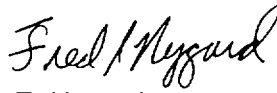# JOB PERFORMANCE MEASURE APPROVAL SHEET

I.   JPM Title: **Emergency Boration (Alternative - Using HPSI header and RWST)**

        ID Number: JPM-200   Revision: 0

II.   Initiated:

Fred / Nygard

F. Nygard   06/12/00
Developer   Date

III. Reviewed:

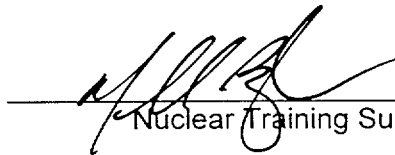Technical Reviewer   6/16/00
                                      Date

IV. Approved:

User Department Supervisor   Date

Nuclear Training Supervisor   6/20/00
                                        Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: **MP-2**   Examinee: _____

JPM Number: **JPM-200**   Rev. _____0_____

Task Title: **Emergency Boration (Alternative - Using HPSI header and RWST)**

System: CVCS _____

Time Critical Task: Yes _____   No   **X**

Validated Time (minutes):   10

Task No.(s):   NUTIMS 000-04-099 _____

Applicable To: SRO   **X**   RO   **X**   PEO _____

K/A No.:   004-A4.18   K/A Rating: 4.3./4.1
             024-Aa1.17   3.9./3.9
             024-AA1.22   3.2./3.2

Method of Testing:

Simulated Performance: _____   Actual Performance: **X**

Location:

Classroom: _____   Simulator: **X**   In-Plant: _____

Task Standards:	At the completion of this JPM, the examinee has Emergency Borated using the Charging pumps, HPSI header and the RWST as specified in EOP 2540-RC2
Required Materials (procedures,equipment):	EOP 2540-RC2
General References:	EOP 2540-RC2

---

* * * * READ TO THE EXAMINEE * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: _____ JPM-200 _____   Rev. ___ 0 ___

Initiating Cues:
- You are the PPO.
- The Unit Supervisor has directed you to Emergency Borate in accordance with EOP 2540 Success Path RC-2

Initial Conditions:
- The plant experienced a spurious trip with 5 stuck rods.
- The US has completed EOP 2525 and is now in EOP 2540
- The US has directed you to Emergency borate per Success Path RC-2

Simulator Requirements: Initialize at a normal post-trip IC and perform the following:
- Initialize in IC-24 (100% power)
- Override BAST level meters to indicate a low level
  - I/O override (CV) LI-206 @8%
  - I/O override (CV) LI-208 @6%
- Enter Malfunction RD0203 RD0215, RD0227, RD0243, RD0260 to cause 5 Rods to Stick out on a subsequent trip.
- Trip the plant and stablize parameters.
- Stop all 3 charging pumps at C02/3
- Close CH-429 and override (CV) HS-2524 OPN OFF
- Snap shot as necessary for additional exams

---

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM ID NUMBER: __JPM-200__   TITLE: __Emergency Boration (Alternative - Using HPSI header and RWST)__

START TIME: ▓▓▓▓▓▓

STEP **1**   _ Performance Steps: ENSURE that the normal charging discharge path is aligned:

        a.   ENSURE that CH-429 charging header isolation valve is open

        b.   ENSURE that at least one of the following is open:

           • CH-518, charging header isolation valve

           • CH-519, charging header isolation valve

GRADE ___ _ Standards: *Examinee attempts to open CH-429 and determines that will not open. He then notifies the US (OP2260 step 1.21.4) and proceeds to the Contingency Actions step 2.1*

    Cue: When notified that CH-429 will not open, and examinee does not offer going to contingency action 2.1, then ask for recommendation. If examinee does not recommend going to contingency action 2.1, then terminate the JPM.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

4

JPM ID NUMBER: <u>JPM-200</u> TITLE: **Emergency Boration (Alternative - Using HPSI header and RWST)**

STEP **2** __ Performance Steps: Align charging pumps to HPSI header "A" as follows:

<u>X</u>

a. Open charging pump discharges to HPSI header, CH-340 and 2-CH-440 (local)

__

b. Close CH-429, charging header isolation valve

__

c. Ensure that at least one of the following HPSI loop injection valves is open:

- SI-617

- SI-627

- SI-637

- SI-647

GRADE __ X Standards: *Examinee directs the PEO to open CH-340 and CH-440, determines that CH-429 is still closed and observes that the 4 HPSI loop injection valves are open*

Cue: When CH-340 and 440 have been opened, report as the PEO that they are open.

Comments: Use simulator remote CVR01 to open CH-340 and 440

JPM ID NUMBER: __JPM-200__   TITLE: __Emergency Boration (Alternative - Using HPSI header and RWST)__

STEP **3**   __ Performance Steps: Refers to EOP 2541 Appendix 3

GRADE __ __   Standards: *Obtains Appendix 3*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **4**   __ Performance Steps: Refers to Appendix 3, Attachment 3-A

GRADE __ __   Standards: *Obtains* Appendix 3, Attachment 3-A

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **5**   __ Performance Steps: Determines the boric acid tanks are depleted and goes to step 2.

GRADE __ __   Standards: *Proceeds to step 2*

Cue:

Comments: *Should notifies US that BASTs are not available*

JPM ID NUMBER: JPM-200 TITLE: **Emergency Boration (Alternative - Using HPSI header and RWST)**

STEP **6** __ Performance Steps: If boric acid storage tanks are not available, initiate emergency boration from the RWST as follows:

_X_   a.   Open RWST isolation, 2-CH-192

___   b.   Ensure RWST to charging suction, 2-CH-504, open

___   c.   Ensure VCT makeup bypass, 2-CH-196, closed

⊗   . d.   Close VCT outlet isolation, 2-CH-501   ✓

___   e.   If CH-500, letdown divert handswitch is in the 'VCT' position, Place the valve to the 'RWS' position.

_X_   f.   Ensure at least one charging pumps is operating

___   g.   Check charging flow is greater than 40 GPM

GRADE __ X Standards: a.   Open RWST isolation, 2-CH-192

___   b.   Observes that RWST to charging suction, 2-CH-504, open

___   c.   Observes that VCT makeup bypass, 2-CH-196, closed

___   d.   Close VCT outlet isolation, 2-CH-501

___   e.   If in auto, no action required

_X_   f.   Starts at least one charging pumps.

___   g.   Check charging flow is greater than 40 GPM

Cue:

Comments: **After this step is completed, the JPM is considered complete.**

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No.   <u>JPM-200</u>   Rev.   <u>9</u>

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No   **X**

Validated Time (minutes): _____ 10 _____

Actual Time to Complete (minutes): _____

Result of JPM: _____   (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

<u>Areas for Improvement:</u>

EXAMINEE HANDOUT

JPM ID Number: <u>200</u>

Initiating Cues:
- You are the PPO.
- The Unit Supervisor has directed you to Emergency Borate in accordance with EOP 2540 Success Path RC-2

Initial Conditions:
- The plant experienced a spurious trip with 5 stuck rods.
- The US has completed EOP 2525 and is now in EOP 2540
- The US has directed you to Emergency borate per Success Path RC-2

comments on step 5

JOB PERFORMANCE MEASURE APPROVAL SHEET {PRIVATE }

I   JPM Title: **LPSI Pump Operability Test - Alternate Path**

     ID Number: JPM-209   Revision: 0

II.   Initiated:

Fred L Nygard

‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾   6/12/00
F. Nygard
Developer   Date

III.   Reviewed:

‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾   6/15/00
Technical Reviewer   Date

IV.   Approved:

‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾   ‾‾‾‾‾‾‾‾‾‾
User Department Supervisor   Date

‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾   6/20/01
Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2   Examinee: _____

JPM Number: JPM-209   Rev.   0

Task Title: **LPSI Pump Operability Test**

System: LPSI

Time Critical Task: Yes _____   No   **X**

Validated Time (minutes):   15

Task No.(s):   NUTIMS #006-02-026

Applicable To: SRO   **X**   RO   **X**   PEO _____

K/A No.   006-000-A3.02   K/A Rating   4.1/4.1

Method of Testing:

Simulated Performance: _____   Actual Performance: **X**

Location:

Classroom: _____   Simulator: **X**   In-Plant: _____

Task Standards:	At the completion of this JPM, the examinee has succesfully completed Facility I LPSI pump surveillance on "A" LPSI pump.
Required Materials (procedures, equipment):	SP 2604C calculator OPS Form 2604C-1
General References:	SP 2604C, Section 4.1 (Rev. 9, Ch. 3) DC 4 Rev 5 section 1.1

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: JPM-209   Rev.   0

Initiating Cues: -   You are the PPO.

      -      The Unit Supervisor has directed you to perform surveillance SP 2604C on the "A" LPSI pump.

      -      An IST is not required.

      -      The examiner will act as the Unit Supervisor and/or PEO.

Initial Conditions: -   The plant is at 100% power, NOT/NOP.

      -      No equipment is out of service.

      -      OPS Form 2604C-1 has been authorized for release.

Simulator Requirements: Initialize at a normal 100% power IC.

      On OPS Form 2604C-1, authorize and date form.

---

1.   Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2.   When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3.   If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

4.   This JPM must <u>not</u> be performed in conjunction with JPM-101 or 102.

PM ID NUMBER: <u>JPM-209</u> TITLE: <u>LPSI Pump Operability Test- Alternate Path</u>

START TIME: _____

STEP **1** __ Performance Steps: If SDC is not in operation, ensure all "LPSI INJ VLVS" closed:

- "LOOP 1A, SI-615"
- "LOOP 1B, SI-625"
- "LOOP 2A, SI-635"
- "LOOP 2B, SI-645"

GRADE __ __ Standards: *Examinee determines that SDC is not in operation and checks closed the listed LPSI injection valves by observing their green lights only are lit on C-01.*

Cue:

Comments:

~~~~~~

STEP **2** __ Performance Steps: Ensure "A" LPSI pump suction is aligned to RWST as follows:

a. Suction from SDC, 2-SI-441 is locked closed.

b. Suction from RWST, 2-SI-444 is locked open

GRADE __ __ Standards: *Examinee states they would have PEO locally check valve positions in "A" Safeguards Room.*

Cue: When asked as PEO, state valves are in their desired positions.

Comments: Examinee may also check position indication of 2-SI-441 on C-01.

~~~~~~

4

STEP **3**   __ Performance Steps: Ensure the following are open:
- "PP MINFLOW STOP, SI-659"
- "PP MINFLOW STOP, SI-660"
- "A" LPSI pump min. flow recirc. stop, 2-SI-449

GRADE __   __ Standards: *Examinee performs the following:*

- *Observes SI-659 & SI-660 are open by their red lights only lit on C-01.*
- *Directs/requests PEO to locally check open 2-SI-449.*

Cue: Report that 2-SI-449 is locked open.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **4**   __ Performance Steps: Ensure an operator stationed in the "A" Safeguards Room to monitor initial pump start.

