


Approval <i>W. Brumby</i>	Vogtle Electric Generating Plant NUCLEAR OPERATIONS		Procedure No. 13426-C
Date 1-26-90	Unit <u>COMMON</u>		Revision No. 3
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**FOR INFORMATION ONLY**

05-47-90

4160V AC COMMON NON 1E ELECTRICAL DISTRIBUTION SYSTEM

1.0 PURPOSE

8

This procedure provides the necessary instructions for operations of the 4160V AC Common Non 1E Electrical Distribution System. Instructions are included in the following sections.


- 4.1.1 Energizing 4160V Switchgear ANA02(ANA03) From Normal Power Supply
- 4.1.2 Energizing 4160V Switchgear ANA02(ANA03) From Alternate Power Supply
- 4.1.3 Energizing 4160V Switchgear ANA01A(ANA01B)
- 4.2.1 Transferring 4160V Switchgear ANA02(ANA03) To Alternate Power Supply
- 4.2.2 Transferring 4160V Switchgear ANA02(ANA03) To Normal Power Supply
- 4.3.1 De-energizing 4160V Switchgear ANA01A(ANA01B, ANA02, ANA03)
- 4.4.1 Energizing Bus ANA01A From Bus ANA01B
- 4.4.2 Energizing Bus ANA01B From Bus ANA01A

2.0 PRECAUTIONS AND LIMITATIONS

2.1 PRECAUTIONS

- 2.1.1 All electrical safety precautions shall be observed per 00263-C, "Electrical Safety."

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## 2.2 LIMITATIONS

- 2.2.1 4160V Switchgear Breaker ANA0106 is interlocked to prevent closure of both Feeder Breakers ANA0105 and ANA0108 simultaneously.
- 2.2.2 4160V Switchgear Breaker ANA0105 is interlocked to prevent closure with both the Bus Tie Breaker ANA0106 and Feeder Breaker ANA0108 closed.
- 2.2.3 4160V Switchgear Breaker ANA0108 is interlocked to prevent closure with both the Bus Tie Breaker ANA0106 and Feeder Breaker ANA0105 closed.
- 2.2.4 4160V Switchgear ANA02 and ANA03 Normal and Alternate Incoming Feeder Breakers are interlocked such that both breakers cannot be closed simultaneously.

## 3.0 PREREQUISITES AND INITIAL CONDITIONS

- 3.1 Electrical power is available from Unit 1 or Unit 2 4160V Non 1E Electrical Distribution System.
- 3.2 DC breaker control power is available.

## 4.0 INSTRUCTIONS

### 4.1 STARTUP

#### NOTES

- a. Unless otherwise noted, all switch manipulations are to be performed at the Control Room Panel QEAB.
  - b. This subsection is written using Switchgear ANA02 and ANA01A component designations. ANA03 and ANA01B component designations are shown in parenthesis.
- 4.1.1 Energizing 4160V Switchgear ANA02(ANA03) From Normal Power Supply
    - 4.1.1.1 ALIGN the 4160V AC Common Non 1E Switchgear to be energized per the applicable section of 11426-C, "4160V AC Common Non 1E Electrical Distribution System Alignment".
    - 4.1.1.2 CLOSE the Normal Incoming Breaker ANA0201(ANA0301).
    - 4.1.1.3 VERIFY the white potential lights are illuminated for 4160V Switchgear ANA02(ANA03).

