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Vogle Project

September 16, 1985

Director of Nuclear Reactor Regulation
Attention: Ms. Elinor G. Adensam, Chief
Licensing Branch #4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

File: X7BC35

Log: GN-705

NRC DOCKET NUMBERS 50-424 AND 50-425
CONSTRUCTION PERMIT NUMBERS CPPR-108 AND CPPR-109
VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2
SER CONFIRMATORY ITEM 44: PROCEDURES GENERATION PACKAGE

Dear Mr. Denton:

In the SER your staff requested to review the VEGP EOP's deviations from the ERGs. Enclosed are the deviations noted in our review along with the appropriate justifications.

If your staff requires any additional information, please do not hesitate to contact me.

Sincerely,

J. A. Bailey
Project Licensing Manager

JAB/sm

Enclosure

xc: D. O. Foster (w/o enclosure)
R. A. Thomas (w/o enclosure)
J. E. Joiner, Esquire
B. W. Churchill, Esquire
M. A. Miller (2)
B. Jones (w/o enclosure)
L. T. Gucwa

G. Bockhold, Jr. (w/o enclosure)
T. Johnson (w/o enclosure)
D. C. Teper (w/o enclosure)
L. Fowler
W. C. Ramsey (w/o enclosure)
Vogle Project File

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8510090066 850916
PDR ADOCK 05000424
E PDR

*Boo 1
1/5 Limited
Dist*

XEROX REQUEST:

Date: 9/13 Time of Request: 7:45
Individual Making Request: RWK

Document or Identification: ERG/EOP Validation Forms

Number of Copy(ies) requested: 10

Special Instructions (if any): Maintain clip and staple integrity on the original but the copies can be one bundle - Use darker setting and 98% size

Priority: (Circle One) 1 Need immediately - all other work should be discontinued until completion of this assignment.

2 Rush - Does not need to take precedence over work already received, but should not take longer than four (4) hours to complete.

3 Not needed immediately - Should be completed within eight (8) hours.


Any work requiring a greater turnaround time than listed above requires an explanation to the individual making the request.

If the above priority system does not work for the requester, he should contact a supervisor in order to reestablish priorities.

FOR OPERATOR USE ONLY:

Time Assignment Completed: Date

Time

| | | | |
|---------------------------------|--|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19020-1 REV 0
 EOP WRITER NA DATE 6/17/85

SECTION I: ERG STEP

Verify Reactor Trip:

- Rod bottom lights - LIT
- Reactor trip and bypass breakers - OPEN
- Rod position indicators - AT ZERO
- Neutron flux - DECREASING

Manually trip reactor. IF reactor will NOT trip, THEN go to FR-S.1, RESPONSE TO NUCLEAR POWER GENERATION/ATWS, Step 1.

SECTION II: EOP STEP IMMEDIATE OPERATOR ACTIONS

1. Verify Reactor Trip:

- Rod bottom lights - LIT.
- Reactor trip and bypass breakers - OPEN.
- Neutron flux - LOWERING.

1. Manually trip reactor.

IF reactor will NOT trip, THEN manually open supply feed breakers to 1NB08 and 1NB09.

IF reactor NOT tripped, THEN go to 19211-1, FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION/ATWT.

SECTION III: JUSTIFICATION

VEGP design has rod bottom lit and position indicator, one and the same. Open of 1NB08 and 1NB09 limit transient to FR-S.1 which is not necessary. Changed terminology to improve communication. VEGP EOP identification was used. 1NB08 & 1NB09 supply the 480 v mcs that power the Rod Drive MG sets. These breaker's are controlled from the control room.

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DATE

4/8/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT

UNIT COMMON

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

EOP STEP DOCUMENTATION FORMERG # E-0 REV 1 EOP # 19000-1 REV 0EOP WRITER _____ DATE 6/17/85SECTION I: ERG STEP

No corresponding
ERG Step

SECTION II: EOP STEP

6. Verify Proper ESFAS
Actuation:

a. MLB indications
correct for injection
phase after load
sequencing.


b. Go to Step 13.

6. Manually actuate SI.

IF proper ESFAS actuation
can NOT be verified,
THEN continue with
Step 7.

SECTION III: JUSTIFICATION

Including this step provides
faster transient to diagnostic section
of 19000-1. MLB provide indication of
equipment alignment on SIS.

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/15/85


SECTION I: ERG STEP

78

Verify AFW Pumps Running:

- a. MD pumps - RUNNING
- b. Turbine-driven pump - RUNNING IF NECESSARY

- a. Manually start pumps.
- b. Manually open steam supply valves.

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO 11894-C |
| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO 0 |
| | | | PAGE NO <u>2</u> OF <u>3</u> 1 OF 22 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/15/85

SECTION II: ^{EOP} ERG STEP

- 8/ Verify AFW Pumps Running:
- a. MD pumps - RUNNING.
 - a. Manually start pumps.
 - b. SG blowdown isolated:
 - SG blowdown isolation valves - SHUT.
 - SG sample isolation valves - SHUT.
 - c. Turbine-driven pump - RUNNING IF ANY OF THE FOLLOWING CONDITIONS EXISTS:
 - LO-LO LEVEL IN TWO OR MORE SGs.
 - BLACKOUT.
 - c. Manually open TDAFW pump steam supply valve HV-5106.

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4/8/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

3
1 OF 3UNIT COMMONEOP STEP DOCUMENTATION FORMERG # E-0 REV 1 EOP # 19000-1 REV 0EOP WRITER N/A DATE 6/18/85JUSTIFICATIONSECTION III: BRG STEP

Start requirements for turbine driven pump were included.

SG blowdown and sample isolation valves received shut signal on low SG level (1700). Plant specific valve identification was included.

all this was done as an operator aid.

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DATE

4/18/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 13

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP


14

Verify Containment Spray Not Required:

a. Containment pressure - HAS
REMAINED LESS THAN 11 PSIG

a. Perform the following:

- 1) Verify containment spray initiated.
IF NOT, THEN manually initiate.
- 2) Verify containment isolation
Phase B valves closed. IF NOT,
THEN manually close valves.
- 3) Stop all RCPs.

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  PROCEDURE NO. 11894-C REVISION NO. 0 PAGE NO. 2 OF 3 |
| DATE 4/18/84 | UNIT <u>COMMON</u> | |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: ^{EOP} BRG STEP

15. Check Containment Spray -
NOT REQUIRED:

a. Containment pressure -
HAS REMAINED LESS THAN
22 PSIG BY PRESSURE
RECORDING.

a. Perform the following:

1) Verify containment
spray initiated.

IF NOT, THEN manually
actuate.

2) Verify containment
spray pumps running.

3) Verify containment
spray additive
flowrate of
approximately 40 gpm
per operating CS pump.

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4/3/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

3 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # E-0 REV 1 EOP # 19000-1 REV 0EOP WRITER N/A DATE 6/18/85JUSTIFICATIONSECTION III: EOP STEP

Reference to containment isolation ~~Phase~~^{phase} B was deleted. VEGP design does not include ~~Phase~~^{phase} B containment isolation signal. Verify was changed to check consistent with EOP writers guide definitions. RCP stop was delete. RCP remain in service because Phase B was deleted. Plant specific methods of verifying containment spray was included. RCP cooling water is supplied by ACCW system which is not isolated on a phase B containment isol. signal.

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|---------------------------------|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE 4/8/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85


SECTION I: ERG STEP

NO corresponding
ERG Step

SECTION II: EOP STEP

¹⁶
~~15.~~ Verify Diesel Generators - ¹⁶
~~15.~~ Manually start both DGs.
RUNNING.

SECTION III: JUSTIFICATION VEGP diesel generators
start on a safety injection. This was
not included in previous steps, therefore
it was included here. Diesel start is
necessary to insure reliable AC power
source to emergency busses during SIS.

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| APPROVAL <i>W F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 13 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV c
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

22
21

Check if RCPs Should Be Stopped:

- | | |
|--|-------------------|
| a. SI pumps - AT LEAST ONE RUNNING | a. Go to Step 22. |
| • Charging/SI | |
| • —OR— | |
| • High-head SI | |
| b. RCP Trip Parameter - LESS THAN (12) | b. Go to Step 22. |
| [(13) FOR ADVERSE CONTAINMENT] | |
| c. Stop all RCPs | |

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4/12/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
EOP WRITER N/A DATE 6/18/85

SECTION II: ^{EOP} EOP STEP

²²
21. Check If RCPs Should Be Stopped:

- a. ECCS pumps - AT LEAST ONE RUNNING:
 - o CCPs or SI pumps
- b. RCP Trip Parameter - RCS PRESSURE LESS THAN 1375
- c. Stop all RCPs.
- d. Start one ACCW pump.

a. Go to Step ^{22d} 21d.

b. Go to Step ^{22d} 21d.

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| DATE 4/18/84 | | REVISION NO. 0 |
| | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER _____ DATE 6/18/85

JUSTIFICATION
 SECTION III: BRG-STEP

VEGP design requires the operation of at least one Accw pump to support RCP operation. If RCP operation is to continue a Accw pump must be running. If a RCP is stopped a Accw pump must still be running to provide thermal barrier cooling and to support RCP operation at a later time.

12

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4/8/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO.

0

PAGE NO

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV D
EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

- 23 Check If SG Tubes Are Not Ruptured:
- Condenser air ejector radiation -
NORMAL
 - SG blowdown radiation - NORMAL

Go to E-3, STEAM GENERATOR TUBE
RUPTURE, Step 1.

SECTION II: EOP STEP

24. Check If SGs Tubes Are
Intact:
- Main steamline
radiation - NORMAL.
 - Condenser air ejector
radiation - NORMAL.
 - SG blowdown radiation -
NORMAL.

24. Go to 19030-1, E-3 STEAM
GENERATOR TUBE RUPTURE.

SECTION III: JUSTIFICATION VEGP has steamline
radiation monitors. These were included
as a check for tube rupture.
VEGP EOP identification was also
included. Logic was changed as an
operator aid.

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4/18/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT

UNIT COMMON

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 13

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

30

Check Auxiliary Building Radiation -
NORMAL

Evaluate cause of abnormal conditions. IF
the cause is a loss of RCS inventory
outside containment, THEN go to
ECA-1.2, LOCA OUTSIDE CONTAINMENT,
Step 1.

14

R. R. R. R.
Date: 4/18/84

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POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT



PRECEDENCE NO. 11894-C
REVISION NO. 0
PAGE NO. 2 OF 12

UNIT COMMON


EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
EOP WRITER N/A DATE 6/18/85

SECTION I: EOP STEP

- ³⁰
~~29.~~ Check Auxiliary Building Leak Detection Systems:
- a. Check auxiliary building and plant vent radiation monitors - NORMAL:
- Selective cubicle monitors:
 - RE-0024A
 - RE-0024B
 - Plant vent monitors:
 - RE-12442A
 - RE-12442B
 - RE-12442C
- b. Check auxiliary building break detection system on PCP - NO HIGH LEVEL STATUS LIGHT LIT.

29. Evaluate cause of abnormal conditions.
- IF cause is loss of RCS inventory,
THEN go to 19112-1, ECA-1.2
LOCA OUTSIDE CONTAINMENT.

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| APPROVAL <i>W F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  PROCEDURE NO. 11894-C REVISION NO. 0 PAGE NO. 3 OF 3 |
| DATE 4/8/84 | UNIT <u>COMMON</u> | |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

JUSTIFICATION
SECTION IJJ: EOP STEP

This step was changed to
 step 30. See the justification on EOP
 step ^{33 NRM 7/29/85} ~~33~~ for a better understanding.
 Method of determining ^{RCS NRM 1/29/85} leakage outside
 the containment were included as
 a operator aid. VEGP EOP
 identification were also included.

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|---------------------------------|--|---------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. 1 OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

29 Check Secondary Radiation - NORMAL
 [Enter plant specific means]

Go to E-3, STEAM GENERATOR TUBE
 RUPTURE, Step 1.

SECTION II: EOP STEP

³³
~~32~~. Check Secondary Radiation -
 NORMAL:

- Direct chemistry to take periodic activity samples of all SGs.

32. Go to 19030-1, E-3 STEAM
 GENERATOR TUBE RUPTURE.

SECTION III: JUSTIFICATION This step was changed
to step 33 of VEGP EOP E-0. This step
requires the opening of SG blowdown and
sample valves. To open these valves it is
necessary to reset SI signal.

CONTINUED

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DATE

4/18/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3


UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

33

Reset Containment Isolation Phase A And
Phase B

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| ADDRESS <i>W. F. Kitchens</i> | <div style="text-align: center;"> <h1>Georgia Power</h1> <p>POWER GENERATION DEPARTMENT</p> <h2>VOGTLE ELECTRIC GENERATING PLANT</h2> </div> <div style="text-align: right;">  </div> | PROCEDURE NO. 11894-6 |
| DATE 4/18/84 | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. <u>2</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM


ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER _____ DATE 6/18/85

SECTION II: ^{EOP} BRG STEP

- ³⁴
33. Reset Containment Isolation Phase A:
- a. Check containment area radiation monitors - LESS THAN 3 R/H:
 - RE-0005A
 - RE-0005B
 - RE-0006A
 - RE-0006B
 - b. Reset containment isolation Phase A radiation monitors if necessary.
 - c. Reset containment isolation Phase A.

³⁶
a. Go to Step ³⁵.

19

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> OF <u>3</u> |


EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER NIA DATE 6/15/85

JUSTIFICATION

SECTION IJI: ERO STEP

The operator is instructed to evaluate plant conditions by observing radiation levels in the containment. If there is high radiation in the containment, this is an indication that a leak exists in the containment which has not as yet been identified. If radiation level are low, this is an indication the SI was a spurious signal and the operator is instructed to take the first step toward recovery.

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|---------------------------------|--|--|---------------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # ES-0.1 REV 1 EOP # 19001-1 REV 0
 EOP WRITER N/A DATE 6/13/85

SECTION 1: ERG STEP
 4 **Check PRZR Level Control:**

a. Level - GREATER THAN (6)%

a. Perform the following:

- 1) Verify letdown isolation. IF NOT,
THEN manually isolate.
- 2) Verify PRZR heaters off. IF NOT,
THEN manually turn off.
- 3) Control charging to restore PRZR
 level greater than (6)%.

b. Verify charging and letdown - IN
 SERVICE

b. Manually place in service:
 [Enter plant specific means].

c. Level - TRENDING TO (7)%

c. Control charging and letdown to
 maintain level at (7)%.

21

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO

0

PAGE NO

2 OF 3

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # ES-0.1 REV 1 EOP # 19001-1 REV 0
EOP WRITER N/A DATE 6/18/85

SECTION II: ^{EOP}ERG STEP

4. Check PRZR Level Control:

a. Level - GREATER THAN
17%.

a. Perform the following:

- 1) IF letdown NOT
isolated,
THEN manually isolate.
- 2) IF PRZR heaters NOT
de-energized,
THEN manually
de-energize.
- 3) Control charging to
restore PRZR level to
greater than 17%.

NOTE

- Without instrument air charging should be established using Attachment A.
- Without instrument air letdown should be established as necessary using Attachment B.

b. Verify charging and
letdown - IN SERVICE.b. Manually place charging
and letdown in service by
initiating 13006-1, CVCS
STARTUP AND NORMAL
OPERATION.c. Level - TRENDING TO
25%.c. Control charging and
letdown to maintain level
at 25%.

22

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

3 OF 3

DATE

4/18/84

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ES-0.1 REV 1 EOP # 19001-1 REV 0
 EOP WRITER N/A DATE 6/18/85

JUSTIFICATIONSECTION IJJ: EOP STEP

VEGP does not have air compressors supplied from the AC emergency buses. The charging flow controller and the letdown flow controller both require air for their operation. Circumstances can exist which require the performance of this procedure without air compressors being available. Because of this, it was necessary to establish an alternate method of controlling PRZR level. This was done by including Attachments A and B in this procedure. The operator can also establish PRZR level control by initiating normal operating procedures if instrument air is available.

23

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DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO

5

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ES-0.1 REV 1 EOP # 19001-1 REV 0
EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

No corresponding
ERG Attachment

SECTION II: EOP STEP

See Attachment A
include

24

ATTACHMENT AESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

A. Establish Charging With Both Train A And Train B Emergency Buses Energized:

1. Verify alternate miniflow isolation valves - OPEN:

- HV-8508A
- HV-8508B

2. Verify one CCP - RUNNING.

3. Verify charging isolation valves - OPEN:

- HV-8105
- HV-8106

4. Verify BIT isolation valves - SHUT:

- HV-8801A
- HV-8801B
- HV-8803A
- HV-8803B

5. Dispatch local operators to do the following:

- a. Open 1208-U4-136 RCP SEAL INJ FLOW CONTROL BYPASS
- b. Shut 1208-U4-134 RCP SEAL INJ UPSTEAM FLOW CONTROL ISO
- c. Shut 1208-U4-135 RCP SEAL INJ DNSTRM FLOW CONTROL ISO
- d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:

- 1208-U4-414(RCP #1)
- 1208-U4-415(RCP #2)
- 1208-U4-416(RCP #3)
- 1208-U4-417(RCP #4)

- e. Adjust to obtain desired charging flow 1208-U4-136 RCP SEAL INJ FLOW CONTROL BYPASS.

ATTACHMENT A (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:

1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 RCP SEAL INJ FLOW CONTROL BYPASS
 - d. Shut 1208-U4-134 RCP SEAL INJ UPSTEAM FLOW CONTROL ISO
 - e. Shut 1208-U4-135 RCP SEAL INJ DNSTRM FLOW CONTROL ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 RCP SEAL INJ FLOW CONTROL BYPASS.

26

ATTACHMENT A (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
2. Verify Train B CCP - RUNNING.
3. Verify Train B charging isolation valve HV-8105 - OPEN.
4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Open 1208-U4-136 RCP SEAL INJ FLOW CONTROL BYPASS
 - d. Shut 1208-U4-134 RCP SEAL INJ UPSTREAM FLOW CONTROL ISO
 - e. Shut 1208-U4-135 RCP SEAL INJ DNSTRM FLOW CONTROL ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 RCP SEAL INJ FLOW CONTROL BYPASS.

END OF ATTACHMENT A

27

4/18/84

POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT

11894-C

REVISION NO.


0

PAGE NO.

3 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FS-0.1 REV 1 EOP # 19001-1 REV 0
EOP WRITER N/A DATE 6/18/85JUSTIFICATIONSECTION I/J: ~~ERG STEP~~

VEGP does not have air compressors supplied from the AC emergency buses. The charging flow controller and the letdown flow controller both require air for their operation. Circumstances can exist which require the performance of this procedure without air compressors being available. Because of this, it was necessary to establish an alternate method of controlling PRZR level. This was done by including Attachments A and B in this procedure. The operator can also establish PRZR level control by initiating normal operating procedures if instrument air is available.

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| DATE <i>4/2/84</i> | UNIT <u>COMMON</u> | | REVISION NO 0 |
| | | | PAGE NO 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # ES-0.1 REV 1 EOP # 19001-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

*No corresponding
ERG Attachment*

SECTION II: EOP STEP

*See Attachment B
included*

29

ATTACHMENT BESTABLISH SAFETY GRADE LETDOWNCAUTION

The PRT may rupture while performing safety grade letdown.

1. Open Reactor Vessel Head Vent isolation valves:
 - HV-8095A
 - HV-8096A
 - HV-8095B
 - HV-8096B
2. Open Reactor Vessel Head Vent flow control valves to obtain desired letdown flow:
 - HV-442A
 - HV-442B

END OF ATTACHMENT B

30



4/18/84

UNIT COMMON

REVISION NO.
0

PAGE NO. 3
OF 3

EOP STEP DOCUMENTATION FORM

ERG # ES-0.1 REV 1 EOP # 19001-1 REV 0
EOP WRITER N/A DATE 6/18/85

JUSTIFICATION

SECTION I/J: EOP-STEP

VEGP does not have air compressors supplied from the AC emergency buses. The charging flow controller and the letdown flow controller both require air for their operation. Circumstances can exist which require the performance of this procedure without air compressors being available. Because of this, it was necessary to establish an alternate method of controlling PRZR level. This was done by including Attachments A and B in this procedure. The operator can also establish PRZR level control by initiating normal operating procedures if instrument air is available.

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| DATE 4/18/84 | | REVISION NO. 0 |
| | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # ES-0.2 REV 1 EOP # 19002-1 REV 0
 EOP WRITER N/A DATE 6/19/85

SECTION I: ERG STEP

14 Check PRZR Level — NO UNEXPECTED
LARGE VARIATIONS

Repressurize RCS within limits of (4) to collapse potential voids in system and continue cooldown. IF RCS depressurization must continue, THEN go to (8).


SECTION II: EOP STEP

14. Monitor For Void Formation In RCS:
- o PRZR level - NO UNEXPECTED LARGE VARIATIONS.
 - o RVLIS - INDICATING FULL VESSEL.

14. Repressurize RCS within limits of Technical Specification 3.4.9 to collapse potential voids in system and continue cooldown.
- IF RCS depressurization must continue,
THEN go to 19003-1, ES-0.3
NATURAL CIRCULATION COOLDOWN WITH STEAM VOID IN VESSEL (WITH RVLIS).

SECTION III: JUSTIFICATION *Step was changed to more clearly state its intent. Indications to observe were included as an operator aid. Reference to Tech. Spec. 3.4.9 and EOP 19003-1 are consistent with ERGs.*

32

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|---------------------------------|--|--|--------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # ES-0.2 REV 1 EOP # 19002-1 REV 0
 EOP WRITER N/A DATE 6/19/85

SECTION I: ERG STEP

*No corresponding
ERG Note*


SECTION II: EOP STEP

NOTE

Without instrument air
not available.

makeup to the VCT is

SECTION III: JUSTIFICATION *VEGP does not have
1E Air Compressor. Therefore if 1E
electrical distribution is unavailable
instrument air will also not be
available*

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| DATE 6/20/85 | | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # E-1 REV 1 EOP # 19010-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

9

Check If Low-Head SI Pumps Should Be Stopped:

a. Check RCS pressure:

1) Pressure - GREATER THAN
 (13) PSIG (14) PSIG FOR ADVERSE
 CONTAINMENT]

1) Go to Step 11.


2) Pressure - STABLE OR INCREASING

2) Go to Step 10.

b. Reset SI if necessary

c. Stop low-head SI pumps and place in
 standby

34

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| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <i>2</i> <i>3</i> <i>1</i> OF <i>22</i> |

EOP STEP DOCUMENTATION FORM

ERG # E-1 REV 1 EOP # 19010-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ^{EOP} ERG STEP

9. Check If RHR Pumps Should Be Stopped:

a. Check RCS pressure:

1) Pressure - GREATER
THAN 300 PSIG

1) Go to Step 11. -

2) Pressure - STABLE OR
RISING.

2) Reset SI.
Go to Step 10.

b. Reset SI.

c. Stop RHR Pumps.

35

W. F. Kitchens

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4/18/84

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VOGTLE ELECTRIC GENERATING PLANT



OCBOLARE NO.

11894-C

REVISION NO.

0

PAGE NO.

3 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-1 REV 1 EOP # 19010-1 REV 0
EOP WRITER N/A DATE 6/20/85

JUSTIFICATIONSECTION I/J: EOP-STEP

Resetting SI is necessary to stop diesel generators, which is done in step 11. Resetting SI is also necessary to prepare for cold leg recirculation or SI termination. Terminology was changed to improve operator communications.

APPROVAL

B. F. Kesterine

DATE

4.13.84

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PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-1 REV 1 EOP # 19010-1 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

11

Check If Diesel Generators Should Be
Stopped:

a. Verify ac emergency busses -
ENERGIZED BY OFFSITE POWER

a. Try to restore offsite power to ac
emergency busses. IF offsite power
can NOT be restored, THEN load the
following equipment on the ac
emergency busses:

[Enter plant specific list].

b. Stop any unloaded diesel generator
and place in standby

37

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|---------------------------------|--|--------------------------|
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| DATE 4/8/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. 1 OF XZ |

EOP STEP DOCUMENTATION FORM

ERG # E-1 REV 1 EOP # 19010-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION II: ^{EOP} ERG STEP

11. Check If Diesel Generators Should Be Stopped:

a. Verify AC Emergency Busses - ENERGIZED BY OFFSITE POWER.

a. WHEN offsite power available,
THEN restore power to Emergency AC busses by initiating 13427-1, 4160V AC 1E ELECTRICAL DISTRIBUTION SYSTEM.

IF offsite power NOT available,
 THEN restore power to INB01 and INB10 from emergency diesel generators.

b. Reset SI, if necessary.

c. Stop any unloaded DG and place in standby.

d. Verify INB01 and INB10 energized.

d. Manually energize INB01 and INB10.