GRADE __   __ Standards: *Examinee directs/requests a PEO to go to "A" Safeguards Room and prepare for "A" LPSI pump start.*

Cue: I am in the "A" Safeguards Room. Oil levels are good and I am standing by for pump start.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

5

PM ID NUMBER: JPM-209   TITLE: LPSI Pump Operability Test- Alternate Path

---

STEP **5** ___ Performance Steps: During pump operation, observe the following:

- No abnormal noise or vibration (local)
- Normal bearing oil levels (local)
- Normal motor amperage

GRADE __ __ Standards: *Examinee directs the PEO to check for abnormal noise or vibration (local), and normal bearing oil levels (local). Examinee observes normal motor amperage.*

Cue: If asked, there is no abnormal noise or vibration and the oil levels are still good.

Comments:

~~~~~~

STEP **6** ___ Performance Steps: If in MODE 1, 2, or 3 with Prz pressure $\geq$ 1850 PSIA, CHECK no "1/5" lights or bistable "TRIP" lights lit for SIAS, CIAS or EBFAS on Facility 1 and Facility 2 actuation and sensor channels

GRADE __ __ Standards: *Observes no "1/5" lights or bistable "TRIP" lights lit for SIAS, CIAS, or EBFAS on ESF Actuation Cabinets 5 and 6 and all Sensor Cabinets.*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

PM ID NUMBER: JPM-209   TITLE: LPSI Pump Operability Test- Alternate Path

STEP **7**   X   Performance Steps: Place "TEST PERMISSIVE SWITCH, S-501' in "TEST SIAS" on Actuation Cabinet 5.

GRADE __   X   Standards: *Places TEST PERMISSIVE SWITCH, S-501 in "TEST SIAS" on Actuation Cabinet 5.*

Cue:

Comments:

~~~~~~

STEP **8**   X   Performance Steps: Place "TEST GROUP SWITCH, S-502" in "GROUP 4" on Actuation Cabinet 5.

GRADE __   X   Standards: *Places TEST GROUP SWITCH, S-502 in "GROUP 4" on Actuation Cabinet 5.*

Cue:

Comments:

~~~~~~

PM ID NUMBER: <u>JPM-209</u>   TITLE: <u>LPSI Pump Operability Test- Alternate Path</u>

STEP **9**   <u>X</u> Performance Steps: If using sensor cabinet "A", perform the following:

- Place "TRIP TEST, S-102" switch in "CONT PRESS SIAS/CIAS/EBFAS/MSI" on Sensor Cabinet "A" ("C").
- Press and hold bistable BA101"TRIP TEST" button
- Check actuation module, AM517 "1/5" light is lit (ESF actuation Cabinet 5).
- .To initate start signal, Press actuation module AM517 "1/5" "TEST" button. lit (ESF actuation Cabinet 5).
- Release " bistable BA101 "TRIP TEST"

GRADE __   <u>X</u> Standards:

- *Places TRIP TEST, S-102 switch in "CONT PRESS SIAS/CIAS/EBFAS/MSI" on Sensor Cabinet "A"*
- *Presses and holds "TRIP TEST" button on bistable BA101 on Sensor Cabinet "A".*
- *Checks actuation module, AM517 "1/5" light is lit on Actuation Cabinet 5.*
- *Presses "1/5" "TEST" button on actuation module AM517.*
- *Releases "TRIP TEST" button on bistable BA101 . on Sensor Cabinet "A".*

        Cue:

Comments: These steps result in a pump start. The procedure has an option to perform a similar series of operations on cabinet C if two operators are available. Only one operator is available for this JPM, therefor cabinet A must be used. More than one attempt at pushing test buttons on module AM 517 is acceptable. All bullets are critical except for checking 1/5 light lit.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **10**   __ Performance Steps: Compare "A" LPSI pump automatic start data to "Acceptance Criteria limits in DATA Section 1 and if the following are observed initial DATA Section 1for satisfactory pump start:

- Actuation module AM517Red "TRIP" light
- "A" LPSI pump

GRADE __   __ Standards: *Examinee observes the following and initials form:*

-          *-Red "TRIP" light is lit on actuation module AM517.*

-"A" LPSI pump has started by its red light only lit and/or amperage indication on C-01.

Cue:

Comments: Examinee may not have time to complete this step depending on the timing of cue in the nest JPM step..

~~~~~~

STEP **10**   X Performance Steps: Stop "A" LPSI pump.

GRADE __   X Standards: *Examinee stops LPSI pump by taking handswitch to start and then to the stop position and then verifies that pump is off by observing green light only and/or amps at 0. It is acceptable for the examinee to make more than one attempt at stopping the pump.*

Cue: **To cause the performance step action, call as the PEO and say that the pump is making a loud grinding noise and has high vibration.**

Comments: Examinee should report status to US. DC 4 section 1.1 "If ..unexpected results occur... stop the procedure, ensure equipment or system is placed in a stable and safe condition....

~~~~~~

STEP **11**   X   Performance Steps: Return ESF panels as follows.

1) Press "ACTUATION RESET SIAS" button (ESF Actuation Cabinet 5)
2) Press bistable, BA101, red "TRIP" Light
3) Place "TRIP TEST, S-102" switch in "OPERATE".
4) Place TEST PERMISSIVE SWITCH, S-501 in "OPERATE" (ESF Actuation Cabinet 5).
5) Places TEST GROUP SWITCH, S-502 in "GROUP ·1" (ESF Actuation Cabinet 5).
6) Resets "ATI FAULT" alarm by pressing ATI reset button (ESF Actuation Cabinet 5).

GRADE __   X   Standards: *Examinee performs the following:*

1) Presses SIAS RESET button on Actuation Cabinet
2) Presses bistable, BA101, red Trip Light
3) Places TRIP TEST, S-102 switch in "OPERATE
4) Places TEST PERMISSIVE SWITCH, S-501 in "OPERATE".
5) Places TEST GROUP SWITCH, S-502 in "GROUP 1".
6) Resets "ATI FAULT" alarm by pressing ATI reset button

Cue: **As US, direct that ESF be restored per step 4.1.18.**

Comments: **After this step is completed, the JPM is considered complete.**

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. <u>JPM-209</u>   Rev.   <u>0</u>

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No **X** _____

Validated Time (minutes):   15 _____

Actual Time to Complete (minutes): _____

Result of JPM: _____ (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

Areas for Improvement:

11

JPM ID Number: <u>209</u>

<u>Initiating Cues</u>:-You are the PPO.

- The Unit Supervisor has directed you to perform surveillance SP 2604C on the "A" LPSI pump.
- An IST is not required.
- The examiner will act as the Unit Supervisor and/or PEO.

<u>Initial Conditions</u>:-The plant is at 100% power, NOT/NOP.

- No equipment is out of service.
- OPS Form 2604C-1 has been authorized for release.

JOB PERFORMANCE MEASURE APPROVAL SHEET

I.   JPM Title: **Initiate Boron Precipitation Control (Alternate Method)**

    ID Number: _____JPM-203_____   Revision: _0_

II.   Initiated:

Fred J Nygard

F. Nygard	6/5/2000
Developer	Date

III. Reviewed:

Robert L Cimmarron Jr

Technical Reviewer	6/15/00
	Date

IV. Approved:

User Department Supervisor	Date

N. Hill

Nuclear Training Supervisor	6/20/00
	Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: _____ MP-2 _____   Examinee: _____

JPM Number: _____ JPM-203 _____   Rev. ___ 0 ___

Task Title: **Initiate Boron Precipitation Control (Alternate Method)**

System: _ ECCS _____

Time Critical Task: Yes _____   No __ X __

Validated Time (minutes): ___ 15 ___

Task No.(s): _ NUTIMS #000-05-222 _____

Applicable To: SRO __ X __   RO __ X __   PEO _____

K/A No.: ___ 000-011-EA1.13 ___   K/A Rating: ___ 4.1/4.2 ___

Method of Testing:

  Simulated Performance: _____   Actual Performance: ___ X ___

Location:

  Classroom: _____   Simulator: ___ X ___   In-Plant: _____

Task Standards:	At the completion of this JPM, the examinee has initiated boron precipitation control using a HPSI pump for hot leg injection via the charging and auxiliary spray piping.
Required Materials (procedures,equipment):	• EOP 2541 Appendix 18
General References:	EOP 2541, Appendix 18, **(Rev. XX)**

---

* * * * READ TO THE EXAMINEE * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: _____ JPM-203 _____ Rev. ___ 0 ___

Initiating Cues:
- You are the PPO.
- The Unit Supervisor has directed you to initiate boron precipitation control per EOP 2541 Appendix 18.
- The examiner will act as the PEO or US, as required.

Initial Conditions:
- The plant experienced a large-break LOCA.
- EOP 2525 was completed and the crew transitioned to EOP 2532 approximately 9 hours ago.
- All RCPs are off.
- SRAS has initiated.

Simulator Requirements:
Initialize simulator with the following conditions:
- Post-large break LOCA condition (RC03A at 100% or equivalent)
- 2-CS-13.1A/B closed
- RCPs off
- 2-SI-659/660 are in "OPER"
- CETs are < 345 degF
- Rx vessel level < 43%
- Pressurizer level < 20%

I/O open (prevent closing) SI-635 by RH HS 3635 CLS Off

Place simulator in "Freeze."

When examinee is ready, place simulator in "Run."

---

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-203   TITLE: Initiate Boron Precipitation Control
                                      (Alternate Method)

START TIME: _____

STEP **1**   Performance Steps: Go To section 18-A

GRADE __   Standards: *Examinee observes that both Facility 1 and 2 are*
                             available and that PPC CETs are < 345 degF . Interprets
                             step 1 criteria for going to section 18-B is not met.
                             Interprets criteria for going to section 18-A is met.

                 Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **2**   Performance Steps: Stop both LPSI pumps

GRADE __   Standards: *Examinee observes that both LPSI pumps are off by*
                             green lights lit and amps at 0.

                 Cue:

Comments: LPSI pumps tripped due to SRAS.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **3**   Performance Steps: Ensure that Facility 2 HPSI pump is operating.

GRADE __   Standards: *Examinee observes "C" (or "B" if aligned) HPSI pump red*
                             light lit, amperage indicated and discharge pressure on C-
                             01.

                 Cue:

Comments:

4

JPM ID NUMBER: JPM-203   TITLE: Initiate Boron Precipitation Control
(Alternate Method)

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **4**   Performance Steps: Close SI-635 LPSI injection valve and based on it not
closing, goes to section 18-B..

GRADE __   Standards: *Examinee attempts to close SI-635 by taking the
handswitch to the closed position and determines that is
will not close based on red light only remaining lit. He then
takes the contingency action of going to section 18-B.*

X   r

Cue: *Critical step*

Comments: At this point the examinee should transition to *section 18-B*. If the wrong path, is
chosen and initiated, the examinee has failed the JPM.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **5**   Performance Steps: If Both Facility 1 and 2 are available and CET
temperature is greater than 345°F, perform the
following...

GRADE __   Standards: *Examinee determines this step is not applicable and
proceeds to step 1.b.*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **6**   _ Performance Steps: Ensure Facility 1 HPSI pump operating.

GRADE __   _   Standards: *Examinee observes "A" (or "B" if aligned) HPSI pump red
light lit, amperage indicated and discharge pressure
~1250 psig on C-01.*

Cue:

PERFORMANCE INFORMATION

JPM ID NUMBER: __JPM-203__   TITLE: __Initiate Boron Precipitation Control__
__(Alternate Method)__

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **7**   X Performance Steps: Ensure <u>two</u> of the following valves are fully closed and <u>two</u> are fully open:
- 2-SI-615
- 2-SI-625
- 2-SI-635
- 2-SI-645

GRADE __   X Standards: *Determines that SI 635 is open and that one of the remaining 3 valves must be shut. Selects a valve and takes handswitch for either SI-615, SI-625 or SI-645 to "OPEN" (override SIAS), then to "CLOSE" and observes green lights only lit for these LPSI injection valves on C-01.*

     Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **8**   X Performance Steps: Ensure "A" LPSI pump operating and "B" LPSI pump is off.

GRADE __   X Standards: *Examinee observes "A" and "B" LPSI pumps not operating by observing green lights lit and zero amperage on C-01.*

Examinee then places "A" LPSI pump switch to "STOP" (override SRAS), then to "START" and observes red light lit and amperage indicated, as well as pump discharge pressure rising for "A" LPSI pump.

     Cue:

Comments: LPSI pumps tripped due to SRAS. More than one start attempt is acceptable.

JPM ID NUMBER: <u>JPM-203</u>   TITLE: <u>Initiate Boron Precipitation Control</u>
<u>(Alternate Method)</u>

STEP **9**   _   Performance Steps: Stop Facility 1 HPSI pump.

GRADE __   _   Standards: *Examinee places "A" (or "B" if aligned) HPSI pump switch to "START" (override SIAS), then to "TRIP" and observes green light lit and zero amperage indicated, as well as pump discharge pressure lowering for HPSI pump.*

Cue:

Comments: More than one start attempt is acceptable.

