Facility: North Anna Power Station	Date of Examination: 9/18 – 21/00
Exam Level: RO, SROi, *SROu* 1	Operating Test Number:

B.1 Control Room Systems		
System / JPM Title	Type Code*	Safety Function
a. *Rod Control / Retrieve a dropped rod*	M,A,S	I
b. *ESFAS / Restore plant equipment following SI*	D,S,L	II
c. ECCS / Terminate SI following imminent PTS	D,S,L	III
d. RCS / Perform NC cooldown with steam void in reactor vessel and w/out RVLIS	D,S,L	IVp
e. *PRT / Drain the pressurizer relief tank*	M,A,S	V
f. MTGS / Perform a turbine valve freedom test	M,A,S	IVs
g. FPS / Evacuate the control room due to a fire	M,A,S	VIII
B.2 Facility Walk-Through		
a. *RCPS / Isolate RCP seals*	D,R,EOP	IV
b. *Elect / Transfer vital bus from inverter to SOLA transformer*	D	VI
c. CVCS / Maintain stable plant conditions from the auxiliary shutdown panel	D,AOP	I

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA, *Italics* and **bold** are SROu JPMs

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Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142776(1002)><<R476ma>>
(Safety Function 1, Modified, Alternate Path)

</div>

TASK

<CM 142776(1001)><<   Retrieve a dropped rod (1-AP-1.2).>>

APPLICANT:_____ **GRADE:**_____

<div align="right" style="margin-right:25%">(Sat/Unsat)</div>

EVALUATOR:_____ **DATE:**_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92260(1305)><<The trainee has completed the applicable course knowledge training at the reactor operator level.>>

INITIAL CONDITIONS

<TB 108811(1305)><<Unit was at 50% power steady-state operation prior to the event>>

<TB 108812(1305)><<Control bank D control rod F-10 is at 0 steps, as indicated by individual rod position>>

<TB 108813(1305)><<1-AP-1.2, "Dropped Rod," has been signed off to the point of completing the "Dropped Rod Retrieval" attachment>>

INITIATING CUE

<TB 92358(1305)><<You are requested to complete the "Dropped Rod Retrieval" attachment in 1-AP-1.2.>>

STANDARDS

<TB 113136(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the <u>underlined</u> procedures if several are cited)>>

<TB 113137(1305)><<Self-checking practices were used throughout task performance>>

<TB 113138(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92840(1305)><<Copy of 1-AP-1.2 signed off to the point of completing the "Dropped Rod Retrieval" attachment (also, sign-off attachment 3 for calculation of maximum rod withdrawal rate—rod dropped 30 minutes ago.)>>

PREFERRED EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 10 min

K/A: APE 003; AA203 (3.6/3.8); 001A211 (4.4/4.7)

START TIME: _____

PERFORMANCE STEPS

1   <CM 137433(1001)><<Position rods to place both groups in D bank at the same reading.>>

   Standards

   <TB 110285(1305)><<Step counters for D bank are verified to be reading the same>>

SAT [ ]   UNSAT [ ]   NOTE:

2   <CM 137433(1001)><<Place the control rod bank selector switch in BANK SELECT for control bank D.>>

   Critical Standards

   <TB 110285(1305)><<Rod control selector switch is placed in the CONTROL BANK D position>>

SAT [ ]   UNSAT [ ]   NOTE:

3   <CM 137434(1001)><<Record the affected bank's group step counter reading.>>

   Standards

   <TB 110285(1305)><<Step counter reading for D bank group 2 is recorded in the procedure attachment>>

SAT [ ]   UNSAT [ ]   NOTE:

4   <CM 137435(1001)><<Manually reset the group step counter.>>

   Critical Standards

   <TB 110286(1305)><<Control bank D group 2 step counter is manually reset to zero >>

SAT [ ]   UNSAT [ ]   NOTE:

5   <CM 137436(1001)><<Request an extra operator to obtain the pulse-to-analog converter reading for control bank D.>>

    Standards

       <TB 110285(1305)><<Extra operator is requested to obtain the pulse-to-analog converter reading for control bank D>>

    Note to evaluator

       <TB 94587(1305)><<Booth operator provides cue: D bank pulse-to-analog converter reading is 162>>

SAT [ ]   UNSAT [ ]   NOTE:

6   <CM 137437(1001)><<Record the affected bank pulse-to-analog converter reading.>>

    Standards

       <TB 110285(1305)><<P/A converter reading is recorded in the procedure attachment>>

SAT [ ]   UNSAT [ ]   NOTE:

7   <CM 137438(1001)><<Request an extra operator to reset the pulse-to-analog converter for control bank D.>>

    Standards

       <TB 110285(1305)><<Extra operator is requested to reset the pulse-to-analog converter>>

    Note to evaluator

       <TB 94587(1305)><<Booth operator provides cue: D bank pulse-to-analog converter has been reset to zero and returned to AUTOMATIC>>

SAT [ ]   UNSAT [ ]   NOTE:

8   <CM 137438(1001)><<Record the IRPI identification for the dropped rod.>>

    Standards

       <TB 110285(1305)><<IRPI reading is recorded in the procedure attachment>>

SAT [ ]   UNSAT [ ]   NOTE:

9   <CM 137439(1001)><<Open all lift coil disconnect switches for the affected bank, except the switch for the dropped rod.>>

   Critical Standards

       <TB 110287(1305)><<All lift coil disconnect switches for control bank D are opened except for rod F-10>>

SAT [ ]   UNSAT [ ]   NOTE:

10   <CM 140010(1001)><<Independently verify that all lift coil disconnect switches for the affected bank, except the switch for the dropped rod, are open.>>

   Standards

       <TB 110285(1305)><<Independent verification of lift coil disconnect switches is requested>>

   Evaluator's Cue

       <TB 94593(1305)><<Assume that independent verification has been completed>>

SAT [ ]   UNSAT [ ]   NOTE:

11   <CM 137440(1001)><<Manually withdraw the affected control rod.>>

   Critical Standards

       <TB 110288(1305)><<Control rod FF-10 withdrawal is commenced>>

SAT [ ]   UNSAT [ ]   NOTE:

12   <CM 140010(1001)><<Maintain Tave within 1.5°F of Tref by adjusting turbine load or steam dumps.>>

   Standards

       <TB 110285(1305)><<Balance of plant operator is requested to control Tave>>

   Evaluator's Cue

       <TB 94588(1305)><<Reactor Coolant System temperature control will be accomplished by the balance-of-plant operator>>

SAT [ ]   UNSAT [ ]   NOTE:

NOTE TO EVALUATOR: After rod withdrawal has commenced and rod has been withdrawn until rod bottom light clears, a second control rod will drop but the reactor will not automatically trip.

13   <CM 137441(1001)><<Verify only one control rod is dropped.>>

      Standards

         <TB 110285(1305)><<Two rods are confirmed to be dropped>>

SAT [ ]   UNSAT [ ]   NOTE:

14   <CM 137440(1001)><<Go to 1-E-0, Reactor Trip or Safety Injection.>>

      Standards

         Performance of <TB 110285(1305)><<E-0 immediate operator actions is commenced>>

SAT [ ]   UNSAT [ ]   NOTE:

15   <CM 137440(1001)><<Verify reactor trip.>>

      Critical Standards

         <TB 110288(1305)><<Reactor is manually tripped.>>

SAT [ ]   UNSAT [ ]   NOTE:

16   <CM 137440(1001)><<Verify turbine trip.>>

      Critical Standards

         <TB 110288(1305)><<Reheater steam supply FCVs are reset.>>

SAT [ ]   UNSAT [ ]   NOTE:

17   <CM 137440(1001)><<Verify both AC emergency busses energized.>>

      Standards

         <TB 110285(1305)><<Emergency busses are verified to be energized>>

SAT [ ]   UNSAT [ ]   NOTE:

18   <CM 137440(1001)><<Check SI status.>>

      Standards

         <TB 110285(1305)><<SI is verified to be not actuated and not required>>

SAT [ ]   UNSAT [ ]   NOTE:

FINISH TIME:_____

>>>>> **END OF EVALUATION** <<<<<
Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

\<CM 142776(1002)\>\<\<R476\>\>

INITIAL CONDITIONS

\<TB 108811(1305)\>\<\<Unit was at 50% power steady-state operation prior to the event\>\>

\<TB 108812(1305)\>\<\<Control bank D control rod F-10 is at 0 steps, as indicated by individual rod position\>\>

\<TB 108813(1305)\>\<\<1-AP-1.2, "Dropped Rod," has been signed off to the point of completing the "Dropped Rod Retrieval" attachment\>\>

INITIATING CUE

\<TB 92358(1305)\>\<\<You are requested to complete the "Dropped Rod Retrieval" attachment in 1-AP-1.2.\>\>

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

<CM 142858(1002)><<R476>>

TASK

Retrieve a dropped rod (1-AP-1.2)

CHECKLIST

<TB 95641(1305)><<____ Recall IC#33

____ Recall "Rods" simloch screen

____ Delete malfunction MRD1646 (rod F-10) to allow recovery of dropped rod

____ When requested to reset P/A converter for D bank, take DBANKGP2_PTOA=0

____ When rod F-10 has been withdrawn sufficiently to clear the rod bottom light, implement

 malfunction MRD1648 **(2nd dropped rod)**

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142933(1002)><<R773>>

(Safety Function 2, Bank)

TASK

<CM 142933(1001)><<Restore plant equipment following a safety injection (1-OP-7.12).>>

APPLICANT:_____ GRADE:_____

(Sat/Unsat)

EVALUATOR:_____ DATE:_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92260(1305)><<The trainee has completed the applicable course knowledge training at the reactor operator level.>>

INITIAL CONDITIONS

<TB 109393(1305)><<Unit 1 has received a safety injection signal _and_ the signal has been reset>>

<TB 109394(1305)><<No hi-hi radiation monitor signals are present>>

INITIATING CUE

<TB 92342(1305)><<You are requested to restore the train "A" and train "B" valves to normal alignment by completing attachments 1 and 2 of 1-OP-7.12.>>

STANDARDS

<TB 113603(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the <u>underlined</u> procedures if several are cited)>>

<TB 113604(1305)><<Self-checking practices were used throughout task performance>>

<TB 113605(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92657(1305)><<None >>

PREFERRED EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 10 min.