38

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4/18/84

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VOGTLE ELECTRIC GENERATING PLANT



DOCUMENT NO.

11894-C

REVISION NO.

0

PAGE NO.

3 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # E-1 REV 1 EOP # 19010-1 REV 0EOP WRITER N/A DATE 6/20/85JUSTIFICATIONSECTION I/II: EOP STEP

Methods of restore offsite power to emergency busses are included. This step is consistent with ERG and NREGP requirements. Resetting of SI may be necessary to stop diesels. INB01 and INB10 are needed for PZR heaters and control rod position indications.

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

2

Reset Containment Isolation Phase A And
Phase B

40

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23 F Kitchens

DATE

4/12/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO.

0

PAGE NO.

2 OF 32

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
EOP WRITER N/A DATE 6/2/85

SECTION II: ^{EOP}ERG STEP

2. Reset Containment
Isolation Phase A.
 - a. Check containment area
radiation monitors -
LESS THAN 3 R/HR:
 - RE-0005A
 - RE-0005B
 - RE-0006A
 - RE-0006B
 - b. Reset containment
isolation phase A
radiation monitor if
necessary.
 - c. Reset containment
isolation phase A.

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

3

OF

3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ES-1.1 REV 1 EOP # 19011-1 REV 0EOP WRITER N/A DATE 6/2/85JUSTIFICATIONSECTION I: ~~ERG STEP~~

Containment Phase B isolation
was deleted from VEGP design.
Plant specific methods and requirements
were included.

42

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|-----------------------------------|--|--|
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| DATE 4/3/84 | | REVISION NO. 0 PAGE NO. 1 OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER NIA DATE 6/24/85

SECTION I: ERG STEP


No corresponding
 ERG NOTE

SECTION II: EOP STEP

NOTE

Without instrument air available charging should be established using Attachment A.

43

| | | | |
|----------------------------------|--|--|------------------------------------|
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| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> 1 OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER NIA DATE 6/24/85

JUSTIFICATION

SECTION II: EOP STEP

VEGP design does not include air compressor powered from a 1E AC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing charging is necessary. This alternate method is included in Attachment A

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 10

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

- 6 **Establish (1) GPM Charging Flow:**
- a. Close charging line flow control valve
 - b. Open charging line hand control valve
 - c. Open charging line isolation valves
 - d. Establish (1) GPM charging flow using flow control valve

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| DATE <i>4/2/84</i> | | REVISION NO 0 |
| | | PAGE NO <i>21</i> OF <i>22</i> |

EOP STEP DOCUMENTATION FORM


ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION II: ^{EOP}ERG STEP

6. Establish Charging Flow:

- a. Open CCP normal miniflow isolation valves.
- b. Shut CCP alternate miniflow valves.
- c. Shut seal injection flow control valve HV-182.
- d. Open charging line isolation valves:
 - o HV-8105
 - o HV-8106
- e. Shut BIT isolation valves.

a. Go to Step 6c.


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| DATE <i>4/19/84</i> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <i>JA</i> OF <i>X3</i> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
SECTION I: ~~ERG STEP~~

Flow through the BIT is parallel to normal charging flow. Therefore BIT isolation was included in this step. Plant specific methods of establishing charging flow were included in this step. 6a RNO is in case of failure of acc normal miniflow isolation valves.

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| DATE 4/3/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. 1 OF 1 ² | |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/75


SECTION I: ERG STEP

*No corresponding
ERG NOTE.*

SECTION II: EOP STEP

NOTE

Without instrument air available letdown should be established using Attachment B.


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| DATE 4/12/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> 1 OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-111 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
SECTION I: ERG STEP

VEGP design does not include air compressor powered from a IEAC power supply. Letdown flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing letdown is necessary. This alternate method is included in Attachment B

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| DATE <i>4/8/84</i> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <i>2</i> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV C
EOP WRITER N/A DATE 6/24/85


SECTION I: ERG STEP

*No corresponding
ERG NOTE*

SECTION II: EOP STEP

NOTE

Without instrument air makeup to the VCT is not available.

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| DATE 4/13/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. <u>2</u> OF <u>23</u> | |


EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION

SECTION II: ~~ERG STEP~~

VEGP design does not include an air compressor powered from a 1E power supply. VGT make up control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available this NOTE was include to inform the operator he will need instrument air to perform this step

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| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>1</u> OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85


SECTION I: ERG STEP

No corresponding
 ERG CAUTION

SECTION II: EOP STEP

CAUTION

Without instrument air available CCF suction should
 remain aligned to the RWST.

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| DATE 4/8/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. <u>2</u> OF <u>2</u> | |


EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
SECTION IJJ: ERG STEP

VEGP design does not include air compressor powered from a 1E AC power supply. Charging flow and VCT control valves require an air supply for their operation. This CAUTION inform the operator if the VCT control is unavailable CEP suction should remain aligned to the RWST

53

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| DATE 4/18/84 | | REVISION NO. 0 |
| PAGE NO. 1 OF 2 | | |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/95

SECTION I: ERG STEP

19

Control PRZR Pressure:

a. Turn on heaters and operate normal spray as necessary to maintain pressure stable

a. IF normal spray NOT available and letdown is in service, THEN use auxiliary spray. IF NOT, THEN use one PRZR PORV.

54

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| DATE 4/13/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <u>2</u> <u>3</u> <u>1</u> OF <u>12</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION II: ^{EOP} ~~ERG~~ STEP

19. Control PRZR Pressure:

a. Restore power to PRZR backup heaters:

1) Check power to
Emergency Busses -
SUPPLIED BY RATs.

1) Restore power to
switchgear 1NB01 and
1NB10 from emergency
diesel generators.

2) Close feeder breakers
to switchgear 1NB01
and 1NB10:


- 1AA02-22
- 1BA03-18

b. Energize PRZR heaters and
operate normal PRZR spray
as necessary to
maintain pressure
stable.

b. IF normal spray NOT
available,
AND letdown is in
service,
THEN use auxiliary
spray.

IF letdown is NOT in
service,
THEN use one PRZR PORV.

55

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| DATE 4/18/84 | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. 1 OF 3 |


EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 7/30/85

JUSTIFICATION

SECTION I/J: EAC-STEP

PRER heater are supplied by
 1NB01 and 1NB10. These busses may not
 be in service at this time, therefore
 specific instruction on placing them
 in service is provided.

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER WLA DATE 6/24/85

SECTION I: ERG STEP


21

Check RCP Cooling - NORMAL

- RCP CCW System flow
- RCP's seal injection flow

Establish normal cooling to RCPs. Refer to [Enter plant specific procedure number and title].

57

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|---------------------------------|--|---|--------------------------|
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| DATE 4/18/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. 2X OF 3 | |

EOP STEP DOCUMENTATION FORM


ERG # ES-11 REV 1 EOP # 19011-1 REV C
 EOP WRITER NIG DATE 6/24/85

SECTION II: ^{ECP} ERG STEP

NOTE

Without instrument air available seal injection should be adjusted using seal injection needle valves.

- | | |
|---|---|
| <p>21. Check RCP Cooling - NORMAL:</p> <p>a. Annunicator alarm: ACCW RCP CLR LQ FLOW - CLEAR.</p> <p>b. RCP seal injection flow - NORMAL.</p> | <p>21. Establish normal cooling to RCPs using Attachment C.</p> |
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 31 OF 33 |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION

SECTION IJJ: BRG STEP

Attachment c is specific method
 of establishing RCPs seal cooling.
 Methods of checking RCP cooling were
 included. NOTE is instruction on
 maintaining RCP seals with instruction
 air.

59

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

25

Check If Diesel Generators Should Be
Stopped:

- a. Verify ac emergency busses -
ENERGIZED BY OFFSITE POWER
- b. Stop any unloaded diesel generator
and place in standby

- a. Try to restore offsite power to ac
emergency busses.

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| DATE 4/8/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <u>2</u> <u>3</u> <u>1</u> OF <u>12</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION I: ^{EOP} EOP STEP

25. Check If Diesel Generators Should Be Stopped:

a. Verify AC Emergency Busses - ENERGIZED BY OFFSITE POWER.


a. WHEN offsite power available, THEN restore power to Emergency AC busses by initiating 13427-1, 4160V 1E ELECTRICAL DISTRIBUTION SYSTEM.

IF offsite power NOT available, THEN restore power to INB01 and INB10 from emergency diesel generators.

b. Stop any unloaded diesel generator and place in standby.

c. Verify INB01 and INB10 energized.

c. Manually energize INB01 and INB10.

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| DATE 4/18/84 | | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> OF <u>3</u> |

UNIT COMMON

EOP STEP DOCUMENTATION FORM


ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION

SECTION III: BRG STEP

Plant specific method of restoring offsite power were included INB01 and INB10 are needed for control rod position indication, therefore they were included.

62

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|---------------------------------|--|--|--------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 | PAGE NO. 1 OF 4 |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.1 REV 1 EOP # 19011-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

*No corresponding
ERG attachment*

SECTION II: EOP STEP

*See EOP
Attachment A
included*

SECTION III: JUSTIFICATION *This attachment was*
included in lieu of placing this information
on Step 6. See Justification of NOTE
before Step 6.

63

ATTACHMENT AESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

- A. Establish Charging With Both Train A And Train B Emergency Buses Energized:
1. Verify alternate miniflow isolation valves - OPEN:
 - HV-8508A
 - HV-8508B
 2. Verify one CCP - RUNNING.
 3. Verify charging isolation valves - OPEN:
 - HV-8105
 - HV-8106
 4. Verify BIT isolation valves - SHUT:
 - HV-8801A
 - HV-8801B
 - HV-8803A
 - HV-8803B
 5. Dispatch local operators to do the following:
 - a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - c. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

ATTACHMENT A (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:

1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

ATTACHMENT A (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.

2. Verify Train B CCP - RUNNING.

3. Verify Train B charging isolation valve HV-8105 - OPEN.

4. Verify Train B BIT isolation valves - SHUT:

- HV-8801B
- HV-8803B

5. Dispatch local operators to do the following:

a. Verify Train A BIT isolation valves - SHUT

- HV-8801A
- HV-8803A

b. Verify Train A charging isolation valve HV-8106 - SHUT

c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.

e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.

f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:

- 1208-U4-414(RCP #1)
- 1208-U4-415(RCP #2)
- 1208-U4-416(RCP #3)
- 1208-U4-417(RCP #4)

g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT A

66

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.


1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ES-1.2 REV 1 EOP # 19012-1 REV 0EOP WRITER N/A DATE 6/24/85SECTION I: ERG STEP

2

Reset Containment Isolation Phase A And
Phase B

67

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| APPROVAL <i>W.F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/8/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> <u>3</u> OF <u>12</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.2 REV 1 EOP # 19012-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION II: ^{EOP} ERG STEP

2. Reset Containment Isolation Phase A:


- a. Check containment area radiation monitors -
LESS THAN (3) R/HR:

- RE-0005A
- RE-0005B
- RE-0006A
- RE-0006B

- b. Reset containment isolation phase A radiation monitors if necessary.

- c. Reset containment isolation phase A.

68

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| DATE 4/13/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. <u>3</u> <u>1</u> OF <u>3</u> | |

EOP STEP DOCUMENTATION FORM


ERG # ES-1.2 REV 1 EOP # 19012-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION

SECTION III: ERG STEP

VEGP design does not used
 Phase B. Therefore it was deleted.
 Resetting containment radiation
 monitors is necessary to reset
 phase A isolation

69

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF ³ 2 |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.2 REV 1 EOP # 19012-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

11

Depressurize RCS To Refill PRZR:

- | | |
|---|--|
| <p>a. Use normal PRZR spray</p> <p>b. PRZR level - GREATER THAN (11)% [(12)% FOR ADVERSE CONTAINMENT]</p> <p>c. Stop RCS depressurization</p> | <p>a. Use one PRZR PORV. <u>IF</u> no PORV available, <u>THEN</u> use auxiliary spray.</p> <p>b. Continue with Step 12. <u>WHEN</u> level greater than (11)% [(12)% for adverse containment], <u>THEN</u> do Step 11c.</p> |
|---|--|

70

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| DATE 4/8/84 | UNIT <u>COMMON</u> | REVISION NO 0 |
| | | PAGE NO <u>2</u> <u>3</u> <u>1</u> OF <u>12</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES 1-2 REV 1 EOP # 19012-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION II: EOP
ERG STEP

11. Depressurize RCS To Refill
 PRZR:


- a. Depressurize RCS using normal PRZR spray.
- b. PRZR level - GREATER THAN (21)% [(50)% FOR ADVERSE CONTAINMENT].

- a. Depressurize RCS using one PRZR PORV.
- b. WHEN level greater than (21)% [(50)% for adverse containment], THEN do Step 11c.

Continue with Step 12.

- c. Stop RCS depressurization.

71

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|---------------------------------|--|--|--------------------------------|
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| DATE <u>4/18/84</u> | | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> OF <u>3</u> |

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # ES-1.2 REV 1 EOP # 19012-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
SECTION I II: ERG STEP

Plant specific values were included. 11b was reorganized to conform to rules of use. 11a reference to auxiliary spray was delete because charging and let down (which is necessary for auxiliary spray) are not in service at this step.

22

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 2

EOP STEP DOCUMENTATION FORM

ERG # ES-1.2 REV 1 EOP # 19012-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

NO CORRESPONDING
ERG NOTE


SECTION II: EOP STEPNOTE

Without instrument air available charging should be established using Attachment B.

SECTION III: JUSTIFICATION

See Page 2

73


| | | | |
|---------------------------------|--|--|---------------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/3/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.2 REV 1 EOP # 19012-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
 SECTION III: EOP STEP

VEGP design does not include
 air compressor powered from a
 IEAC power supply. Charging flow
 control valves require an air supply
 for their operation. Because it is
 possible for this procedure to be
 implemented without an air compressor
 available, an alternate method of
 establishing charging is necessary.
 This alternate method is included
 in Attachment B

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # ES-12 REV 1 EOP # 19012-1 REV 0
 EOP WRITER N/A DATE 6/24/95


SECTION I: ERG STEP

16

Establish 114 GPM Charging Flow:

- a. Close charging line flow control valve
- b. Open charging line hand control valve
- c. Open charging line isolation valves
- d. Establish 114 GPM charging flow using flow control valve

75

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO 11894-C |
| DATE 4/12/84 | UNIT <u>COMMON</u> | | REVISION NO 0 |
| | | | PAGE NO 21 OF 22 |


EOP STEP DOCUMENTATION FORM

ERG # ES-1.2 REV 1 EOP # 19012 REV 0
 EOP WRITER W/A DATE 6/24/85

SECTION II: ^{EOP}~~ERG~~ STEP

16. Establish Charging Flow:

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| <ul style="list-style-type: none"> a. Open CCP normal miniflow valves. b. Shut CCP alternate miniflow valves. c. Shut seal injection flow control valve HV-182. d. Open charging line isolation valves: <ul style="list-style-type: none"> • HV-8105 • HV-8106 e. Shut BIT isolation valves. | <ul style="list-style-type: none"> a. Go to Step 16c. |
|--|--|

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> <u>1</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ES-1.2 REV 1 EOP # 19012-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
SECTION I II: BRG STEP

VEGP design does not include a charging hand control valve. Plant specific methods of establishing charging flow were included. Plant specific values were also included. BIT isolation was included here to prevent CCP runout. 6c RNO is in case of failure of CCP normal miniflow valves.

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ES-1.2 REV 1 EOP # 19012-1 REV 0EOP WRITER N/A DATE 6/24/85SECTION I: ERG STEP

24

Check if Diesel Generators Should Be Stopped:

- a. Verify ac emergency busses -
ENERGIZED BY OFFSITE POWER
- b. Stop any unloaded diesel generator
and place in standby

- a. Try to restore offsite power to ac
emergency busses.,

78

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4/18/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2 OF 3

EOP STEP DOCUMENTATION FORM

ERG # ES-1.2 REV 1 EOP # 19012-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION II: ^{EOP} EOP STEP

24. Check If Diesel Generators
Should Be Stopped:

a. Verify AC Emergency
Busses - ENERGIZED BY
OFFSITE POWER.

a. WHEN offsite power
available,
THEN restore power to
Emergency AC busses by
initiating 13427-1, 4160V
1E ELECTRICAL DISTRIBUTION
SYSTEM.

IF offsite power NOT
available,
THEN restore power to
INB01 and INB10 from
emergency diesel
generators.

b. Stop any unloaded diesel
generator and place in
standby.

c. Verify INB01 and INB10
Energized.

c. Manually energize INB01
and INB10.

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.


3

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ES1.2 REV 1 EOP # 19012-1 REV 0
EOP WRITER N/A DATE 6/24/95JUSTIFICATIONSECTION I: BRC STEP

Plant specific methods of energizing AC emergency busses by offsite power were included. INB01 and INB10 must be energized to provide control rod position indication.

80

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|---------------------------------|--|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/8/84 | | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19020-1 REV 0
 EOP WRITER NA DATE 6/17/85

SECTION I: ERG STEP

Verify Reactor Trip:

- Rod bottom lights - LIT
- Reactor trip and bypass breakers - OPEN
- Rod position indicators - AT ZERO
- Neutron flux - DECREASING

Manually trip reactor. IF reactor will NOT trip, THEN go to FR-S.1, RESPONSE TO NUCLEAR POWER GENERATION/ATWS, Step 1.

SECTION II: EOP STEP IMMEDIATE OPERATOR ACTIONS

1. Verify Reactor Trip:

- Rod bottom lights - LIT.
- Reactor trip and bypass breakers - OPEN.
- Neutron flux - LOWERING.

1. Manually trip reactor.

IF reactor will NOT trip, THEN manually open supply feed breakers to 1NB08 and 1NB09.

IF reactor NOT tripped, THEN go to 19211-1, FR-S.1 RESPONSE TO NUCLEAR POWER GENERATION/ATWT.

SECTION III: JUSTIFICATION *VEGP design has rod bottom lit and position indicators. are and the same*
Open of 1NB08 and 1NB09 limit transient to
FR-S.1, which is not necessary. Changed terminology
to improve communication. VEGP EOP
identification was used. 1NB08 & 1NB09 supply the
480 vme's that power the Rod Drive MG sets. These breaker's are controlled from the control room.

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER _____ DATE 6/17/85

SECTION I: ERG STEP

No corresponding
 ERG STEP


SECTION II: EOP STEP

6. Verify Proper ESFAS Actuation:
- a. MLB indications correct for injection phase after load sequencing.
 - b. Go to Step 13.

6. Manually actuate SI.

IF proper ESFAS actuation can NOT be verified, THEN continue with Step 7.

SECTION III: JUSTIFICATION Including the step provides faster transient to diagnostic section of 19000-1. MLB provide indication of equipment alignment on SIS.

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/15/85

SECTION I: ERG STEP

8

Verify AFW Pumps Running:

- a. MD pumps - RUNNING
- b. Turbine-driven pump - RUNNING IF NECESSARY

- a. Manually start pumps.
- b. Manually open steam supply valves.

83

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <u>2</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION II: ^{EOP} ERG STEP

8/7.

Verify AFW Pumps Running:

a. MD pumps - RUNNING.

a. Manually start pumps.

b. SG blowdown isolated:

- SG blowdown isolation valves - SHUT.

- SG sample isolation valves - SHUT.


c. Turbine-driven pump -
 RUNNING IF ANY OF THE
 FOLLOWING CONDITIONS
 EXISTS:

c. Manually open TDAFW pump
 steam supply valve
 HV-5106.

- LO-LO LEVEL IN TWO OR
 MORE SGs.

- BLACKOUT.

84

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|-----------------------------------|--|--|---|
| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> <u>1</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM


ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

JUSTIFICATION

SECTION III: ~~ERG STEP~~

Start requirements for turbine driven pump were included.
 SG blowdown and sample isolation valves received shut signal on low SG level (170%). Plant specific valve identification was included.
 All this was done as an operator aid.

85

| | | | |
|---------------------------------|--|---|---------------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 13 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP


14 Verify Containment Spray Not Required:

a. Containment pressure - HAS
 REMAINED LESS THAN (1) PSIG

a. Perform the following:

- 1) Verify containment spray initiated.
 IF NOT, THEN manually initiate.
- 2) Verify containment isolation
 Phase B valves closed. IF NOT,
 THEN manually close valves.
- 3) Stop all RCPs.

86

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| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <i>2</i> OF <i>3</i> <i>✓</i> OF <i>✓</i> |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION II: ^{EOP}ERG STEP

15. Check Containment Spray -
 NOT REQUIRED:

a. Containment pressure -
 HAS REMAINED LESS THAN
 22 PSIG BY PRESSURE
 RECORDING.

a. Perform the following:


1) Verify containment
 spray initiated.

IF NOT, THEN manually
 actuate.

2) Verify containment
 spray pumps running.

3) Verify containment
 spray additive
 flowrate of
 approximately 40 gpm
 per operating CS pump.

87

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

JUSTIFICATION
SECTION IJJ: ERG STEP

Reference to containment isolation Phrase B was deleted. VEGP design does not include Phrase B containment isolation signal. Verify was changed to check consistent with EOP writers guide definitions. RCP stop was delete. RCP remain in service because Phrase B was deleted. Plant specific methods of verifying containment spray was included. RCP cooling water is supplied by ACCW system which is not isolated on a phase B containment isol. signal.

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| DATE 4/18/84 | | REVISION NO. 0 |
| | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

NO corresponding
ERG Step


SECTION II: EOP STEP

¹⁶
~~15.~~ Verify Diesel Generators -
RUNNING.

¹⁶
~~15.~~ Manually start both DGs.

SECTION III: JUSTIFICATION VEGP diesel generators
start on a safety injection. This was
not included in previous steps, therefore
it was included here. Diesel start is
necessary to insure reliable AC power
source to emergency busses during SIS.

89

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 13 |

EOP STEP DOCUMENTATION FORM

ERG # E-O REV 1 EOP # 19000-1 REV c
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

22
21

Check If RCPs Should Be Stopped:

- | | |
|--|-------------------|
| a. SI pumps - AT LEAST ONE RUNNING | a. Go to Step 22. |
| • Charging/SI | |
| —OR— | |
| • High-head SI | |
| b. RCP Trip Parameter - LESS THAN (12) | b. Go to Step 22. |
| [(13) FOR ADVERSE CONTAINMENT] | |
| c. Stop all RCPs | |

90

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VOGTELE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2

1 OF 3

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
EOP WRITER N/A DATE 6/18/85

SECTION II: ^{EOP}ERG STEP

22
21. Check If RCPs Should Be Stopped:

a. ECCS pumps - AT LEAST ONE RUNNING:

o CCPs or SI pumps

b. RCP Trip Parameter - RCS PRESSURE LESS THAN *1375*

c. Stop all RCPs.

d. Start one ACCW pump.

a. Go to Step *22d* *21d.*

b. Go to Step *22d* *21d.*

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| DATE 4/18/84 | | REVISION NO. 0 |
| | | PAGE NO. 1 OF 3 |


EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER _____ DATE 6/18/85

JUSTIFICATION
SECTION I/J: BRC-CCCP

VEGP design requires the operation of at least one Accw pump to support RCP operation. If RCP operation is to continue a Accw pump must be running. If a RCP is stopped a Accw pump must still be running to provide thermal barrier cooling and to support RCP operation at a later time.

92

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| DATE 4/18/84 | | | REVISION NO. 0 |
| | UNIT <u>COMMON</u> | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV D
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

- 23 Check If SG Tubes Are Not Ruptured:
- Condenser air ejector radiation - NORMAL
 - SG blowdown radiation - NORMAL

Go to E-3, STEAM GENERATOR TUBE RUPTURE, Step 1.


SECTION II: EOP STEP

24. Check If SGs Tubes Are Intact:
- a. Main steamline radiation - NORMAL.
 - b. Condenser air ejector radiation - NORMAL.
 - c. SG blowdown radiation - NORMAL.

24. Go to 19030-1, E-3 STEAM GENERATOR TUBE RUPTURE.

SECTION III: JUSTIFICATION VEGP has steamline radiation monitors. These were included as a check for tube rupture.
VEGP EOP identification was also included. Logic was changed as an operator aid.

93

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 13 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

30 Check Auxillary Building Radiation -
 NORMAL

Evaluate cause of abnormal conditions. IF
 the cause is a loss of RCS inventory
 outside containment, THEN go to
 ECA-1.2, LOCA OUTSIDE CONTAINMENT,
 Step 1.