~~~~~~

STEP **10**   <u>X</u> Performance Steps: Close Facility 1 HPSI injection valves 2-SI-617, 627, 637, 647.

GRADE __   <u>X</u>   Standards: *Examinee takes handswitches for Facility 1 HPSI injections (2-SI-617, 627, 637, 647) to "OPEN" (override SIAS), then to "CLOSE" and observes green lights only lit on C-01.*

Cue:

Comments:

~~~~~~

STEP **11**   <u>X</u> Performance Steps: Unlock and Open charging pump discharge to HPSI header valves, 2-CH-340 and 2-CH-440.

GRADE __   <u>X</u>   Standards: *Examinee directs PEO to open the mentioned valves and may also direct an HP Tech. to go with them due to potential High Radiation levels.*

Cue: When open, report back as PEO that both valves are open as requested.

Comments: To open both 2-CH-340 and 2-CH-440, use CVR01.

JPM ID NUMBER: <u>JPM-203</u>   TITLE: <u>Initiate Boron Precipitation Control</u>
                                       <u>(Alternate Method)</u>

STEP **12**   _   Performance Steps: Check open charging header isolation valve,
                                       2-CH-429.

GRADE __   _   Standards: *Examinee observes red light lit for 2-CH-429 on C-02.*

           Cue:

Comments:

~~~~~~

STEP **13**   X Performance Steps: Open pressurizer aux. spray isolation, 2-CH-517.

GRADE __   X Standards: *Examinee places switch for 2-CH-517 to "OPEN" and*
                             observes red light only lit on C-02.

           Cue:

Comments:

~~~~~~

STEP **14**   X Performance Steps: Close loop 1A and 2A charging isolations, 2-CH-518
                                     and 2-CH-519.

GRADE __   X Standards: *Examinee obtains keys and places 2-CH-518 and 2-CH-*
                             519 key-lock switches in "CLOSE" and observes green
                             lights only lit for both valves on C-02.

           Cue:

Comments:

JPM ID NUMBER: JPM-203   TITLE: Initiate Boron Precipitation Control
                                           (Alternate Method)

STEP **15**   X   Performance Steps: Start Facility 1 HPSI pump.

GRADE __   X   Standards: *Examinee places "A" (or "B" if aligned) HPSI pump switch*
                                      to "START" and observes red light lit and amperage
                                      indicated, as well as pump discharge pressure rising for
                                      the respective pump.

           Cue:

Comments: With the loss of Facility 2 power there is no indication of charging header flow
             on C-02.
             After this step is completed, the JPM is considered complete.

STOP TIME: ▒▒▒▒▒▒

VERIFICATION OF JPM COMPLETION

Job Performance Measure No.   <u>JPM-203</u>   Rev.   <u>0</u>

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No __**X**__

Validated Time (minutes): _____15_____

Actual Time to Complete (minutes): _____

Result of JPM: _____   (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: 203

Initiating Cues:
- You are the PPO.
- The Unit Supervisor has directed you to initiate boron precipitation control per EOP 2541 Appendix 18.
- The examiner will act as the PEO or US, as required.

Initial Conditions:
- The plant experienced a large-break LOCA.
- EOP 2525 was completed and the crew transitioned to EOP 2532 approximately 9 hours ago.
- All RCPs are off.
- SRAS has initiated.

JOB PERFORMANCE MEASURE APPROVAL SHEET

I   JPM Title: **Pumping the Containment Sump -Alternate Path**

ID Number: JPM-211   Revision: 0

II.   Initiated:

Fred J Nygard
_____   6/14/2000
F. Nygard   Date
Developer

III.   Reviewed:

Ronal E. Paquette / R. ? Efuit
_____   6-14-00
Technical Reviewer   Date

IV.   Approved:

_____   _____
User Department Supervisor   Date

_____   6/20/00
Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: ___MP-2___   Examinee: _____

JPM Number: ___JPM-211___   Rev. ___0___

Task Title: **Pumping the Containment Sump**

System: ___Station Sumps and Drains___

Time Critical Task: Yes _____ No __X__

Validated Time (minutes): ___5___

Task No.(s): ___NUTIMS #092-01-021___

Applicable To: SRO __X__   RO __X__   PEO _____

K/A No. ___000-009-EA1.02___   K/A Rating ___3.8/3.8___

Method of Testing:

Simulated Performance: _____   Actual Performance: ___X___

Location:

Classroom: _____   Simulator: __X__   In-Plant: _____

<u>Task Standards:</u>	At the completion of this JPM, the examinee has pumped the containment sump until receipt of the CTMT NORM SUMP DIS PRESS HI" annunciator and then stop the pump(s) and report the outboard isolation valve failed to close.
<u>Required Materials</u> (procedures, equipment):	OP 2336 ARP 2590E (BB-21)
<u>General References:</u>	OP 2336A, Section 4.4 (Rev. 15) ARP 2590E (BB-21) Rev 007-01

---

* * * * <u>READ TO THE EXAMINEE</u> * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

PM Number: _____ JPM-211 _____   Rev. ___ 0 ___

Initiating Cues: -   The Unit Supervisor has directed you to pump the Containment sump.

                     -   The examiner will act as the Unit Supervisor.

Initial Conditions: -   The containment sump level has slowly risen due to a known secondary
                         system leak.

                     -   All other operating conditions are normal.

Simulator Requirements: Initialize at any IC with:

                     -   Containment sump at 75-80% (Set "CHMSUMP" to 2.2 E3 for ~ 79%)

                     -   Malfunction WD02B to fail SSP-16.2 open.

                     -   No SIAS or CIAS in progress

                     -   When directed after JPM step 2 Actions, I/O ANN C06/7 BB-21 "ON"
                         and be prepared to delete the I/O. "(CTMT NORM SUMP DIS PRESS
                         HI")

---

* * * * NOTES TO EXAMINER * * * *

1.   Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade,
     ALL critical steps must be completed correctly.

2.   When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3.   If necessary, question examinee for details of simulated actions / observations
     (i.e. "What are you looking at?" or "What are you observing?").

4.   This JPM must <u>not</u> be performed in conjunction with JPM-046.

PERFORMANCE INFORMATION

PERFORMANCE INFORMATION

PM ID NUMBER: <u>JPM-211</u>   TITLE: <u>Pumping the Containment Sump -Alternate Path</u>

START TIME: _____

STEP **1** _X_ Performance Steps: Start "CTMT SUMP PP A (B)" by placing control switch to "START".

GRADE ___ _X_ Standards: *Examinee starts "A" and/or "B" containment sump pump(s) by taking the handswitch(es) to "START" position on C-06 and observing the red light(s) only lit.*

Cue:

Comments: Both pumps may be used.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **2** ___ Performance Steps: Ensure "CTMT SUMP ISOLATION INBOARD, SSP 16.1" and "CTMT SUMP ISOLATION OUTBOARD, SSP-16.2" open automatically.

GRADE ___ ___ Standards: Examinee observes both SSP-16.1 and SSP-16.2 fully open by their red lights only lit on C-06.

Cue: In preparation for next step, wait until sump level has decreased to between 30 and 40% and then, I/O ANN C06/7 BB-21 "ON" (CTMT NORM SUMP DIS PRESS HI"). Be prepared to delete the I/O when the examinee takes action in the next step.

Comments: If examinee does not state this, question as to what they are monitoring.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

4

PM ID NUMBER: JPM-211   TITLE: Pumping the Containment Sump -Alternate Path

STEP __3__ __X__ Performance Steps: Place "CTMT SUMP PP A (B)" control switch(es) to "STOP".

GRADE ___ __X__ Standards: *Examinee observes annunciator C06/7 BB-21 and takes action to stop the containment sump pump. The examinee may take immediate action to stop the pump and then refer to the ARP or may refer to the ARP and then stop the pump. Examinee observes the green light(s) only lit for pumps on C-06.*

Cue:

Comments: Stopping the containment sump pump(s) is the critical component of this step.

~~~~~~

STEP __4__ ___ Performance Steps: Ensure "CTMT SUMP ISOLATION INBOARD, SSP 16.1" and "CTMT SUMP ISOLATION OUTBOARD, SSP-16.2" close automatically.