K/A: 013A206 (3.7/4.0)

START TIME: _____

PERFORMANCE STEPS

1   <CM 137112(1001)><<Reset the safety injection signal to the containment sump pumps outside discharge trip valve 1-DA-TV-100A.>>

    Critical Standards

        <TB 110228(1305)><<CLOSE push-button for 1-DA-TV-100A is depressed>>

SAT [ ]   UNSAT [ ]   NOTE:

2   <CM 137113(1001)><<Reset the safety injection signal to the primary drains transfer tank pumps outside discharge trip valve 1-DG-TV-100A.>>

    Critical Standards

        <TB 110229(1305)><<CLOSE push-button for 1-DG-TV-100A is depressed>>

SAT [ ]   UNSAT [ ]   NOTE:

3   <CM 137114(1001)><<Open the containment gas vent header outside isolation valve 1-VG-TV-100A.>>

    Standards

        <TB 110285(1305)><<1-VG-TV-100A OPEN pushbutton is depressed>>

SAT [ ]   UNSAT [ ]   NOTE:

4   <CM 137115(1001)><<Open the radiation monitor pump discharge to containment valve 1-RM-TV-100A.>>

    Standards

        <TB 110285(1305)><<1-RM-TV-100A OPEN pushbutton is depressed>>

SAT [ ]   UNSAT [ ]   NOTE:

5 <CM 137116(1001)><<Open the radiation monitor pump suction outside isolation valve 1-RM-TV-100B.>>

 Standards

  <TB 110285(1305)><<1-RM-TV-100B OPEN pushbutton is depressed>>

 SAT [ ] UNSAT [ ] NOTE:

6 <CM 137117(1001)><<Open the main steam drain header to condenser valve 1-MS-TV-109.>>

 Standards

  <TB 110285(1305)><<1-MS-TV-109A and 109B OPEN pushbuttons are simultaneously depressed>>

 SAT [ ] UNSAT [ ] NOTE:

7 <CM 137118(1001)><<Verify that the condenser air ejector discharge to vent stack "A" is open.>>

 Standards

  <TB 110285(1305)><<1-SV-TV-102-2 is verified open>>

 SAT [ ] UNSAT [ ] NOTE:

8 <CM 137119(1001)><<Reset the safety injection signal to the containment sump pumps inside discharge trip valve 1-DA-TV-100B.>>

 Critical Standards

  <TB 110234(1305)><<CLOSE push-button for 1-DA-TV-100B is depressed>>

 SAT [ ] UNSAT [ ] NOTE:

9 <CM 137120(1001)><<Reset the safety injection signal to the primary drains transfer tank pumps inside discharge trip valve 1-DG-TV-100B.>>

 Critical Standards

  <TB 110235(1305)><<CLOSE push-button for 1-DG-TV-100B is depressed>>

 SAT [ ] UNSAT [ ] NOTE:

10 <CM 137121(1001)><<Open the containment gas vent header inside isolation valve 1-VG-TV-100B.>>

  Standards

  <TB 110285(1305)><<1-VG-TV-100B OPEN pushbutton is depressed>>

  SAT [ ]   UNSAT [ ]   NOTE:

11 <CM 137122(1001)><<Open the radiation monitor pump suction inside isolation valve 1-RM-TV-100C.>>

  Standards

  <TB 110285(1305)><<1-RM-TV-100C OPEN pushbutton is depressed>>

  SAT [ ]   UNSAT [ ]   NOTE:

12 <CM 137123(1001)><<Open the radiation monitor pump discharge to containment valve 1-RM-TV-100D.>>

  Standards

  <TB 110285(1305)><<1-RM-TV-100D OPEN pushbutton is depressed>>

  SAT [ ]   UNSAT [ ]   NOTE:

FINISH TIME: _____

>>>>> END OF EVALUATION <<<<<

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142933(1002)><<R773>>

INITIAL CONDITIONS

<TB 109393(1305)><<Unit 1 has received a safety injection signal <u>and</u> the signal has been reset>>

<TB 109394(1305)><<No hi-hi radiation monitor signals are present>>

INITIATING CUE

<TB 92342(1305)><<You are requested to restore the train "A" and train "B" valves to normal alignment by completing attachments 1 and 2 of 1-OP-7.12.>>

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

<CM 142933(1002)><<R773>>

TASK

<CM 142933(1001)><<Restore plant equipment following a safety injection (1-OP-7.12).>>

CHECKLIST

<TB 95675(1305)><<_____ Recall IC #35
    OR:

<TB 95675(1305)><<_____ Recall IC #1 (100% power)

_____ Place the simulator in RUN

_____ Go to run, manually actuate SI

_____ Wait one minute, then reset SI and phase A

_____ Place COND AIR EJECTOR DIVERT TO CONT SI RESET switches to RESET

_____ Place the simulator in FREEZE

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Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142737(1002)><<R221>>
(Safety Function 3, Bank)

</div>

TASK

<CM 142737(1001)><<Terminate safety injection during the response to an imminent pressurized thermal shock condition (1-FR-P.1).>>

APPLICANT:_____ **GRADE:**_____

<div align="right">(Sat/Unsat)</div>

EVALUATOR:_____ **DATE:**_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92260(1305)><<The trainee has completed the applicable course knowledge training at the reactor operator level.>>

INITIAL CONDITIONS

<TB 108671(1305)><<Low-head safety injection pumps 1-SI-P-1A and 1B are running>>

<TB 108672(1305)><<Safety injection has been actuated>>

<TB 108673(1305)><<All three main steam lines are faulted inside containment>>

<TB 108674(1305)><<Charging pumps 1-CH-P-1A and 1B are running>>

<TB 108675(1305)><<All three reactor coolant pumps are stopped>>

<TB 108676(1305)><<Reactor Coolant System subcooling and reactor vessel level are sufficient to allow safety injection to be terminated>>

<TB 108677(1305)><<1-FR-P.1 has been completed through checking if safety injection can be terminated>>

INITIATING CUE

<TB 92539(1305)><<You are requested to terminate safety injection in accordance with 1-FR-P.1. Continue until safety injection flow is verified as being not required.>>

STANDARDS

<TB 113027(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)>>

<TB 113028(1305)><<Self-checking practices were used throughout task performance>>

<TB 113029(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92890(1305)><<Copy of 1-FR-P.1 signed off through checking if safety injection can be terminated>>

PREFERRED EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 20 min.

K/A: E02, EA11 (4.0/3.9); E08, EA22 (3.5/4.1); 006A213 (3.9/4.2)

START TIME: _____

PERFORMANCE STEPS

1   <CM 137649(1001)><<Reset safety injection.>>

    <u>Critical Standards</u>

        <TB 110325(1305)><<Both SAFETY INJECTION RESET switches are placed in RESET>>

SAT [   ]   UNSAT [   ]   NOTE:

2   <CM 139430(1001)><<Reset containment depressurization actuation.>>

    <u>Standards</u>

        <TB 110325(1305)><<Both SPRAY ACTUATION RESET switches are placed in RESET>>

    SAT [   ]   UNSAT [   ]   NOTE:

3   <CM 139431(1001)><<Reset phase "A" and phase "B" containment isolation.>>

    <u>Standards</u>

        <TB 110325(1305)><<Both PHASE A ISOLATION RESET switches are placed in RESET>> and both PHASE B ISOLATION RESET buttons are depressed

    SAT [   ]   UNSAT [   ]   NOTE:

4   <CM 139432(1001)><<Establish instrument air to containment.>>

    <u>Standards</u>

        <TB 110325(1305)><<At least one IA compressor is verified running; containment instrument air trip valves 1-IA-TV-102A and 102B OPEN pushbuttons are depressed>>

    SAT [   ]   UNSAT [   ]   NOTE:

5   <CM 139434(1001)><<Stop all but one charging pump.>>

      Evaluator's Cue

        <TB 94587(1305)><<Stop the B charging pump>>

      Critical Standards

        <TB 110325(1305)><<B charging pump control switch is placed in AUTO AFTER STOP>>

    SAT [ ]   UNSAT [ ]   NOTE:

6   <CM 199894(1001)><<Verify the low-head safety injection pump suction valves from the containment sump are closed.>>

      Standards

        <TB 110325(1305)><<LHSI suction valves from containment sump are verified closed>>

    SAT [ ]   UNSAT [ ]   NOTE:

7   <CM 139433(1001)><<Stop the low-head safety injection pumps.>>

      Critical Standards

        <TB 110325(1305)><<Both LHSI pump control switches are placed in AUTO AFTER STOP>>

    SAT [ ]   UNSAT [ ]   NOTE:

8   <CM 199894(1001)><<Verify the low-head safety injection pump suction valves from the containment sump are closed.>>

      Standards

        <TB 110325(1305)><<LHSI suction valves from containment sump are verified closed>>

    SAT [ ]   UNSAT [ ]   NOTE:

9   <CM 139435(1001)><<Check that the charging pump recirculation valves are open.>>

    <u>Standards</u>

        <TB 110325(1305)><<Charging pump recirculation valves are verified open>>

    SAT [   ]   UNSAT [   ]   NOTE:

10 <CM 139442(1001)><<Close boron injection tank inlet valves 1-SI-MOV-1867A and 1867B.>>

    <u>Critical Standards</u>

        <TB 110787(1305)><<CLOSE push-buttons for 1-SI-MOV-1867A and 1867B are depressed>>

    SAT [   ]   UNSAT [   ]   NOTE:

11 <CM 139443(1001)><<Close boron injection tank outlet valves 1-SI-MOV-1867C and 1867D.>>

    <u>Standards</u>

        <TB 110787(1305)><<CLOSE push-buttons for 1-SI-MOV-1867C and 1867D are depressed>>

    SAT [   ]   UNSAT [   ]   NOTE:

12 <CM 139444(1001)><<Verify that cold-leg injection alternate isolation valve 1-SI-MOV-1836 is closed.>>

    <u>Standards</u>

        <TB 110325(1305)><<Cold-leg injection alternate isolation valve is verified closed>>

    SAT [   ]   UNSAT [   ]   NOTE:

13 <CM 199895(1001)><<Verify that hot-leg safety injection isolation valves 1-SI-MOV-1869A and 1869B are closed.>>

    <u>Standards</u>

        <TB 110325(1305)><<Hot-leg injection isolation valves are verified closed>>

    SAT [   ]   UNSAT [   ]   NOTE:

14   <CM 139436(1001)><<Manually close charging flow control valve 1-CH-FCV-1122.>>

    Standards

       <TB 110325(1305)><<Charging flow control valve is placed in MANUAL and closed>>

   SAT [ ]   UNSAT [ ]   NOTE:

15   <CM 139437(1001)><<Check that auxiliary spray valve 1-CH-HCV-1311 is closed.>>

    Standards

       <TB 110325(1305)><<Auxiliary spray valve is verified closed>>

   SAT [ ]   UNSAT [ ]   NOTE:

16   <CM 139438(1001)><<Check that normal charging valve 1-CH-HCV-1310 is open.>>

    Standards

       <TB 110325(1305)><<Normal charging valve is verified open>>

   SAT [ ]   UNSAT [ ]   NOTE:

17   <CM 139439(1001)><<Open charging isolation valves 1-CH-MOV-1289A and 1289B.>>

    Standards

       <TB 110787(1305)><<1-CH-MOV-1289A and 1289B control switches are placed in OPEN>>

   SAT [ ]   UNSAT [ ]   NOTE:

18   <CM 139440(1001)><<Manually open charging flow control valve 1-CH-FCV-1122 to establish 25 gpm charging flow.>>

    Standards

       <TB 110787(1305)><<1-CH-FCV-1122 controller increase pushbutton is depressed until charging flow is 25 gpm>>

   SAT [ ]   UNSAT [ ]   NOTE:

19   <CM 139441(1001)><<Maintain seal injection flow.>>

Standards

<TB 110325(1305)><<Seal injection flow is verified>>

SAT [   ]   UNSAT [   ]   NOTE:

20   <CM 139445(1001)><<Verify that safety injection flow is not required.>>

Standards

<TB 110325(1305)><<Subcooling and RVLIS are observed and SI flow is verified>> to be not required

SAT [   ]   UNSAT [   ]   NOTE:

FINISH TIME: _____

>>>>> END OF EVALUATION <<<<<

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142737(1002)><<R221>>

INITIAL CONDITIONS

<TB 108671(1305)><<Low-head safety injection pumps 1-SI-P-1A and 1B are running>>

<TB 108672(1305)><<Safety injection has been actuated>>

<TB 108673(1305)><<All three main steam lines are faulted inside containment>>

<TB 108674(1305)><<Charging pumps 1-CH-P-1A and 1B are running>>

<TB 108675(1305)><<All three reactor coolant pumps are stopped>>

<TB 108676(1305)><<Reactor Coolant System subcooling and reactor vessel level are sufficient to allow safety injection to be terminated>>

<TB 108677(1305)><<1-FR-P.1 has been completed through checking if safety injection can be terminated>>

INITIATING CUE

<TB 92539(1305)><<You are requested to terminate safety injection in accordance with 1-FR-P.1. Continue until safety injection flow is verified as being not required.

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

<CM 142858(1002)><<R221>>

TASK

Terminate safety injection during the response to an imminent pressurized thermal shock condition (1-FR-P.1).<CM 142858(1001)><<>>

CHECKLIST

<TB 95641(1305)><<____   Recall IC#36

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Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142858(1002)><<R690>>
(Safety Function 4, Bank)

</div>

TASK

<CM 142858(1001)><<Perform a natural circulation cooldown with a steam void in the reactor vessel without RVLIS (1-ES-0.4).>>

APPLICANT:_____ **GRADE:**_____

(Sat/Unsat)

EVALUATOR:_____ **DATE:**_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92260(1305)><<The trainee has completed the applicable course knowledge training at the reactor operator level.>>

INITIAL CONDITIONS

<TB 109111(1305)><<1-ES-0.4, "Natural Circulation Cooldown with Steam Void in Vessel (Without RVLIS)," has been completed through depressurizing to 1600 psig>>

<TB 109112(1305)><<Steam dumps are in the STEAM PRESSURE mode with 1-MS-PC-1464B in MANUAL and at 0% demand>>

<TB 109113(1305)><<Reactor Coolant System T_{avg} is 460°F>>

<TB 109114(1305)><<Reactor Coolant System pressure is stable at 1,600 psig>>

<TB 109114(1305)><<RCS cooldown was stopped for turnover>>

INITIATING CUE

<TB 92446(1305)><<You are requested to continue the performance of 1-ES-0.4 until conditions for isolating the safety injection accumulators are established.>>

STANDARDS

<TB 113384(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)>>

<TB 113385(1305)><<Self-checking practices were used throughout task performance>>

<TB 113138(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92874(1305)><<Copy of 1-ES-0.4 signed off through depressurizing to 1600 psig>>

PREFERRED EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 20 min.

K/A: EPE E10; EA11 (3.8/3.6)

START TIME: _____

PERFORMANCE STEPS

1   <CM 138557(1001)><<Decrease hot leg temperatures to 450°F.>>

  Critical Standards

    <TB 110594(1305)><<INCREASE push-button for steam pressure controller 1-MS-PC-
    1464B is depressed until hot-leg temperatures are decreasing>>

  SAT [ ]   UNSAT [ ]   NOTE:

2   <CM 138425(1001)><<Verify that the Reactor Coolant System cooldown rate, RCS pressure,
and the pressure-temperature relationship are satisfactory.>>

  Standards

    <TB 110325(1305)><<Cooldown curve is consulted and RCS cooldown rate, pressure
    and pressure-temperature relationship are verified satisfactory>>

  SAT [ ]   UNSAT [ ]   NOTE:

3   <CM 138428(1001)><<Maintain pressurizer level stable.>>

  Standards

    <TB 110325(1305)><<Charging flow is controlled to maintain PRZR level stable>>

  SAT [ ]   UNSAT [ ]   NOTE:

4   <CM 138427(1001)><<When hot-leg temperatures are less than 450°F, stop the Reactor
Coolant System cooldown.>>

  Critical Standards

    <TB 110541(1305)><<After RCS hot-leg temperatures are <450°F, the DECREASE
    push-button for steam pressure controller 1-MS-PC-1464B is depressed>>

  SAT [ ]   UNSAT [ ]   NOTE:

5   <CM 138558(1001)><<Adjust charging and seal injection flows to equal letdown and seal leakoff flows.>>

   Standards

      <TB 110325(1305)><<Charging flow and seal injection flow are adjusted as necessary to>> equal letdown and seal leakoff flows

   SAT [   ]   UNSAT [   ]   NOTE:

6   <CM 138427(1001)><<Maintain seal injection flow to each RCP between 6 and 8 gpm.>>