94

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| DATE 4/18/84 | | REVISION # 0 PAGE NO. 2 OF 22 |
| UNIT <u>COMMON</u> | | |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: EOP STEP

- ³⁰
29. Check Auxiliary Building Leak Detection Systems:
- a. Check auxiliary building and plant vent radiation monitors - NORMAL:
- Selective cubicle monitors:
 - RE-0024A
 - RE-0024B
 - Plant vent monitors:
 - RE-12442A
 - RE-12442B
 - RE-12442C
- b. Check auxiliary building break detection system on PCP - NO HIGH LEVEL STATUS LIGHT LIT.
29. Evaluate cause of abnormal conditions.
- IF cause is loss of RCS inventory,
THEN go to 19112-1, ECA-1.2
LOCA OUTSIDE CONTAINMENT.

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PROCEDURE NO.

11894-C

REVISION NO.

0

DATE

4/18/84


UNIT COMMON

PAGE NO.

3 OF 13

EOP STEP DOCUMENTATION FORMERG # E-0 REV 1 EOP # 19000-1 REV 0EOP WRITER N/A DATE 6/18/85JUSTIFICATIONSECTION I/J: ~~ERG STEP~~

This step was changed to step 30. See the justification on EOP step 30 for a better understanding. Method of determining leakage outside the containment were included as a operator aid. VEGP EOP identification were also included.

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| DATE 4/18/84 | | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

29 Check Secondary Radiation - NORMAL
 [Enter plant specific means]

Go to E-3, STEAM GENERATOR TUBE RUPTURE, Step 1.

SECTION II: EOP STEP

³³
~~32~~. Check Secondary Radiation - NORMAL:

32. Go to 19030-1, E-3 STEAM GENERATOR TUBE RUPTURE.

- Direct chemistry to take periodic activity samples of all SGs.

SECTION III: JUSTIFICATION This step was changed to step 33 of VEGP EOP E-0. This step requires the opening of SG blow down and sample valves. To open these valves it is necessary to reset SI signal.

CONTINUED *97*

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2
1 OF 2

UNIT COMMON


EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV I
EOP WRITER WIA DATE 1/22/85

SECTION III JUSTIFICATION (CONTINUED)

SI signal is reset in this procedure at step 32. Therefore this step must be placed after step 31. This also requires the reordering of steps 30, 31, 32,

98

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/18/85

SECTION I: ERG STEP

33 **Reset Containment Isolation Phase A And
 Phase B**

99

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| DATE 4/18/84 | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. <u>2</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM


ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER _____ DATE 6/18/85

SECTION II: ^{EOP} ERG STEP

- 34
38. Reset Containment Isolation Phase A:
- a. Check containment area radiation monitors - LESS THAN 3 R/H:
 - RE-0005A
 - RE-0005B
 - RE-0006A
 - RE-0006B
 - b. Reset containment isolation Phase A radiation monitors if necessary.
 - c. Reset containment isolation Phase A.

36
a. Go to Step 35.

100

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-0 REV 1 EOP # 19000-1 REV 0
 EOP WRITER N/A DATE 6/15/85

JUSTIFICATION
SECTION I/J: ERG-STEP

The operator is instructed to evaluate plant conditions by observing radiation levels in the containment. If there is high radiation in the containment this is an indication that a leak exists in the containment which has not as yet been identified. If radiation levels are low, this is an indication the SI was a spurious signal and the operator is instructed to take the first step toward recovery.

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 20

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # E-3 REV 1 EOP # 19030-1 REV 0EOP WRITER N/A DATE 6/24/85SECTION I: ERG STEP

2

Identify Ruptured SG(s):

- Unexpected increase in any SG narrow range level

—OR—

- High radiation from any SG sample

—OR—

- High radiation from any SG steamline

—OR—

- High radiation from any SG blowdown line:

[Enter plant specific means]

Continue with Steps 5 through 12.

WHEN ruptured SG(s) identified.THEN do Steps 3 and 4.

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PROCEDURE NO

11894-C

REVISION NO

0

PAGE NO

2X OF 2X3

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION II: ^{EOP}ERG STEP

2. Identify Ruptured SGs By
The Following Conditions:

- Unexpected rise in any
SG narrow range level.

-OR-

- High radiation from any
SG steamline.

2. WHEN ruptured SGs identified,
THEN do steps 3 and 4.

Continue with Steps 5 through
12.

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PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

PX OF X3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
EOP WRITER N/A DATE 6/24/85

JUSTIFICATIONSECTION I: ~~ERG STEP~~

Sample and blow down
radiation cannot identify ruptured
S.G. according to VEGP design.

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PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 2

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

9

Reset Containment Isolation
Phase A And Phase B

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PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

21 OF 22

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # E-3 REV 1 EOP # 19030-1 REV 0EOP WRITER N/A DATE 6/24/85SECTION ^{EOP} I: ~~ERG~~ STEP9. Reset Containment Isolation
Phase A:

- a. Check containment area
radiation monitors -
LESS THAN 3 R/HR:

- RE-0005A
- RE-0005B
- RE-0006A
- RE-0006B

- b. Reset containment
isolation phase A
radiation monitor if
necessary

- c. Reset containment
isolation phase A.

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.


2X OF X3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 190304 REV 0
EOP WRITER N/A DATE 6/24/85

JUSTIFICATIONSECTION III: ~~ERG STEP~~

VEGP design does not use
Phase B, therefore it was deleted.
VEGP design requires the resetting
of radiation monitors to reset
Phase A.

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| DATE 4/18/84 | | REVISION NO. 0 |
| | UNIT <u>COMMON</u> | PAGE NO. 1 OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
EOP WRITER N/A DATE 6/24/85


SECTION I: ERG STEP

*No corresponding
ERG NOTE*

SECTION II: EOP STEP

NOTE

Without instrument air available charging should be established using Attachment A.

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| DATE <u>4/8/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
SECTION I/J: EOP STEP

VEGP design does not include air compressor powered from a 1EAC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing charging is necessary. This alternate method is included in Attachment A

109

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4/18/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

22

Establish (23) GPM Charging Flow:

- a. Close charging line flow control valve
- b. Open charging line hand control valve
- c. Open charging line isolation valves
- d. Establish (23) GPM charging flow using flow control valve

110

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

DATE

4/18/84

REVISION NO.

0

PAGE NO.

21 OF 22

UNIT COMMON


EOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION L: ^{EOP} ~~ERG~~ STEP

22. Establish Charging Flow:

- a. Open CCP normal miniflow isolation valves.
 - b. Shut CCP alternate miniflow valves.
 - c. Shut seal injection flow control valve HV-182.
 - d. Open charging line isolation valves:
 - HV-8105
 - HV-8106
 - e. Shut BIT isolation valves.
- a. Go to Step 22c.

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| DATE 4/8/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-2 REV 1 EOP # 190304 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
SECTION III: ERG STEP

Step was changed to be
 plant specific. Since BIT flow is
 parallel to charging flow, BIT
 isolation was included here.

Step 22 cRNO was included in case of
 ccr normal miniflow isolation valves
 failure

112

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| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <i>2</i> 1 OF <i>X</i> |

EOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 190304 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

*No corresponding
ERG NOTE*


SECTION II: EOP STEP

NOTE

Without instrument air available makeup to the VCT is
not available.

SECTION III: JUSTIFICATION

See CONTINUED

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| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 190304 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION

SECTION III: ERG STEP

VET control valves require
 instrument air for there operation.
 Because VEGP design does not
 include air compressor powered from
 a 1E AC power supply, and it is
 possible to implement this procedure
 with offsite power not available,
 this NOTE was included to ^{remind} ~~remind~~
 the operator that VET make up
 may not be available.

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO

0

PAGE NO

1 OF 2

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 190304 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

No corresponding
ERG NOTE

SECTION II: EOP STEPNOTE

Without instrument air letdown should be established
using Attachment B.

SECTION III: JUSTIFICATION

See included

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4/3/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

21 OF 132

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # E-3 REV 1 EOP # 19030-1 REV 0EOP WRITER N/A DATE 6/24/85JUSTIFICATIONSECTION I: ~~ERG STEP~~

VEGP design does not include air compressor powered from a IEAC power supply. Letdown flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing letdown is necessary. This alternate method is included in Attachment B

116

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4/8/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

No corresponding
ERG step

SECTION II: EOP STEPCAUTION

Without instrument air available CCP suction should remain aligned to the RWST.

SECTION III: JUSTIFICATION

VCT make up will not
be available if instrument air is
not available. See JUSTIFICATION
of NOTE before step 26.

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VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

38

Go To Appropriate Post-SGTR
Cooldown Method:

- Go to ES-3.1, POST-SGTR
COOLDOWN USING BACKFILL,
Step 1
—OR—
- Go to ES-3.2, POST-SGTR
COOLDOWN USING BLOWDOWN,
Step 1
—OR—
- Go to ES-3.3, POST-SGTR
COOLDOWN USING STEAM DUMP,
Step 1

SECTION II EOP STEP38. Go To Appropriate Post-SGTR
Cooldown Method:

- Go to 19031-1, ES-3.1
POST-SGTR COOLDOWN USING
BACKFILL.
—OR—
- Go to 19033-1, ES-3.3
POST-SGTR COOLDOWN USING
STEAM DUMP.

SECTION III: JUSTIFICATION

VEGP blowdown design does not permit
the processing of large amounts of
contaminated water. Therefore ES-3.2 was
deleted. VEGP EOP identification
was included.

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4/18/84

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VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO

11894-C

REVISION NO

0

PAGE NO

1 OF 12

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # E-3 REV 1 EOP # 19030-1 REV c
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

No corresponding
ERG Attachment

SECTION II: EOP STEP

See Attachment
B included

SECTION III: JUSTIFICATION

Include in lieu of
placing this information in Step 27
See NOTE before Step 27 for
JUSTIFICATION

ATTACHMENT BESTABLISH SAFETY GRADE LETDOWN

1. Open Reactor Vessel Head Vent isolation valves:
 - HV-8095A
 - HV-8096A
 - HV-8095B
 - HV-8096B
2. Open Reactor Vessel Head Vent flow control valves to obtain desired letdown flow:
 - HV-442A
 - HV-442B

END OF ATTACHMENT B

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PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-0.0 REV 1 EOP # 19100-1 REV 0EOP WRITER NIA DATE 6/24/85SECTION I: ERG STEP

1

Verify Reactor Trip:

Manually trip reactor.

- Rod bottom lights - LIT
- Reactor trip and bypass breakers - OPEN
- Rod position indicators - AT ZERO
- Neutron flux - DECREASING

SECTION II: EOP STEP

1. Verify Reactor Trip:

1. Manually trip reactor.

- Reactor trip and bypass breakers - OPEN.
- Neutron flux - LOWERING.

SECTION III: JUSTIFICATION

Rod position indication and
bottom lights were excluded because they
are powered from AC sources. Changes
in terminology are to improve operator
communications.

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT UNIT <u>COMMON</u> | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | | REVISION NO. 0 |
| | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.0 REV 1 EOP # 19100-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

7 Dispatch Personnel To Locally
 Restore AC Power Using
 [Enter plant specific procedure
 number and title]

7. Check AC Emergency Busses
 Status:

a. At least one AC
 emergency bus -
 ENERGIZED.

a. Dispatch operator to
 locally restore AC
 emergency busses.


WHEN one AC emergency
 bus is energized,
THEN go to Step 24.

Continue with Step 8.

b. Go to Step 24.

SECTION III: JUSTIFICATION Step was revised to
continue AC power restoration effect
throughout this procedure. AND to begin
plant restoration procedure at the
earlier possible time.

122

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|---------------------------------|--|---|---------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.C REV 1 EOP # 19100-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

12

Check If SG Tubes Are Not Ruptured:

- Condenser air ejector radiation -
NORMAL
- SG blowdown radiation - NORMAL
- [Enter plant specific means]

Try to identify ruptured SG(s). Continue with Step 13. WHEN ruptured SG(s) identified, THEN isolate ruptured SG(s):

- Isolate AFW flow.
- Close steam supply valve to turbine-driven AFW pump.
- WHEN SG pressure less than 13 psig THEN verify SG PORV closed. IF NOT, THEN manually close.

123

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4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF XZ

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-0.0 REV 1 EOP # 19100-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION II: EOP STEP

12. Check If SG Tubes are Intact:

- Main steamline radiation monitors - NORMAL.

- Condenser air ejector radiation - NORMAL.

- SG sample radiation - NORMAL.

- SG blowdown radiation - NORMAL.

12. Try to identify ruptured SGs.

WHEN ruptured SGs identified,
THEN isolate ruptured SGs:

- Isolate AFW flow by shutting the following throttle valves as necessary:

- HV-5122 (SG 1)
- HV-5139 (SG 1)

- HV-5125 (SG 2)
- HV-5132 (SG 2)

- HV-5127 (SG 3)
- HV-5134 (SG 3)

- HV-5120 (SG 4)
- HV-5137 (SG 4)

- Shut TDAFW steam supply valve from affected SG:

- HV-3009 (SG1)

-OR-

- HV-3019 (SG2)

- WHEN SG pressure is less than 1135 psig,
THEN verify SG ARV shut.

IF SG ARV NOT shut,
THEN manually shut.

Continue with Step 13.

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4/3/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

3

3

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMEFG # ECA-0.0 REV 1 EOP # 19100-1 REV 0EOP WRITER NIA DATE 6/25/85JUSTIFICATIONSECTION III: EFG STEP

Plant specific methods of checking for SG tube rupture was included. Plant specific AFW isolation points were included. Any changes in terminology are to improve operator communications.

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT

UNIT COMMON

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.0 REV 1 EOP # 19100-1 REV 0
EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP


15 Check CST Level - GREATER THAN (6)

Switch to alternate AFW water supply. IF
alternate supply NOT available, THEN:
[Enter plant specific means].

SECTION II: EOP STEP15. Check CST Level - GREATER
THAN (15) %.

15. Switch to alternate CST.

SECTION III: JUSTIFICATION VEGP design has
second CST as an alternate.

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|-----------------------------------|--|---|---------------------------------|
| APPROVAL <u>W. F. Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. <u>11894-C</u> |
| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | | REVISION NO. <u>0</u> |
| | | | PAGE NO. <u>1 OF 1</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.C REV 1 EOP # 19100-1 REV 0
 EOP WRITER NIA DATE 6/25/85

SECTION I: ERG STEP

21. Check Containment Pressure - HAS
 REMAINED LESS THAN (11) PSIG

Perform the following:

- Verify containment spray signal actuated. IF NOT, THEN manually actuate.
- Verify containment isolation Phase B valves closed. IF NOT, THEN manually close valves. IF valves can NOT be manually closed, THEN locally close valves.
- Reset containment spray signal.

SECTION II: EOP STEP

21. Check Containment Pressure-
 HAS REMAINED LESS THAN
 22 PSIG.

21. Perform the following:

- Verify containment spray signal actuated.

IF containment spray signal
NOT actuated,
THEN manually actuate.

- Reset containment spray signal.

SECTION III: JUSTIFICATION

Plant specific values
were included. Phase B was deleted
from VEGP design.

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|---------------------------------|--|---------------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.0 REV 1 EOP # 19100-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

23

Check If AC Emergency Power Is Restored:

a. Check ac emergency busses - AT
LEAST ONE ENERGIZED

a. Continue to control RCS conditions and monitor plant status:

1) Check status of local actions:

- AC power restoration.
- RCP seal isolation.
- DC power supply.

2) Check status of auxiliary boration systems:

- BIT temperature greater than 113°F.
- BAT temperature greater than 113°F.

IF either temperature less than setpoint, THEN dispatch personnel to reduce boron concentration:

[Enter plant specific means].

Check status of spent fuel cooling:

- Spent fuel pit level greater than 114).

IF level less than 114), THEN dispatch personnel to initiate makeup to the spent fuel pit:

[Enter plant specific means].

4) Return to Step 15.

128

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DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO

11894-C

REVISION NO

0

PAGE NO

21 OF 22

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.0 REV 1 EOP # 19100-1 REV 0EOP WRITER N/A DATE 6/25/85SECTION II: ^{EOP} ~~ERG~~ STEP23. Check If AC Emergency
Power Is Restored:

- a. Check AC emergency
busses - AT LEAST ONE
ENERGIZED.

- a. Continue to control RCS
conditions and monitor
plant status:

- 1) Check status of local
actions:

- AC power restoration.
- RCP seal isolation.
- DC power supply.

- 2) Check status of
auxiliary boration
system:

- BAST temperature
greater than 78°F.


IF temperature less
than setpoint,
THEN dispatch personnel
to reduce boron
concentration.

- 3) Check status of spent
fuel cooling:

- o Spent fuel pool low
level annunciator -
NOT ACTUATED.

IF actuated,
THEN dispatch personnel
to initiate makeup to
the spent fuel pool.

- 4) Return to Step 11.

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| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO 11894-C |
| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO 0 |
| | | | PAGE NO <u>3</u> 1 OF <u>3</u> |


EOP STEP DOCUMENTATION FORM

ERG # ECA-0.0 REV 1 EOP # 19100-1 REV 0
 EOP WRITER N/A DATE 6/25/85

JUSTIFICATION

SECTION III: ERG STEP

VEGP design deleted BIT
 temperature requirements. Plant
 specific method of makeup to
 spent Fuel pool without AC power have
 not been developed. 23 4) changed
 to return to Step 11 to expand
 operator evaluation of plant
 conditions. Plant specific value
 was included.

| | | | |
|----------------------------------|--|---|---------------------------|
| APPROVAL <u>W.F. Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

2 Check Containment Isolation
Phase A - NOT ACTUATED

Perform the following:

- a. Reset containment isolation Phase A and Phase B.
- b. Establish instrument air to containment.

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| APPROVED: <u>Kitchens</u> DATE: <u>4/18/84</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT UNIT <u>COMMON</u> | PROCEDURE NO. <u>11894-C</u> REVISION NO. <u>0</u> PAGE NO. <u>2</u> <u>3</u> <u>1</u> OF <u>12</u> |
|---|--|--|

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION II: EOP
ERG STEP

2. Check Containment Phase A -
 NOT ACTUATED.

2. Perform the following:

- a. Reset containment isolation Phase A.
- b. Establish instrument air to containment:

IF instrument air pressure normal,
THEN open containment isolation valve HV-9378 and go to Step 3.

IF instrument air pressure NOT normal,
THEN perform the following:

- 1) Start one air compressor by initiating 13710-1. SERVICE AIR SYSTEM,
- 2) WHEN instrument air pressure is normal,
THEN open containment isolation valve HV-9378 and go to Step 3.

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Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO

0

PAGE NO

2 3
1 OF 3

DATE

4/8/84


UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101 REV 0
EOP WRITER NIA DATE 6/24/85

JUSTIFICATION

SECTION III: EOP STEP

Plant specific methods were included. Phase B was deleted from VEGP design.

| | | | |
|----------------------------------|--|--|--------------------------|
| APPROVAL <i>W F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/8/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 2 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

3 **Manually Load Following Equipment On AC Emergency Bus:**

- a. Check instrument air - AVAILABLE
- b. Check valve alignment and start CCW pump:
 - 1) Check valve alignment:
[Enter plant specific list]
 - 2) Start one CCW pump

a. Start one instrument air compressor.

1) Manually align valves as necessary.

- c. Check valve alignment and start charging/SI pump:

- 1) Check valve alignment:
 - Charging/SI pump suction valves from VCT - OPEN
 - VCT makeup control system - SET FOR AUTOMATIC CONTROL AND GREATER THAN RCS BORON CONCENTRATION
 - Charging line isolation valve - CLOSED
 - [Enter plant specific list]

1) Manually align valves as necessary. IF VCT or BAT NOT available, THEN establish suction from RWST:

- Open suction valves from RWST.
- Close suction valves from VCT.

- 2) Start one charging/SI pump
- d. Start containment fan coolers as necessary
- e. [Enter plant specific list]

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W F Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO 2

1 OF 12

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION II: EOP STEP

3. Verify Valve Alignment and Manually Load The Following Equipment On The AC Emergency Bus:

a. Check NSCW System alignment and start two NSCW pumps.


b. Check ACCW System alignment and start one ACCW pump.

a. Align NSCW System for normal operation by initiating 13150-1, NUCLEAR SERVICE COOLING WATER SYSTEM.

b. Align ACCW System for normal operation by initiating 13716-1, AUXILIARY COMPONENT COOLING WATER SYSTEM.

CONTINUED

135

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|-----------------------------------|--|--|------------------------------|
| APPROVED <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> 1 OF 12 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
 EOP WRITER NIA DATE 6/24/85

EOP CONTINUED

SECTION II: ERG STEP CAUTION

Without instrument air available CCP suction should remain aligned to RWST.

c. Check CVCS valve alignment and start one CCP:

1) Check valve alignment:

- CCP suction valves from VCT - OPEN:
 - LV-112B
 - LV-112C
- VCT makeup control system - SET FOR GREATER THAN RCS BORON CONCENTRATION AND AUTOMATIC CONTROL.
- Charging line isolation valves - SHUT:
 - HV-8105
 - HV-8106
- CCP normal miniflow isolation valves - OPEN.

2) Start One CCP.

d. Start containment fan coolers as necessary.

1) Manually align valves as necessary.

IF VCT NOT available, THEN establish suction from RWST:

- Open CCP suction valves from RWST:
 - LV-112D
 - LV-112E
- Shut CCP suction valves from VCT:
 - LV-112B
 - LV-112C

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO

0

DATE

4/2/84

UNIT COMMON

PAGE NO

4 OF 13

EOP STEP DOCUMENTATION FORMERG # ECA-01 REV 1 EOP # 19101-1 REV 0EOP WRITER N/A DATE 6/24/85JUSTIFICATIONSECTION III: EOP STEP

Plant specific methods and valve identification was included VEGP does not have IEAC powered air compressor. Therefore without air supply VCT make-up control system is inoperable. This makes the CAUTION necessary.

137

| | | |
|---------------------------------|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT UNIT <u>COMMON</u> | PROCEDURE NO 11894-C |
| DATE 4/18/84 | | REVISION NO 0 |
| | | PAGE NO 1 OF <i>2</i> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

*No corresponding
ERG NOTE*


SECTION II: EOP STEP

NOTE

Without instrument air available charging should be established using Attachment A.

SECTION III: JUSTIFICATION

See included.

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|----------------------------------|--|--|-------------------------------|
| APPROVAL <u>W F. Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <u>4/12/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
 EOP WRITER N/A DATE 6/24/85

JUSTIFICATION
SECTION IJJ: ERG STEP

VEGP design does not include air compressor powered from a IEAC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing charging is necessary. This alternate method is included in Attachment A

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 2

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-01 REV 1 EOP # 19101-1 REV 0EOP WRITER N/A DATE 1 6/24/85SECTION I: ERG STEP

No corresponding
ERG NOTE

SECTION II: EOP STEPNOTE

Without instrument air available letdown should be established using Attachment C.

SECTION III: JUSTIFICATION

See Included

140

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DATE

4/13/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0


PAGE NO.

2 OF 3

EOP STEP DOCUMENTATION FORMERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0EOP WRITER N/A DATE 6/24/85JUSTIFICATIONSECTION IJJ: ERG STEP

VEGP design does not include air compressor powered from a IEAC power supply. Letdown flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing letdown is necessary. This alternate method is included in Attachment

141

| | | | |
|---------------------------------|--|--|--------------------------|
| APPROVAL <u>W F Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <u>4/12/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 14 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
 EOP WRITER N/A DATE 6/24/95

SECTION I: ERG STEP

No corresponding
ERG Attachment

SECTION II: EOP STEP

See Attachment A
included

SECTION III: JUSTIFICATION Include a view of
placing this information in Step 4
See NOTE before Step 4
for JUSTIFICATION

142

ATTACHMENT AESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

A. Establish Charging With Both Train A And Train B Emergency Buses Energized:

1. Verify alternate miniflow isolation valves - OPEN:

- HV-8508A
- HV-8508B

2. Verify one CCP - RUNNING.

3. Verify charging isolation valves - OPEN:

- HV-8105
- HV-8106

4. Verify BIT isolation valves - SHUT:

- HV-8801A
- HV-8801B
- HV-8803A
- HV-8803B

5. Dispatch local operators to do the following:

- a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
- b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
- c. Shut 1208-U4-135 CVC3 SEALS FLOW CONTROL HV-181 OUTLET ISO.
- d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
- e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

ATTACHMENT A (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:

1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

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|---------------|---------|----------|---|----------|----------|
| PROCEDURE NO. | 19101-1 | REVISION | 0 | PAGE NO. | 17 of 19 |
|---------------|---------|----------|---|----------|----------|

Sheet 3 of 3

ATTACHMENT A (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
2. Verify Train B CCP - RUNNING.
3. Verify Train B charging isolation valve HV-8105 - OPEN.
4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT A

145

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DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 12

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-0.1 REV 1 EOP # 19101-1 REV 0
EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

No corresponding
ERG Attachment

SECTION II: EOP STEP

See Attachment c
included

SECTION III: JUSTIFICATION

Include in lieu of
placing this information in Step 12
See NOTE before Step 12 for
JUSTIFICATION.