GRADE ___ ___ Standards: *Examinee observes that SSP-16.1 fully closes by its green light only lit, but SSP-16.2 does not close by its red light only still lit on C-06.*

Cue:

Comments: After taking the first action of the ARP for BB-21, the examinee should return to OP2336A and complete step for ensuring the sump isolation valves close. If examinee does not state this, question as to what they are monitoring.

~~~~~~

5

PM ID NUMBER: <u>JPM-211</u>   TITLE: <u>Pumping the Containment Sump -Alternate Path</u>

STEP   <u>5</u>   <u>X</u> Performance Steps: Report failure of Containment isolation valve to close.

GRADE ___   <u>X</u> Standards: *Examinee reports the failure of SSP-16.2 to automatically close to the US.*

          Cue: As US Acknowledge report and state that action will be taken for Technical Specification.

Comments: Examinee may also state that entry into TSAS for Containment integrity would be required. **After this step is completed, the JPM is considered complete.**

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-211   Rev.   0

Date Performed: _____

Operator: _____

Evaluator(s): _____

```
For examinee to achieve a satisfactory grade, ALL critical steps must be completed correctly.
If task is Time Critical, it MUST be completed within the specified time to achieve a satisfactory grade.
```

Time Critical Task?   Yes _____   No __X__

Validated Time (minutes): _____5_____

Actual Time to Complete (minutes): _____

Result of JPM: _____ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: <u>211</u>

<u>Initiating Cues</u>:

- The Unit Supervisor has directed you to pump the Containment sump.

- The examiner will act as the Unit Supervisor.

<u>Initial Conditions</u>:

- The containment sump level has slowly risen due to a known secondary system leak.

- All other operating conditions are normal.

OK

JOB PERFORMANCE MEASURE APPROVAL SHEET {PRIVATE}

I JPM Title: **Energize Bus 24C From the RSST**

ID Number: ___JPM-048___   Revision: _6_

II. Initiated:

Fred Nygard (signature)

___Fred Nygard___   ___6/1/2000___
Developer   Date

III. Reviewed:

(signature)

___Technical Reviewer___   ___6/15/00___
                                          Date

IV. Approved:

_____   _____
User Department Supervisor   Date

(signature)

___Nuclear Training Supervisor___   ___6/20/00___
                                          Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: _____MP-2_____   Examinee: _____

JPM Number: _____JPM-048_____   Rev. ___6___

Task Title: **Energize Bus 24C From the RSST**

System: __4,160 Volt AC_____

Time Critical Task: Yes _____ No __X__

Validated Time (minutes): ____15____

Task No.(s): __NUTIMS #062-01-330_____

Applicable To: SRO __X__   RO __X__   PEO _____

K/A No. _____062-A4.01_____   K/A Rating __3.3/3.1__

Method of Testing:

Simulated Performance: _____   Actual Performance: ____X____

Location:

Classroom: _____   Simulator: __X__   In-Plant: _____

Task Standards:	At the completion of this JPM, the examinee has energized Bus 24C from the RSST.
Required Materials (procedures, equipment):	OP 2343
General References:	OP 2343, Section 4.15 (Rev. 18, Ch. 1)

---

* * * * READ TO THE EXAMINEE * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

PM Number: _____JPM-048_____   Rev. ___6___

Initiating Cues: -   You are the SPO.

                          -    The Unit Supervisor has directed you to energize Bus 24C from the RSST.

Initial Conditions: -   The plant has experienced a spurious trip.

                          -    Bus 24C did not transfer.

                          -    "A" DG is out for PM's.

                          -    There are no faults on the bus or the RSST.

                          -    The crew has completed EOP 2525 and 2526 and has transitioned out of the EOPs

Simulator Requirements: Initialize at 100% power IC and enter the following:
                          -    "A" DG OOS w/ air starts closed (EGR12) and output breaker racked out (EGR17).
                          -    ED17A and trip plant.
                          -    Perform EOP 2525 to stabilize plant.
                          -    Reset "A" DG trouble alarm (EGR16) and Freeze.

                          Place yellow tag on "A" DG breaker switch (A312) on C-08.

                          When examinee is ready, place simulator to Run.

┌───┐
│   * * * * **NOTES TO EXAMINER** * * * *   │
│   │
│ 1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. │
│   │
│ 2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue". │
│   │
│ 3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?"). │
└───┘

PERFORMANCE INFORMATION

PM ID NUMBER: <u>JPM-048</u>   TITLE: <u>Energize Bus 24C From the RSST</u>

START TIME: _____

STEP <u>1</u> ___   Performance Steps: Ensure RSST, 15G-22S, is energized from the 345 KV bus.

GRADE ___ ___   Standards: *Examinee performs the following:*
                                -   Observes RSST is energized by observing voltmeter on C-08 for the RSST to 4160V.

                        Cue:

Comments: If examinee does not state this, question as to what they are observing. Examinee may choose to take A304's handswitch to "TRIP" to clear the amber light. This is acceptable.

~~~~~~

STEP <u>2</u> ___   Performance Steps: Ensure the following breakers are open:
                                • 24A/24C tie breaker 24C-1T-2 (A304)
                                • 24C/24E tie breaker 24C-2T-2(A305)
                                • D/G output breaker 15G-12U-2 (A312)

GRADE ___ ___   Standards: *Examinee performs the following:*
                                -   Verifies 24A/24C tie breaker (A304) is open by its green and amber lights lit on C-08.
                                -   Opens 24C/24E tie breaker (A305) by taking its handswitch to "TRIP" and observing its green light only lit on C-08.
                                -   Observes "A" D/G output breaker (A312) is open.

                        Cue:

Comments: If examinee does not state this, question as to what they are observing. Examinee may choose to take A304's handswitch to "TRIP" to clear the amber light. This is acceptable.

~~~~~~

4

PM ID NUMBER: <u>JPM-048</u>   TITLE: <u>Energize Bus 24C From the RSST</u>

STEP __3__ ___   Performance Steps: If this section is not being performed to support an EOP, ENSURE A303, "22C/22E FDR BKR", is open.."

GRADE ___ ___   Standards: *Examinee opens A303.*

Cue: If examinee asks if this procedure is being performed to support an EOP, reply as the US that it is not.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP __4__ ___   Performance Steps: Ensure the following load breakers on bus 24C are open.
- A306, "Service Water Pump A"
- A307, "AFW Pump A"
- A308 "HPSI Pump A"
- A309 "LPSI Pump A"
- A310 "Containment Spray Pump A"
- A311 "RBCCW Pump A"

GRADE ___ ___   Standards: *Examinee performs the following:*
- *Places "A" S.W. pump breaker in pull-to-lock.*
- *Verifies "A" AFW pump breaker is open by its green light only lit, with no auto aux feed signal present (C-04 alarm).*
- *Verifies "A" HPSI, "A" LPSI, and "A" CS pumps' breakers are open by their green lights only lit, with no auto start signal.*
- *Places "A" RBCCW pump breaker in pull-to-lock.*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

PM ID NUMBER: JPM-048   TITLE: Energize Bus 24C From the RSST

STEP __5__ ___   Performance Steps: Ensure "RSS FDR BKR 24C/24D, CS2/22S3-2-2 (A702)" is closed

GRADE ___ ___   Standards: *Examinee verifies A702 is closed by its red light only lit on C-07.*

              Cue:

Comments:

~~~~~~

STEP __6__ _X_   Performance Steps: Turn SYN SW, 22S3-24C-2 to "ON" and verify incoming voltage is normal.

GRADE ___ _X_   Standards: *Examinee places synchroscope switch in slot for 22S3-24C-2, turns it to "ON" and observes voltage reading of ~ 120 on the INCOMING voltmeter.*

              Cue:

Comments: If examinee does not state this, question as to what they are observing.

~~~~~~

STEP __7__ ___   Performance Steps: Obtain bypass keys for ESAS bus 24C undervoltage from OPS key locker.

GRADE ___ ___   Standards: *Examinee obtains 4 keys for bypassing ESAS bus 24C from OPS key locker.*

              Cue:

Comments:

~~~~~~

PM ID NUMBER: JPM-048   TITLE: Energize Bus 24C From the RSST

STEP __8__ __X__ Performance Steps: Insert bypass keys into 4 ESAS undervoltage channels "UV BUS A3" and ROTATE to "INHIBIT" bypass position.

GRADE ___ __X__ Standards: *Examinee places each of the 4 bypass keys into the "UV Bus A3" keyholes for each channel of ESAS, and turns each to "INHIBIT".*

Cue:

Comments:

~~~~~~

STEP __9__ __X__ Performance Steps: To reset bus 24C undervoltage actuation, press "UV" reset button on ESAS Actuation Cabinet 5.

GRADE ___ __X__ Standards: *Examinee pushes the "UV" button on ESAS Actuation Cabinet 5.*

Cue:

Comments: The examinee may use the resetting of annunciator C-33 on C-01 (ESAS UV CH 1 TRIP), as verification that undervoltage has reset.

~~~~~~

STEP __10__ ___ Performance Steps: IF no SIAS exists AND SIAS termination criteria is met, ENSURE SIAS is reset on ESAS Actuation Cabinet 5

GRADE ___ ___ Standards: *Examinee verifies that SIAS is reset by observing no red lights on the SIAS actuation modules.*

Cue:

Comments:

~~~~~~

PM ID NUMBER: <u>JPM-048</u>   TITLE: <u>Energize Bus 24C From the RSST</u>

STEP __**11**__ ___ Performance Steps: If needed to override ESF actuated equipment, OPERATE applicable handswitches to open breakers.

GRADE ___ ___ Standards: *Examinee informs US of this step.*

Cue:

Comments: No action is required for this step

~~~~~~

STEP __**12**__ __X__ Performance Steps: Close "RSS SPLY BKR, 22S3-24C-2 (A302)"

GRADE ___ __X__ Standards: *Examinee closes A302 by taking its handswitch to "CLOSE" and observing its red light only lit.*

Cue:

Comments:

~~~~~~

STEP __**13**__ ___ Performance Steps: Check normal voltage on incoming voltmeter.

GRADE ___ __ Standards: *Examinee checks voltage indication on Bus 24C voltmeter.*

Cue:

Comments:

~~~~~~

PM ID NUMBER: <u>JPM-048</u>   TITLE: <u>Energize Bus 24C From the RSST</u>

STEP __**14**__ ___   Performance Steps: Turn "SYN SW, 22S3-24C-2" to "OFF".

GRADE ___ ___   Standards: *Examinee turns synchroscope switch 22S3-24C-2 to "OFF" on C-08.*

Cue:

Comments: Annunciator for the syncroscope switch on C-08 will clear.

~~~~~~

STEP __**15**__ ___   Performance Steps: Reset ESAS bus 24C undervoltage sensor trips on all 4 ESAS channels

GRADE ___ ___   Standards: *Examinee resets bus 24C undervoltage sensor trips on each channel by pressing the red light (pushbutton0 on the sensor module.*

Cue:

Comments:

~~~~~~

STEP __**16**__ ___   Performance Steps: If ESAS undervoltage sensor trips reset, ROTATE "UV BUS A#" bypass keys to ""OPER" and REMOVE keys.