   Standards

      <TB 110541(1305)><<Seal injection flow is adjusted using HCV-1186 as necessary to establish 6 – 8 gpm seal injection flow>>

   SAT [   ]   UNSAT [   ]   NOTE:

7   <CM 138426(1001)><<Verify that letdown is in service.>>

   Standards

      <TB 110541(1305)><<Letdown flow indication is observed>>

   SAT [   ]   UNSAT [   ]   NOTE:

8   <CM 138556(1001)><<Depressurize the Reactor Coolant System using auxiliary spray.>>

   Standards

      <TB 110590(1305)><<Either PRZR spray valve, 1-RC-PCV-1455A or 1455B, is opened by depressing its controller's INCREASE push-button>>

   Critical Standards

      <TB 110592(1305)><<Control switch for auxiliary spray valve 1-CH-HCV-1311 is placed in OPEN>>

      <TB 110593(1305)><<Control switch for normal charging valve 1-CH-HCV-1310 is placed in CLOSE>>

   Standards

      <TB 110591(1305)><<The PRZR spray valve that was previously opened is throttled closed by depressing its controller's DECREASE push-button>>

   SAT [   ]   UNSAT [   ]   NOTE:

9   <CM 138430(1001)><<When Reactor Coolant System pressure or PRZR level exceed the desired value stop the depressurization.>>

Note to evaluator

<TB 94587(1305)><<When RCS pressure is decreasing satisfactorily or PRZR level is increasing satisfactorily, then terminate the JPM.>>

SAT [ ]   UNSAT [ ]   NOTE:

FINISH TIME: _____

>>>>> END OF EVALUATION <<<<<

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142858(1002)><<R690>>

INITIAL CONDITIONS

<TB 109111(1305)><<1-ES-0.4, "Natural Circulation Cooldown with Steam Void in Vessel (Without RVLIS)," has been completed through depressurizing to 1600 psig>>

<TB 109112(1305)><<Steam dumps are in the STEAM PRESSURE mode with 1-MS-PC-1464B in MANUAL and at 0% demand>>

<TB 109113(1305)><<Reactor Coolant System T_{avg} is 460°F>>

<TB 109114(1305)><<Reactor Coolant System pressure is stable at 1,600 psig>>

<TB 109114(1305)><<RCS cooldown was stopped for turnover>>

INITIATING CUE

<TB 92446(1305)><<You are requested to continue the performance of 1-ES-0.4 until conditions for isolating the safety injection accumulators are established.>>

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

<CM 142858(1002)><<R690>>

TASK

<CM 142858(1001)><<Perform a natural circulation cooldown with a steam void in the reactor vessel without RVLIS (1-ES-0.4).>>

CHECKLIST

<TB 95641(1305)><<_____ Recall IC#37

_____ Disable RVLIS as follows: Lamp overrides ICCM_A(B)_PWR_RELAY, O/R = ON; Meter

overrides LR1310_FULL, LR1310_UPPER, LRRS151B, all 100% negative deviation

_____ Verify RCS Tave stable at 460°F

_____ Verify RCS pressure stable at 1600 psig

_____ Call up RX + PRZR screen on P-250 CRT

_____ Place the simulator in FREEZE>>

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142838(1002)><<R639ma>>
(Safety Function 5, Modified, Alternate Path)

TASK

<CM 142838(1001)><<Drain the pressurizer relief tank (1-OP-5.7).>>

APPLICANT:_____ GRADE:_____

(Sat/Unsat)

EVALUATOR:_____ DATE:_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92260(1305)><<The trainee has completed the applicable course knowledge training at the reactor operator level.>>

INITIAL CONDITIONS

<TB 109063(1305)><<Pressurizer PORV 1455C inadvertently opened then reclosed.

<TB 109064(1305)><<Pressurizer relief tank level is required to be lowered

There are no entries in equipment status that preclude performance of this task>>

INITIATING CUE

<TB 92329(1305)><<You are requested to drain the pressurizer relief tank to 76%. The Unit Supervisor desires to drain the PRT <u>before</u> reducing PRT pressure.>>

NOTE TO EVALUATOR

Applicant to determine the applicable procedure and locate using PROMIS. Then, provide procedure to applicant.

STANDARDS

<TB 113330(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the <u>underlined</u> procedures if several are cited)>>

<TB 113331(1305)><<Self-checking practices were used throughout task performance>>

<TB 113332(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92657(1305)><<None >>

PREFERRED EVALUATION METHOD

<TB 94107(1305)><<Demonstration>>

VALIDATION TIME: 10 min.

K/A: 007A101 (2.9/3.1); 007A410 (3.6/3.8); 007A201 (3.9/4.2)

START TIME: _____

PERFORMANCE STEPS

1 <CM 128700(1001)><<Determine appropriate procedure.>>

   Standards

   1-OP-5.7 is determined to be the appropriate p<TB 110285(1305)><<rocedure>>

   Note to evaluator

   <TB 94587(1305)><<After applicant determines the correct procedure, provide a copy of the procedure>>

SAT [ ]   UNSAT [ ]   NOTE:

2 <CM 128700(1001)><<Review initial conditions, precautions, and limitations.>>

   Standards

   <TB 110285(1305)><<Procedure initial conditions, precautions and limitations are reviewed>>

SAT [ ]   UNSAT [ ]   NOTE:

3 <CM 128700(1001)><<Verify positive pressure in the PRT.>>

   Standards

   <TB 110285(1305)><<PRT pressure is verified to be positive>>

SAT [ ]   UNSAT [ ]   NOTE:

4 <CM 136964(1001)><<Open pressurizer relief tank drain isolation valve 1-RC-HCV-1523.>>

   Critical Standards

   <TB 110195(1305)><<1-RC-HCV-1523 control switch is placed in OPEN>>

   SAT [ ]   UNSAT [ ]   NOTE:

☐	5	<CM 136965(1001)><<Monitor primary drains transfer tank level indicator 1-LI-DG-101.>>

Standards

<TB 110285(1305)><<PDTT level is monitored. When high level alarm is actuated, either PDTT pump >>control switch is placed in START

SAT [ ]   UNSAT [ ]   NOTE:

6   <CM 136966(1001)><<When the desired level is reached, close PRT drain isolation valve 1-RC-HCV-1523.>>

Critical Standards

<TB 110196(1305)><<When PRT level is 76% (+2%), 1-RC-HCV-1523 control switch is placed in CLOSE>>

SAT [ ]   UNSAT [ ]   NOTE:

NOTE TO EVALUATOR: After the PRT drain valve is closed, PORV 1455C will spuriously open.

Read the following cue:

Evaluator's Cue

<TB 94588(1305)><<Respond to plant conditions.>>

7   <CM 136964(1001)><<Close PRZR PORVs – NO>>

Standards

<TB 110285(1305)><<PCV-1455C control switch is placed in CLOSE>>

SAT [ ]   UNSAT [ ]   NOTE:

8   Close PORV Block Valve – NO>>

Standards

<TB 110285(1305)><<MOV-1536 control switch is placed in CLOSE>>

SAT [ ]   UNSAT [ ]   NOTE:

9   <CM 136966(1001)><<Go to E-0, Reactor Trip or Safety Injection.>>

> Standards

>> Performance of <TB 110285(1305)><<E-0 immediate operator actions is commenced>>

> SAT [ ]   UNSAT [ ]   NOTE:

10   <CM 136966(1001)><<Verify reactor trip.>>

> Critical Standards

>> <TB 110196(1305)><<Reactor is manually tripped>>.

> SAT [ ]   UNSAT [ ]   NOTE:

11   <CM 136966(1001)><<Verify turbine trip.>>

> Critical Standards

>> <TB 110196(1305)><<Reheater steam supply FCVs are reset>>.

> SAT [ ]   UNSAT [ ]   NOTE:

12   <CM 136966(1001)><<Verify both AC emergency busses energized.>>

> Standards

>> <TB 110285(1305)><<Emergency busses are verified to be energized>>

> SAT [ ]   UNSAT [ ]   NOTE:

13   <CM 136966(1001)><<Check SI status.>>

> Critical standards

>> <TB 110285(1305)><<SI is manually actuated>>

> SAT [ ]   UNSAT [ ]   NOTE:

FINISH TIME:_____

>>>>> **END OF EVALUATION** <<<<<

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142838(1002)><<R639am>>

INITIAL CONDITIONS

<TB 109063(1305)><<Pressurizer PORV 1455C inadvertently opened then reclosed.