- 4.1.1.4 VERIFY the Bus ANA02(ANA03) Voltage across all three phases to be approximately 4160 Volts.
- 4.1.1.5 At the switchgear, RESET the applicable relay targets.
- 4.1.2 Energizing 4160V Switchgear ANA02(ANA03) From Alternate Power Supply
- 4.1.2.1 ALIGN the 4160V AC Common Non 1E Switchgear to be energized per the applicable section of 11426-C, "4160V AC Common Non 1E Electrical Distribution System Alignment".
- 4.1.2.2 CLOSE the Alternate Incoming Breaker ANA0203(ANA0303).
- 4.1.2.3 VERIFY the white potential lights are illuminated for 4160V Switchgear ANA02(ANA03).
- 4.1.2.4 VERIFY the Bus ANA02(ANA03) Voltage across all three phases to be approximately 4160 Volts.
- 4.1.2.5 At the Switchgear, RESET the applicable relay targets.
- 4.1.3 Energizing 4160V Switchgear ANA01A(ANA01B)
- 4.1.3.1 ALIGN the 4160V AC Common Non 1E Switchgear to be energized per the applicable section of 11426-C, "4160V AC Common Non 1E Electrical Distribution System Alignment".
- 4.1.3.2 CLOSE Bus ANA01A(ANA01B) Incoming Breaker ANA0105(ANA0108).
- 4.1.3.3 VERIFY the white potential lights are illuminated for Switchgear ANA01A(ANA01B).
- 4.1.3.4 VERIFY the Bus ANA01A(ANA01B) Voltage across all three phases to be approximately 4160 Volts.
- 4.1.3.5 At the switchgear, RESET the applicable relay targets.

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## 4.2 SYSTEM OPERATIONS

### NOTE

This subsection is written using ANA02 component designations. ANA03 designations are shown in parenthesis.

- 4.2.1 Transferring 4160V Switchgear ANA02(ANA03) to Alternate Power Supply.
- 4.2.1.1 DE-ENERGIZE the 4160V Switchgear per Subsection 4.3.1 of this procedure.
- 4.2.1.1 ENERGIZE the 4160V Switchgear from the alternate power supply per Subsection 4.1.2 of this procedure.
- 4.2.2 Transferring 4160V Switchgear ANA02(ANA03) to Normal Power Supply
- 4.2.2.1 DE-ENERGIZE the 4160V Switchgear per Subsection 4.3.1 of this procedure.
- 4.2.2.2 ENERGIZE the 4160V Switchgear from the normal power supply per Subsection 4.1.1 of this procedure.

## 4.3 SHUTDOWN

### NOTE

This subsection is written using ANA01A component designations. ANA01B, ANA02, and ANA03 designations are shown in parenthesis.

- 4.3.1 De-Energizing 4160V Switchgear ANA01A(ANA01B, ANA02, ANA03)
- 4.3.1.1 DE-ENERGIZE applicable 480V AC Switchgear per 13428-C, "480V AC Common Non-IE Electrical Distribution System".
- 4.3.1.2 VERIFY the breakers identified on Table 1 associated with the 4160V bus to be de-energized are open.

- 4.3.1.3 If the switchgear is energized from the normal power supply, PERFORM the following:
- a. Bus ANA01A  
TRIP the Bus ANA01A Incoming Breaker ANA0105,
  - b. Bus ANA01B  
TRIP the Bus ANA01B Incoming Breaker ANA0108,
  - c. Bus ANA02  
TRIP the Normal Incoming Breaker ANA0201,
  - d. Bus ANA03  
TRIP the Normal Incoming Breaker ANA0301.
- 4.3.1.4 If the switchgear is energized from the alternate power supply, PERFORM the following:
- a. Bus ANA01A  
TRIP the Tie Breaker ANA0106,
  - b. Bus ANA01B  
TRIP the Tie Breaker ANA0106,
  - c. Bus ANA02  
TRIP the Alternate Incoming Breaker ANA0203,
  - d. Bus ANA03  
TRIP the Alternate Incoming Breaker ANA0303.
- 4.3.1.5 VERIFY the 4160V Bus ANA01A(ANA01B, ANA02, ANA03) white potential lights are extinguished.
- 4.3.1.6 VERIFY the Bus ANA01A(ANA01B, ANA02, ANA03) Voltage across all three phases is approximately zero volts.