GRADE ___ ___   Standards: *Examinee takes the respective "UV Bus A3" bypass keys to "OPER" and removes them.*

Cue:

Comments:

~~~~~~

Comments: Closing Bus 24C feeder breakers is not required.
            After this step is completed, the JPM is considered complete.

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No.   JPM-048   Rev.   6

Date Performed: _____

Operator: _____

Evaluator(s): _____

| For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. |
| If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade. |

Time Critical Task?   Yes _____   No __ **X** __

Validated Time (minutes): _____ 15 _____

Actual Time to Complete (minutes): _____

Result of JPM: _____ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: 048

Initiating Cues:

- You are the SPO.

- The Unit Supervisor has directed you to energize Bus 24C from the RSST.

Initial Conditions:

- The plant has just experienced a spurious trip.

- Bus 24C did not transfer.

- "A" DG is out for PM's.

- There are no faults on the bus or the RSST.

- The crew has completed EOP 2525 and 2526 and has transitioned out of the EOPs

JOB PERFORMANCE MEASURE APPROVAL SHEET

I.   JPM Title: Power Range Safety Channel and Delta T Power Channel Calibration

      ID Number: JPM-097   Revision: 4

II.   Initiated:

      _Fred Nygard_____   6/1/2000
              Developer   Date

III. Reviewed:

      _____   6/15/00
              Technical Reviewer   Date

IV.   Approved:

      _____   _____
         User Department Supervisor   Date

      _____   6/20/00
         Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: __MP-2__   Examinee: _____

JPM Number: __JPM-097__   Rev. __4__

Task Title: <u>Power Range Safety Channel and Delta T Power Channel Calibration</u>

System: Reactor Protection System _____

Time Critical Task: Yes _____   No __X__

Validated Time (minutes):   __15__

Task No.(s):   NUTIMS# 015-02-002 _____

Applicable To: SRO __X__   RO __X__   PEO _____

K/A No.:   __015 A1.01__   K/A Rating: __3.5/3.8__

Method of Testing:

Simulated Performance: _____   Actual Performance: __X__

Location:

Classroom: _____   Simulator: __X__   In-Plant: _____

<u>Task Standards:</u>	At the completion of this JPM, The examinee performs power range safety channel and ΔT power channel calibration for RPS Channel 'A' per SP 2601D
<u>Required Materials</u> <u>(procedures,equipment):</u>	• SP 2601D • Authorized surveillance OPS Form 2601D-1, partially completed as described in simulator setup
<u>General References:</u>	SP 2601D, Section 4.1, 4.2, 4.3 (Rev.14 , Ch 3.)

---

* * * * <u>READ TO THE EXAMINEE</u> * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: _____JPM-097_____   Rev. ___4___

Initiating Cues:
- The Unit Supervisor has directed you to perform surveillance SP 2601D on Channel 'A' of the RPS starting at step 4.2.

Initial Conditions:
- The plant is at 100% power.
- An I&C tech has just completed the incore/excore detector calibration on Channel 'A' RPS.
- All systems are in a normal lineup.
- SP 2601D-1 has been authorized for release and another operator has completed section 4.1.

Simulator Requirements:
After initializing in IC-24 perform the following:
- check Tcold for all 4 channels and then set Ch A Tcmax to the maximum Tcold plus .3°F
- Determine % power and then set NI PWR to -.3% from the calorimetric.
- Determine % power and then set ΔPWR to -.3% from the calorimetric.
- Perform SP 2601D Section 4.1 and fill out applicable sections of OPS Form 2601D-1

---

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

PERFORMANCE INFORMATION

JPM ID NUMBER: __JPM-097__   TITLE: __Power Range Safety Channel and Delta T Power__
__Channel Calibration__

START TIME:

STEP **1**   ___ Performance Steps: PLACE all OPERABLE RPS channel "METER INPUT"
switches to "TCOLD."

GRADE __ __ Standards: *Selects Tcold on meter input switch*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **2**   ___ Performance Steps: OBSERVE all channel's "TCOLD" indication (DVM)
and RECORD on applicable OPS Form:
- OPS Form 2601D-1
- OPS Form 2601D-2

GRADE __ __ Standards: *Records Tcold on OPS Form 2601D-1*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-097   TITLE: Power Range Safety Channel and Delta T Power
Channel Calibration

STEP **3**   _X_ Performance Steps: PERFORM the following for *each* OPERABLE RPS channel:
a. PLACE "METER INPUT" switch to "TCOLD CAL" and OBSERVE indication (DVM).
b. IF "TCOLD CAL" indication is *not* within 0.2°F (plus or minus), of the *maximum* value obtained in step 4.2.2, Go To step 4.2.4.
c. IF "TCOLD CAL" indication is within 0.2°F (plus or minus), of the *maximum* value obtained in step 4.2.2, Go To step 4.2.5.

GRADE __   X   Standards: *Places meter input switch to Tcold cal and determines that indication is not within .2°F and goes to step 4.2.4 (JPM step 9)*

Cue: ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-097   TITLE: Power Range Safety Channel and Delta T Power
                                    Channel Calibration

STEP **4**   __ Performance Steps: **C A U T I O N**
                                    1. *No more than one* RPS channel must be tested at
                                    any one time.
                                    2. If a TMLP pre-trip is present, to prevent a reactor
                                    trip, "TCOLD CALIBRATE" potentiometer must *not* be
                                    adjusted (changes the value of TMLP trip and pre-trip
                                    setpoints).

                                    IF calibration of "TCOLD CAL" on any channel is
                              '   required, PERFORM the following for respective
                                    channel:
                                    a. ENSURE *no* TMLP pre-trips are present.
                                    b. DISENGAGE locking device on "TCOLD
                                        CALIBRATE" potentiometer.
                   __   **NOTE**
                                    1. *Clockwise* rotation raises DVM reading.
                                    2. *Counterclockwise* rotation lowers DVM reading.

                   _X_   c. ADJUST "TCOLD CALIBRATE" potentiometer to
                                        obtain a "TCOLD CAL" indication (DVM), within
                                        0.2°F (plus or minus), of the *maximum* value
                                        obtained in step 4.2.2.
                   __   d. MONITOR "TCOLD CAL" indication (DVM) and
                                        ENGAGE locking device on "TCOLD CALIBRATE"
                                        potentiometer.
                                    e. IF "TCOLD CAL" indication changed while
                   __   engaging locking device, REPEAT step

GRADE __   X   Standards: *Adjusts Tcold cal to within .2°F of the maximum.*

              Cue:

Comments:

~~~~~~

JPM ID NUMBER: __JPM-097__ TITLE: __Power Range Safety Channel and Delta T Power Channel Calibration__

STEP **5** _ Performance Steps: RECORD "As Left" "Tcold CALIBRATE" potentiometer setting on applicable OPS Form:
- OPS Form 2601D-1
- OPS Form 2601D-2

GRADE __ _ Standards: *Records setting on OPS Form 2601D*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **6** _ Performance Steps: POSITION OPERABLE RPS channel "METER INPUT" switches as desired.

GRADE __ _ Standards: *No action required.*

Cue:

Comments: Examinee may reposition meter input switch

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **7** _ Performance Steps: PERFORM applicable action:
- IF all 4 RPS channels are OPERABLE, Go To Section 4.3.
- IF any 1 RPS channel is *not* OPERABLE, Go To Section 4.4

GRADE __ _ Standards: *Goes To section 4.3 (JPM step 13)*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: __JPM-097__   TITLE: __Power Range Safety Channel and Delta T Power Channel Calibration__

STEP **8** ___ Performance Steps: OBSERVE and RECORD the following "*As Found*" potentiometer settings for *all* OPERABLE RPS channels on OPS Form 2601D-1:
- "NUCLEAR PWR CALIBRATE"
- "ΔT PWR CALIBRATE"

GRADE ___ ___ Standards: *Observes and records potentiometer settings on OPS Form 2601D-1*

Cue: ▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨▨

Comments:

~~~~~~

STEP **9** ___ Performance Steps:

NOTE

Individual channels of RPS are INOPERABLE only during the time that they are bypassed for calibration. Entry into LCO 3.3.1.1 prior to calibrating the first channel and exiting the LCO following the completion of the last channel alleviates administrative burden on the Unit Supervisor.
At no time is more than one channel INOPERABLE as a result of this calibration.

Shift Manager or Unit Supervisor, PERFORM the following:
a. LOG entry into Technical Specifications LCO, 3.3.1.1, ACTION 2 in Shift Manager's Log.
b. RECORD date and time ACTION Statements entered on OPS Form 2601D-1 cover sheet.

GRADE ___ ___ Standards: *Reads note and ensures SM or US makes entry in the SM Log*

Cue: Log entrys have been made.

Comments:

~~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: <u>JPM-097</u>   TITLE: <u>Power Range Safety Channel and Delta T Power</u>
<u>Channel Calibration</u>

STEP **10** _ Performance Steps:

C A U T I O N

No more than one RPS channel must be tested at any one time.

NOTE

1. Actions specified in the remainder of this section apply only to one channel of RPS.
2. If steady state equilibrium power level conditions change (greater than 1% of RATED THERMAL POWER) during the performance of this section, prior to performing the remaining channel adjustments, a new calorimetric value must be obtained.

OBSERVE PPC point, "CV4CAL" and CALCULATE calorimetric power (in percent) as follows: *Calorimetric power (%) = "CV4CAL" / 2,700 MWTH x 100*

GRADE __ _ Standards: *Reads caution and note and determines % power.*

Cue:

Comments:

~~~~~~

STEP **11** _ Performance Steps: RECORD calorimetric power (in percent) on OPS Form 2601D-1.

GRADE __ _ Standards: *Records power on OPS Form 2601D*

Cue:

Comments:

~~~~~~

9

JPM ID NUMBER: __JPM-097__   TITLE: __Power Range Safety Channel and Delta T Power Channel Calibration__

STEP **12**   _x_ Performance Steps: OBTAIN necessary keys and PERFORM applicable actions to bypass the following:
- High Power Trip ("1")
- TMLP Trip ("7")
- Turbine Trip ("8")
- Local Power Density Trip ("11")

GRADE __   _X_ Standards: *Inserts key and rotates it to bypass on TU 1, 7, 8, 11*

Cue:

Comments:

~~~~~~

STEP **13**   _ Performance Steps: PLACE "METER INPUT" switch in "NUCLEAR PWR" position and RECORD *"As Found" "Percent Nuclear Power"* (DVM reading) on OPS Form 2601D-1.

GRADE __   _ Standards: *Records Percent Nuclear Power*

Cue:

Comments:

~~~~~~

STEP **14**   _ Performance Steps: IF *"As Found" "Percent Nuclear Power"* DVM reading is within plus or minus 0.1% of plant calorimetric recorded in step 4.3.4, Go To step 4.3.9.

GRADE __   _ Standards: *Determines that Percent Nuclear Power is outside of plus or minus .1% and does not go to 4.3.9*

Cue:

Comments:

~~~~~~

JPM ID NUMBER: <u>JPM-097</u>   TITLE: <u>Power Range Safety Channel and Delta T Power</u>
                                          <u>Channel Calibration</u>

STEP **15**   __   Performance Steps: DVM reading is *not* within plus or minus 0.1% of plant
                                          calorimetric recorded in step 4.3.4, PERFORM the
                                          following:

NOTE
1. *Clockwise* rotation lowers DVM reading.
2. *Counterclockwise* rotation raises DVM reading.