<TB 109064(1305)><<Pressurizer relief tank level is required to be lowered>>

There are no entries in equipment status that preclude performance of this task>>

INITIATING CUE

<TB 92329(1305)><<You are requested to drain the pressurizer relief tank to 76%. The Unit Supervisor desires to drain the PRT <u>before</u> reducing PRT pressure.>>

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

<CM 142858(1002)><<R639>>

TASK

Drain the pressurizer relief tank (1-OP-5.7).<CM 142858(1001)><<>>

CHECKLIST

<TB 95641(1305)><<____ Recall IC#38 and verify preloads:
- MRD32, auto reactor trips fail
- MSI08, failure of any SI signal to cause SI
- MRC2101, PCV-1455C stuck open
- Switch O/R MOV1536_CLOSE = OFF

____ Place the simulator in FREEZE

____ After candidate closes PRT drain valve, implement switch override PCV1455C_OPEN = ON>>

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142681(1002)><<R62ma>>

(Safety Function 4, Modified, Alternate Path)

TASK

<CM 142681(1001)><<Perform a turbine valve freedom test (1-PT-34.3).>>

APPLICANT:_____ **GRADE:**_____
                                                                   (Sat/Unsat)

EVALUATOR:_____ **DATE:**_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92260(1305)><<The trainee has completed the applicable course knowledge training at the reactor operator level.>>

INITIAL CONDITIONS

<TB 108401(1305)><<Unit is stable at 895 mwe>>

<TB 108402(1305)><<Communication has been established between the control room and the turbine building operators>>

<TB 108404(1305)><<Governor valves have been tested satisfactorily>>

INITIATING CUE

<TB 92395(1305)><<You are requested to complete the turbine valve freedom test.>>

STANDARDS

<TB 112858(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)>>

<TB 112859(1305)><<Self-checking practices were used throughout task performance>>

<TB 113138(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92657(1305)><<Copy of 1-PT-34.3, signed off through completing governor valve testing>>

PREFERRED EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 10 min.

K/A: 045A402 (2.7/2.6); 045A408 (2.7/2.6)

START TIME: _____

PERFORMANCE STEPS

1   <CM 128700(1001)><<Review precautions and limitations.>>

    Standards

       <TB 110325(1305)><<Precautions and limitations are reviewed>>

SAT [ ]   UNSAT [ ]   NOTE:

2	<CM 137710(1001)><<Ensure an operator is stationed at TV-1.>>

    Standards

       <TB 94071(1305)><<Turbine building operator is verified on station at TV-1>>

SAT [ ]   UNSAT [ ]   NOTE:

3	<CM 137710(1001)><<Push TEST TV-1 button and observe operation of TV-1.>>

    Critical Standards

       <TB 94071(1305)><<TEST TV-1 button is depressed and held until TV-1 is closed>>

    Evaluator's Cue

       <TB 94593(1305)><<The expected computer alarm printed on the alarm typewriter>>

    Standards

       <TB 94071(1305)><<TV-1>> is verified closed and turbine building operator is
       requested to verify TV-1 moves smoothly and freely

    Note to evaluator

       <TB 94587(1305)><<Booth operator provides cue: TV-1 closed smoothly and freely>>

    SAT [ ]   UNSAT [ ]   NOTE:

4   <CM 137711(1001)><<Release the TEST TV-1 button and observe operation of TV-1.>>

   Critical Standards

      <TB 94071(1305)><<TEST TV-1 button is released>>

   Evaluator's Cue

      <TB 94593(1305)><<The expected computer alarm printed on the alarm typewriter>>

   Standards

      <TB 94071(1305)><<TV-1>> is verified open and turbine building operator is requested
      to verify TV-1 moves smoothly and freely

   Note to evaluator

      <TB 94587(1305)><<Booth operator provides cue: TV-1 opened smoothly and freely>>

   SAT [ ]   UNSAT [ ]   NOTE:

5   <CM 137710(1001)><<Ensure an operator is stationed at TV-2.>>

   Standards

      <TB 94071(1305)><<Turbine building operator is verified on station at TV-2>>

   SAT [ ]   UNSAT [ ]   NOTE:

6   <CM 137710(1001)><<Push TEST TV-2 button and observe operation of TV-2.>>

   Critical Standards

      <TB 94071(1305)><<TEST TV-2 button is depressed and held until TV-2 is closed>>

   Evaluator's Cue

      <TB 94593(1305)><<The expected computer alarm printed on the alarm typewriter>>

Standards

<TB 94071(1305)><<TV-2>> is verified closed and turbine building operator is requested to verify TV-2 moves smoothly and freely

Note to evaluator

<TB 94587(1305)><<Booth operator provides cue: TV-2 closed smoothly and freely>>

SAT [ ]   UNSAT [ ]   NOTE:

7   <CM 137711(1001)><<Release the TEST TV-2 button and observe operation of TV-2.>>

Critical Standards

<TB 94071(1305)><<TEST TV-2 button is released>>

Evaluator's Cue

<TB 94593(1305)><<The expected computer alarm printed on the alarm typewriter>>

Standards

<TB 94071(1305)><<TV-2>> is verified open and turbine building operator is requested to verify TV-2 moves smoothly and freely

Note to evaluator

<TB 94587(1305)><<Booth operator provides cue: TV-2 opened smoothly and freely>>

SAT [ ]   UNSAT [ ]   NOTE:

8   <CM 137710(1001)><<Ensure an operator is stationed at TV-3.>>

Standards

<TB 94071(1305)><<Turbine building operator is verified on station at TV-3>>

SAT [ ]   UNSAT [ ]   NOTE:

9   <CM 137710(1001)><<Push TEST TV-3 button and observe operation of TV-3.>>

    Critical Standards

      <TB 94071(1305)><<TEST TV-3 button is depressed>>

    Standards

      All throttle valves are noted to be closed, indicating a turbine trip occurred

    SAT [ ]   UNSAT [ ]   NOTE:

10   <CM 136966(1001)><<Go to E-0, Reactor Trip or Safety Injection.>>

    Standards

      Performance of <TB 110285(1305)><<E-0 immediate operator actions is commenced>>

    SAT [ ]   UNSAT [ ]   NOTE:

11   <CM 136966(1001)><<Verify reactor trip.>>

    Critical Standards

      <TB 110196(1305)><<Reactor is manually tripped>>.

    SAT [ ]   UNSAT [ ]   NOTE:

12   <CM 136966(1001)><<Verify turbine trip.>>

    Critical Standards

      <TB 110196(1305)><<Reheater steam supply FCVs are reset>>.

    SAT [ ]   UNSAT [ ]   NOTE:

13   <CM 136966(1001)><<Verify both AC emergency busses energized.>>

    Standards

      <TB 110285(1305)><<Emergency busses are verified to be energized>>

    SAT [ ]   UNSAT [ ]   NOTE:

14   <CM 136966(1001)><<Check SI status.

Standards

<TB 110285(1305)><<SI is verified to be not actuated and not required>>

SAT [ ]   UNSAT [ ]   NOTE:

FINISH TIME: _____

>>>>> END OF EVALUATION <<<<<

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142681(1002)><<R62ma>>

INITIAL CONDITIONS

<TB 108401(1305)><<Unit is stable at 895 mwe>>

<TB 108402(1305)><<Communication has been established between the control room and the turbine building operators>>

<TB 108404(1305)><<Governor valves have been tested satisfactorily>>
<TB 108404(1305)><<>>

INITIATING CUE

<TB 92395(1305)><<You are requested to complete the turbine valve freedom test.>>

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

<CM 142858(1002)><<R62>>

TASK

Perform a turbine valve freedom test (1-PT-34.3).

CHECKLIST

   <TB 95641(1305)><<____ Recall IC#39,

     OR

   <TB 95641(1305)><<____ Recall IC#1, 100% power.

____ Ramp the unit to 895 MWe using 1-PT-34.3 attachment 5 (record GV data in attachment 4)

____ Verify valve position limiter set at 100% and turbine control in IMP-IN

____ Freeze the simulator

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142816(1002)><<R554MA>>
(Safety Function 8, Modified, Alternate Path)

TASK

<CM 142816(1001)><<Evacuate the control room due to a fire (0-FCA-1).>>

APPLICANT:_____ **GRADE:**_____

(Sat/Unsat)

EVALUATOR:_____ **DATE:**_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92260(1305)><<The trainee has completed the applicable course knowledge training at the reactor operator level.>>

INITIAL CONDITIONS

<TB 108992(1305)><<Both units are stable at 100% power>>

<TB 108993(1305)><<Operations shift supervisor has determined that the control room has become uninhabitable and requires evacuation due to a control room fire>>

<TB 108994(1305)><<Available operations personnel consist of the minimum shift crew composition required by TS-6.2.2 only>>

INITIATING CUE

<TB 92565(1305)><<You are requested to conduct the actions required to evacuate the control room and assemble shift personnel at the Appendix-R locker due to a fire in accordance with 0-FCA-1.>>

STANDARDS

<TB 113264(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the <u>underlined</u> procedures if several are cited)>>

<TB 113265(1305)><<Self-checking practices were used throughout task performance>>

<TB 113266(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92657(1305)><<None >>

PREFERRED EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 10 min.

