizing the risk associated with continued operation. As a result, the consequences of any accident previously evaluated are not significantly increased. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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- 2. Does the change 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 (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The Required Actions and associated Completion Times in the ITS have been evaluated to ensure that no new accident initiators are introduced. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3. Does this change involve a significant reduction in a margin of safety?**

The relaxed Required Actions do not involve a significant reduction in the margin of safety. As provided in the discussion of change, this change has been evaluated to minimize the risk of continued operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. Therefore, this change does not involve a significant reduction in a margin of safety.

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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 5
DELETION OF SURVEILLANCE REQUIREMENT

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve deletion of Surveillance Requirements in the current Technical Specifications (CTS).

The CTS require safety systems to be tested and verified Operable prior to entering applicable operating conditions. The ITS eliminates unnecessary CTS Surveillance Requirements that do not contribute to verification that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the equipment can perform its assumed safety function. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change deletes Surveillance Requirements. Surveillances are not initiators to any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The equipment being tested is still required to be Operable and capable of performing the accident mitigation functions assumed in the accident analysis. As a result, the consequences of any accident previously evaluated are not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change 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 (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The remaining Surveillance Requirements are consistent with industry practice and are considered to be sufficient to prevent the removal of the subject Surveillances from creating a new or different type of accident. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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3. Does this change involve a significant reduction in a margin of safety?

The deleted Surveillance Requirements do not result in a significant reduction in the margin of safety. As provided in the discussion of change, the change has been evaluated to ensure that the deleted Surveillance Requirements are not necessary for verification that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the equipment can perform its assumed safety function. Therefore, this change does not involve a significant reduction in a margin of safety.

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**10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 6
RELAXATION OF SURVEILLANCE REQUIREMENT ACCEPTANCE CRITERIA**

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve the relaxation of Surveillance Requirements acceptance criteria in the current Technical Specifications (CTS).

The CTS require safety systems to be tested and verified Operable prior to entering applicable operating conditions. The ITS eliminates or relaxes the Surveillance Requirement acceptance criteria that do not contribute to verification that the equipment used to meet the LCO can perform its required functions. For example, the ITS allows some Surveillance Requirements to verify Operability under actual or test conditions. Adopting the ITS allowance for "actual" conditions is acceptable because required features cannot distinguish between an "actual" signal or a "test" signal. Also included are changes to CTS requirements that are replaced in the ITS with separate and distinct testing requirements which, when combined, include Operability verification of all TS required components for the features specified in the CTS. Adopting this format preference in the ISTS is acceptable because Surveillance Requirements that remain include testing of all previous features required to be verified OPERABLE. Changes which provide exceptions to Surveillance Requirements to provide for variations which do not affect the results of the test are also included in this category. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relaxes the acceptance criteria of Surveillance Requirements. Surveillances are not initiators to any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The equipment being tested is still required to be Operable and capable of performing the accident mitigation functions assumed in the accident analysis. As a result, the consequences of any accident previously evaluated are not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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- 2. Does the change 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 (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3. Does this change involve a significant reduction in a margin of safety?**

The relaxed acceptance criteria for Surveillance Requirements do not result in a significant reduction in the margin of safety. As provided in the discussion of change, the relaxed Surveillance Requirement acceptance criteria have been evaluated to ensure that they are sufficient to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner that gives confidence that the equipment can perform its assumed safety function. Therefore, this change does not involve a significant reduction in a margin of safety.

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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 7
RELAXATION OF SURVEILLANCE FREQUENCY

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve the relaxation of Surveillance Frequencies in the current Technical Specifications (CTS).

CTS and ITS Surveillance Frequencies specify time interval requirements for performing surveillance testing. Increasing the time interval between Surveillance tests in the ITS results in decreased equipment unavailability due to testing which also increases equipment availability. In general, the ITS contain test frequencies that are consistent with industry practice or industry standards for achieving acceptable levels of equipment reliability. Adopting testing practices specified in the ITS is acceptable based on similar design, like-component testing for the system application and the availability of other Technical Specification requirements which provide regular checks to ensure limits are met. Relaxation of Surveillance Frequency can also include the addition of Surveillance Notes which allow testing to be delayed until appropriate unit conditions for the test are established, or exempt testing in certain MODES or specified conditions in which the testing can not be performed.