　—

　—   a. MONITOR DVM reading and DISENGAGE locking
            device on "NUCLEAR PWR CALIBRATE"
            potentiometer.

　<u>X</u>   b. Slowly ADJUST "NUCLEAR PWR CALIBRATE"
            potentiometer to obtain a DVM reading equal to the
            plant calorimetric recorded in step 4.3.4.

　—   c. MONITOR DVM reading and ENGAGE locking
            device on "NUCLEAR PWR CALIBRATE"
            potentiometer.

　—   d. IF DVM indication changed while engaging locking
            device, REPEAT step 4.3.8.

GRADE __   <u>X</u>   Standards: *Adjusts nuclear power calibrate potentiometer to obtain a*
                                reading within plus or minus .1%

Cue:

Comments:

~~~~~~

STEP **16**   _   Performance Steps: OBSERVE and RECORD the following on OPS Form
                                          2601D-1:
                                          • "*As Left*" "NUCLEAR PWR CALIBRATE"
                                            potentiometer setting
                                          • "*As Left*" "Percent Nuclear Power" indication (DVM
                                            reading)

GRADE __   _   Standards: *Records potentiometer and percent nuclear power on*
                                OPS Form 2601D-1

Cue:

Comments:

~~~~~~

JPM ID NUMBER: <u>JPM-097</u>   TITLE: <u>Power Range Safety Channel and Delta T Power</u>
<u>Channel Calibration</u>

STEP **17**   _ Performance Steps: CHECK *"As Left"* "NUCLEAR PWR" DVM reading (step 4.3.9) within acceptance criteria range of plus or minus 0.1% of plant calorimetric recorded in step 4.3.4 and INITIAL OPS Form 2601D-1.

GRADE __   _ Standards: *Checks as left nuclear power DVM reading within plus or minus .1% and initials form*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **18**   _ Performance Steps: PLACE "METER INPUT" switch to "ΔT PWR."

GRADE __   _ Standards: *Places meter input switch to ΔT PWR.s*

Cue:

Comments:

~~~~~~

STEP **19**   _ Performance Steps: OBSERVE the following and RECORD on OPS Form 2601D-1:
• *As Found* "ΔT PWR" (DVM)
• "NUCLEAR PWR - ΔT PWR (%)"

GRADE __   _ Standards: *Records ΔT PWR and Nuclear PWR -ΔT PWR on OPS Form 2601D*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

JPM ID NUMBER: __JPM-097__   TITLE: __Power Range Safety Channel and Delta T Power__
__Channel Calibration__

STEP **20** __ _ Performance Steps: *"As Found* ΔT PWR" (DVM) recorded in step 4.3.12 is within plus or minus 0.1% of calorimetric recorded in step 4.3.4 *and* "NUCLEAR PWR - ΔT PWR (%)" average indication is -0.5% to+0.5% (0.0%) Go To step 4.3.15.

GRADE __ _ Standards: *If as found ΔT PWR reading is within plus or minus 0.1%, goes to step 4.3.15.*

Cue: ░░░░░░░░░░░░░░░░░░░░░░░░░░░░░░░

Comments:

~~~~~~

STEP **21** __ Performance Steps: IF *"As Found* ΔT PWR" (DVM) recorded in step 4.3.12 is *not* within plus or minus 0.1% of calorimetric recorded in step 4.3.4 [JPM step 15] *or* "NUCLEAR PWR - ΔT PWR (%)" average indication is *not* -0.5% to+0.5% (0.0%), PERFORM the following:

a. MONITOR "ΔT PWR" indication (DVM) and DISENGAGE locking device on "ΔT PWR CALIBRATE" potentiometer.

NOTE

1. *Clockwise* rotation raises DVM reading.
2. *Counterclockwise* rotation lowers DVM reading.

b. Slowly ADJUST "ΔT PWR CALIBRATE" potentiometer to obtain "ΔT PWR" indication (DVM) within plus or minus 0.1% of calorimetric recorded in step 4.3.4.

c. ENSURE average deviation on "NUCLEAR PWR - ΔT PWR (%)" is -0.5% to+0.5% (0.0%).

d. MONITOR "ΔT PWR" indication (DVM) and ENGAGE locking device on "ΔT PWR CALIBRATE" potentiometer.

e. IF DVM indication changed while engaging locking device, REPEAT step 4.3.14.

__X__

—

—

—

GRADE __ __X__ Standards: *Adjusts as necessary.*

13

JPM ID NUMBER: JPM-097   TITLE: Power Range Safety Channel and Delta T Power
Channel Calibration

Cue: ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **22** ___ Performance Steps: OBSERVE and RECORD "*As Left*" " "ΔT PWR
CALIBRATE" potentiometer setting on OPS Form
2601D-1

GRADE ___ ___ Standards: *Observes and records potentiometer setting*

Cue: ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **23** ___ Performance Steps: PERFORM applicable actions to restore the following
to normal:
- High Power Trip ("1")
- TMLP Trip ("7")
- Turbine Trip ("8")
- Local Pwower Density Trip ("11")

GRADE ___ ___ Standards: *restores trip units*

Cue:

Comments:

Comments: **After this step is completed, the JPM is considered complete.**

STOP TIME: _____

14

VERIFICATION OF JPM COMPLETION

Job Performance Measure No.   JPM-097   Rev.   4

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No __**X**__

Validated Time (minutes): _____15_____

Actual Time to Complete (minutes): _____

Result of JPM: _____   (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: 097

Initiating Cues:
- The Unit Supervisor has directed you to perform surveillance SP 2601D on Channel 'A' of the RPS starting at step 4.2.

Initial Conditions:
- The plant is at 100% power.
- An I&C tech has just completed the incore/excore detector calibration on Channel 'A' RPS.
- All systems are in a normal lineup.
- SP 2601D-1 has been authorized for release and another operator has completed section 4.1.

Major changes —
open issue with 2RB 251A
Should be open?

JOB PERFORMANCE MEASURE APPROVAL SHEET

I. JPM Title: Placing RBCCW Heat Exchanger "B" in Service and Removing RBCCW Heat Exchanger "A"

ID Number: JPM-210   Revision: 0

II. Initiated:

Fred Nygard

_____   6/2/2000
Fred Nygard   Date
Developer

III. Reviewed:

_____   6/15/00
Technical Reviewer   Date

IV. Approved:

_____   _____
User Department Supervisor   Date

_____   6/20/00
Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: __MP-2__   Examinee: _____

JPM Number: _____JPM-210_____   Rev. __0__

Task Title: Placing RBCCW Heat Exchanger "B" in Service and Removing RBCCW Heat Exchanger "A"

System: __RBCCW__

Time Critical Task: Yes ____ No __X__

Validated Time (minutes): __15__

Task No.(s): __000 04 220__

Applicable To: SRO __X__ RO __X__ PEO ____

K/A No.: 008 A2.02   K/A Rating: 3.2/3.5
         008 A4.01   3.3/3.1

Method of Testing:

Simulated Performance: _____   Actual Performance: __X__

Location:

Classroom: _____   Simulator: __X__   In-Plant: _____

Task Standards: At the completion of this JPM, The "B" RBCCW HX has been placed in service and the "A" RBCCW HX has been removed from service, except for securing SW to the "A" RBCCW HX.

Required Materials
(procedures,equipment):
- OP 2330A
- OP-2326A

General References: , Section (Rev19. , Ch.2)

---

* * * * READ TO THE EXAMINEE * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: _____ JPM-210 _____   Rev. ___ 0 ___

Initiating Cues:
- You are the SPO.
- The Unit Supervisor has directed you to place the "B" RBCCW HX in service per OP 2330A section 4.2.2 and to remove "A" RBCCW HX from service.
- I will act as the US/PEO as needed.

Initial Conditions:
- Maintenance must replace the head gasket on the "A" RBCCW HX due to a RBCCW leak
- "A" & "C" RBCCW HX's and pumps are in service
- Bus 24E is aligned to Bus 24C
- The "B" RBCCW HX has not been isolated or drained

Simulator Requirements:
- A normal RBCCW lineup ("A" & "C" pumps and heat exchangers in service)
- Bus 24E aligned to Bus 24C
- "B" RBCCW HX TCV failed closed (CCR03 @ 95)
- "A" & "C" RBCCW HX TCV's set to 75°F (CCR02 & CCR04 @ 75)

---

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

PERFORMANCE INFORMATION

JPM ID NUMBER: <u>JPM-210</u>   TITLE: Placing RBCCW Heat Exchanger "B" in Service
                                           and Removing RBCCW Heat Exchanger "A"

START TIME:

STEP **1**   _   Performance Steps: Refer To OP 2326A, "Service Water System" and
                                        ESTABLISH service water flow to "B" RBCCW HX.

GRADE __   _   Standards: *Examinee refers to OP 2326A and establishes service*
                           water flow to the "B" RBCCW HX.

Cue: *Not in fresh water layup* Put *ime init cond*

Comments:

~~~~~~

STEP ②   _   Performance Steps: IF "B" RBCCW HX has been drained, ENSURE the
                                 following:
                                 • HX is filled and vented
                                 • Valves are aligned as specified on OPS Form
                                   2611C-2, "RBCCW System Valve Alignment,
                                   Facility 1"

GRADE __   _   Standards: *No action required.*

Cue: HX has not been drained or isolated as provided in the initial
       conditions.

Comments: Depending on the examinees sequencing, this step may be checked any time
            before JPM step 13

~~~~~~

4

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-210   TITLE: Placing RBCCW Heat Exchanger "B" in Service and Removing RBCCW Heat Exchanger "A"

___

STEP 3 ~~7~~ 13 _   Performance Steps: IF electrical bus 24E must be aligned to bus 24D, to prevent cross tying Facility 1 and Facility 2 RBCCW headers, PERFORM the following:
1) Red TAG "B" RBCCW pump switch in "PULL TO LOCK" (C-06).
2) CLOSE and red TAG the following (C-06):
- "PP DIS HDR B/C X-TIE, RB-251B"
- "PP B HDR B SUCT, RB-211D"
- "HDR B HX-B OUT, RB-4.1D"
3) ENSURE "PP B HDR A SUCT, 2-RB-211C" is open.

GRADE __ _   Standards: *No action required*

Cue:

Comments: Depending on the examinees sequencing, this step may be checked any time before JPM step 13

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP ~~14~~ 12 _   Performance Steps: IF "B" RBCCW heat exchanger was placed in fresh water layup, request Chemistry Department SAMPLE "B" RBCCW heat exchanger for chlorine prior to placing in service [Ref. 6.18].