K/A: APE 067; AA213 (3.3/4.4)

START TIME: _____

PERFORMANCE STEPS

1   <CM 139783(1001)><<Trip the unit-1 reactor, and request the unit-2 OATC to trip the unit-2 reactor.>>

    <u>Standards</u>

      <TB 110285(1305)><<Unit 2 OATC is requested to trip unit-2 reactor>>

    <u>Critical Standards</u>

      <TB 110918(1305)><<Reactor trip switches on benchboard 1-1 and/or 1-2 are placed in the TRIP position>>

SAT [　]　　UNSAT [　]　　NOTE:

2   <CM 139784(1001)><<Trip the unit-1 turbine, and request the unit-2 OATC to trip the unit-2 turbine.>>

    <u>Standards</u>

      <TB 110285(1305)><<Turbine trip buttons are simultaneously depressed, reheater RESET pushbutton is depressed and unit 2 OATC is requested to trip unit-2 turbine>>

SAT [　]　　UNSAT [　]　　NOTE:

3   <CM 139785(1001)><<Isolate the unit-1 Main Steam System, and request the unit-2 OATC to isolate the unit-2 Main Steam System.>>

    <u>Standards</u>

      <TB 110285(1305)><<MSTV App-R button is rotated to EMERG CLOSE and depressed, and unit 2 OATC is requested to isolate unit-2 main steam>>

SAT [　]　　UNSAT [　]　　NOTE:

4   <CM 139786(1001)><<Verify that the unit-1 main steam trip valves are closed, and request the unit-2 OATC to verify that the unit-2 main steam trip valves are closed.>>

Standards

<TB 110285(1305)><<Unit 2 OATC is requested to verify the unit-2 main steam trip valves are closed>>

Evaluator's Cue

<TB 94593(1305)><<Unit-2 main steam trip valves are closed>>

Critical Standards

<TB 110919(1305)><<Main steam trip valves' normal close pushbuttons are depressed>>

SAT [ ]   UNSAT [ ]   NOTE:

5   <CM 139787(1001)><<Close the block valves for the unit-1 pressurizer power-operated relief valves, and request the unit-2 OATC to close the block valves for the unit-2 pressurizer power-operated relief valves.>>

Standards

<TB 110285(1305)><<Unit 2 OATC is requested to close the unit-2 PRZR PORV block valves>>

Critical Standards

<TB 110920(1305)><<Control switches for pressurizer power-operated relief valve block valves 1-RC-MOV-1535 and 1536 are placed in CLOSE>>

SAT [ ]   UNSAT [ ]   NOTE:

6   <CM 139788(1001)><<Stop all unit-1 reactor coolant pumps, and request the unit-2 OATC to stop all unit-2 reactor coolant pumps.>>

Standards

<TB 110285(1305)><<Unit 2 OATC is requested to stop the unit-2 RCPs and place in PULL-TO-LOCK>>

Critical Standards

<TB 110921(1305)><<Reactor coolant pumps 1-RC-P-1A, 1B, and 1C control switches are placed in PULL-TO-LOCK (placing in STOP satisfies critical standard)>>

SAT [ ]   UNSAT [ ]   NOTE:

7   <CM 142176(1001)><<Align the unit-1 charging system.>>

    <u>Standards</u>

        Charging pump suction valves from <TB 110285(1305)><<RWST 1-CH-MOV-1115B and 1115D control switches are placed in OPEN; charging pump suction valves from VCT 1-CH-MOV-1115C and 1115E control switches are placed in CLOSE>>; charging pumps B and C (norm) control switches are placed in PULL-TO-LOCK.

    SAT [ ]   UNSAT [ ]   NOTE:

8   Align<CM 142177(1001)><< the unit-2 charging system.>>

    <u>Standards</u>

        <TB 110285(1305)><<Unit 2 OATC is requested align unit-2 charging pump suction to the RWST and place non-running charging pumps in PULL-TO-LOCK.>>

    SAT [ ]   UNSAT [ ]   NOTE:

9   <CM 140425(1001)><<Close the unit-1 steam generator blowdown trip valves, and request the unit-2 OATC to close the unit-2 steam generator blowdown trip valves.>>

    <u>Standards</u>

        <TB 110285(1305)><<SG blowdown trip valves are verified closed and unit 2 OATC is requested to close unit-2 SG blowdown trip valves.>>

    SAT [ ]   UNSAT [ ]   NOTE:

10   <CM 139789(1001)><<Obtain the vital/Appendix-R key locker.>>

    <u>Standards</u>

        <TB 110285(1305)><<Vital/Appendix R key locker is obtained from the SRO bunker.>>

    SAT [ ]   UNSAT [ ]   NOTE:

11   <CM 139789(1001)><<Direct all operations personnel to proceed directly to the Appendix-R locker.>>

    <u>Standards</u>

        <TB 110285(1305)><<Operations personnel are directed to proceed to the Appendix R locker.>>

    SAT [ ]   UNSAT [ ]   NOTE:

12   <CM 139790(1001)><<Direct all other personnel to leave the control room, computer room, and Hathaway room areas.>>

Standards

    <TB 110285(1305)><<Personnel are directed to leave the control room, computer room and Hathaway room.>>

Evaluator's Cue

    <TB 110922(1305)><<All other personnel have left the control room, computer room and Hathaway room>>

SAT [ ]   UNSAT [ ]   NOTE:

12   <CM 139792(1001)><<Verify that all operations shift personnel have been notified.>>

Evaluator's Cue

    <TB 94719(1305)><<All operators have reported to the Appendix-R locker>>

SAT [ ]   UNSAT [ ]   NOTE:

13   <CM 139793(1001)><<Establish remote operations.>>

Evaluator's Cue

    <TB 110922(1305)><<Assume another operator will complete the procedure>>

FINISH TIME: _____

>>>>> END OF EVALUATION <<<<<

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142816(1002)><<R554>>

INITIAL CONDITIONS

<TB 108992(1305)><<Both units are stable at 100% power>>

<TB 108993(1305)><<Operations shift supervisor has determined that the control room has become uninhabitable and requires evacuation due to a control room fire>>

<TB 108994(1305)><<Available operations personnel consist of the minimum shift crew composition required by TS-6.2.2 only>>

INITIATING CUE

<TB 92565(1305)><<You are requested to conduct the actions required to evacuate the control room and assemble shift personnel at the Appendix-R locker due to a fire in accordance with 0-FCA-1.>>

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

<CM 142816(1002)><<R554>>

TASK

<CM 142816(1001)><<Evacuate the control room due to a fire (0-FCA-1).>>

CHECKLIST

<TB 95570(1305)><<_____ Recall IC #40

<TB 95570(1305)><<_____ Verify switch override entered for MSTV Appendix-R emergency close

pushbutton (O/R OFF)

Virginia Power
North Anna Power Station

NON-LICENSED OPERATOR

JOB PERFORMANCE MEASURE

<CM 142195(1002)><<N10>>
(Safety Function 4, IP, RCA, EOP, Bank)

TASK

<CM 142195(1001)><<Isolate the reactor coolant pump seals locally (1-ECA-0.0, 1-ECA-0.2, 1-AP-33.2).>>

APPLICANT:_____   **GRADE:_____**
                                                                                                      (Sat/Unsat)

EVALUATOR:_____   **DATE:_____**

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92255(1305)><<Before being underlined evaluated on the task, the trainee must have completed the reactor operator's course checkout during which the objectives listed below would have been addressed.>>

READ TO OPERATOR

DIRECTIONS TO TRAINEE

I will explain the initial conditions, and state the task to be performed. All in-plant steps , including any required communications, **shall be simulated** for this JPM. Under no circumstances are you to operate any plant equipment. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS

<TB 107613(1305)><<AC power has been lost >>

<TB 107614(1305)><<1-ECA-0.0 has been entered due to a loss of all AC power>>

INITIATING CUE

<TB 92539(1305)><<You are requested to isolate reactor coolant pump seals in accordance with 1-ECA-0.0.>>

STANDARDS

<TB 111241(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)>>

<TB 111242(1305)><<Self-checking practices were used throughout task performance>>

<TB 111243(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

<TB 111244(1305)><<Work was performed in compliance with the Radiation Work Permit; exposure to surface and airborne contamination was minimized; and ALARA principles were applied>>

TOOLS AND EQUIPMENT

<TB 92664(1305)><<Administrative key>>

EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 30 min.