Reduced testing can result in a safety enhancement because the unavailability due to testing is reduced and; in turn, reliability of the affected structure, system or component should remain constant or increase. Reduced testing is acceptable where operating experience, industry practice or the industry standards such as manufacturers' recommendations have shown that these components usually pass the Surveillance when performed at the specified interval, thus the frequency is acceptable from a reliability standpoint. Surveillance Frequency changes to incorporate alternate train testing have been shown to be acceptable where other qualitative or quantitative test requirements are required which are established predictors of system performance. Surveillance Frequency extensions can be based on NRC-approved topical reports. The NRC staff has accepted topical report analyses that bound the plant-specific design and component reliability assumptions. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change relaxes Surveillance Frequencies. The relaxed Surveillance Frequencies have been established based on achieving acceptable levels of equipment reliability. Consequently, equipment which could initiate an accident previously evaluated will continue to operate as expected and the probability of the initiation of any accident previously evaluated will not be significantly increased. The equipment being

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tested is still required to be Operable and capable of performing any accident mitigation functions assumed in the accident analysis. As a result, the consequences of any accident previously evaluated are not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change 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 (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

The relaxed Surveillance Frequencies do not result in a significant reduction in the margin of safety. As provided in the discussion of change, the relaxation in the Surveillance Frequency has been evaluated to ensure that it provides an acceptable level of equipment reliability. Thus, appropriate equipment continues to be tested at a Frequency that gives confidence that the equipment can perform its assumed safety function when required. Therefore, this change does not involve a significant reduction in a margin of safety.

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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGES – CATEGORY 8
DELETION OF REPORTING REQUIREMENTS

The North Anna Power Station is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." Some of the proposed changes involve the deletion of requirements in the current Technical Specifications (CTS) to send reports to the NRC.

The CTS includes requirements to submit reports to the NRC under certain circumstances. However, the ITS eliminates these requirements for many such reports and, in many cases, relies on the reporting requirements of 10 CFR 50.73 or other regulatory requirements. The ITS changes to reporting requirements are acceptable because the regulations provide adequate reporting requirements, or the reports do not affect continued plant operation. Therefore, this change has no effect on the safe operation of the plant. These changes are generally made to conform with NUREG-1431 and have been evaluated to not be detrimental to plant safety.

In accordance with the criteria set forth in 10 CFR 50.92, the Company has evaluated these proposed Technical Specification changes and determined they do not represent a significant hazards consideration. The following is provided in support of this conclusion.

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

The proposed change deletes reporting requirements. Sending reports to the NRC is not an initiator to any accident previously evaluated. Consequently, the probability of any accident previously evaluated is not significantly increased. Sending reports to the NRC has no effect on the ability of equipment to mitigate an accident previously evaluated. As a result, the consequences of any accident previously evaluated is not significantly affected. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change 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 (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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3. Does this change involve a significant reduction in a margin of safety?

The deletion of reporting requirements does not result in a significant reduction in the margin of safety. The ITS eliminates the requirements for many such reports and, in many cases, relies on the reporting requirements of 10 CFR 50.73 or other regulatory requirements. The change to reporting requirements does not affect the margin of safety because the regulations provide adequate reporting requirements, or the reports do not affect continued plant operation. Therefore, this change does not involve a significant reduction in a margin of safety.

ENVIRONMENTAL ASSESSMENT
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This proposed Technical Specification change has been evaluated against the criteria for and identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. It has been determined that the proposed change meets the criteria for categorical exclusion as provided for under 10 CFR 51.22(c)(9). The following is a discussion of how the proposed Technical Specification change meets the criteria for categorical exclusion.

10 CFR 51.22(c)(9): Although the proposed change involves changes to requirements with respect to inspection or surveillance requirements,

- (i) proposed change involves No Significant Hazards Considerations (refer to the Determination of No Significant Hazards Considerations section of this Technical Specification Change Request);
- (ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite since the proposed changes do not affect the generation of any radioactive effluents nor do they affect any of the permitted release paths; and
- (iii) there is no significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Based on the aforementioned and pursuant to 10 CFR 51.22 (b), no environmental assessment or environmental affect statement need be prepared in connection with issuance of an amendment to the Technical Specifications incorporating the proposed change of this request.

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There are no specific NSHC discussions for this Section.