ATTACHMENT CESTABLISH SAFETY GRADE LETDOWNCAUTION

- The PRT may rupture while performing safety grade letdown.

1. Open Reactor Vessel Head Vent isolation valves:

- HV-8095A
- HV-8096A
- HV-8095B
- HV-8096B

2. Open Reactor Vessel Head Vent flow control valves to obtain desired letdown flow:

- HV-442A
- HV-442B

END OF ATTACHMENT C

W F Kitchens

DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.2 REV 1 EOP # 19102-1 REV 0
EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

*No corresponding
ERG Step*

SECTION II: EOP STEP

3. Manually Align Valves To
Establish CCP Suction From
RWST:

a. Open CCP suction from
RWST valve.

b. Shut CCP suction from
VCT valve.

a. Locally open valve.

b. Locally shut valve.

SECTION III: JUSTIFICATION CCP suction is aligned
to RWST in preparation for aligning
discharge through BIT

W F Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-0.2 REV 1 EOP # 19182-1 REV 0
EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

No corresponding
ERG Step


5. Manually Align CCP Flow
Through the BIT:

- a. Open CCP alternate
miniflow isolation
valves.
- b. Shut CCP normal
miniflow isolation
valves.
- c. Open BIT isolation
valves.
- d. Shut charging line
isolation valves.

5. Locally align equipment as
necessary.

SECTION III: JUSTIFICATION

CCP discharge aligned
through the BIT. RCP seal are protected
as in Step 4

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|---------------------------------|--|---|--------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-0.2 REV 1 EOP # 19102-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

3 Check RCP Thermal Barrier CCW Isolation Status:

a. CCW return isolation valve outside containment - CLOSED

a. Manually isolate CCW to RCP thermal barriers:

- Close CCW return isolation valve outside containment.

—OR—

- Close CCW return isolation valve inside containment.

SECTION II: EOP STEP


6. Check RCP Thermal Barrier ACCW Isolation Status.

a. ACCW thermal barrier return header isolation valve HV-2041 - SHUT.

6. Manually shut valve.

IF valve can NOT be shut, THEN manually or locally shut ACCW return isolation valve outside containment HV-1975.

SECTION III: JUSTIFICATION VEGP design has ACCW as RCP thermal barrier cooling. Plant specific methods were included. Changes in terminology to improve operator communication.

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|---------------------------------|--|--|------------------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 2 1 OF 2 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-1.1 REV 1 EOP # 19111-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

*No corresponding
ERG NOTE*

SECTION II: EOP STEP

NOTE

Without instrument air available makeup operation of Step 16a should be established using Attachment C.

SECTION III: JUSTIFICATION

See Include
JUSTIFICATION

151

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

DATE

4/3/84

UNIT COMMON

PAGE NO.


2

2 OF 25

EOP STEP DOCUMENTATION FORMERG # ECA-1.1 REV 1 EOP # 19111-1 REV 0EOP WRITER N/A DATE 6/24/85JUSTIFICATIONSECTION I: EOP STEP

VEGP design does not include air compressor powered from a IEAC power supply. Makeup flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing makeup is necessary. This alternate method is included in Attachment

152

| | | | |
|---------------------------------|--|--|--------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 12 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-1.1 REV 1 EOP # 19111-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

*No corresponding
ERG Attachment*

SECTION II: EOP STEP

*See Attachments
included*


SECTION III: JUSTIFICATION *Include in lieu of*
placing information in step 16.
See JUSTIFICATION of NOTE before
step 16

153

ATTACHMENT CMAKEUP WITHOUT INSTRUMENT AIR AVAILABLE

1. Dispatch operator to do the following:
 - Unlock and open RMWST TO CCP A ISO valve 1208-U4-183.
 - Unlock and open Train B EMERG BORATE MANUAL ISO VALVE 1208-U4-188.
 - Verify Boric Acid flow to blender control valve FV-110A - OPEN.
2. Open Emergency Boration isolation valves:
 - HV-8104
 - HV-8439
3. Start Reactor Makeup Pumps.
4. Start Boric Acid Transfer Pumps.
5. Return to Step 16b of procedure.

END OF ATTACHMENT C

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 14 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-1.1 REV 1 EOP # 19111-1 REV 0
 EOP WRITER N/A DATE 6/24/85

SECTION I: ERG STEP

*No corresponding
ERG Attachment*

SECTION II: EOP STEP

*See Attachments
included*

SECTION III: JUSTIFICATION Included in lieu of
placing information on Step 16.

155

ATTACHMENT DESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

A. Establish Charging With Both Train A And Train B Emergency Buses Energized:

1. Verify alternate miniflow isolation valves - OPEN:

- HV-8508A
- HV-8508B

2. Verify one CCP - RUNNING.

3. Verify charging isolation valves - OPEN:

- HV-8105
- HV-8106

4. Verify BIT isolation valves - SHUT:

- HV-8801A
- HV-8801B
- HV-8803A
- HV-8803B

5. Dispatch local operators to do the following:

a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS

b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO

c. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO

d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:

- 1208-U4-414(RCP #1)
- 1208-U4-415(RCP #2)
- 1208-U4-416(RCP #3)
- 1208-U4-417(RCP #4)

e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

ATTACHMENT D (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:

1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

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|---------------|---------|----------|---|----------|----------|
| PROCEDURE NO. | 19111-1 | REVISION | 0 | PAGE NO. | 21 of 22 |
|---------------|---------|----------|---|----------|----------|

Sheet 3 of 3

ATTACHMENT D (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
2. Verify Train B CCP - RUNNING.
3. Verify Train B charging isolation valve HV-8105 - OPEN.
4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT D

158

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3. F. Kitchins

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4/18/84

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PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0EOP WRITER N/A DATE 6/25/85SECTION I: ERG STEP

4

Check CST Level - GREATER THAN (7)

Switch to alternate AFW water supply.

SECTION II: EOP STEP


4.

Check CST Level - GREATER
THAN (15) %.

4.

Switch to standby CST.

SECTION III: JUSTIFICATIONStandby CST is
alternate AFW supply. Plant specific
value was included

| | | | |
|-----------------------------------|--|---|---------------------------------|
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| DATE <i>4/13/84</i> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

7 Check If Containment Spray Should Be Stopped:

- a. Spray pumps - RUNNING
- b. Containment pressure - LESS THAN (11) PSIG
- c. Reset containment spray signal
- d. Stop containment spray pumps and place in standby:
[Enter plant specific means]

- a. Go to Step 8.
- b. Continue with Step 8. WHEN containment pressure less than (11) psig, THEN do Steps 7c and d.

160

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO.

0

DATE

4/2/84

UNIT COMMON

PAGE NO. 2

3
1 OF 12EOP STEP DOCUMENTATION FORMERG # ECA-2.1 REV 1 EOP # 19191-1 REV 0EOP WRITER N/A DATE 6/25/85SECTION II: EOP STEP7. Check If Containment Spray
Should Be Stopped:

a. Spray pumps - RUNNING.

b. Containment pressure -
LESS THAN (15) PSIG.c. Reset containment spray
signal.d. Stop containment spray
pumps.e. Shut CS Additive Tank
isolation valves:

- HV-8994A
- HV-8994B

f. Shut CS pump discharge
isolation valves:

- HV-9001A
- HV-9001B

a. Go to Step 8.

b. WHEN containment pressure
is less than (15) psig,
THEN do Steps 7c and d.

Continue with Step 8.

e. Dispatch operator to
unlock and shut CONT
SPRAY ADDITIVE TANK
MANUAL OUTLET ISO
1206-U6-029.

161

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

DATE

4/8/84

UNIT COMMON

PAGE NO.

3 OF 3

EOP STEP DOCUMENTATION FORMERG # ECA-2.1 REV 1 EOP # 19/21-1 REV 0EOP WRITER N/A DATE 6/25/85JUSTIFICATIONSECTION I: EOP STEP

Plant specific values were included. VEGP design has a standby mode when pumps are stopped.

162

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2.7 Kitchins

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4/8/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

11

Reset Containment Isolation Phase A And
Phase B

163

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4/8/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2 OF 3

UNIT COMMON

EOP STEP DOCUMENTATION FORMERG # ECA-21 REV 1 EOP # 19131-1 REV 0EOP WRITER N/A DATE 6/25/85SECTION II: ^{EOP}ERG STEP11. Reset Containment Isolation
Phase A:

- a. Check containment area
radiation monitors -
LESS THAN (3) R/HR:

- RE-0005A
- RE-0005B
- RE-0006A
- RE-0006B

- b. Reset containment
isolation phase A
radiation monitor if
necessary.

- c. Reset containment
isolation phase A.

164

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4/8/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0


PAGE NO.

3 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-2.1 REV 1 EOP # 19/21-1 REV 0EOP WRITER N/A DATE 6/25/85JUSTIFICATIONSECTION I: ~~ERG STEP~~

Phase B was deleted. VEGP design does not use Phase B. Plantspecific methods of resetting Phase A were included.

165

| | | | |
|-----------------------------------|--|---|--------------------------|
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| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

13 Stop All But One Charging/SI Pump And
Place in Standby

SECTION II: EOP STEP

13. Stop All But One CCP.

SECTION III: JUSTIFICATION

*Change terminology
to improve operator understanding.
VEGP design has a standby mode
when pumps are stopped.*

166

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3.7 Kitchens

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4/8/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 10

UNIT COMMONEOP STEP DOCUMENTATION FORM


ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
EOP WRITER N/A DATE : 6/25/85

SECTION I: ERG STEP

15

Establish (17) GPM Charging Flow:

- a. Close charging line flow control valve
- b. Open charging line hand control valve
- c. Open charging line isolation valves
- d. Establish (17) GPM charging flow using flow control valve

| | | | |
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. PX OF 222 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION II: ^{ECP} ERG STEP

15. Establish Charging Flow:

- | | |
|--|--------------------|
| a. Open CCP normal miniflow isolation valves. | a. Go to Step 15c. |
| b. Shut CCP alternate miniflow valves. | |
| c. Shut seal injection flow control valves HV-182. | |
| d. Open charging line isolation valves: | |
| • HV-8105 | |
| • HV-8106 | |
| e. Shut BIT isolation valves. | |

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

DATE

4/13/84

UNIT COMMON


PAGE NO.

3 OF 3

EOP STEP DOCUMENTATION FORMERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0EOP WRITER N/A DATE 6/25/85JUSTIFICATIONSECTION I: ~~ERG STEP~~

Plant specific values were included. IEGP design does not have a charging flow hand control valve. BIT isolation was included to prevent charging pump runout. 15c RNO is in case of failure of cca Normal miniflow isolation values.

169

| | | | |
|-----------------------------------|--|--|---------------------------------|
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| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 2 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV C
EOP WRITER W/A DATE 6/25/85

SECTION I: ERG STEP

No corresponding
ERG NOTE

SECTION II: EOP STEP

NOTE

Without instrument air available charging should be established using Attachment A.

SECTION III: JUSTIFICATION

See JUSTIFICATION
included

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DATE

4/13/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.


2

1 OF 2

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0EOP WRITER N/A DATE 6/25/85JUSTIFICATIONSECTION IJJ: ERG STEP

VEGP design does not include air compressor powered from a IEAC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing charging is necessary. This alternate method is included in Attachment A

171

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| DATE <i>6-25-85</i> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

19 Stop Low-Head SI Pumps And Place in
 Standby

SECTION II: EOP STEP

19. Stop RHR Pumps.

SECTION III: JUSTIFICATION Changed terminology to
improve operator understanding.
VEGP design has a stand-by mode when
pumps are stopped.

172

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 2

UNIT COMMONEOP STEP DOCUMENTATION FORM


ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

No corresponding
ERG NOTE

SECTION II: EOP STEPNOTE

Without instrument air available makeup to VCT is not available.

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|---------------------------------|--|--|---------------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 2X OF 252 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
 EOP WRITER _____ DATE 6/25/85

JUSTIFICATION

SECTION IJJ: ERG STEP

VEGP design does not include
 air compressor powered from a
 IEAC power supply. VOT Makeup
 control valves require an air supply
 for their operation. Because it is
 possible for this procedure to be
 implemented without an air compressor
 available, The operator is made
 aware of VOT makeup availability

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4/18/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

No corresponding
ERG CAUTION

SECTION II: EOI STEPCAUTION

Without instrument air available CCP suction should remain aligned to RWST.

SECTION III: JUSTIFICATION

Warn the operator
of a possible loss of CCP suction
supply if instrument air is lost.
Without air there is no makeup to VCT

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 2

EOP STEP DOCUMENTATION FORMERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0EOP WRITER N/A DATE 6/25/85SECTION I: ERG STEP

No corresponding
ERG NOTE.

SECTION II: EOP STEPNOTE

Without instrument air available letdown should be
established using Attachment B.

SECTION III: JUSTIFICATION

See JUSTIFICATION
included

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2 OF 2


UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0EOP WRITER N/A DATE 6/25/85

JUSTIFICATION

SECTION I/II: EOP STEP

VEGP design does not include air compressor powered from a IEAC power supply. Letdown flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing Letdown is necessary. This alternate method is included in Attachment B

177

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| DATE 4/8/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 12 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV C
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

*No corresponding
 ERG Attachment*

SECTION II: EOP STEP

*See Attachment B
 included*

SECTION III: JUSTIFICATION

Included in lieu of
placing information on Step 24
See Note before Step 24 for
JUSTIFICATION.

Sheet 1 of 1

ATTACHMENT B


ESTABLISH SAFETY GRADE LETDOWN

CAUTION

The PRT may rupture while performing safety grade letdown.

1. Open Reactor Vessel Head Vent isolation valves:
 - HV-8095A
 - HV-8096A
 - HV-8095B
 - HV-8096B
2. Open Reactor Vessel Head Vent flow control valves to obtain desired letdown flow:
 - HV-442A
 - HV-442B

END OF ATTACHMENT B

| | | | |
|---------------------------------|--|--|---------------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 2 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP


*No corresponding
ERG NOTE*

SECTION II: EOP STEP

NOTE

Without instrument air available makeup to VCT is not available.

180

| | | | |
|---------------------------------|--|--|---------------------------------|
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| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 2X OF 132 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-2.1 REV 1 EOP # 19121-1 REV 0
 EOP WRITER _____ DATE 6/25/85

JUSTIFICATION

SECTION 111: ~~ERG STEP~~

VEGP design does not include
 air compressor powered from a
 IEAC power supply. VOT makeup
 control valves require an air supply
 for their operation. Because it is
 possible for this procedure to be
 implemented without an air compressor
 available, The operator is made
 aware of VOT makeup availability

181

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 14

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA 2.1 REV 1 EOP # 19121-1 REV 0
EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

No corresponding
ERG Attachment

SECTION II: EOP STEP

See Attachment A
Included

SECTION III: JUSTIFICATION

Included in lieu of
place information on Step 15
See NOTE before step 15 for
JUSTIFICATION

182

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|---------------|---------|----------|---|----------|----------|
| PROCEDURE NO. | 19121-1 | REVISION | 0 | PAGE NO. | 20 of 28 |
|---------------|---------|----------|---|----------|----------|

Sheet 1 of 3

ATTACHMENT A

ESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

A. Establish Charging With Both Train A And Train B Emergency Buses Energized:

1. Verify alternate miniflow isolation valves - OPEN:

- HV-8508A
- HV-8508B

2. Verify one CCP - RUNNING.

3. Verify charging isolation valves - OPEN:

- HV-8105
- HV-8106

4. Verify BIT isolation valves - SHUT:

- HV-8801A
- HV-8801B
- HV-8803A
- HV-8803B

5. Dispatch local operators to do the following:

a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS

b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO

c. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO

d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:

- 1208-U4-414(RCP #1)
- 1208-U4-415(RCP #2)
- 1208-U4-416(RCP #3)
- 1208-U4-417(RCP #4)

e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

183

ATTACHMENT A (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:

1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

184

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|---------------|---------|----------|---|----------|----------|
| PROCEDURE NO. | 19121-1 | REVISION | 0 | PAGE NO. | 22 of 28 |
|---------------|---------|----------|---|----------|----------|

Sheet 3 of 3

ATTACHMENT A (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
2. Verify Train B CCP - RUNNING.
3. Verify Train B charging isolation valve HV-8105 - OPEN.
4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - d. Shut 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT A

185

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|-----------------------------------|--|--------------------------|
| APPROVAL <i>J. F. Kitchins</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE 4.5.84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
 EOP WRITER N/A DATE 6/25/85

SECTION I: ERG STEP

2 Reset Containment Isolation Phase A And
 Phase B

186

APPROVAL

W F Kitchens

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

DATE

4/18/84

UNIT COMMON

PAGE NO.

2 3
1 OF 12EOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
EOP WRITER N/A DATE 6/25/85

SECTION II: EOP STEP

2. Reset Containment
Isolation Phase A:
- a. Check containment area
radiation monitors -
LESS THAN (3) R/HR:
- RE-0005A
 - RE-0005B
 - RE-0006A
 - RE-0006B
- b. Reset containment
isolation phase A
radiation monitor if
necessary.
- c. Reset containment
isolation phase A.

187

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

DATE


4/18/84

UNIT COMMON

PAGE NO.

3
1 OF 3EOP STEP DOCUMENTATION FORMERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0EOP WRITER N/A DATE 6/25/85JUSTIFICATIONSECTION III: EOP STEP

VEGP design does not have
Phase B. Plant specific methods
were included.

| | | |
|---------------------------------|--|--|
| APPROVAL <i>3. Fitchkins</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  PROCEDURE NO. 11894-C |
| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <u>1</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
 EOP WRITER N/A DATE 6/25/95

SECTION I: ERG STEP

5 **Check If Containment Spray Should Be Stopped:**

- a. Spray pumps - RUNNING
- b. Containment pressure - LESS THAN (2) PSIG

- a. Go to Step 6.
- b. Continue with Step 6. WHEN containment pressure is less than (2) psig, THEN do Steps 5c and d.

- c. Reset containment spray signal
- d. Stop containment spray pumps and place in standby:
 [Enter plant specific means]

189

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VOGTLE ELECTRIC GENERATING PLANT



11894-C

0

DATE

4/12/84

UNIT COMMON

2 OF 3

EOP STEP DOCUMENTATION FORMERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0EOP WRITER N/A DATE 6/25/85SECTION I: ^{EOP} EOP STEP

5. Check If Containment Spray Should Be Stopped:

a. Spray pumps - RUNNING.

b. Containment pressure - LESS THAN 15 PSIG.

c. Reset containment spray signal.

d. Stop containment spray pumps.

e. Shut CS Additive Tank isolation valves:

- HV-8994A
- HV-8994B

f. Shut CS pump discharge isolation valves:

- HV-9001A
- HV-9001B

a. Go to Step 6.

b. WHEN containment pressure is less than 15 psig, THEN do Steps 5c, d, e, and f.

Continue with Step 6.

e. Dispatch operator to unlock and shut CONT SPRAY ADDITIVE TANK MANUAL OUTLET ISO 1206-U6-029.

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4/8/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO.

0

PAGE NO. 3

1 OF 3

UNIT COMMON

EOP STEP DOCUMENTATION FORMERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0EOP WRITER N/A DATE 6/25/85JUSTIFICATIONSECTION III: EOP STEP

Plant specific values were included. VEGP design has standby mode when pumps are stopped. Plant specific methods of stopping containment spray were included as required by ERGs.

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B. F. Kitchens

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POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0EOP WRITER N/A DATE 6/25/85SECTION I: ERG STEP

- 14 Place All PRZR Heater Switches in
OFF Position

SECTION II: EOP STEP

14. Place All PRZR Heater
Switches In PULL-TO-LOCK
Position.

SECTION III: JUSTIFICATION

PULL-TO-LOCK to
remove auto-operation and permit
depressurizing.

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 2

EOP STEP DOCUMENTATION FORMERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0EOP WRITER N/A DATE 6/26/85SECTION I: ERG STEP

No corresponding
ERG Note

SECTION II: EOP STEPNOTE

Without instrument air available charging should be
established using Attachment C.

SECTION III: JUSTIFICATION

See Included
JUSTIFICATION

| | | |
|--|--|--|
| APPROVAL <i>W F Kitchens</i> DATE <i>4/2/84</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT UNIT <u>COMMON</u> | PROCEDURE NO. 11894-C REVISION NO. 0 PAGE NO. <u>2</u> OF <u>2</u> |
|--|--|--|

EOP STEP DOCUMENTATION FORM


ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
 EOP WRITER NIA DATE 6/26/85

JUSTIFICATION

SECTION IJJ: ERG STEP

VEGP design does not include
 air compressor powered from a
 IEAC power supply. Charging flow
 control valves require an air supply
 for their operation. Because it is
 possible for this procedure to be
 implemented without an air compressor
 available, an alternate method of
 establishing charging is necessary.
 This alternate method is included
 in Attachment C.

194

| | | | |
|-----------------------------------|--|---|---------------------------|
| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
 EOP WRITER N/A DATE 6/26/85

SECTION I: ERG STEP

- 20 **Establish (18) GPM Charging Flow:**
- a. Close charging line flow control valve
 - b. Open charging line hand control valve
 - c. Open charging line isolation valves
 - d. Establish (18) GPM charging flow using flow control valve

APPROVAL

W. F. Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF XZ

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # ECG-2.1 REV 1 EOP # 19121-1 REV 0
EOP WRITER N/A DATE 6/06/85

SECTION II: EOP
ERG STEP

20. Establish Charging Flow:

- a. Open CCP normal miniflow isolation valves.
- a. Go to Step 20c.
- b. Shut CCP alternate miniflow valves.
- c. Shut seal injection flow control valve:
 - HV-182.
- d. Open charging line isolation valves:
 - HV-8105
 - HV-8106
- e. Shut BIT isolation valves.

APPROVAL

W.F. Kitchens

DATE

4/3/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.


3 3
1 OF 3UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0EOP WRITER N/A DATE 6/26/85

JUSTIFICATION

SECTION III: ~~ERG STEP~~

Plantspecific valve was included.
BIT isolation was included to
prevent CCP runout. VEGP design
does not have a charging hand
control valve, 20b was deleted.
20a RNO was included in case CCP normal
miniflow isolation valve fails.

197

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|-----------------------------------|--|---|---------------------------|
| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <i>6/26/85</i> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
 EOP WRITER N/A DATE 6/26/85

SECTION I: ERG STEP

- 28 **Check If Diesel Generators Should Be Stopped:**
- a. Verify ac emergency busses -
ENERGIZED BY OFFSITE POWER
 - b. Stop any unloaded diesel generator
and place in standby

- a. Try to restore offsite power to
ac emergency busses.

APPROVAL

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2 3
1 OF 22UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
EOP WRITER N/A DATE 5/26/85

SECTION II: ^{EOP}ERG STEP

28. Check If Diesel Generators
Should Be Stopped:

a. Verify AC Emergency
Busses - ENERGIZED BY
OFFSITE POWER.

a. WHEN offsite power
available,
THEN restore power to-
Emergency AC buses by
initiating 13427-1,
4160V AC 1E ELECTRICAL
DISTRIBUTION SYSTEM.

IF offsite power NOT
available,
THEN restore power to
1NB01 and 1NB10 from
emergency diesel
generators.

b. Stop any unloaded diesel
generator and place in
standby.

c. Verify 1NB01 and 1NB10
energized.

c. Manually energize 1NB01
and 1NB10.

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DATE

4/18/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C


REVISION NO.

0

PAGE NO.

3
1 OF 3UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0EOP WRITER NJA DATE 6/26/85JUSTIFICATIONSECTION III: EOP STEP

Plant specific methods of restoring
offsite power were included.
INB01 and INB10 are needed for PZR2
pressure control and control rod
position indication. ^{1/m} 8/2/85

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| APPROVAL <u>W. F. Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <u>4/18/84</u> | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. 1 OF 1 | |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
 EOP WRITER NIA DATE 6/26/85

SECTION I: ERG STEP

*No corresponding
ERG NOTE*


SECTION II: EOP STEP

NOTE

After isolating flow from the condenser hotwells to the CSTs, the condenser hotwell levels must be controlled manually.