K/A: 004A205 (4.0/4.3); 003A201 (3.5/3.9)

START TIME: _____

PERFORMANCE STEPS

1   <CM 128774(1001)><<Isolate seal injection to all reactor coolant pumps.>>

    <u>Critical Standards</u>

        <TB 110325(1305)><<The following seal injection isolation valves are simulated unlocked and closed:
- 1-CH-318, A RCP
- 1-CH-314, B RCP
- 1-CH-310, C RCP>>

SAT [ ]   UNSAT [ ]   NOTE:

2   <CM 128779(1001)><<Close the reactor coolant pump thermal barrier component cooling water return valve.>>

    <u>Critical Standards</u>

        <TB 110325(1305)><<RCP thermal barrier CC return valve 1-CC-757 is simulated closed

SAT [ ]   UNSAT [ ]   NOTE:

3   <CM 128781(1001)><<Close the reactor coolant pump seal water return isolation motor-operated valve.>>

    <u>Critical Standards</u>

        <TB 110325(1305)><<RCP seal water return valve 1-CH-MOV-1381 is simulated closed

SAT [ ]   UNSAT [ ]   NOTE:

4   <CM 138649(1001)><<Notify the control room operator that the reactor coolant pump seals are isolated.>>

    <u>Standards</u>

        <TB 110325(1305)><<Control room is simulated notified

SAT [ ]   UNSAT [ ]   NOTE:

FINISH TIME: _____

>>>>> END OF EVALUATION <<<<<

Virginia Power
North Anna Power Station

NON-LICENSED OPERATOR

JOB PERFORMANCE MEASURE

<CM 142195(1002)><<N10>>

INITIAL CONDITIONS

<TB 107613(1305)><<AC power has been lost >>

<TB 107614(1305)><<1-ECA-0.0 has been entered due to a loss of all AC power>>

INITIATING CUE

<TB 92539(1305)><<You are requested to isolate reactor coolant pump seals in accordance with 1-ECA-0.0.>>

Virginia Power
North Anna Power Station

NON-LICENSED OPERATOR

JOB PERFORMANCE MEASURE

<CM 142357(1002)><<N387>>
(Safety Function 6, IP, Bank)

TASK

<CM 142357(1001)><<Transfer a vital bus from an inverter to a Sola transformer (1-OP-26.5).>>

APPLICANT:_____ **GRADE:**_____

(Sat/Unsat)

EVALUATOR:_____ **DATE:**_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92255(1305)><<Before being evaluated on the task, the trainee must have completed the reactor operator's course checkout during which the objectives listed below would have been addressed.>>

READ TO OPERATOR

DIRECTIONS TO TRAINEE

I will explain the initial conditions, and state the task to be performed. All in-plant steps, including any required communications, **shall be simulated** for this JPM. Under no circumstances are you to operate any plant equipment. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS

<TB 107857(1305)><<Vital bus inverter 1-III is to be removed from service for maintenance >>

INITIATING CUE

<TB 92539(1305)><<You are requested to transfer vital bus 1-III from the inverter to the regulating transformer.>>

STANDARDS

<TB 111790(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the <u>underlined</u> procedures if several are cited)>>

<TB 111791(1305)><<Self-checking practices were used throughout task performance>>

<TB 111792(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92708(1305)><<None>>

EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 10 min.

K/A: 062A210 (3.0/3.3); 062A304 (2.7/2.9)

START TIME: _____

PERFORMANCE STEPS

1   <CM 128774(1001)><<Review initial conditions, precautions and limitations.>>

    Standards

        <TB 110325(1305)><<Initial conditions, precautions and limitations are reviewed>>

SAT [ ]   UNSAT [ ]   NOTE:

2   <CM 128774(1001)><<Energize the regulating transformer.>>

    Critical Standards

        <TB 110325(1305)><<Breaker 1J1-1E1R is simulated closed

SAT [ ]   UNSAT [ ]   NOTE:

3   <CM 128774(1001)><<Verify inverter indications.>>

    Standards

        <TB 110325(1305)><<Inverter 1-III indications are observed>>

    Evaluator's Cue

        <TB 94593(1305)><<The synch lamp is on and the frequency is 60 Hz>>

SAT [ ]   UNSAT [ ]   NOTE:

4   <CM 128774(1001)><<Verify SOLA not supplying vital bus 1-IV.>>

    Standards

        <TB 110325(1305)><<1-BP-SW-4 is verified in the INVERTER TO LOAD position>>

    Evaluator's Cue

        <TB 94593(1305)><<The switch is in the INVERTER>> TO LOAD position

SAT [ ]   UNSAT [ ]   NOTE:

5   <CM 128774(1001)><<Inform Unit SRO or CRO to enter action.>>

    Standards

       <TB 110325(1305)><<Unit SRO or CRO is simulated notified to enter action>>

SAT [ ]   UNSAT [ ]   NOTE:

6   <CM 128774(1001)><<Ensure the alternate source AC input breaker is closed.>>

    Standards

       <TB 110325(1305)><<The vital bus 1-III alternate source AC input breaker is verified closed

    Evaluator's Cue

       <TB 94593(1305)><<The >>breaker is closed and simultaneously verified

SAT [ ]   UNSAT [ ]   NOTE:

7   <CM 128774(1001)><<Verify interlock pin is down.>>

    Standards

       <TB 110325(1305)><<1-BP-SW-3 interlock pin is observed>>

    Evaluator's Cue

       <TB 94593(1305)><<The interlock pin is down and simultaneously verified

SAT [ ]   UNSAT [ ]   NOTE:

8   <CM 128774(1001)><<Rotate 1-BP-SW-3 switch to ALTERNATE SOURCE TO LOAD.>>

    Critical Standards

       <TB 110325(1305)><<1-BP-SW-3 switch is simulated rotated to the ALTERNATE SOURCE TO LOAD position

    Evaluator's Cue

       <TB 94593(1305)><<Assume simultaneous verification has been completed

SAT [ ]   UNSAT [ ]   NOTE:

9   <CM 128774(1001)><<Verify inverter 1-III is unloaded.>>

Standards

<TB 110325(1305)><<Inverter 1-III ammeter is observed

Evaluator's Cue

<TB 94593(1305)><<The ammeter indicates zero

SAT [ ]   UNSAT [ ]   NOTE:

10   <CM 128774(1001)><<Open the inverter output breaker.>>

Standards

<TB 110325(1305)><<Inverter output breaker is simulated opened

SAT [ ]   UNSAT [ ]   NOTE:

11   <CM 128774(1001)><<Open the battery input breaker.>>

Standards

<TB 110325(1305)><<Battery input breaker is simulated opened

SAT [ ]   UNSAT [ ]   NOTE:

12   <CM 128774(1001)><<Open the DC bus inverter supply breaker.>>

Standards

<TB 110325(1305)><<DC bus inverter supply breaker is simulated opened

SAT [ ]   UNSAT [ ]   NOTE:

NOTE TO EVALUATOR: Before candidate leaves the emergency switchgear room, question candidate concerning knowledge of the ASDP location (ASDP JPM will be done in the simulator.)<TB 110922(1305)><< >>

13 <CM 128774(1001)><<Verify the interlock pin is up.>>

Standards

<TB 110325(1305)><<1-BP-SW-3 interlock pin is observed>>

Evaluator's Cue

<TB 94593(1305)><<The interlock pin is up

SAT [ ]   UNSAT [ ]   NOTE:

FINISH TIME: _____

>>>>> END OF EVALUATION <<<<<

Virginia Power
North Anna Power Station

NON-LICENSED OPERATOR

JOB PERFORMANCE MEASURE

<CM 142357(1002)><<N387>>

INITIAL CONDITIONS

<TB 107857(1305)><<Vital bus inverter 1-III is to be removed from service for maintenance >>

INITIATING CUE

<TB 92539(1305)><<You are requested to transfer vital bus 1-III from the inverter to the regulating transformer.>>

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142801(1002)><<R523>>
(Safety Function 1, IP, AOP, Bank)

TASK

<CM 142801(1001)><<Maintain stable plant conditions from the auxiliary shutdown panel (1-AP-20).>>

APPLICANT:_____ **GRADE:**_____
(Sat/Unsat)

EVALUATOR:_____ **DATE:**_____

NOTE TO THE TRAINER AND THE EVALUATOR

Unless a specific evaluator's cue is provided, you should provide a cue indicating that the component or parameter is in the condition specified by the procedure.

PREREQUISITES

<TB 92260(1305)><<The trainee has completed the applicable course knowledge training at the reactor operator level.>>

INITIAL CONDITIONS

<TB 108926(1305)><<Control room has been evacuated>>

<TB 108930(1305)><<Unit was at 100% steady-state operation prior to the event>>

<TB 108927(1305)><<Immediate operator actions of 1-AP-20, "Operation from the Auxiliary Shutdown Panel," have been performed>>

<TB 108927(1305)><<Immediate operator actions of 1-E-0, "Reactor Trip or Safety Injection," were performed prior to evacuation

All IRPIs were verified to be indicating zero prior to evacuation>>

<TB 108927(1305)><<Both emergency busses are energized by offsite power>>

<TB 108927(1305)><<A and C main feedwater pumps are running>>

<TB 108929(1305)><<Boric acid transfer pump 1-CH-P-2A is aligned to unit 1>>

INITIATING CUE

<TB 92363(1305)><<You are requested to stabilize the unit by continuing with 1-AP-20, "Operation from the Auxiliary Shutdown Panel.">>

STANDARDS

<TB 113215(1305)><<Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)>>

<TB 113216(1305)><<Self-checking practices were used throughout task performance>>

<TB 113138(1305)><<Verbal communication related to any of the following modes was conducted in accordance with VPAP-1407

- Emergency communication

- Face-to-face communication

- Giving and acknowledging orders

- Phonetic alphabet

- Telephone communication systems

TOOLS AND EQUIPMENT

<TB 92842(1305)><<Copy of 1-AP-20 signed off to the point of determining emergency bus status>>

PREFERRED EVALUATION METHOD

<TB 94108(1305)><<Verbal-visual>>

VALIDATION TIME: 25 min.