GRADE __   Standards: *No action required.*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

5

JPM ID NUMBER: JPM-210   TITLE: Placing RBCCW Heat Exchanger "B" in Service
                                         and Removing RBCCW Heat Exchanger "A"

STEP 5   __   Performance Steps: ENSURE the following are closed:
                                      • "B" service water header to "B" RBCCW heat
                                        exchanger, 2-SW-7A
                                      • "B" RBCCW heat exchanger to "B" discharge
                                        header, 2-SW-10A

GRADE __   __   Standards: *Examinee requests/directs the PEO to ensure "B"
                             RBCCW HX inlet and outlet X-ties, 2-SW-7A & -10A are
                             closed*

                 Cue: Report as the PEO that 2-SW-7A & -10A are already closed

Comments:

~~~~~~

STEP 5   _   Performance Steps: OPEN the following:
                                     • "A" service water header to "B" RBCCW heat
                                       exchanger, 2-SW-7B
                                     • "B" RBCCW heat exchanger to "A" discharge
                                       header, 2-SW-10B

GRADE __   __   Standards: *Examinee requests/directs the PEO to ensure the "B"
                             RBCCW HX inlet and outlet X-ties, 2-SW-7B & -10B are
                             open*

                 Cue: Report as the PEO that 2-SW-7B & -10B are already open

Comments: 2-SW-7A & -10A are already closed and 2-SW-7B & -10B are already open in
            the simulator setup.

~~~~~~

JPM ID NUMBER: JPM-210   TITLE: Placing RBCCW Heat Exchanger "B" in Service
                                      and Removing RBCCW Heat Exchanger "A"

STEP ⁊ ⁊   _   Performance Steps: IF "B" RBCCW heat exchanger was isolated and
                                      drained for maintenance or fresh water layup,
                                      PERFORM the following:
                                      a. OPEN "B" RBCCW heat exchanger SW inlet, 2-
                                          SW-8B.
                                      b. FILL and VENT "B" RBCCW heat exchanger.

GRADE __   _   Standards: *No action required.*

Cue: "B" RBCCW heat exchanger was not isolated.

Comments:

~~~~~~

STEP ⁊ ⁊   _   Performance Steps: At "B" RBCCW heat exchanger temperature controller,
                                      ENSURE the following (TIC-6307):
                                      • Mode switch in "A" (inside controller)
                                      • Temperature control knob set greater than 200´F

GRADE __   _   Standards: *Examinee requests/directs the PEO to Ensure "B"
                              RBCCW HX temperature controller is in "AUTO" and set
                              to > 200°F.*

Cue: Temp. controller is in "AUTO" and set for > 200°F (failed closed) in
       the summer mode

Comments: **Simulator instructor set CCR03 to 200°F (failed closed)** *initial SimCond.*

~~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: <u>JPM-210</u> TITLE: Placing RBCCW Heat Exchanger "B" in Service
and Removing RBCCW Heat Exchanger "A"

STEP 7 _ Performance Steps: ENSURE "B" RBCCW heat exchanger temperature
control is in *either* "SUMMER VALVE, 2-SW-8.1B" *or*
"WINTER VALVE, 2-SW-246", as direct by Control
Room (Panel-6307).

GRADE __ _ Standards: *Examinee requests/directs the PEO to Ensure "B"*
RBCCW HX temperature control is in "SUMMER"

Cue: *If asked whether to use "SUMMER VALVE" or "WINTER VALVE"*
direct the examinee to use "SUMMER VALVE". As the PEO, report
the Temp. controller is in the summer mode.

Comments:

~~~~~~

STEP 8 _ Performance Steps: LOG entry into Technical Specifications ACTION
Statement 3.7.4.1.

GRADE __ _ Standards: *Examinee informs US of need to log into action statement*

Cue: As US, the action statement is logged into.

Comments:

~~~~~~

STEP 9 _X_ Performance Steps: OPEN "B" RBCCW heat exchanger SW outlet, 2-SW-
9B.

GRADE __ _X_ Standards: *Examinee requests/directs the PEO to Open "B" RBCCW*
HX outlet, 2-SW-9B

Cue: (See comment) and report as PEO that 2-SW-9B is open

Comments: Set SWR24 to 100% when directed

~~~~~~

JPM ID NUMBER: __JPM-210__   TITLE: Placing RBCCW Heat Exchanger "B" in Service and Removing RBCCW Heat Exchanger "A"

STEP ~~11~~   _X_ Performance Steps:

_10_

NOTE

1. RBCCW heat exchanger temperature controller is normally set at 75´F. However, when injection temperature is above 70´F, a setpoint between 75 and 80´F is required. The maximum allowable RBCCW heat exchanger outlet temperature is 85´F.

2. As the next step occurs, flow noise from the heat exchanger should be heard.

· Slowly LOWER "B" RBCCW heat exchanger temperature control knob to setting specified by Control Room (TIC-6307).

GRADE __   _X_ Standards: Examinee requests/directs the PEO to lower the "B" RBCCW temperature control knob to 75°F.

Cue: If asked as US what temp. to set the TCV at, inform the examinee to have it set at 75°F.

Comments: The booth instructor will have to set the 75° using CCR03 @ 75.

~~~~~~

STEP ~~12~~   _ Performance Steps: Refer To OP 2330A, "Reactor Building Closed Cooling Water System" and SHIFT RBCCW loads from "A" RBCCW heat exchanger to "B" RBCCW heat · exchanger.

_11_

GRADE __   _ Standards: _Examinee refers or returns to OP 2330A step 4.2.2.Italics_

Cue:

Comments:

~~~~~~

· 2 → 12

3 → 13

PERFORMANCE INFORMATION

JPM ID NUMBER: __JPM-210__   TITLE: Placing RBCCW Heat Exchanger "B" in Service
                                         and Removing RBCCW Heat Exchanger "A"

STEP ~~18~~ 14 __ Performance Steps: IF "A" RBCCW pump is operating, PERFORM the
                                     following:
                                     1) ENSURE "HDR B HX-B OUT, RB-4.1D" closed.
                                     ~~2) OPEN "PP DIS HDR A/B X-TIE, RB-251A" (C-06)~~.

GRADE __ _ Standards: *Examinee ensures 2-RB-4.1D is closed by observing its*
                         green light only is lit.

            Cue:

Comments:

~~~~~~

STEP ~~14~~ 15 __X__ Performance Steps: e. OPEN "HDR A HX-B OUT, RB-4.1C" (C-06).

GRADE __ __X__ Standards: *Examinee opens 2-RB-4.1C by taking its handswitch to*
                             "OPEN" until its red light only is lit.

            Cue:

Comments:

~~~~~~

10

JPM ID NUMBER: __JPM-210__ TITLE: Placing RBCCW Heat Exchanger "B" in Service and Removing RBCCW Heat Exchanger "A"

STEP ~~15~~ 16 _ Performance Steps: MONITOR header "A" flow on FI-6035 to ensure that it remains stable (C-06).