SECTION III: JUSTIFICATION TB in form the operator
that isolating the condenser hotwell
defects automatic makeup

201

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|---------------------------------|--|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 14 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19131-1 REV 0
 EOP WRITER N/A DATE 6/26/85

SECTION I: ERG STEP

*No corresponding
 ERG Attachment*

SECTION II: EOP STEP

*See Attachment c
 included*

SECTION III: JUSTIFICATION *Included in lieu of*
placing this information on Step
20 See JUSTIFICATION of Note
before Step 20

ATTACHMENT CESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

- A. Establish Charging With Both Train A And Train B Emergency Buses Energized:
1. Verify alternate miniflow isolation valves - OPEN:
 - HV-8508A
 - HV-8508B
 2. Verify one CCP - RUNNING.
 3. Verify charging isolation valves - OPEN:
 - HV-8105
 - HV-8106
 4. Verify BIT isolation valves - SHUT:
 - HV-8801A
 - HV-8801B
 - HV-8803A
 - HV-8803B
 5. Dispatch local operators to do the following:
 - a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - c. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

ATTACHMENT C (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:

1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

204


ATTACHMENT C (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
2. Verify Train B CCP - RUNNING.
3. Verify Train B charging isolation valve HV-8105 - OPEN.
4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT D

205

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|-----------------------------------|--|--|---------------------------|
| APPROVAL <u>W. F. Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.2 REV 1 EOP # 19132-1 REV 0
EOP WRITER N/A DATE 6/26/85

SECTION I: ERG STEP

No corresponding
ERG NOTE

SECTION II: EOP STEP

NOTE

Without instrument air available charging should be established using Attachment B.

SECTION III: JUSTIFICATION

See JUSTIFICATION
included

APPROVAL

W F Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.


2

2 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-3.2 REV 1 EOP # 19132-1 REV 0EOP WRITER N/A DATE 6/26/85JUSTIFICATIONSECTION I: EOP STEP

VEGP design does not include air compressor powered from a 1EAC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing charging is necessary. This alternate method is included in Attachment B.

207

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|---------------------------------|--|--|---------------------------------|
| APPROVAL <u>W F Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # EKA-3.2 REV 1 EOP # 19132-1 REV 0
EOP WRITER N/A DATE 6/26/95

SECTION I: ERG STEP

- 14 **Establish (14) GPM Charging Flow:**
- a. Close charging line flow control valve
 - b. Open charging line hand control valve
 - c. Open charging line isolation valves
 - d. Establish (14) GPM charging flow using flow control valve

208

APPROVAL

W F Kitchens

DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF XZ

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # EC9-3.2 REV 1 EOP # 19132-1 REV 0
EOP WRITER W/A DATE 6/26/85

SECTION II: ^{ECP}ERG STEP

14. Establish Charging Pump Flow:

- a. Open CCP normal mini-flow isolation valves.
- b. Shut CCP alternate mini-flow valves.
- c. Shut seal injection flow control valve HV-182.
- d. Open charging line isolation valves:
 - HV-8105
 - HV-8106
- e. Shut BIT isolation valves.

a. Go to Step 14c.

APPROVAL

W F Kitchens

DATE

4/12/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT

UNIT COMMON

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

3

1 OF 3

EOP STEP DOCUMENTATION FORMERG # ECA-3.2 REV 1 EOP # 19132-1 REV CEOP WRITER N/A DATE 6/26/85JUSTIFICATIONSECTION III: EOP STEP

14b was deleted. VEGP design does not have a charging line hand control valve. Plant specific value was included. BIT isolation was included here to prevent charging pump run out. 14a RMO is in case of failure of CCP normal mini-flow isolation valves.

APPROVAL

W. F. Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-3.2 REV 1 EOP # 19132-1 REV 0
EOP WRITER N/A DATE 6/26/85

SECTION I: ERG STEP


22

Check If Diesel Generators
Should Be Stopped:

- a. Verify ac emergency busses -
ENERGIZED BY OFFSITE POWER
- b. Stop any unloaded diesel
generator and place in
standby

- a. Try to restore offsite power
to ac emergency busses.

211

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|-----------------------------------|--|---|
| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  PROCEDURE NO. 11894-C |
| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <i>2</i> <i>3</i> OF <i>12</i> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.2 REV 1 EOP # 171324 REV 0
 EOP WRITER N/A DATE 6/26/85

SECTION II: ^{EOP} ERG STEP

22. Check If Diesel Generators Should Be Stopped:

a. Verify AC Emergency Busses - ENERGIZED BY OFFSITE POWER.

a. WHEN offsite power available, THEN restore power to Emergency AC buses by initiating 13427-1, 4160V 1E ELECTRICAL DISTRIBUTION SYSTEM.

IF offsite power NOT available, THEN restore power to INB01 and INB10 from emergency diesel generators.

b. Stop any unloaded DG and place in standby.

c. Verify INB01 and INB10 energized.

c. Manually energize INB01 and INB10.

212

APPROVAL

W F. Kitchens

DATE

4/13/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-3.2 REV 1 EOP # 19132-1 REV 0EOP WRITER N/A DATE 6/26/85JUSTIFICATIONSECTION III: EOP STEP

Plant specific methods of restoring offsite power were included. INBO1 and INBO are necessary for PZR pressure control ~~and control rod position indication.~~ rjm 8/2/85

2/3

APPROVAL

W. F. Kitchens

DATE

4/18/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 14

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-3.1 REV 1 EOP # 19132-1 REV 0
EOP WRITER N/A DATE 6/26/85

SECTION I: ERG STEP

No corresponding
ERG Attachment

SECTION II: EOP STEP

See Attachment B
included

SECTION III: JUSTIFICATION

Include view of
placing this information on Step
14 See JUSTIFICATION of
NOTE before Step 14

2/4

ATTACHMENT BESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

A. Establish Charging With Both Train A And Train B Emergency Buses Energized:

1. Verify alternate miniflow isolation valves - OPEN:

- HV-8508A
- HV-8508B

2. Verify one CCP - RUNNING.

3. Verify charging isolation valves - OPEN:

- HV-8105
- HV-8106

4. Verify BIT isolation valves - SHUT:

- HV-8801A
- HV-8801B
- HV-8803A
- HV-8803B

5. Dispatch local operators to do the following:

- a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
- b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
- c. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
- d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
- e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

215

ATTACHMENT B (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:

1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - o 1208-U4-414(RCP #1)
 - o 1208-U4-415(RCP #2)
 - o 1208-U4-416(RCP #3)
 - o 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

2/6

ATTACHMENT B' (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
2. Verify Train B CCP - RUNNING.
3. Verify Train B charging isolation valve HV-8105 - OPEN.
4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT B

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-33 REV 1 EOP # 19133-1 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

4

Try To Establish Auxiliary Spray:

a. High-head SI pumps -
ALL RUNNINGb. Charging/SI pumps -
AT LEAST ONE RUNNINGc. Establish (3) GPM charging
flow:

- 1) Close charging line flow
control valve
- 2) Open charging line hand
control valve
- 3) Open charging line
isolation valves
- 4) Establish (3) GPM
charging flow using
flow control valve


d. Isolate BIT:

- 1) Close inlet isolation
valves
- 2) Close outlet isolation
valves

e. Establish auxiliary spray flow:
[Enter plant specific means]f. Go to E-3. STEAM GENERATOR
TUBE RUPTURE. Step 17ba. Try to start pumps. IF any
high-head SI pump can NOT
be started, THEN go to
Step 5.b. Try to start one charging/SI
pump. IF no pump can be
started, THEN start PD
pump. IF PD pump can NOT
be started, THEN go to
Step 5.

e. Go to Step 5.

218

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|---------------------------------|--|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 | PAGE NO. 24 OF 224 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION II: ^{ECP}~~ERG~~ STEP

4. Try To Establish Auxiliary Spray:

a. SI pumps - ALL RUNNING.

b. Charging pumps - AT LEAST ONE RUNNING.

a. Try to start pumps.


IF any SI pumps can NOT be started,
THEN go to Step 5.

b. Try to start one charging pump.

IF no pump can be started,
THEN start PD pump.

IF PD pump can NOT be started,
THEN go to Step 5.

219

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|---------------------------------|--|--|-------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO 11894-C |
| DATE 4/2/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 2X OF 224 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.2 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION II: ^{ECP}ERG STEP NOTE

Without instrument air available charging should be established using Attachment B.

c. Establish charging flow:

1) Open CCP normal mini-flow isolation valves.

1) Go to Step 4.c.3.

2) Shut CCP alternate mini-flow valves.

3) Shut seal injection flow control valve:

- HV-182

4) Open charging line isolation valves:

- HV-8105
- HV-8106

5) Shut BIT isolation valves.

d. Maintain RCP seal injection flow.


e. Establish auxiliary spray flow using PRZR auxiliary spray valve:

e. Go to Step 5.

- HV-8145

f. Go to 19030-1, E-3 STEAM GENERATOR TUBE RUPTURE, Step 17b.

220

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|---------------------------------|--|---|--------------------------|
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| DATE 4/18/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. <u>4</u> OF <u>12</u> | |

EOP STEP DOCUMENTATION FORM


ERG # ECA-3.3 REV 1 EOP # 191334 REV 0
 EOP WRITER NIA DATE 6/20/85

JUSTIFICATION
SECTION III: EOP STEP

Changed terminology to improve operator understanding. VEGP design does not have a charging-lane hand control valve, so 4c2) was deleted. VEGP EOP identification was used.

VEGP design does not include air compressor powered from a IEAC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor, an alternate method of establishing charging is necessary. This alternate method is included in Attachment B.

221

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|---------------------------------|---|--|--------------------------|
| APPROVAL <u>W F Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
EOP WRITER NIA DATE 6/20/85

SECTION I: ERG STEP

No corresponding
ERG NOTE

SECTION II: EOP STEP


NOTE

Without instrument air available charging should be established using Attachment B.

SECTION III: JUSTIFICATION

See JUSTIFICATION
Included

272


| | | | |
|---------------------------------|--|--|--------------------------|
| APPROVAL <u>W F Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/19/84 | | | REVISION NO. 0 |
| | UNIT <u>COMMON</u> | | PAGE NO. 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

JUSTIFICATION
SECTION III: EOP STEP

VEGP design does not include air compressor powered from a 1E AC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing charging is necessary. This alternate method is included in Attachment B

| | | | |
|-----------------------------------|--|---|---------------------------|
| APPROVAL <i>J. F. Kitchins</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>3</u> |


EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

- 9 **Establish (3) GPM Charging Flow:**
- a. Close charging line flow control valve
 - b. Open charging line hand control valve
 - c. Open charging line isolation valves
 - d. Establish (3) GPM charging flow using flow control valve

224

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|---------------------------------|--|--|---------------------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> <u>3</u> 1 OF 12 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION II: ^{EOP} ERG STEP

9. Establish (60) GPM Charging Pump Flow:

a. Go to Step 9c.

- a. Open CCP normal mini-flow isolation valves.
- b. Shut CCP alternate mini-flow valves.
- c. Shut seal injection flow control valve HV-182.
- d. Open charging line isolation valves.
- e. Shut BIT isolation valves.

225

APPROVAL

W F Kitchens

DATE

4/13/84

Georgia Power

POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO. 3

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
EOP WRITER N/A DATE 6/20/85JUSTIFICATIONSECTION III: EOP STEP

VEGP design does not have a charging line hand control valve, so 9b was deleted. BIT isolation was included to prevent CCP run out. Plant specific valve was included.

226

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W F Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 2

UNIT - COMMON

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 191334 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

No corresponding
ERG NOTE

SECTION II: EOP STEPNOTE

Without instrument air available makeup to VCT is not available.

SECTION III: JUSTIFICATION

See JUSTIFICATION
Included

227

APPROVAL

W F Kitchens

DATE

4/10/84

Georgia Power

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.


0

PAGE NO.

2 2
1 OF 3UNIT COMMONEOP STEP DOCUMENTATION FORMERG # ECA-33 REV 1 EOP # 19133-1 REV 0EOP WRITER N/A DATE 6/20/85JUSTIFICATIONSECTION III: ERS STEP

VEGP design does not include an air compressor powered from a 1E AC power supply. VCT makeup control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available the operator is made aware that VCT makeup may not be available.

228

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 2 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

*No corresponding
ERG NOTE*

SECTION II: EOP STEP


NOTE

Without instrument air available letdown should be established using Attachment C.

SECTION III: JUSTIFICATION

*See JUSTIFICATION
included.*

229

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/3/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> <u>2</u> 1 OF <u>3</u> |


EOP STEP DOCUMENTATION FORM

ERG # ECA-33 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

JUSTIFICATION
 SECTION III: EOP STEP

VEGP design does not include
 air compressor powered from a
 IEAC power supply. Letdown flow
 control valves require an air supply
 for their operation. Because it is
 possible for this procedure to be
 implemented without an air compressor
 available, an alternate method of
 establishing letdown is necessary.
 This alternate method is included
 in Attachment.

230

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| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

*No corresponding
ERG CAUTION*


SECTION II: EOP STEP

CAUTION

Without instrument air available CCP suction should remain aligned to RWST.

SECTION III: JUSTIFICATION Warn the operator
of a possible loss of CCP suction
without instrument air.

231

| | | |
|---------------------------------|--|---------------------------|
| APPROVAL <i>3.7 Kitchins</i> | <div style="text-align: center;"> <h1>Georgia Power</h1> <p>POWER GENERATION DEPARTMENT</p> <h2>VOGTLE ELECTRIC GENERATING PLANT</h2> </div> <div style="text-align: right;">  </div> | PROCEDURE NO. 11894-C |
| DATE <i>4/15/85</i> | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP


16

**Check If Diesel Generators
Should Be Stopped:**

- a. Verify ac emergency busses -
ENERGIZED BY OFFSITE POWER
- b. Stop any unloaded diesel
generator and place in
standby

- a. Try to restore offsite power
to ac emergency busses.

232

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. <u>2</u> <u>3</u> OF <u>12</u> | |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER NA DATE 6/20/85

SECTION II: ^{EOP} ERG STEP

16. Check If Diesel Generators Should Be Stopped:

a. Verify AC Emergency Busses. - ENERGIZED BY OFFSITE POWER.

a. WHEN offsite power available,
THEN restore power to Emergency AC buses by initiating 13427-1, 4160 AC 1E ELECTRICAL DISTRIBUTION SYSTEM.


IF offsite power NOT available,
THEN restore power to 1NB01 and 1NB10 from emergency diesel generators.

b. Stop any unloaded DG and place in standby.

c. Verify 1NB01 and 1NB10 energized .

c. Manually energize 1NB01 and 1NB10.

233

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/3/84 | | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> <u>3</u> 1 OF 3 |
| UNIT <u>COMMON</u> | | | |

EOP STEP DOCUMENTATION FORM


ERG # ECA-3.3 REV 1 EOP # 17133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

JUSTIFICATION

SECTION III: ERG STEP

methods of restoring offsite
 power were included. INB01 and INB10
 are necessary. fo PRZR pressure
 control and ~~control rod position~~
~~indication.~~ *ojm 8/2/85*

234

| | | |
|-----------------------------------|--|--------------------------|
| APPROVAL <i>J. F. Hitchens</i> | <div style="text-align: center;"> Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT </div> <div style="text-align: center;">  </div> | PROCEDURE NO. 11894-C |
| DATE 4/13/84 | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. 1 OF 2 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/95

SECTION I: ERG STEP

30

Depressurize RCS And Ruptured SG(s)
 To (20) PSIG [(21) PSIG FOR
 ADVERSE CONTAINMENT]:

a. Perform the following:

- Decrease charging and increase
 letdown to initiate backfill

—OR—

- Initiate blowdown from ruptured
 SG(s)

—OR—

- Dump steam from ruptured SG(s)

b. Check RCS pressure - LESS
 THAN (20) PSIG [(21) PSIG
 FOR ADVERSE CONTAINMENT]

c. Stop RCS depressurization

b. Return to Step 29.

235

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W F Kitchens

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT
VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2

3

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # ECA-33 REV 1 EOP # 191334 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION II: EOP STEP


30. Depressurize RCS And
Ruptured SGs To 375
PSIG [

- a. Lower charging and
raise letdown to
initiate backfill.
- b. Check RCS pressure -
LESS THAN 375 PSIG
- c. Stop RCS
depressurization.

a. Dump steam from ruptured
SGs.

b. Return to Step 29.

236

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|---------------------------------|--|--|-------------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/13/94 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/95

JUSTIFICATION

SECTION I II: ERG STEP

Plant specific methods were included. Step was restructure to indicate a charging and letdown as the preferred method of depressurizing. VEGP design does not allow SG blowdown as a depressurizing method

237

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| APPROVAL <i>[Signature]</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT UNIT <u>COMMON</u> | PROCEDURE NO. 11894-C |
| | | REVISION NO. 0 |
| DATE 4-1-84 | | PAGE NO. 1 OF 4 |

EOP STEP DOCUMENTATION FORM

ERG # ECA-3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

No corresponding ERG attachment

SECTION II: EOP STEP

See Attachments
included.

SECTION III: JUSTIFICATION Include in lieu of
placing information on Step 4
See JUSTIFICATION on Step 4.

238

ATTACHMENT B

ESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

A. Establish Charging With Both Train A And Train B Emergency Buses Energized:

1. Verify alternate miniflow isolation valves - OPEN:

- HV-8508A
- HV-8508B

2. Verify one CCP - RUNNING.

3. Verify charging isolation valves - OPEN:

- HV-8105
- HV-8106

4. Verify BIT isolation valves - SHUT:

- HV-8801A
- HV-8801B
- HV-8803A
- HV-8803B

5. Dispatch local operators to do the following:

a. Open 1208U4136 RCP SEAL INJ FLOW CONTROL BYPASS.

b. Shut 1208U4134 RCP SEAL INJ UPSTEAM FLOW CONTROL ISO.

c. Shut 1208U4135 RCP SEAL INJ DNSTRM FLOW CONTROL ISO.

d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VALVE TO #1 SEAL:

- 1208-U4-414(RCP #1)
- 1208-U4-415(RCP #2)
- 1208-U4-416(RCP #3)
- 1208-U4-417(RCP #4)

e. Adjust to obtain desired charging flow 1208U4136 RCP SEAL INJ FLOW CONTROL BYPASS.

ATTACHMENT B (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:


1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438.
 - b. Verify Train B charging isolation valve HV-8105 - OPEN.
 - c. Open 1208-U4-136 RCP SEAL INJ FLOW CONTROL BYPASS.
 - d. Shut 1208-U4-134 RCP SEAL INJ UPSTREAM FLOW CONTROL ISO.
 - e. Shut 1208-U4-135 RCP SEAL INJ DNSTRM FLOW CONTROL ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VALVE TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208U4136 RCP SEAL INJ FLOW CONTROL BYPASS.

ATTACHMENT B (Cont'd.)

- C. Establish Charging With Train B Emergency Bus Energized:
1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
 2. Verify Train B CCP - RUNNING.
 3. Verify Train B charging isolation valve HV-8105 - OPEN.
 4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
 5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT.
 - c. Open 1208-U4-136 RCP SEAL INJ FLOW CONTROL BYPASS.
 - d. Shut 1208-U4-134 RCP SEAL INJ UPSTREAM FLOW CONTROL ISO.
 - e. Shut 1208U4135 RCP SEAL INJ DNSTRM FLOW CONTROL ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEED VALVE TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208U4136 RCP SEAL INJ FLOW CONTROL BYPASS.

END OF ATTACHMENT B

241

| | | | |
|---------------------------------|--|--|--------------------------|
| APPROVAL <u>W F Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 2 |

EOP STEP DOCUMENTATION FORM

ERG # ECA3.3 REV 1 EOP # 19133-1 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

*No corresponding
ERG Attachment*

SECTION I: EOP STEP

*See Attachment D^{nm}
included*

SECTION III: JUSTIFICATION *Include in lieu of
placing information on Step 13
See JUSTIFICATION of Note
before Step 13*

242

| | | |
|--------------------------|---------------|-----------------------------|
| PROCEDURE NO. 19133-1 | REVISION 0 | PAGE NO. 27 of 28 2 2 |
|--------------------------|---------------|-----------------------------|

Sheet 1 of 1

ATTACHMENT D

ESTABLISH SAFETY GRADE LETDOWN

CAUTION

The PRT may rupture while performing safety grade letdown.

1. Open Reactor Vessel Head Vent isolation valves:
 - HV-8095A
 - HV-8096A
 - HV-8095B
 - HV-8096B
2. Open Reactor Vessel Head Vent flow control valves to obtain desired letdown flow:
 - HV-442A
 - HV-442B

END OF ATTACHMENT D

243

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W F Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # F-0 REV 1 EOP # 19200 REV 0EOP WRITER N/A DATE 6/20/85SECTION I: ERG STEP

No corresponding
ERG Step


SECTION II: EOP STEP

EMERGENCY OPERATING PROCEDURE

F-0 CRITICAL SAFETY FUNCTION STATUS TREES

SECTION III: JUSTIFICATIONProcedure title

244

| | | | |
|---------------------------------|--|--|---------------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # F-0 REV 1 EOP # 19200 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

SECTION II: EOP STEP

PURPOSE

This procedure provides an explicit, systematic mechanism for evaluating the plant safety state in the terms of critical safety function status.

SECTION III: JUSTIFICATION Procedure Purpose.

245

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DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.


1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # F-0 REV 1 EOP # 19200 REV 0EOP WRITER N/A DATE 6/20/85SECTION I: ERG STEPSECTION II: EOP STEPPURPOSE

This procedure provides an explicit, systematic mechanism for evaluating the plant safety state in the terms of critical safety function status.

SECTION III: JUSTIFICATION ProcessNeeds
just

246

| | | | |
|-----------------------------------|--|--|---------------------------------|
| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # F-0 REV 1 EOP # 19200 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

*No corresponding
ERG Step*

SECTION II: EOP STEP

ENTRY CONDITIONS

- o Following a Safety Parameter Display System (SPDS) failure or when SPDS display validity is questionable.
- o Exit from 19000-1, E-0 REACTOR TRIP OR SAFETY INJECTION.
- o 19000-1, E-0 REACTOR TRIP OR SAFETY INJECTION, Step 28.

SECTION III: JUSTIFICATION

Procedure Entry Conditions.

247

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # F-0 REV 1 EOP # 19200 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

No corresponding
ERG step

NOTE

- Manual monitoring of CSFSTs should be performed by a Licensed Operator or Qualified Shift Technical Advisor.
- CSFST's must be checked in order listed.
- Priority of operator action is given by the following:
 - Red (Solid) Path - Extreme challenge, in Tree Order per Step 1.
 - Orange (Dashed) Path - Severe challenge, in the Tree Order per Step 1.
 - Yellow (Dotted) Path - Not satisfied, in Tree Order per Step 1.
 - Green (Outlined) Path - Satisfied.

SECTION III: JUSTIFICATION

Place responsibility for monitor CSFST's
Place priority of operator actions
to restore critical parameters.

248

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W. F. Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # F-0 REV 1 EOP # 19200 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

No corresponding
ERG step

SECTION II: EOP STEP

1. Check CSFSTs - SATISFIED:

- a. Subcriticality (F-0.1)
- b. Core Cooling (F-0.2)
- c. Heat Sink (F-0.3)
- d. Integrity (F-0.4)
- e. Containment (F-0.5)
- f. Inventory (F-0.6)

1. IF a Red Condition exists,
THEN immediately go to FRP.


IF an Orange Condition
exists,
THEN go to FRP after
completion of present pass
thru CSFSTs.

IF a Yellow Condition exists,
THEN go to FRP after
evaluating plant conditions
with Shift Supervisor's
approval.

SECTION III: JUSTIFICATION

Provide method for monitoring
CSFSTs

249

| | | | |
|---------------------------------|--|--|---------------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # F-0 REV 1 EOP # 19200 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

*No corresponding
ERG Step.*


SECTION II: EOP STEP

2. Log status of CSFSTs on Critical Safety Function Status Tree Log and report status of CSFSTs to Shift Supervisor.

SECTION III: JUSTIFICATION

Place responsibility
for performing restoring
procedure

250

| | | | |
|-----------------------------------|--|--|---------------------------------|
| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # F-0 REV 1 EOP # 19200 REV 0
 EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

*No corresponding
ERG Step*


SECTION II: EOP STEP

- | | |
|---|-------------------------|
| 3. RCS temperature per Core Exit TCs - LESS THAN 200°F. | 3. Return to Step 1. |
|---|-------------------------|

SECTION III: JUSTIFICATION

State when CSFSTs
are to be monitored and when
monitoring can stop.

251

| | | | |
|---------------------------------|--|--|---------------------------------|
| APPROVAL <u>W F Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # F-0 REV 1 EOP # 19200 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

SECTION II: EOP STEP

4. Monitoring of CSFSTs - NO
LONGER REQUIRED.

SECTION III: JUSTIFICATION Terminate the
procedure when no longer
required.