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4.4 NON PERIODIC OPERATIONS

4.4.1 Energizing Bus ANA01A From Bus ANA01B

4.4.1.1 DE-ENERGIZE Bus ANA01A per Subsection 4.3.1 of this procedure.

4.4.1.2 CLOSE Bus Tie Breaker ANA0106.

4.4.1.3 VERIFY the white potential lights are illuminated for Switchgear ANA01A.

4.4.1.4 VERIFY the Bus ANA01A Voltage across all three phases is approximately 4160 Vclts.

4.4.2 Energizing Bus ANA01B From Bus ANA01A

4.4.2.1 DE-ENERGIZE bus ANA01B per Subsection 4.3.1 of this procedure.

4.4.2.2 CLOSE Bus Tie Breaker ANA0106.

4.4.2.3 VERIFY the white potential lights are illuminated for Switchgear ANA01B.

4.4.2.4 VERIFY the Bus ANA01B Voltage across all three phases to be approximately 4160 Volts.

5.0 REFERENCES

5.1 ONE LINE DIAGRAMS

5.1.1 AX3D-AA-A01A Main One Line Common Units 1 and 2

5.1.2 AX3D-AA-D01A 4160V Switchgear ANA01

5.1.3 AX3D-AA-D02A 4160V Switchgear ANA02

5.1.4 AX3D-AA-D03A 4160V Switchgear ANA03

5.2 ELEMENTARY DIAGRAMS

5.2.1 AX3D-BA-D01B Incoming Feeder Bkr 4160V Swgr ANA01A

5.2.2 AX3D-BA-D01C Incoming Feeder Bkr 4160V Swgr ANA01B

5.2.3 AX3D-BA-D01D Cross Tie Breaker ANA01-06

5.2.4 AX3D-BA-D01E 4160V Swgr ANA01A P.T. Cubicle

5.2.5 AX3D-BA-D01F 4160V Swgr ANA01B P.T. Cubicle

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- 5.2.6 AX3D-BA-D02B Incoming Feeder Bkr 4160V Swgr ANA02 (Normal)
- 5.2.7 AX3D-BA-D02C Incoming Feeder Bkr 4160V Swgr ANA02 (Alternate)
- 5.2.8 AX3D-BA-D02E 4160V Swgr ANA02 P.T. Cubicle
- 5.2.9 AX3D-BA-D03B Incoming Feeder Bkr 4160V Swgr ANA03 (Normal)
- 5.2.10 AX3D-BA-D03C Incoming Feeder Bkr 4160V Swgr ANA03 (Alternate)
- 5.2.11 AX3D-BA-D03E 4160V Swgr ANA03 P.T. Cubicle
- 5.3 LOGIC DIAGRAMS
- 5.3.1 AX3D-BA-X50B Incoming Fdr Bkrs ANA02 and ANA03
- 5.3.2 AX3D-BA-X50C Incoming Fdr Bkrs and Cross Tie Bkr ANA01B and ANA01A
- 5.4 FSAR Section 8.3
- 5.5 Procedure 11426-C, "4160V AC Common Non 1E Electrical Distribution System Alignment For Startup And Normal Operation"

END OF PROCEDURE TEXT



TABLE 1

## 4160V AC Common Non 1E Switchgear Load List

- |    |                 |                                   |
|----|-----------------|-----------------------------------|
| 1. | Bus ANA01A      |                                   |
|    | Breaker ANA0102 | River Makeup Water Pmp Mot P4-003 |
|    | Breaker ANA0103 | River Makeup Water Pmp Mot P4-004 |
| 2. | Bus ANA01B      |                                   |
|    | Breaker ANA0111 | River Makeup Water Pmp Mot P4-006 |
|    | Breaker ANA0112 | River Makeup Water Pmp Mot P4-005 |
| 3. | Bus ANA02       |                                   |
|    | Breaker ANA0205 | Aux. Blr. ID Fan Mot B4-001       |
|    | Breaker ANA0206 | Makeup Well Water Pmp Mot P4-003; |
|    |                 | Fdr To 480V MCC CNBJ.             |
|    | Breaker ANA0209 | Fire Pmp Mot P4-002               |
| 4. | Bus ANA03       |                                   |
|    | Breaker ANA0304 | Makeup Well Water Pmp Mot P4-002; |
|    |                 | Fdr To 480V MCC CNBK              |