K/A: APE 068; AA112 (4.4/4.4)

START TIME: _____

PERFORMANCE STEPS

1   <CM 137500(1001)><<Determine the status of the emergency busses.>>

    <u>Standards</u>

        <TB 110285(1305)><<Emergency busses are verified to be energized>> as stated in initial conditions

    SAT [   ]   UNSAT [   ]   NOTE:

2   <CM 141805(1001)><<Request the safeguards operator to place the diesel CRE switches in EMERGENCY.>>

    <u>Standards</u>

        <TB 110285(1305)><<Safeguards watchstander is requested to place the diesel CRE switches in EMERGENCY>>

    SAT [   ]   UNSAT [   ]   NOTE:

3   <CM 137501(1001)><<Verify that all auxiliary feedwater pumps are running.>>

    <u>Standards</u>

        <TB 110285(1305)><<AFW pumps are verified running by observing discharge pressure indicators or requesting safeguards watchstander to locally check breakers and/or pumps>>

    SAT [   ]   UNSAT [   ]   NOTE:

4   <CM 137501(1001)><<Verify Tave less than 554°F.>>

    <u>Standards</u>

        <TB 110285(1305)><<Tave is determined to be less than 554°F>>

    SAT [   ]   UNSAT [   ]   NOTE:

4a   <CM 137502(1001)><<Verify main feedwater pumps tripped.>>

    Standards

        <TB 110285(1305)><<MFW pumps are verified to be not tripped as stated in initial conditions>>

    SAT [ ]   UNSAT [ ]   NOTE:

5   <CM 136673(1001)><<Obtain the shift supervisor's permission and request the turbine building operator to remove the breaker-closing fuses for the main feedwater pump breakers and to open the breakers locally.>>

    Evaluator's Cue

        <TB 94593(1305)><<Assume that another operator will perform this step>>

    SAT [ ]   UNSAT [ ]   NOTE:

6   <CM 137501(1001)><<Determine required SG wide-range level that corresponds to 33% narrow-range level.>>

    Standards

        <TB 110285(1305)><<SG pressure indications are compared to procedure attachment to determine the required wide-range level>>

    SAT [ ]   UNSAT [ ]   NOTE:

6a   <CM 137503(1001)><<Control AFW flow to maintain Tave and steam generator levels.>>

    Critical Standards

        <TB 110302(1305)><<Local-Remote switches for the following valves are placed in LOCAL:
        • 1-FW-MOV-100D
        • 1-FW-MOV-100B
        • 1-FW-HCV-100C

        The following valves are throttled to maintain steam generator levels:
        • 1-FW-MOV-100D
        • 1-FW-MOV-100B
        • 1-FW-HCV-100C
        >>
    SAT [ ]   UNSAT [ ]   NOTE:

7   <CM 137499(1001)><<Check if emergency boration is required.>>

Standards

<TB 110285(1305)><<IRPI status is confirmed as stated in initial conditions>>

SAT [ ]   UNSAT [ ]   NOTE:

8   <CM 141319(1001)><<Verify that pressurizer level is > 15%.>>

Standards

<TB 110285(1305)><<PRZR level indication is observed>>

SAT [ ]   UNSAT [ ]   NOTE:

9   <CM 137504(1001)><<Place the pressurizer backup heaters' group-1 and group-4 LOCAL-REMOTE switches in LOCAL.>>

Standards

<TB 110285(1305)><<PRZR backup heater local-remote switches are placed in LOCAL (only if PRZR level is >15%)>>

SAT [ ]   UNSAT [ ]   NOTE:

10   <CM 141320(1001)><<Verify RCS pressure between 2210 psig and 2260 psig.>>

Standards

<TB 110285(1305)><<PRZR backup heater control switches are operated as necessary to maintain RCS pressure between 2210 psig and 2260 psig>>

SAT [ ]   UNSAT [ ]   NOTE:

11   <CM 137505(1001)><<Verify charging flow control valve maintaining pressurizer level between 28% and 64% in AUTOMATIC.>>

Standards

<TB 110285(1305)><<PRZR level is observed and FCV-1122 local-remote switch is placed in LOCAL as necessary; FCV-1122 controller is adjusted as necessary to maintain PRZR level between 28% and 64%>>

SAT [ ]   UNSAT [ ]   NOTE:

12   <CM 137506(1001)><<Place each steam generator power-operated relief valves' LOCAL-REMOTE switch in LOCAL.>>

       <u>Standards</u>

          <TB 110285(1305)><<SG PORV local-remote switches are placed in LOCAL>>

       SAT [ ]   UNSAT [ ]   NOTE:

13   <CM 141321(1001)><<Manually adjust steam generator power-operated relief valve controllers as required to maintain steam generator pressure between 975 psig and 1000 psig.>>

       <u>Standards</u>

          <TB 110285(1305)><<SG PORV controllers are adjusted as necessary to maintain SG pressures between 975 psig and 1000 psig>>

       SAT [ ]   UNSAT [ ]   NOTE:

14   <CM 137507(1001)><<Verify that emergency condensate storage tank level is > 40%.>>

       <u>Standards</u>

          <TB 110285(1305)><<ECST level indication is observed>>

       SAT [ ]   UNSAT [ ]   NOTE:

15   <CM 141322(1001)><<Request the shift technical advisor to monitor plant parameters and the status trees.>>

       <u>Standards</u>

          <TB 110285(1305)><<STA is requested to monitor SPDS plant parameters and status trees>>

       SAT [ ]   UNSAT [ ]   NOTE:

16   <CM 137508(1001)><<Determine if the control room has been uninhabitable for greater than 15 hours.>>

       <u>Evaluator's Cue</u>

          <TB 94681(1305)><<Assume 16 hours have elapsed since the unit was tripped>>

       SAT [ ]   UNSAT [ ]   NOTE:

17   <CM 137509(1001)><<Place the control switch for boric acid transfer pump 1-CH-P-2A to SLOW speed and transfer the pump's control to the auxiliary shutdown panel.>>

    <u>Critical Standards</u>

       <TB 110303(1305)><<Local-remote switch for 1-CH-P-2A is placed in LOCAL>>

SAT [ ]   UNSAT [ ]   NOTE:

18   <CM 137510(1001)><<Perform an emergency boration to maintain shutdown margin.>>

    <u>Critical Standards</u>

       <TB 110305(1305)><<Control switch for 1-CH-P-2A is placed in FAST>>

       <TB 110306(1305)><<Operator is requested to locally open emergency borate valve 1-CH-MOV-1350>>

SAT [ ]   UNSAT [ ]   NOTE:

19   <CM 137510(1001)><<Record time emergency boration started.>>

    <u>Standards</u>

       <TB 110285(1305)><<The current time is recorded in the procedure>>

SAT [ ]   UNSAT [ ]   NOTE:

20   <CM 137511(1001)><<Determine if emergency boration should be stopped.>>

    <u>Evaluator's Cue</u>

       <TB 94683(1305)><<Assume that 17 minutes have elapsed>>

SAT [ ]   UNSAT [ ]   NOTE:

21   <CM 137511(1001)><<Secure emergency boration.>>
    <u>Critical Standards</u>

       <TB 110307(1305)><<Operator is requested to locally close 1-CH-MOV-1350

       Control switch for 1-CH-P-2A is placed in SLOW>>

SAT [ ]   UNSAT [ ]   NOTE:

FINISH TIME:_____

>>>>> END OF EVALUATION <<<<<

Virginia Power
North Anna Power Station

REACTOR OPERATOR

JOB PERFORMANCE MEASURE

<CM 142801(1002)><<R523>>

INITIAL CONDITIONS

<TB 108926(1305)><<Control room has been evacuated>>

<TB 108930(1305)><<Unit was at 100% steady-state operation prior to the event>>

<TB 108927(1305)><<Immediate operator actions of 1-AP-20, "Operation from the Auxiliary Shutdown Panel," have been performed>>

<TB 108927(1305)><<Immediate operator actions of 1-E-0, "Reactor Trip or Safety Injection," were performed prior to evacuation

All IRPIs were verified to be indicating zero prior to evacuation>>

<TB 108927(1305)><<Both emergency busses are energized by offsite power>>

<TB 108927(1305)><<A and C main feedwater pumps are running>>

<TB 108929(1305)><<Boric acid transfer pump 1-CH-P-2A is aligned to unit 1>>

INITIATING CUE

<TB 92363(1305)><<You are requested to stabilize the unit by continuing with 1-AP-20, "Operation from the Auxiliary Shutdown Panel.">>

SIMULATOR SETUP

JOB PERFORMANCE MEASURE

<CM 142801(1002)><<R523>>

TASK

<CM 142801(1001)><<Maintain stable plant conditions from the auxiliary shutdown panel (1-AP-20).>>

CHECKLIST

<TB 95611(1305)><<_____   Recall IC #34

_____   Verify 1-AP-20 immediate operator actions have been performed.

_____   Place the simulator in FREEZE

_____   When requested to open MOV-1350, take CHMOV350_RATE = 0, then CHMOV350 = 1