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # F-1 REV 1 EOP # 19200 REV 0
EOP WRITER N/A DATE 6/20/85

SECTION I: ERG STEP

See CSFSTs
included

SECTION II: EOP STEP

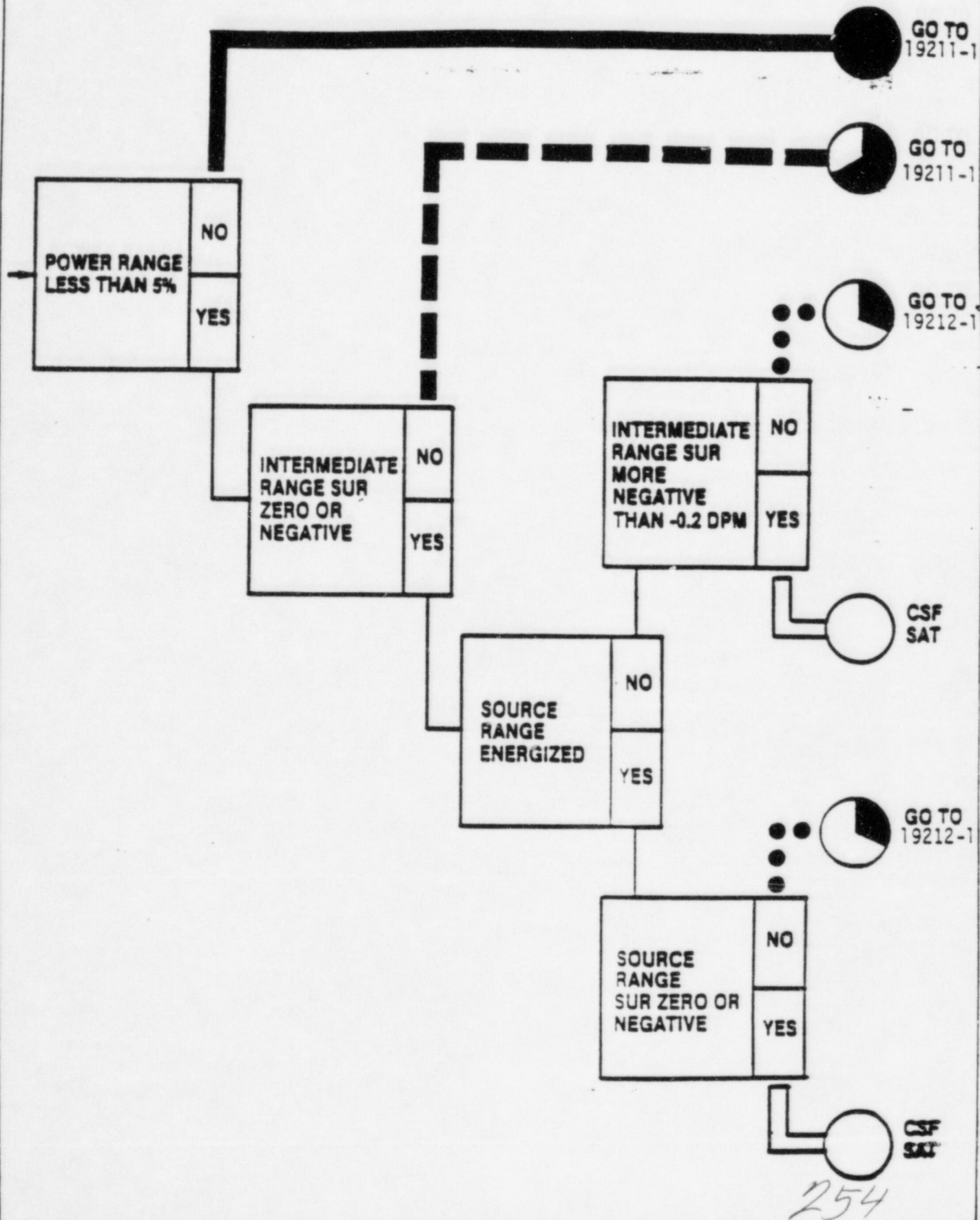
See CSFSTs
included.

SECTION III: JUSTIFICATION

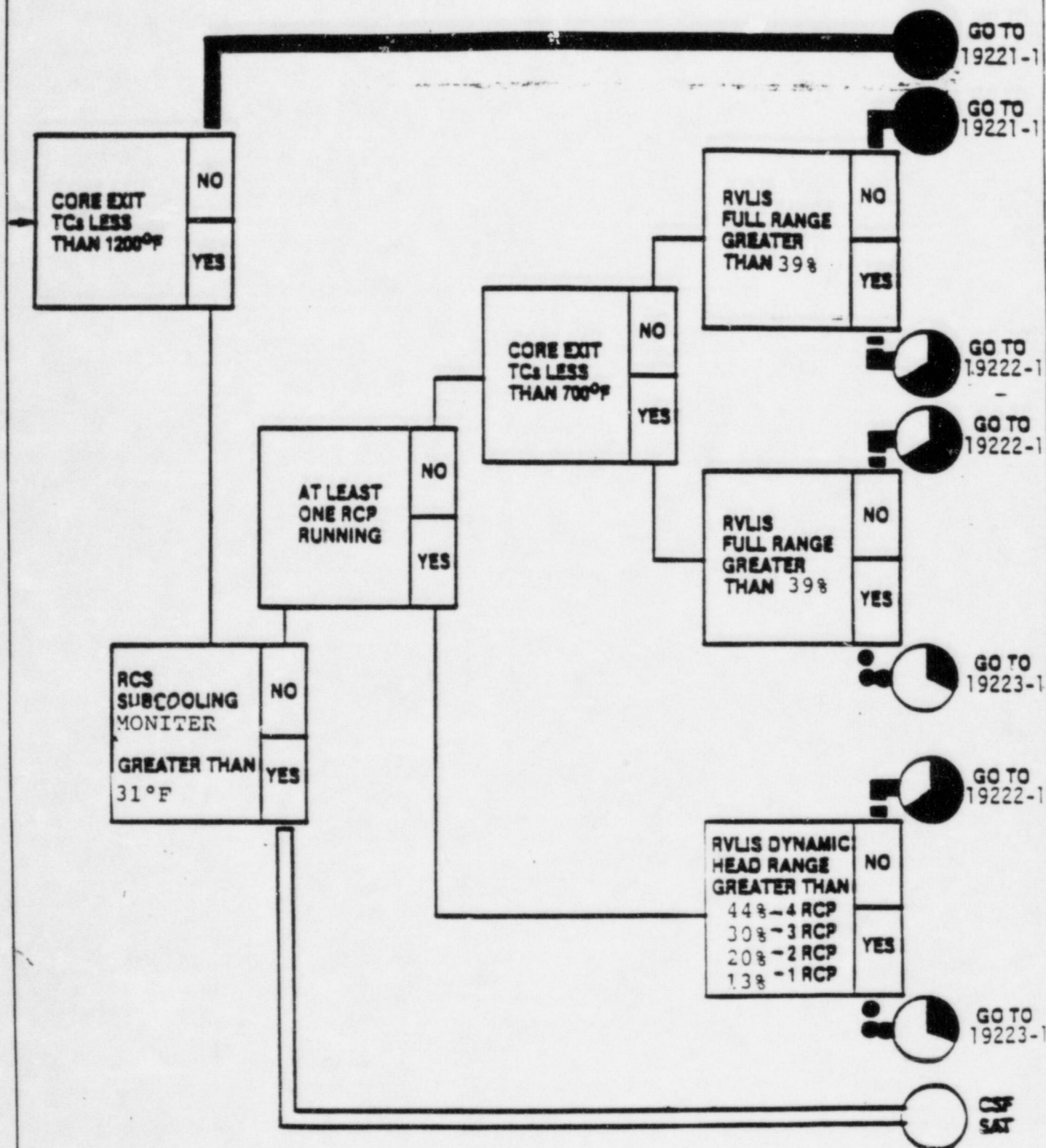
Plant specific
values and VEGP EOP
identification was included.

253

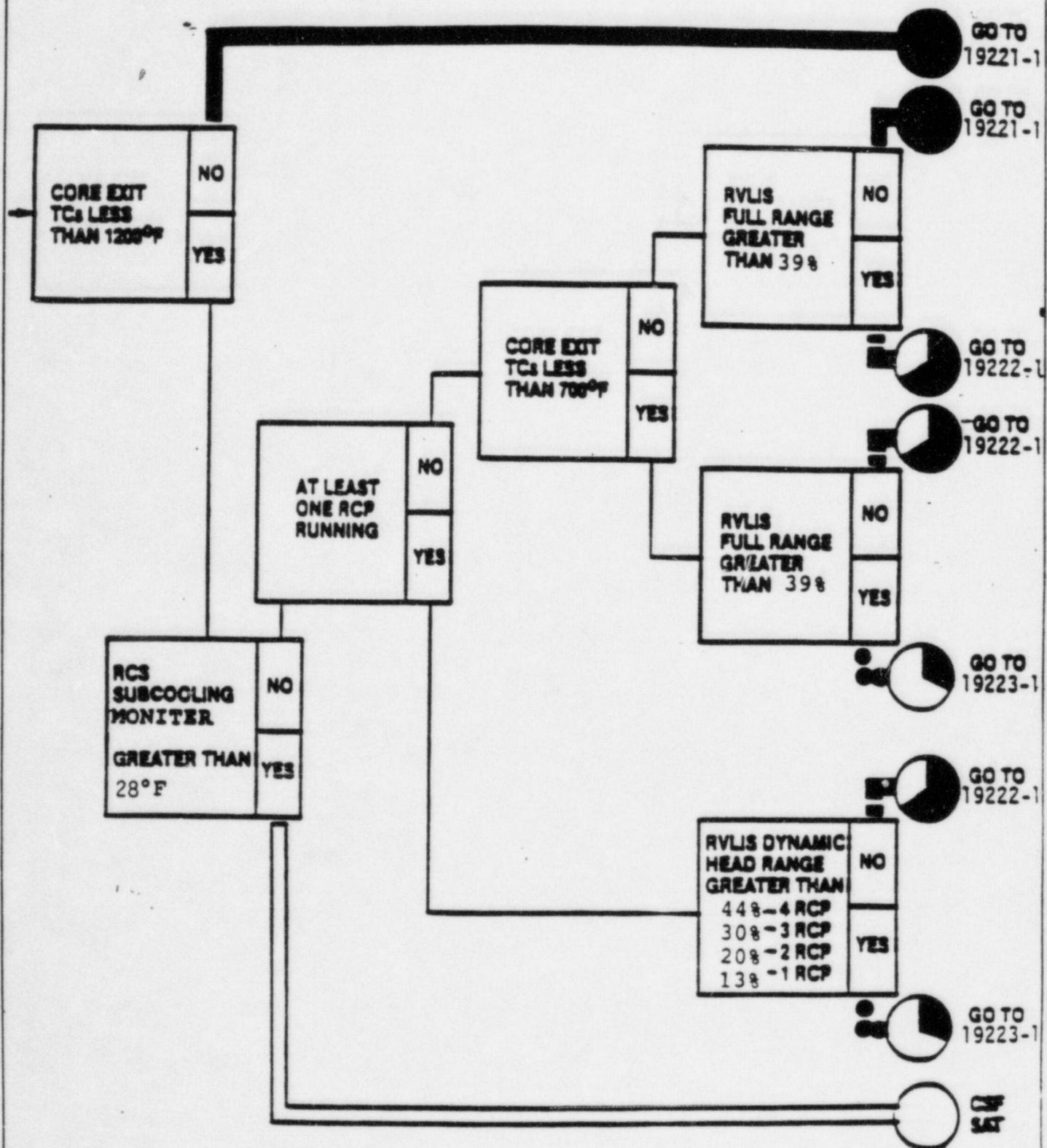
SUBCRITICALITY - F-0.1



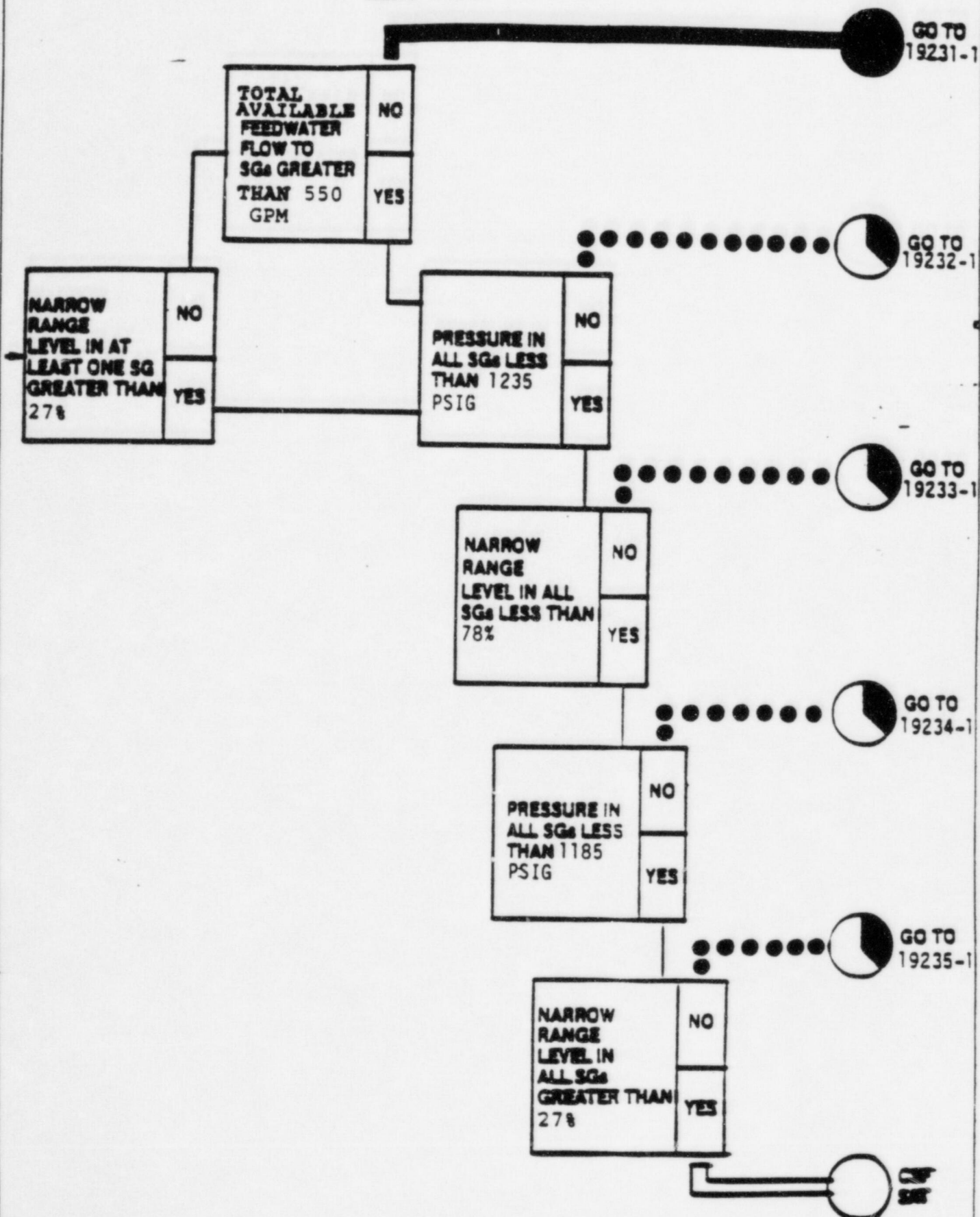
CORE COOLING - F-0.2



CORE COOLING - F-0.2



HEAT SINK - F-0.3



OPERATIONAL LIMITS CURVE F-0.4

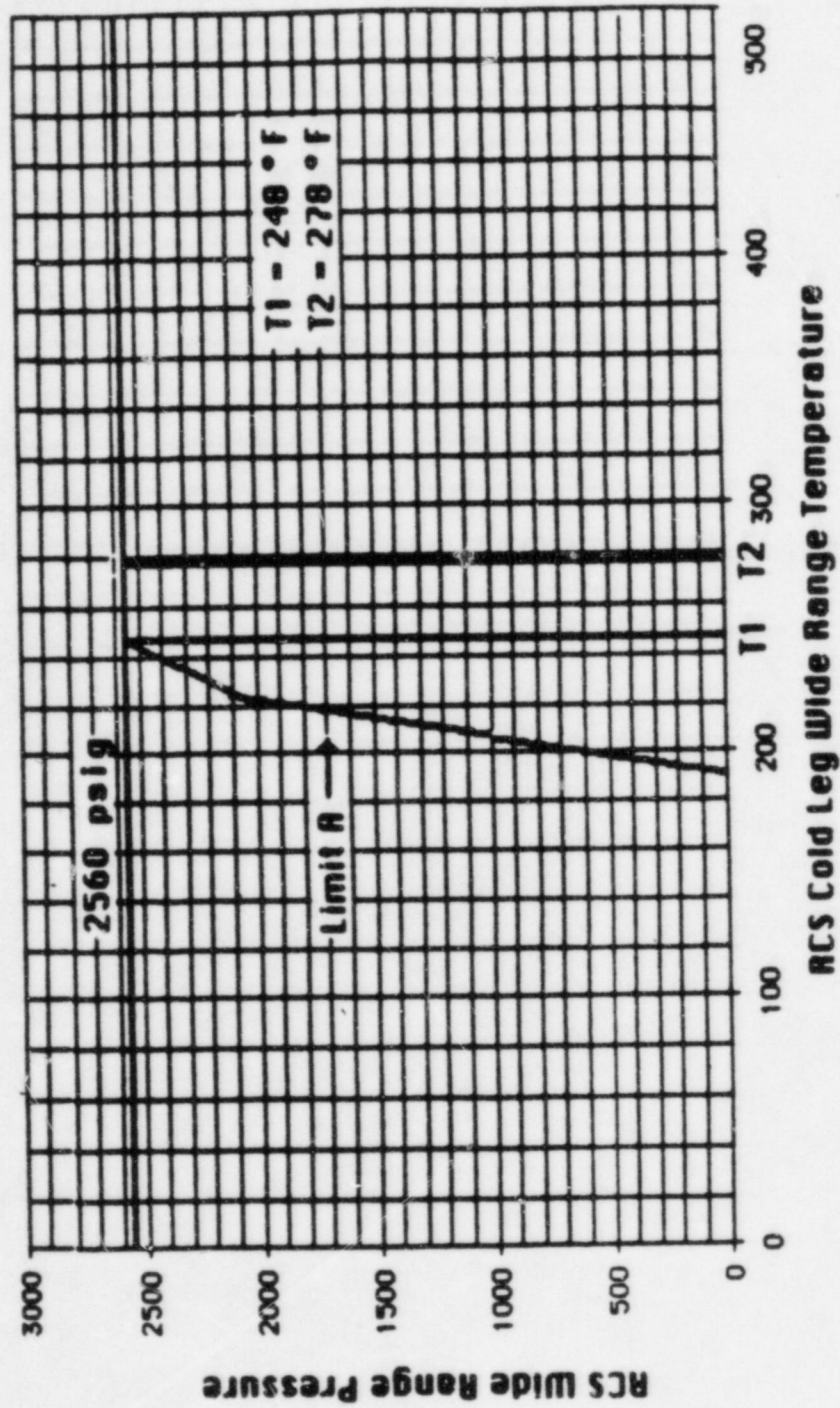
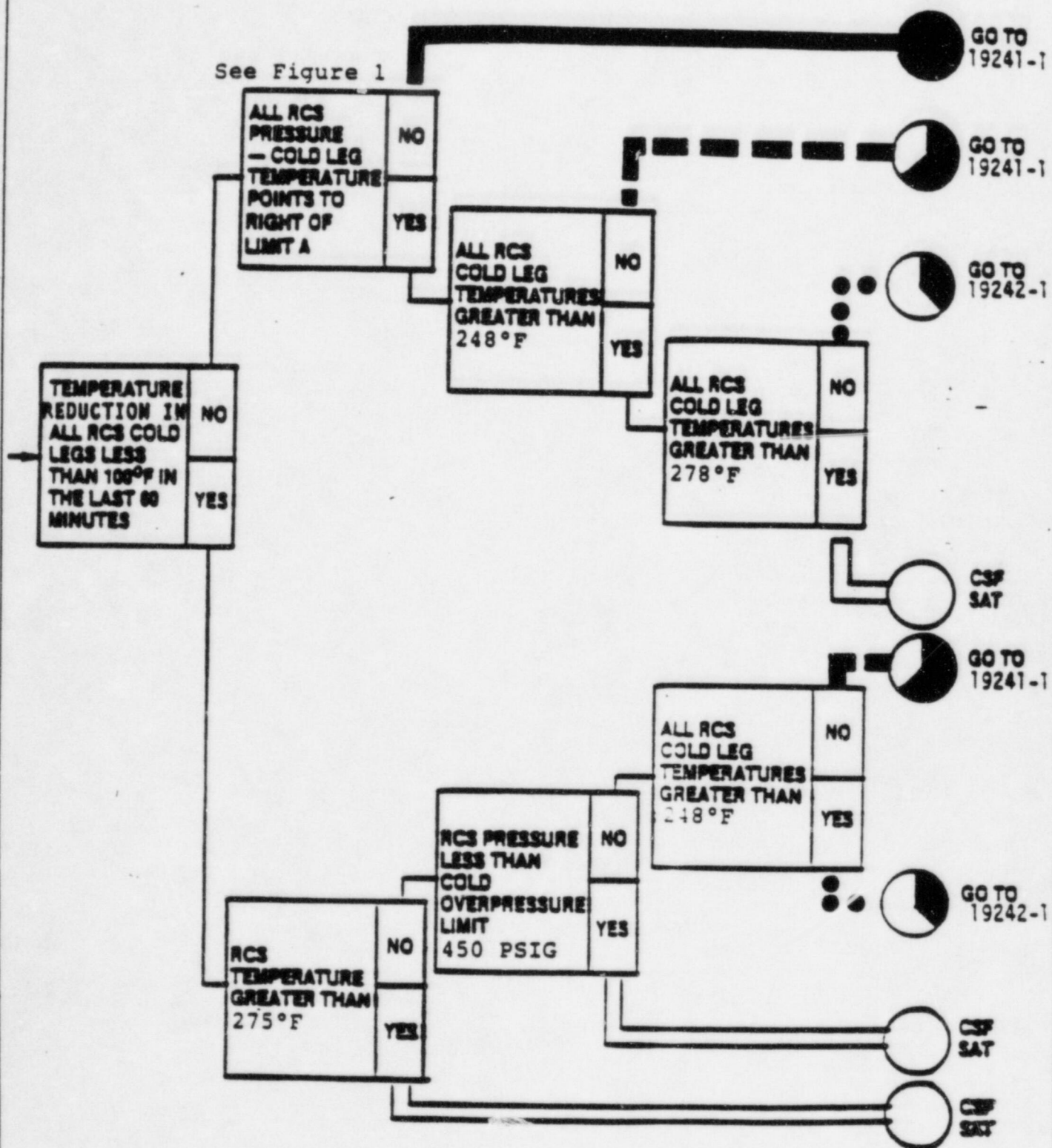
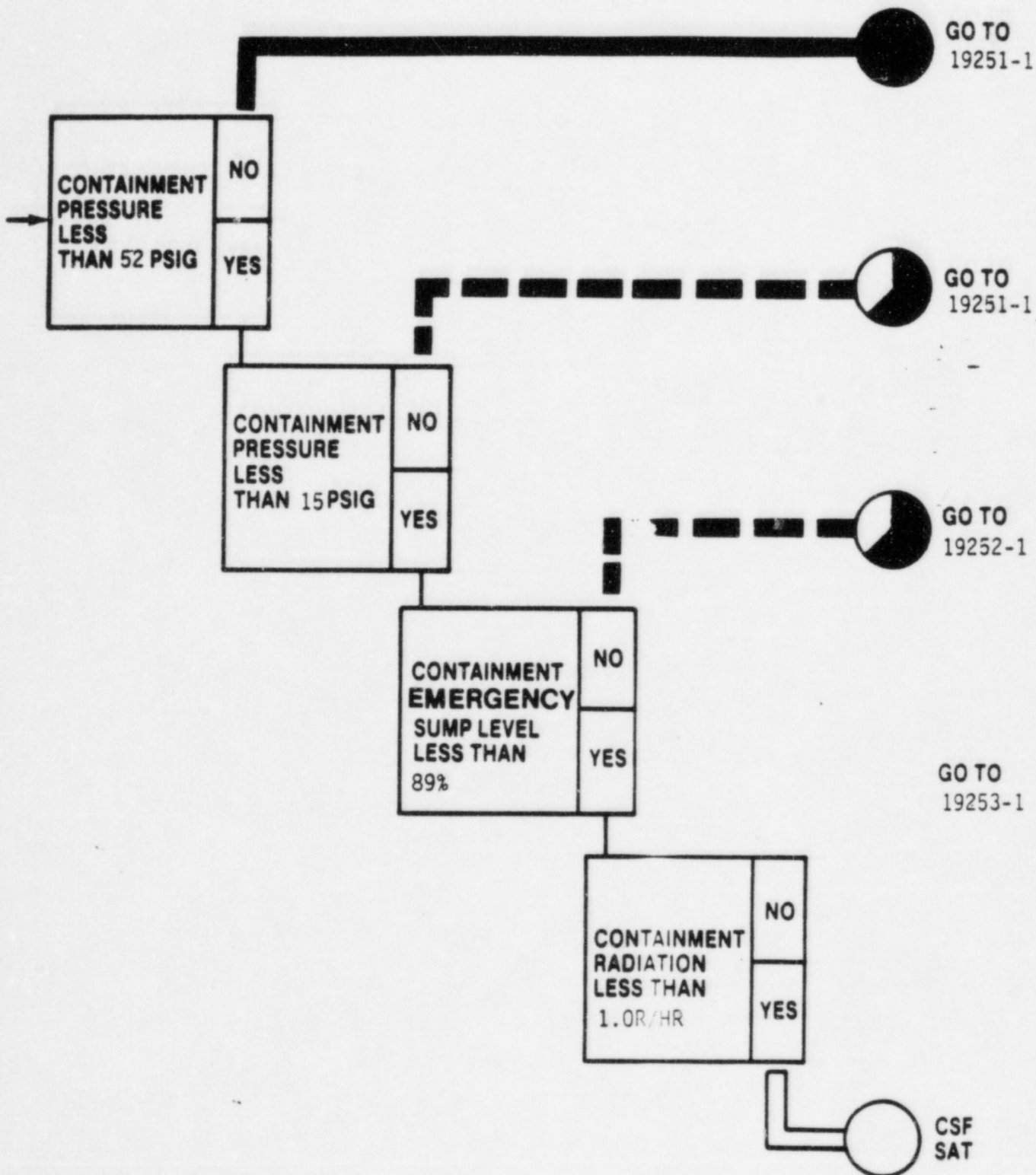


FIGURE 1

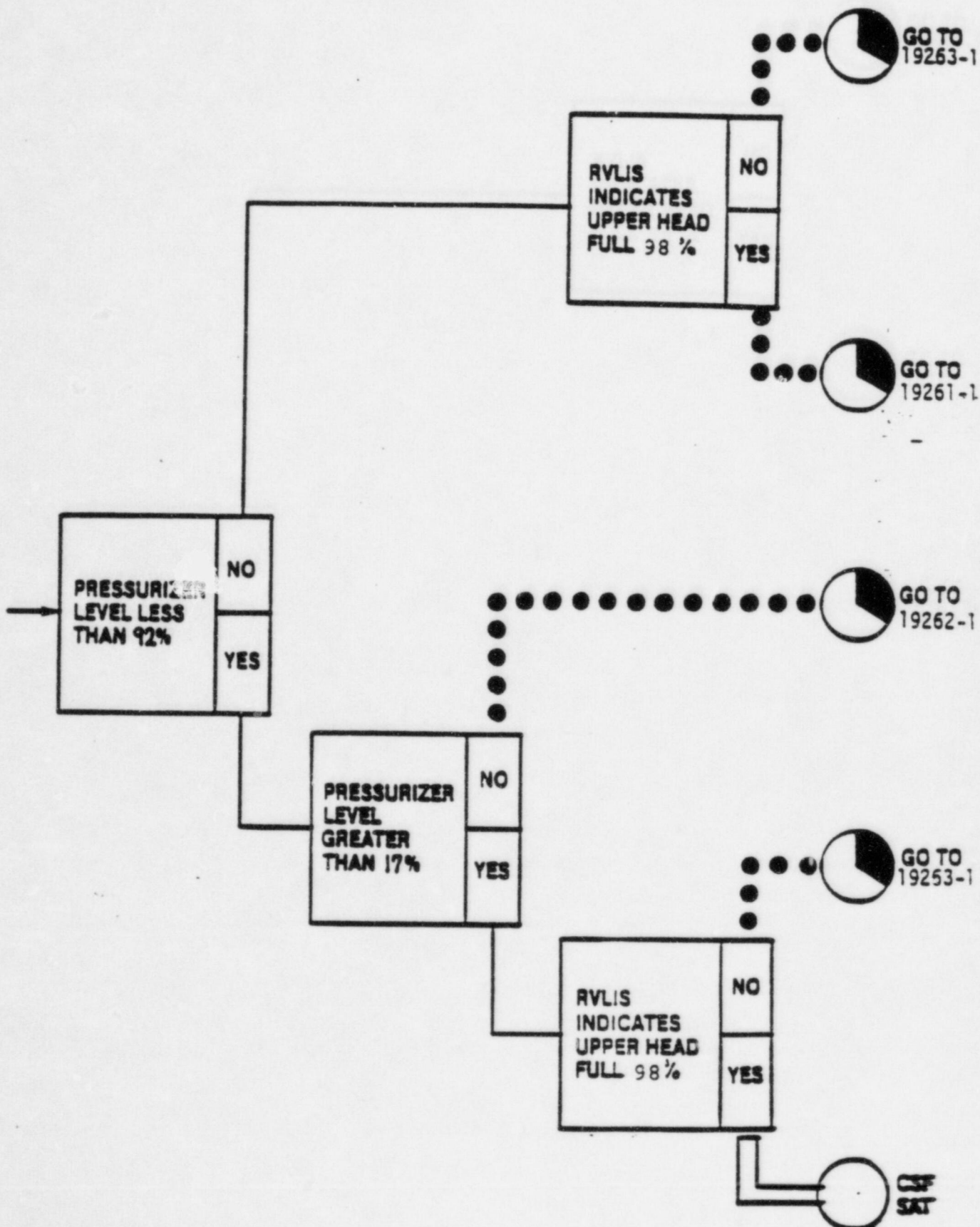
INTEGRITY - F-0.4




CONTAINMENT - F-0.5



INVENTORY - F-0.6



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| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # FER-S.1 REV 1 EOP # 19311-1 REV 0
 EOP WRITER N/A DATE 6/19/85

SECTION I: ERG STEP

1

Verify Reactor Trip:

- Rod bottom lights - LIT
- Reactor trip and bypass breakers - OPEN
- Rod position indicators - AT ZERO
- Neutron flux - DECREASING

Manually trip reactor. IF reactor will NOT trip, THEN manually insert control rods.

SECTION II: EOP STEP

1. Verify Reactor Trip:

- Rod bottom lights - LIT.
- Reactor trip and bypass breakers - OPEN.
- Neutron flux - LOWERING.

1. Manually trip reactor.

IF reactor will NOT trip, THEN manually open supply feed breaker to 1NB08 and 1NB09:

- 1NB08-01
- 1NB09-01

IF reactor not tripped, THEN manually insert control rods.

SECTION III: JUSTIFICATION VECP design has rod bottom lights and rod position indicators as one and the same RND. Explained to remove MG set from service from control room.

| | | |
|---------------------------------|--|--------------------------|
| APPROVAL <u>W F Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # FOR-C.1 REV 1 EOP # 19221-1 REV 0
 EOP WRITER N/A DATE 6/19/85

SECTION I: ERG STEP

4

Check SI Accumulator Isolation Valve Status:

- | | |
|--|---|
| a. Power to isolation valves - AVAILABLE | a. Restore power to isolation valves. |
| b. Isolation valves - OPEN | b. Open isolation valves unless closed after accumulator discharge. |

SECTION II: EOP STEP

4.

Check SI Accumulator Isolation Valve Status:

- | | |
|---|---|
| a. Accumulator isolation valves - OPEN. | a. Open accumulator isolation valves unless shut after accumulator discharge. |
|---|---|

SECTION III: JUSTIFICATION Tech. Spec. require power off
isolation valves if open. Operator knowledge
for breaker identification if valves
must be closed.

263

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DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

EOP STEP DOCUMENTATION FORM

ERG # FR-C.1 REV 1 EOP # 19221-1 REV 0
EOP WRITER N/A DATE 6/19/85

SECTION I: ERG STEP

No corresponding
ERG NOTE

SECTION II: EOP STEPNOTE

Operation of Hydrogen Recombiners may cause a rise in containment pressure.

SECTION III: JUSTIFICATION TO warn operators
of an operational characteristic of
VEGP H₂ recombiners.

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMON

EOP STEP DOCUMENTATION FORMERG # FR-C.2 REV 1 ZOP # 19222-1 REV 0EOP WRITER N/A DATE 6/19/85SECTION I: ERG STEP

8

Check SI Accumulator Isolation Valve
Status:

- a. Power to isolation valves -
AVAILABLE
- b. Isolation valves - OPEN

a. Restore power to isolation valves.

b. Open isolation valves unless closed
after accumulator discharge.

265

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO

2 3
1 OF 12

UNIT COMMON

EOP STEP DOCUMENTATION FORMERG # FR-C.2 REV 1 EOP # 19222-1 REV 0EOP WRITER N/A DATE 6/18/85SECTION II: ^{EOP}ERG STEP8. Check SI Accumulator
Isolation Valve Status:a. Accumulator isolation
valves - OPEN.a. Open accumulator isolation
valves unless shut after
accumulator discharge.

266

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

11 OF 13

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-C.2 REV 1 EOP # 19222-1 REV 0EOP WRITER N/A DATE 6/20/85JUSTIFICATIONSECTION IJJ: BRG-STEP

Operator knowledge requirements of power available. Intent of this step is for operator to do it regardless of the method.

PERSONAL

W F Kitchena

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMON


EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

- CAUTION**
- If ECA-2.1, UNCONTROLLED DEPRESSURIZATION OF ALL STEAM GENERATORS, is in effect and total feed flow is less than (1) gpm due to operator action, this guideline should not be performed.
 - If parameter (2) [(3) for adverse containment] is exceeded due to loss of secondary heat sink, RCPs should be tripped and Steps 10 through 16 should be immediately initiated for bleed and feed.
 - Feed flow should not be reestablished to any faulted SG if a non-faulted SG is available.

268

| | | | |
|---------------------------------|--|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 21 OF 22 |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/31/85

SECTION II: ^{EOP} ERG STEP

CAUTION

- Trip all RCPs and immediately perform Steps 10 through 16 to initiate bleed and feed if either of the following conditions exist:
 - a. Wide range level in any 3 SGs is less than 25% [40% for adverse containment] with no feedwater established.
- OR-
- b. PRZR pressure is equal to or greater than 2335 psig due to loss of secondary heat sink.
- Feed flow should not be re-established to any faulted SG if a non-faulted SG is available.

269

| | | |
|---------------------------------|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | | REVISION NO. 0 |
| | UNIT <u>COMMON</u> | PAGE NO. 24 OF 23 |

EOP STEP DOCUMENTATION FORM


ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/2/85

JUSTIFICATION

SECTION III: EOP STEP

First bullet (•) was deleted due to a change in red path requirements. Plant specific values were included. Second bullet (•) was expanded to clarify its intent. Third bullet (•) is consistent with VEGP requirements.

270

| | | | |
|----------------------------------|--|--|---------------------------------|
| ADDRESS <u>W. F. Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. <u>11894-C</u> |
| DATE <u>4/8/84</u> | UNIT <u>COMMON</u> | | REVISION NO. <u>0</u> |
| | | | PAGE NO. <u>1 OF 3</u> |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER NIA DATE 6/21/85

SECTION I: ERG STEP

5 Try To Establish Main FW Flow To
At Least One SG:

- a. Check Condensate System - IN SERVICE
- b. Check FW isolation valves - OPEN

- c. Establish Main FW flow:
[Enter plant specific means]

- a. Try to place Condensate System in service. IF NOT, THEN go to Step 9
- b. Perform the following:
 - 1) Reset SI if necessary.
 - 2) Reset FW isolation.
 - 3) Open FW isolation valves.IF no FW isolation valve can be opened. THEN go to Step 9.
- c. Go to Step 7.

271

| | | |
|---------------------------------|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. 2X OF 2X |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/21/85

SECTION II: EOP STEP

5. Try To Establish Main FW To
At Least One SG:

a. Check Condensate
System - IN SERVICE.

a. Place Condensate System in
service.

IF the Condensate System
can NOT be placed in
service,
THEN go to Step 9.

b. Check feedwater
isolation valves - OPEN.

b. IF SI has been actuated,
THEN go to Step 9.

Perform the following:

1) Reset FW isolation.

2) Verify MFRVs and BFRVs
shut.

3) Open BFIVs.


IF BFIVs will not open,
THEN open MFIVs.

c. Start one Main Feed
Pump by initiating
13615-1, CONDENSATE
AND FEEDWATER SYSTEM.

d. Open BFRVs to establish
feed flow.

d. Open MFRVs.

272

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| W. F. Kitchens DATE 4/18/84 | <div style="text-align: center;"> Georgia Power <small>POWER GENERATION DEPARTMENT</small> VOGTLE ELECTRIC GENERATING PLANT </div> <div style="text-align: center;">  UNIT <u>COMMON</u> </div> | PROCEDURE NO. 11894-C REVISION NO. 0 PAGE NO. 1 OF 3 |
|--------------------------------|--|--|

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 8/5/85

JUSTIFICATION

SECTION IJJ: BRG-002P

Reference to SI Reset was deleted
 according to VEGP design. If SI has
 occurred, resetting SI would not help in
 reestablishing feedwater. Also AFW only
 enhances SIS, it is not necessary for SI
 operation. Plant specific method of
 starting main feed pump was included.

273

W F Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0

EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

7

Try To Establish Feed Flow From
Condensate System:

a. Depressurize RCS to less than
18) PSIG:

1) Check letdown - IN SERVICE

2) Use auxiliary spray

b. Block SI signals:

- Low Steamline Pressure SI
- Low PRZR Pressure SI

c. Depressurize at least one SG
to less than 19) PSIG:

1) Dump steam to condenser
at maximum rate

d. Establish condensate flow:

[Enter plant specific means]

1) Use one PRZR PORV. IF NOT,
THEN use auxiliary spray. Go to
Step 7b.

2) Use one PRZR PORV.

1) Manually or locally dump steam
from SGs:

- Use PORV.


—OR—

- [Enter plant specific means].

IF NOT THEN go to Step 9.

d. Go to 9.

274

| | | | |
|---------------------------------|--|--|--------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/12/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 24 OF 223 |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER NIA DATE 6/21/85

SECTION II: ^{EOP} ERG STEP

7. Try To Establish Feed Flow From The Condensate System:

a. Depressurize RCS to less than 1920 psig:

1) Check Letdown - IN SERVICE.

1) Use one PRZR PORV.

IF PRZR PORVs are NOT available,
THEN use auxiliary spray.

Go to Step 7b.

2) Use auxiliary spray.

2) Use one PRZR PORV.

b. Block SI signals:

- Low Steamline Pressure SI.
- Low PRZR Pressure SI.

c. Depressurize one intact SG at a time to less than 665 psig by dumping steam to the condenser at maximum rate.


c. Manually or locally dump steam using SGs ARV.

IF NOT able to dump steam,
THEN go to Step 9.

d. Establish condensate flow by initiating 13615-1, CONDENSATE AND FEEDWATER SYSTEM.

d. Go to Step 9.

275

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| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/12/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> 1 OF 23 |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/21/85

JUSTIFICATION

SECTION IJJ: ERG STEP

Plant specific values were included
 Plant specific methods were included as
 required by ERG. Step C was expanded
 to prolong available water inventory
 in SGs.

276

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4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # FR-H. 1 REV 1 EOP # 19231-1 REV E
 EOP WRITER NIA DATE 6/21/85

SECTION I: ERG STEP15 Establish RCS Bleed Path:

- | | |
|---|-----------------------------------|
| a. Verify power to PRZR PORV block valves - AVAILABLE | a. Restore power to block valves. |
| b. Verify PRZR PORV block valves - ALL OPEN | b. Open block valves. |
| c. Open all PRZR PORVs | |

SECTION II: EOP STEP12. Establish RCS Bleed Path:

- | | |
|--|-------------------------------------|
| a. Verify power to PRZR PORV block valves - AVAILABLE. | a. Restore power to block valves. |
| b. Verify PRZR PORV block valves - ALL OPEN. | b. Open all PRZR PORV block valves. |
| c. Open all PRZR PORVs. | |


SECTION III: JUSTIFICATION

VEGP design does not require instrument air to operate PRZR PORVs. Therefore Step^{ERG} 12 through 14 were placed after step 14 and steps were renumber accordingly. This change is permissible by ERGs. (Reference FRH.1 background.)

ERG step 15 was changed

to EOP Step 12

277

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| <small>DATE</small> 4/8/84 | UNIT <u>COMMON</u> | <small>PAGE NO.</small> 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # FR-H-1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP


16

Verify Adequate RCS Bleed Paths:

a. PRZR PORVs - AT LEAST TWO
OPEN

a. Perform the following:

- 1) Open all RCS high point vents:
[Enter plant specific list].
- 2) Depressurize at least one intact
SG to atmospheric pressure
using SG PORV.
- 3) Align any available low
pressure water source to
the depressurized SG(s).

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| DATE 4/8/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF XZ |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/21/85

SECTION II: ^{EOP} ~~ERG~~ STEP

13. Verify Adequate RCS Bleed Path:

- PRZR PORVs - TWO OPEN.
- PRZR PORV block valves - TWO OPEN.

13. Perform the following:

a. Open Reactor Vessel Head Vent valves:

- HV-8095A
- HV-8095B
- HV-8096A
- HV-8096B
- HV-442A
- HV-442B

b. Depressurize at least one intact SG to atmospheric pressure using SG ARV.

c. Align any available low pressure water source to the depressurized SGs.

279

| | | |
|----------------------------------|--|---|
| APPROVAL <u>W F. Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT UNIT <u>COMMON</u> | PROCEDURE NO. 11894-C |
| DATE <u>4/18/84</u> | | REVISION NO. 0 |
| | | PAGE NO. <u>3</u> <u>1</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM


ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/21/85

SECTION III: JUSTIFICATION VEGP design does not require instrument air to operate PRZR PORVs. Therefore Step^{ERG} 12 through 14 were placed after step 14 and steps were renumber accordingly. This change is permissible by ERGs. (Reference FRH.1 background.)

703101

ERG Step 16 was changed to EOP Step 13.

280

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| DATE 4/8/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. 1 OF 1 | |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

- 17 **Maintain RCS Heat Removal:**
- Maintain SI flow
 - Maintain PRZR PORVs - AT LEAST TWO OPEN

SECTION II: EOP STEP

14. Maintain RCS Heat Removal:
- Maintain ECCS flow.
 - Maintain PRZR PORVs - AT LEAST TWO OPEN.

SECTION III: JUSTIFICATION VEGP design does not require instrument air to operate PRZR PORVs. Therefore Step^{ERG} 12 through 14 were placed after step 14 and steps were renumber accordingly. This change is permissible by ERGs. (Reference FRH.1 background.)

281

ERG Step 17 was changed to EOP Step 14.

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

DATE

4/18/84

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

12

Reset SI

SECTION II: EOP STEP

15. Reset SI.

SECTION III: JUSTIFICATION

VEGP design does not
require instrument air to operate
PRZR PORVs. Therefore step^{ERG} 12 through
14 were placed after step^{EOP} 14 and steps
were renumber accordingly. This change
is permissible by ERGs. (Reference
FRH.1 background.)

282

ERG step 12 was changed to EOP Step 15

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DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM


ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

13

Reset Containment Isolation
Phase A And Phase B

283

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> 3 1 OF 12 |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER NIA DATE 6/21/85

SECTION II: ^{EOP} ERG STEP

16. Reset Containment Isolation Phase A:

a. Check containment area radiation monitors - LESS THAN (3) R/HR:

- RE-0005A
- RE-0005B
- RE-0006A
- RE-0006B

b. Reset containment isolation phase A as radiation monitors if necessary.

c. Reset containment isolation phase A.

284

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| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <u>3</u> OF <u>3</u> |


EOP STEP DOCUMENTATION FORM

ERG # ER-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/21/85

SECTION III: JUSTIFICATION VEGP design does not
require instrument air to operate
PRZR PORVs. Therefore Step^{ERG} 12 through
14 were placed after step^{EOP} 14 and steps
were renumber accordingly. This change
is permissible by ERGs. (Reference
ERH.1 background.)

Change to EOP Step 16
 Phase B isolation was deleted from
 VEGP design.

285

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| DATE 4/8/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 2 1 OF X |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER NIA DATE 6/21/85

SECTION I: ERG STEP

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV _____
 EOP WRITER _____ DATE _____

SECTION I: ERG STEP

14

Establish Instrument Air To
Containment

Start one air compressor and
establish instrument air to
containment.

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| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO <u>2</u> <u>3</u> OF <u>12</u> |

EOP STEP DOCUMENTATION FORM

ERG # FR-4.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER NIA DATE 6/21/85

SECTION II: EOP STEP

17. Establish Instrument Air
To Containment:

a. Verify instrument air
pressure - NORMAL.

b. Open instrument air to
containment isolation
valve:

• HV-9378

a. Start one air compressor
by initiating 13710-1,
SERVICE AIR SYSTEM,
Section 4.1 Service Air
System Startup.

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

3 OF 3

UNIT COMMON

EOP STEP DOCUMENTATION FORMERG # ER-H.1 REV 1 EOP # 19231-1 REV 0EOP WRITER VIA DATE 6/21/85SECTION III: JUSTIFICATION

VEGP design does not
require instrument air to operate
P&R PORVs. Therefore Step^{ERG} 12 through
14 were placed after step^{EOP} 14 and steps
were renumber accordingly. This change
is permissible by ERGs. (Reference
ERH.1 background.)

Changed to EOP Step 17

W F Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 1

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

18

Continue Attempts To Establish
Secondary Heat Sink In At Least
One SG:

- AFW flow
- Main FW flow
- Condensate flow
- Other low pressure flow

SECTION II: EOP STEP

18. Continue Attempts To
Establish Secondary Heat
Sink In At Least One SG:

- AFW flow.
- Main FW flow.
- Condensate flow.

SECTION III: JUSTIFICATION 4TH bullet. No other
low pressure flow exists.

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| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. 1 OF <i>2</i> |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP


*No corresponding
ERG NOTE*

SECTION II: EOP STEP

NOTE

Without instrument air available charging should be established using Attachment C.

290

| | | | |
|---------------------------------|--|--|---|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/13/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> <u>2</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER N/A DATE 6/21/85

JUSTIFICATION
 SECTION 111: ERG STEP

VEGP design does not include
 air compressor powered from a
 IEAC power supply. Charging flow
 control valves require an air supply
 for their operation. Because it is
 possible for this procedure to be
 implemented without an air compressor
 available, an alternate method of
 establishing charging is necessary.
 This alternate method is included
 in Attachment

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

25

Establish 114 GPM Charging Flow:

- a. Close charging line flow control valve
- b. Open charging line hand control valve
- c. Open charging line isolation valves
- d. Establish 114 GPM charging flow using flow control valve

292

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DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO.

0

PAGE NO.

24 OF 223


UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-H.1 REV 1 EOP # 1923 1-1 REV 0EOP WRITER N/A DATE 2/7/85SECTION II: ^{EOP} ERG STEP

25. Establish Charging Flow:

- a. Open CCP normal miniflow isolation valves.
- b. Shut CCP alternate miniflow valves.
- c. Shut seal injection flow control valve HV-182.*
- d. Open charging line isolation valves:
 - o HV-8105
 - o HV-8106
- e. Shut BIT isolation valves.

a. Go to Step 25c.

293

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| APPROVAL <i>W-F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT UNIT <u>COMMON</u> |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> <u>1</u> OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # ER-H.1 REV 1 EOP # 19231-1 REV 0
 EOP WRITER NIA DATE 6/21/85

JUSTIFICATION
SECTION III: ERG STEP

ERG Step 25b was deleted.
 VEGP design does not have a charging
 line hand control valve. BIT isolation
 was included here to prevent CCP
 run out. Plant specific valve was
 included. No included in case of
 failure of normal CCP min flow
 valves.

294

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Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

DATE

4/18/84

UNIT COMMON

PAGE NO.

1 OF 14

EOP STEP DOCUMENTATION FORM

ERG # FR-H.1 REV 1 EOP # 19231-1 REV 0
EOP WRITER _____ DATE 6/21/85

SECTION I: ERG STEP

No corresponding
ERG Attachment

SECTION II: EOP STEP

See Attachment c
included

SECTION III: JUSTIFICATION

Include in lieu of
placing information of Step 25
See Note before Step 25 for
justification.

ATTACHMENT CESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

- A. Establish Charging With Both Train A And Train B Emergency Buses Energized:
1. Verify alternate miniflow isolation valves - OPEN:
 - HV-8508A
 - HV-8508B
 2. Verify one CCP - RUNNING.
 3. Verify charging isolation valves - OPEN:
 - HV-8105
 - HV-8106
 4. Verify BIT isolation valves - SHUT:
 - HV-8801A
 - HV-8801B
 - HV-8803A
 - HV-8803B
 5. Dispatch local operators to do the following:
 - a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - c. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

277

ATTACHMENT C (Cont'd.)

- B. Establish Charging With Train A Emergency Bus Energized:
1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
 2. Verify Train A CCP - RUNNING.
 3. Verify Train A charging isolation valve HV-8106 - OPEN.
 4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

298

ATTACHMENT C (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B OPEN.
2. Verify Train B CCP - RUNNING.
3. Verify Train B charging isolation valve HV-8105 - OPEN.
4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISC
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT C

299

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| APPROVAL <i>W. F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT UNIT <u>COMMON</u> | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | | REVISION NO. 0 |
| | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # FR-H.2 REV 1 EOP # 19232-1 REV 0
 EOP WRITER N/A DATE 6/18/85


SECTION I: ERG STEP

- 2 **Verify FW Isolation To Affected SG(s):** Manually close valves.
- a. Flow control valves - CLOSED
 - b. Flow control bypass valves - CLOSED
 - c. FW isolation valves - CLOSED

SECTION II: EOP STEP

- | | |
|--|---|
| 2. Verify FW Isolation To Affected SGs: <ul style="list-style-type: none"> a. MFIVs - SHUT. b. BFIVs - SHUT. | 2. Manually shut valves. IF valves can <u>NOT</u> be shut, <u>THEN</u> dispatch operator to locally shut valves. |
|--|---|

SECTION III: JUSTIFICATION Reword and expanded step to clarify its intent.
Control valves are not isolation valves by design or construction.
Deleted control valve & bypass valves DVM 06/18/85


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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241-1 REV 0
 EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

7 Reset Containment Isolation Phase A And
 Phase B

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> <u>3</u> 1 OF 12 |

EOP STEP DOCUMENTATION FORM

ERG # FOR - P. 1 REV 1 EOP # 19241-1 REV 0
 EOP WRITER N/A DATE 6/21/85

SECTION II: ^{EOP} ERG STEP

7. Reset Containment Isolation Phase A:


a. Check containment area radiation monitors - LESS THAN (3) R/HR:

- RE-0005A
- RE-0005B
- RE-0006A
- RE-0006B

b. Reset containment isolation phase A radiation monitors if necessary.

c. Reset containment isolation phase A.

302

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 3 OF 3 |

EOP STEP DOCUMENTATION FORM


ERG # FR-P.1 REV 1 EOP # 19241-1 REV 0
 EOP WRITER N/A DATE 6/21/85

JUSTIFICATION

SECTION III: ~~ERG STEP~~

Phase B isolation was deleted
 from VEGP design. Plant specific
 requirements and methods were
 included.

303

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| DATE <i>4/18/84</i> | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <i>2</i> |

EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241-1 REV 0
EOP WRITER NIA DATE 6/21/85

SECTION I: ERG STEP

*No corresponding
ERG Step.*

SECTION II: EOP STEP

NOTE

Without instrument air available charging should be established using Attachment B.

SECTION III: JUSTIFICATION

*See JUSTIFICATION
Included*

304

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W F Kitchens

DATE

4/8/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

2 OF 23

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-P.1 REV 1 EOP # 19241-1 REV 0EOP WRITER N/A DATE 6/21/85JUSTIFICATIONSECTION I: ~~ERG STEP~~

VEGP design does not include air compressor powered from a IEAC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing charging is necessary. This alternate method is included in Attachment B

305

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM


ERG # FR-P.1 REV 1 EOP # 19241-1 REV 0
EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

10

Establish (9) GPM Charging Flow:

- a. Close charging line flow control valve
- b. Open charging line hand control valve
- c. Open charging line isolation valves
- d. Establish (9) GPM charging flow using flow control valve

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|---------------------------------|--|--|---------------------------------------|
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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> <u>3</u> 1 OF 12 |

EOP STEP DOCUMENTATION FORM

ERG # FR-12.1 REV 1 EOP # 19241-1 REV 0
 EOP WRITER N/A DATE 6/21/85


SECTION II: ^{EOP}~~ERG~~ STEP

10. Establish Charging Flow:

- a. Open CCP normal miniflow isolation valves.
- b. Shut CCP alternate miniflow valves.
- c. Shut seal injection flow control valve HV-182.
- d. Open charging line isolation valve:
 - HV-8105
 - HV-8106
- e. Shut BIT isolation valves.

a. Go to Step 10c.

307

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>3</u> 1 OF 3 |

EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241-1 REV 0
 EOP WRITER N/A DATE 6/21/85

JUSTIFICATION

SECTION III: ~~ERG STEP~~

10 b was deleted. VEGP design does not have a charging line hand control valve. BIT isolation was included here to prevent CCP run out. RNO was included in case of failure of CCP normal miniflow valves.

308

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4/18/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 23

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-P.1 REV 1 EOP # 19241-1 REV 0EOP WRITER N/A DATE 6/21/85SECTION I: ERG STEP


14

Isolate All SI Accumulators:a. Check power to isolation valves -
AVAILABLEb. Close all SI accumulator isolation
valves

a. Restore power to isolation valves.

b. Vent any unisolated accumulator.

309

| | | | |
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| DATE 4/8/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. <u>2</u> <i>43</i> 1 OF <i>12</i> |

EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241-1 REV E
 EOP WRITER N/A DATE 2/8/85

SECTION II: ^{EOP} ~~ERG~~ STEP

14. Isolate All SI Accumulators.

14. Vent any non-isolable accumulators:

- a. Verify N₂ supply valve HV-880 - shut.
- b. Open accumulator vent valves.
- c. Open common vent valves HV-943A or B.

310

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4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

21 OF 23

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FP-P.1 REV 1 EOP # 19241-1 REV 0EOP WRITER N/A DATE 6/21/95JUSTIFICATIONSECTION III: EOP STEP

The intent of this step is to be done regardless of the method used. Operator knowledge requirement of power availability to isolation valves.

311

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

DATE

4/18/84

UNIT COMMON

PAGE NO.

1 OF 2EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241 REV 0
EOP WRITER NIA DATE 6/21/85

SECTION I: ERG STEP

No corresponding
ERG Step.

SECTION II: EOP STEPNOTE

Without instrument air available makeup to VCT is not available.

SECTION III: JUSTIFICATION

See JUSTIFICATION
Included.

3/2

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4/18/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0


PAGE NO.

2 OF 2

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-P.1 REV 1 EOP # 19244-1 REV 0EOP WRITER N/A DATE 6/21/85JUSTIFICATIONSECTION 11: EOP STEP

VEGP design does not include air compressor powered from a IEAC power supply. VCT makeup flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, the operator is made aware of a possible loss of CCP suction source.

3/3

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF <u>2</u> |

EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241-1 REV 0
 EOP WRITER NIA DATE 6/21/85

SECTION I: ERG STEP

*No corresponding
ERG Step.*

SECTION II: EOP STEP

NOTE

Without instrument air available letdown should be established using Attachment C.

SECTION III: JUSTIFICATION

*See JUSTIFICATION
Included.*

3/4

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DATE

4/12/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.


0

PAGE NO. 2

2
1 OF 3UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-P-1 REV 1 EOP # 19241-1 REV 0EOP WRITER N/A DATE 6/21/85JUSTIFICATIONSECTION IJJ: ERG STEP

VEGP design does not include air compressor powered from a IEAC power supply. Letdown flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing letdown is necessary. This alternate method is included in Attachment c

315

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 1 |

EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241-1 REV 2
 EOP WRITER NIA DATE 6/2/85

SECTION I: ERG STEP

*No corresponding
ERG Step.*


SECTION II: EOP STEP

CAUTION

Without instrument air available CCP suction should remain aligned to RWST.

SECTION III: JUSTIFICATION *VCT make-up will not be*
available, if instrument air is not
available. Therefore a CCP suction
source may be unavailable

3/6

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| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 24 |

EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241-1 REV C
 EOP WRITER N/A DATE 6/21/95

SECTION I: ERG STEP

No corresponding
ERG Attachment

SECTION II: EOP STEP

See Attachment B
included.

SECTION III: JUSTIFICATION Include in lieu of
placing information on Step 10
See JUSTIFICATION & NOTE
before Step 10

PROCEDURE NO.

19241-1-1

REVISION

0

PAGE NO.

16 of 20

Sheet 1 of 3

ATTACHMENT BESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

- A. Establish Charging With Both Train A And Train B Emergency Buses Energized:
1. Verify alternate miniflow isolation valves - OPEN:
 - HV-8508A
 - HV-8508B
 2. Verify one CCP - RUNNING.
 3. Verify charging isolation valves - OPEN:
 - HV-8105
 - HV-8106
 4. Verify BIT isolation valves - SHUT:
 - HV-8801A
 - HV-8801B
 - HV-8803A
 - HV-8803B
 5. Dispatch local operators to do the following:
 - a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - c. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

3/8

ATTACHMENT B (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:


1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

ATTACHMENT B (Cont'd.)

- C. Establish Charging With Train B Emergency Bus Energized:
1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
 2. Verify Train B CCP - RUNNING.
 3. Verify Train B charging isolation valve HV-8105 - OPEN.
 4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
 5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO.
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO.
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT B

320

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|---------------------------------|--|--|---------------------------------|
| APPROVAL <i>W F Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | | REVISION NO. 0 |
| | | | PAGE NO. 1 OF 12 |

EOP STEP DOCUMENTATION FORM

ERG # FR-P.1 REV 1 EOP # 19241-1 REV C
 EOP WRITER N/A DATE 6/21/85

SECTION I: ERG STEP

*No corresponding
ERG Attachment*

SECTION II: EOP STEP

*See Attachment
included*

SECTION III: JUSTIFICATION *Include review of*
placing this information on
Step 18. See JUSTIFICATION of
NOTE before step 18

321

| | | |
|--------------------------|---------------|--------------------------------------|
| PROCEDURE NO. 19241-1 | REVISION 0 | PAGE NO. ² 19 of 20 |
|--------------------------|---------------|--------------------------------------|

Sheet 1 of 1

ATTACHMENT C

ESTABLISH SAFETY GRADE LETDOWN

CAUTION

The PRT may rupture while performing safety grade letdown.

1. Open Reactor Vessel Head Vent isolation valves:
 - HV-8095A
 - HV-8096A
 - HV-8095B
 - HV-8096B
2. Open Reactor Vessel Head Vent flow control valves to obtain desired letdown flow:
 - HV-442A
 - HV-442B

END OF ATTACHMENT C

322

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4/18/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 2

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # FR-2.1 REV 1 EOP # 19251-1 REV 0
EOP WRITER N/A DATE 6/21/85


SECTION I: ERG STEP

3

Check If Containment Spray Is Required:

- | | |
|---|--|
| a. Containment pressure - HAS INCREASED TO GREATER THAN (1) PSIG | a. Go to Step 4. |
| b. Verify spray pumps - RUNNING | b. Start spray pumps. |
| c. Verify spray system valve alignment - PROPER EMERGENCY ALIGNMENT [Enter plant specific list for injection and recirculation phases] | c. Manually align valves as necessary. |
| d. Verify containment isolation Phase B valves - CLOSED | d. Manually close valves. |

323

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| DATE <i>4/2/84</i> | UNIT <u>COMMON</u> | | REVISION NO 0 |
| | | | PAGE NO 21 OF 22 |

EOP STEP DOCUMENTATION FORM

ERG # ER-2.1 REV 1 EOP # 19251-1 REV 0
 EOP WRITER N/A DATE 6/2/85

SECTION II: ^{EOP} ERG STEP

3. Check If Containment Spray Is Required:
 - a. Containment pressure - HAS RISEN TO GREATER THAN 22 PSIG.
 - b. Verify Containment Spray - ACTUATED.
 - c. Verify containment spray pumps - RUNNING.
- a. Go to Step 8.
 - b. Manually actuate Containment Spray.
 - c. Manually start pumps.

324

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4/18/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

21 OF 23

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # F.R-2.1 REV 1 EOP # 14251 REV 0EOP WRITER N/A DATE 6/21/85JUSTIFICATIONSECTION IJJ: BRG-STEP

VEGP design does not use
Phrase B isolation. Spray valve
alignment is checked in Step 4.
3a RNO was change due to break up
of other steps.

325

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DATE

4/18/84

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POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-2.1 REV 1 EOP # 19257-1 REV 0EOP WRITER _____ DATE 6/21/85SECTION I: ERG STEP

7

Check Hydrogen Concentration:a. Current hydrogen concentration
measurement - AVAILABLEa. Obtain a hydrogen concentration
measurement:

[Enter plant specific means]:

Continue with Step 11. WHEN
hydrogen concentration measurement
available, THEN do Step 7b.b. Hydrogen concentration - LESS THAN
6.0% IN DRY AIR

b. Go to Step 8.

c. Hydrogen concentration - LESS THAN
0.5% IN DRY AIR

c. Turn on hydrogen recombiner system.

d. Go to Step 11

326

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DATE

4/12/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO

11894-C

REVISION NO.

0

PAGE NO

21 OF 22

UNIT COMMON

EOP STEP DOCUMENTATION FORMERG # FR-211 REV 1 EOP # 19257-1 REV 0EOP WRITER N/A DATE 6/21/85SECTION I: EOP STEP12. Check Hydrogen
Concentration:a. Current hydrogen
concentration
measurement - AVAILABLE.a. Obtain a hydrogen
concentration measurement.WHEN hydrogen concentration
measurement available,
THEN do Step 12b.

Continue with Step 15.


b. Hydrogen concentration -
LESS THAN 4.0% IN DRY
AIR.

b. Go to Step 13.

c. Hydrogen concentration -
LESS THAN 0.5% IN DRY AIR.c. Start one hydrogen
recombiner system by
initiating 13130-1,
POST ACCIDENT HYDROGEN
CONTROL SYSTEM.

d. Go to Step 14.

327

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| DATE 4/18/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO. <u>3</u> OF <u>3</u> | |

EOP STEP DOCUMENTATION FORM

ERG # FR-2.1 REV 1 EOP # 19251-1 REV 0
 EOP WRITER N/A DATE 6/21/95

JUSTIFICATION
SECTION III: EOP STEP

Plant specific method of obtaining
 H₂ measurement, from other than control
 room indication, have not been developed.
 Plant specific of ^{placing} ~~the~~ H₂ recombiner.
 DTM 07/MAR/85
 in service was included instead of
 operator knowledge requirements.
 Change in setpoints was due to VEGP
 H₂ recombiners design.
 Go to Steps - - were change due to
 VEGP specific requirements.

328

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DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0


PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-I.1 REV 1 EOP # 19261-1 REV 0EOP WRITER N/A DATE 6/19/95SECTION I: ERG STEP

No corresponding
ERG Step.

329

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|---------------------------------|--|--|--------------------------|
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| DATE 4/18/84 | | | REVISION NO. 0 |
| UNIT <u>COMMON</u> | | PAGE NO <u>2</u> <u>3</u> <u>1</u> OF <u>12</u> | |

EOP STEP DOCUMENTATION FORM

ERG # FR-I.1 REV 1 EOP # 15261-1 REV 0
 EOP WRITER N/A DATE 6/19/85

SECTION II: ^{EOP} ~~ERG~~ STEP

2. Establish Excess Letdown By Initiating 13008-1, CVCS EXCESS LETDOWN.
2. Establish Safety Grade Letdown:
 - a. Open reactor vessel head vent isolation valves:
 - HV-8095A
 - HV-8096A
 - HV-8095B
 - HV-8096B
 - b. Open reactor vessel head vent throttle valves as required to obtain 90 gpm letdown flow:
 - HV-442A
 - HV-442B
 - c. Continue safety grade letdown until ANY of the following occurs:
 - PRZR level - LESS THAN 92%.
 - OR-
 - PRT pressure - GREATER THAN 80 PSIG.
 - OR-
 - PRT level - GREATER THAN 90%.
 - d. Isolate safety grade letdown.

330

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DATE

4/8/84

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VOGTLE ELECTRIC GENERATING PLANT

PROCEDURE NO

11894-C

REVISION NO

0

PAGE NO

1 OF 12

UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-I 1 REV 1 EOP # 19261-1 REV 0EOP WRITER N/A DATE 6/19/85EOP Justification
SECTION II: ~~ERG STEP~~

Excess letdown is preferred method. Safety grade letdown is only used as a last resort. This step provides instructions on when and how to use safety grade letdown.

331

| | | |
|---------------------------------|--|--------------------------|
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| DATE 4/18/84 | | REVISION NO. 0 |
| | | PAGE NO. 1 OF 13 |

EOP STEP DOCUMENTATION FORM

ERG # FR-I.1 REV 1 EOP # 19261-1 REV 0
 EOP WRITER NIA DATE 6/18/85

SECTION I: ERG STEP

*No corresponding
ERG NOTE*

SECTION II: EOP STEP

NOTE

- If all sources of RCP seal cooling flow have been lost, then the RCP seal is assumed to be hot. Recovery of No. 1 seal cooling is performed by Step 5.
- Without instrument air available charging should be established using Attachment A.

SECTION III: JUSTIFICATION

*First bullet Note was
included instead of ERG operator
knowledge requirements.
See continued*

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4/19/84

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VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

28 OF 432


UNIT COMMONEOP STEP DOCUMENTATION FORMERG # FR-I.1 REV 1 EOP # 19261-1 REV 0EOP WRITER N/A DATE 6/19/85

JUSTIFICATION (continued)

SECTION IJJ: ERG STEP

VEGP design does not include air compressor powered from a IEAC power supply. Charging flow control valves require an air supply for their operation. Because it is possible for this procedure to be implemented without an air compressor available, an alternate method of establishing charging is necessary. This alternate method is included in Attachment A

333

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|----------------------------------|--|---|---------------------------------|
| APPROVAL <u>W.F. Kitchens</u> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT |  | PROCEDURE NO. <u>11894-C</u> |
| DATE <u>4/18/84</u> | UNIT <u>COMMON</u> | | REVISION NO. <u>0</u> |
| | | | PAGE NO. <u>1 OF 24</u> |

EOP STEP DOCUMENTATION FORM

ERG # FR-I.1 REV 1 EOP # 17261-1 REV 0
 EOP WRITER N/A DATE 6/19/95

SECTION I: ERG STEP

*No corresponding
ERG Attachment*

SECTION II: EOP STEP

*See Attachment A
included*

SECTION III: JUSTIFICATION

Included in lieu of
placing information on Step 3
See JUSTIFICATION of NOTE
before Step 3.

| | | | | | |
|---------------|---------|----------|---|----------|---------|
| PROCEDURE NO. | 19261-1 | REVISION | 0 | PAGE NO. | 9 of 12 |
|---------------|---------|----------|---|----------|---------|

Sheet 1 of 3

ATTACHMENT A

ESTABLISHING CHARGING WITHOUT INSTRUMENT AIR

A. Establish Charging With Both Train A And Train B Emergency Buses Energized:

1. Verify alternate miniflow isolation valves - OPEN:

- HV-8508A
- HV-8508B

2. Verify one CCP - RUNNING.

3. Verify charging isolation valves - OPEN:

- HV-8105
- HV-8106

4. Verify BIT isolation valves - SHUT:

- HV-8801A
- HV-8801B
- HV-8803A
- HV-8803B

5. Dispatch local operators to do the following:

a. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS

b. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO

c. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO

d. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:

- 1208-U4-414(RCP #1)
- 1208-U4-415(RCP #2)
- 1208-U4-416(RCP #3)
- 1208-U4-417(RCP #4)

e. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

335

ATTACHMENT A (Cont'd.)

B. Establish Charging With Train A Emergency Bus Energized:

1. Verify Train A alternate miniflow isolation valve HV-8508A - OPEN.
2. Verify Train A CCP - RUNNING.
3. Verify Train A charging isolation valve HV-8106 - OPEN.
4. Dispatch local operators to do the following:
 - a. Shut CCP discharge crosstie isolation valve HV-8438
 - b. Verify Train B charging isolation valve HV-8105 - OPEN
 - c. Open 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

336

ATTACHMENT A (Cont'd.)

C. Establish Charging With Train B Emergency Bus Energized:

1. Verify Train B alternate miniflow isolation valve HV-8508B - OPEN.
2. Verify Train B CCP - RUNNING.
3. Verify Train B charging isolation valve HV-8105 - OPEN.
4. Verify Train B BIT isolation valves - SHUT:
 - HV-8801B
 - HV-8803B
5. Dispatch local operators to do the following:
 - a. Verify Train A BIT isolation valves - SHUT
 - HV-8801A
 - HV-8803A
 - b. Verify Train A charging isolation valve HV-8106 - SHUT
 - c. Oper. 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS
 - d. Shut 1208-U4-134 CVCS SEALS FLOW CONTROL HV-181 INLET ISO
 - e. Shut 1208-U4-135 CVCS SEALS FLOW CONTROL HV-181 OUTLET ISO
 - f. Adjust to obtain 8 to 13 gpm RCP SEAL INJ NEEDLE VLVS TO #1 SEAL:
 - 1208-U4-414(RCP #1)
 - 1208-U4-415(RCP #2)
 - 1208-U4-416(RCP #3)
 - 1208-U4-417(RCP #4)
 - g. Adjust to obtain desired charging flow 1208-U4-136 CVCS SEALS FLOW CONTROL HV-181 BYPASS.

END OF ATTACHMENT A

APPROVAL

W F Kitchens

DATE

4/18/84

Georgia Power

POWER GENERATION DEPARTMENT

VOGTLE ELECTRIC GENERATING PLANT



PROCEDURE NO.

11894-C

REVISION NO.

0

PAGE NO.

1 OF 3

UNIT COMMONEOP STEP DOCUMENTATION FORM

ERG # FR-I.2 REV 1 EOP # 19262-1 REV 0
EOP WRITER N/A DATE 6/19/85

SECTION I: ERG STEP

3

Check If Charging Flow Has Been
Established:

- a. Charging pump - AT LEAST ONE
RUNNING
- b. Instrument air to containment -
ESTABLISHED
- c. Charging flow - ESTABLISHED

a. Perform the following:

- 1) IF CCW flow to RCP thermal
barriers is lost, THEN isolate seal
injection to affected RCP before
starting charging pump.
- 2) Start one charging pump.
- b. Establish instrument air to
containment.
- c. Establish (1) gpm charging flow:
[Enter plant specific means].

338

DATE

4/8/84

UNIT COMMON

EOP STEP DOCUMENTATION FORM

ERG # FR-I.2 REV 1 EOP # 19261-1 REV 0
EOP WRITER N/A DATE 6/19/85

SECTION II - EOP ERG STEP

3. Check If Charging Flow Has Been Established:

a. The following conditions are satisfied:

- CCPs - AT LEAST ONE RUNNING.
- RCP seal injection - AT LEAST 8 GPM:

b. Instrument air to containment - ESTABLISHED.

c. Charging flow - ESTABLISHED.

a. Perform the following:

- 1) IF ACCW flow to RCP thermal barrier is zero, THEN isolate seal injection to the affected RCP before starting CCP.

2) Start one CCP.

b. Establish instrument air to containment:

- 1) Verify instrument air pressure normal.

IF instrument air pressure NOT normal, THEN start one air compressor by initiating 13710-1, SERVICE AIR SYSTEM,

- 2) Open instrument air to containment isolation valve HV-9378.

c. Establish (60) gpm charging flow.

| | | |
|----------------------------------|--|------------------------------------|
| APPROVAL <i>W F. Kitchens</i> | Georgia Power POWER GENERATION DEPARTMENT VOGTLE ELECTRIC GENERATING PLANT | PROCEDURE NO. 11894-C |
| DATE 4/18/84 | UNIT <u>COMMON</u> | REVISION NO. 0 |
| | | PAGE NO. <u>3</u> 1 OF <u>3</u> |

EOP STEP DOCUMENTATION FORM

ERG # FR-I.2 REV 1 EOP # 19262-1 REV 0
 EOP WRITER W/A DATE 6/19/85

JUSTIFICATION

SECTION IJJ: ~~ERG STEP~~

Expanded to include RCP seal
 injection instead of operator knowledge
 requirements. Plant specific method
 of establishing instrument air to
 containment was included.

340