GRADE __ _ Standards: _Examinee observes FI-6035 for stable flow._

Cue: ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓

Comments:

~~~~~~

STEP ~~16~~ 17 _X_ Performance Steps: CLOSE "HDR A HX-A OUT, RB-4.1A" (C-06).

GRADE __ _X_ Standards: _Examinee closes 2-RB-4.1A by taking its handswitch to "CLOSE" until its green light only is lit and observes FI-6035 for stable flow._

Cue: ▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓

Comments: **After this step is completed, the JPM is considered complete.**

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No.   JPM-210   Rev.   0

Date Performed: _____

Operator: _____

Evaluator(s): _____

<div style="border: 1px solid black;">

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

</div>

Time Critical Task?   Yes _____   No __**X**__

Validated Time (minutes): _____15_____

Actual Time to Complete (minutes): _____

Result of JPM: _____   (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: <u>210</u>

Initiating Cues:

- You are the SPO.
- The Unit Supervisor has directed you to place the "B" RBCCW HX in service per OP 2330A section 4.2.2 and to remove "A" RBCCW HX from service.
- I will act as the US/PEO as needed.

Initial Conditions:

- Maintenance must replace the head gasket on the "A" RBCCW HX due to a RBCCW leak
- "A" & "C" RBCCW HX's and pumps are in service
- Bus 24E is aligned to Bus 24C
- The "B" RBCCW HX has not been isolated or drained

13

JOB PERFORMANCE MEASURE APPROVAL SHEET

I.   JPM Title: **Supplying Emergency Backup Air to 2-CH-192**

ID Number: ___JPM-045___   Revision: _5_

II.   Initiated:

_____M. Cole_____   ___7/6/99___
                Developer   Date

III.   Reviewed:

_____   ___7/6/99___
                Technical Reviewer   Date

IV.   Approved:

_____   ___7/12/99___
                User Department Supervisor   Date

_____   ___7/12/99___
                Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: __MP-2__   Examinee: _____

JPM Number: ____JPM-045____   Rev. ____5____

Task Title: **Supplying Emergency Backup Air to 2-CH-192**

System: __Instrument Air_____

Time Critical Task: Yes _____   No __X__

Validated Time (minutes):   ____10____

Task No.(s):   __NUTIMS #078-01-056_____

Applicable To: SRO __X__   RO __X__   PEO __X__

K/A No.:   ____2.1-P-2.1.23____   K/A Rating: ____3.9/4.0____

Method of Testing:

   Simulated Performance: ____X____   Actual Performance: _____

Location:

   Classroom: _____   Simulator: _____   In-Plant: ____X____

Task Standards:	At the completion of this JPM, the examinee has demonstrated alignment of emergency backup air to 2-CH-192.
Required Materials (procedures,equipment):	• OP 2332B
General References:	OP 2332B, Section 4.21 (Rev. 18, Ch. 4)

＊ ＊ ＊ ＊ READ TO THE EXAMINEE ＊ ＊ ＊ ＊

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: _____ JPM-045 _____ Rev. ___ 5 ___

Initiating Cues:
- The Unit Supervisor has directed you to supply emergency backup air to 2-CH-192.

Initial Conditions:
- The plant has suffered a loss of Instrument Air.

Simulator Requirements: N/A

---

* * * * NOTES TO EXAMINER * * * *
1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.
2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".
3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").
4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM.

PERFORMANCE INFORMATION

JPM ID NUMBER: <u>JPM-045</u>   TITLE: <u>Supplying Emergency Backup Air to 2-CH-192</u>

START TIME:

STEP **1**   _ Performance Steps: Adjust backup air PCV, 2-IA-594, to minimum (fully counterclockwise).

GRADE __   _ Standards: *Examinee locates air bottle and 2-IA-594 and explains they would turn valve fully counterclockwise.*

Cue: Regulator valve is fully counterclockwise.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **2**   <u>X</u> Performance Steps: Slowly open master stop C-4A, 2-IA-602.

GRADE __   X Standards: *Examinee locates 2-IA-602 and explains they would slowly open it by turning it in the counterclockwise direction.*

Cue: Valve is open.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **3**   <u>X</u> Performance Steps: Open master stop, 2-IA-593.

GRADE __   X Standards: *Examinee locates 2-IA-593 and explains they would open it by turning it in the counterclockwise direction.*

Cue: Valve is open.

Comments:

4

PERFORMANCE INFORMATION

JPM ID NUMBER: JPM-045   TITLE: Supplying Emergency Backup Air to 2-CH-192

STEP **4**   X   Performance Steps: Adjust backup air PCV, 2-IA-594, clockwise and Establish 100 psig outlet pressure.

GRADE __   X   Standards: *Examinee simulates turning 2-IA-594 in the clockwise direction, while observing the PCV outlet pressure gauge, until 100 psig is achieved.*

          Cue: Use pen to show pressure rise to 100 psig and then stabilizing when examinee stops turning valve.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **5**   X   Performance Steps: Slowly open master stop, 2-IA-596.

GRADE __   X   Standards: *Examinee locates 2-IA-596 and explains they would open it by turning it in the counterclockwise direction.*

          Cue: Valve is open.
                 After this step is completed, the JPM is considered complete.

Comments: Examinee may also state the monitoring requirements while supplying backup air (daily or every 4 hours while in an EOP), but it is not required.

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No.   __JPM-045__   Rev.   __5__

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No __X__

Validated Time (minutes): _____10_____

Actual Time to Complete (minutes): _____

Result of JPM: _____   (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: 045

Initiating Cues: • The Unit Supervisor has directed you to supply emergency
                         backup air to 2-CH-192.

Initial Conditions: • The plant has suffered a loss of Instrument Air.
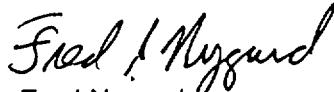
JOB PERFORMANCE MEASURE APPROVAL SHEET{PRIVATE }

I.　　JPM Title:　　　　Local Manual Airstart of the "A" Diesel Generator

ID Number:　JPM-060　　　　　　　　　　Revision: 5

II.　　Initiated:

Fred J. Nygard

　　Fred Nygard　　　　　　　　　　　　　　6/14/2000
　　　　Developer　　　　　　　　　　　　　　　Date

III.　　Reviewed:

[signature]

　Technical Reviewer　　　　　　　　　　　6/15/00
　　　　　　　　　　　　　　　　　　　　　　Date

　Instructional Reviewer　　　　　　　　　　Date

IV.　　Approved:

　Operations Supervisor　　　　　　　　　　Date

[signature]

　Nuclear Training Supervisor　　　　　　　6/20/00
　　　　　　　　　　　　　　　　　　　　　　Date

jpm60.4

1

JOB PERFORMANCE MEASURE WORKSHEET

FACILITY: MP-2   EXAMINEE: _____

JPM Tracking Number: JPM-060   Validated Time: 15 Minutes

Task Title: **Local Manual Airstart of the "A" Diesel Generator**

Time Critical Task: No

Task No.   064-210-01-01   Rev. 5

K/A No.   064-000-A4.06   K/A Rating: 3.9/3.9

Method of Testing:

   Simulate Performance   X   Actual Performance ___

   Classroom ____   Simulator ____   Plant X

Task Standards: A local manual airstart of the "A" D/G has been completed.

Required Materials: OP-2346A

General References: OP-2346A, Rev. 21, Change 2

* READ TO THE OPERATOR *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports and log entries as if the evolution was actually being performed.

jpm60.4

Initiating Cues: -- The US directs you to perform a local manual air start of the "A" per the EOP Standard Appendices Attachment 23-C contingency step 8.1

Initial Conditions: - The plant has tripped and the US is currently using EOP Standard Appendices Attachment 23-C to Energize 4.16 kV Bus 24C From DG A

JOB PERFORMANCE MEASURE WORKSHEET (Continued)

<u>Simulator Requirements:</u>   N/A

NOTE TO EXAMINER: Under <u>NO</u> circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM.

If necessary, question examinee for details of simulated actions/observations (i.e. "What are you looking at?" or "What are you observing?")

When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

jpm60.4

PERFORMANCE INFORMATION

FACILITY: MP-2   SYSTEM: Emergency Diesel Generators

JPM NUMBER: JPM-060

Task Title: **Local Manual Airstart of the "A" Diesel Generator**

START TIME:_____

STEP _1_ __   Performance Steps: Ensure communications established between an operator at DG A and the Control Room.

GRADE __ __   Standards: Examinee states that he/she gets a set of headphones to use in the "A" D/G room and after arriving in the room, plugs them into the maintenance jack

Cue: Headphones are plugged into jack.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP _2_ _X_   Performance Steps: Press "ALARM RESET" pushbutton.

GRADE __ _X_   Standards: Examinee locates the "ALARM RESET" button on the DG gageboard and states that he/she presses it.

Cue: Button has been pressed.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

jpm60.4

JPM NUMBER: _JPM-060_

Task Title: **Local Manual Airstart of the "A" Diesel Generator**

STEP   _3_ ___   Performance Steps: Ensure the shutdown relay is reset by
                                      observing blue pin in the center of the relay panel fullu
                                      extended (northwestcorner of the DG).

GRADE ___ ___   Standards: Examinee locates the shutdown relay "SDR" and verifies
                                      that it is reset by observing that the blue pin in the center of the relay
                                      is fully extended.

                             Cue: Blue pin is fully out.

Comments: The SDR is located in the middle of RELAY CABINET, TO40 at the
northwest corner of the diesel.

~~~~~~

STEP   _4_ _X_   Performance Steps: Unlock and close 2-DG-88A, D/G 12U Air Start
                                      Vent Header Isolation,.

GRADE ___ _X_   Standards: Examinee locates 2-DG-88A and states that he uses a
                                      "valve lock" key to unlock it, removes the chain and closes it by
                                      turning the handwheel in the clockwise direction until full inward stem
                                      travel.

                             Cue: Valve lock unlocked; Chain removed; Valve stem lowering; valve
                                      stem fully in.

Comments: 2-DG-88A may already be shut due to a caution tag. In this case, no
                     action is required by the examinee.

~~~~~~

jpm60.4

JPM NUMBER: JPM-060

Task Title: **Local Manual Airstart of the "A" Diesel Generator**

STEP __5__ _X_ Performance Steps, Start the DG by performing the following steps at the same time:

1) Turn the "A" DG "MAN START-STOP" to "START".

2) Press and hold lever on Control Air Bypass, 2-DG-93A or 2-DG-94A.

GRADE ___ _X_ Standards: Examinee contacts the control room and coordinates with the control operator to turn the "A" D/G MAN START-STOP switch to "START" on C-08 while the examinee locates 2-DG-93A or 2-DG-94A and states that he pulls back on and holds the lever at the same time as the control operator takes his switch to "START".

Cue: Acknowledge the request to turn the "A" D/G MAN START-STOP switch to "START"; report that the switch is in "START". Lever is back; Air is bleeding off; D/G is turning over.

~~~~~~

jpm60.4

JPM NUMBER: __JPM-060__

Task Title: __Local Manual Airstart of the "A" Diesel Generator__

STEP __6___   Performance Steps: When the "A" DG has started, the lever on 2-DG-94A.

GRADE ___ ___   Standards: Examinee states that when the sound of the D/G indicates that it is started, he releases the bypass lever.

                Cue: D/G is running; lever is back to its normal position.

Comments:

~~~~~~

STEP __7___   Performance Steps: Open and lock 2-DG-88A, Air Start Vent Header Isolation.

GRADE ___ ___   Standards: Examinee states that he opens 2-DG-88A by turning its handwheel in the counterclockwise direction until full outward stem travel, installs the chain on the valve, and locks it.

                Cue: Valve stem rising; valve stem fully out; chain installed; chain locked.

Comments: 2-DG-88A may be shut due to a caution tag. In this case, no action is required by the examinee - the valve should not be opened. After this step is completed, the JPM is considered complete.

Stop Time:_____

jpm60.4

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. <u>JPM-060</u>   Rev. <u>5</u>

Date Performed: _____

Examinee: _____

Evaluator: _____

Validated Time (min): <u>15</u>   Actual Time to Complete (min): ___

Result of JPM: _____   (Denote by an S for satisfactory
                                 or a U for unsatisfactory)

Result of oral questions: Number of questions   ____

                             Number of Correct Responses   ____

                                            Score   ____ %

Areas for Improvement:

jpm60.4

JPM Number: __JPM-060__

Initiating Cues: --   The US directs you to perform a local manual air start of the "A" per the EOP Standard Appendices Attachment 23-C contingency step 8.1

Initial Conditions: -   The plant has tripped and the US is currently using EOP Standard Appendices Attachment 23-C to Energize 4.16 kV Bus 24C From DG A

jpm60.4

JOB PERFORMANCE MEASURE APPROVAL SHEET

I   JPM Title: Display Inadequate Core Cooling System Parameters

ID Number: JPM-064   Revision: 4

II.   Initiated:

_____   10/15/98
Developer   Date

III.   Reviewed:

_____   10/15/98
Technical Reviewer   Date

IV.   Approved:

_____   10/27 98
User Department Supervisor   Date

_____   10/22/9Y
Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: __MP-2__   Examinee: _____

JPM Number: _____JPM-064_____   Rev. ___4___

Task Title: **Display Inadequate Core Cooling System Parameters**

System: __ICC_____

Time Critical Task: Yes _____ No __X__

Validated Time (minutes): ____15____

Task No.(s): __NUTIMS # 017-01-011_____

Applicable To: SRO __X__   RO __X__   PEO _____

K/A No. _____2.1.30_____   K/A Rating __3.9/3.4__

Method of Testing:

Simulated Performance: _____   Actual Performance: ___X___

Location:

Classroom: _____   Simulator: _____   In-Plant: ___X___

Task Standards:	At the completion of this JPM, the examinee has recorded the following Inadequate Core Cooling System parameters in accordance with OP 2387G: A) Saturation Margin B) Reactor Level C) Maximum CET Temperature
Required Materials (procedures, equipment):	None
General References:	OP 2387G, Section 4.1 (Rev.4)

---

* * * * READ TO THE EXAMINEE * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

<u>Initiating Cues</u>: The Unit Supervisor has directed you to determine the following data from the Inadequate Core Cooling Monitoring System:
A) Saturation Margin
B) Reactor Level
C) Maximum CET Temperature

<u>Initial Conditions</u>:

All prerequisites to perform this task have been met

<u>Simulator Requirements</u>:   N/A   ·

---

* * * * <u>NOTES TO EXAMINER</u> * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations
    (i.e. "What are you looking at?" or "What are you observing?").

4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM.

PERFORMANCE INFORMATION

PM ID NUMBER: JPM-064   TITLE: Display ICC System Parameters

START TIME: _____

STEP __1__ _X_ Performance Steps: IF "DISP DIR" selection box is available on the display screen (upper right), PRESS "DISP DIR" selection Box.

GRADE ___ _X_ Standards: Display Directory screen displayed.

                         Cue: [illegible]

Comments: This step is critical only if the Display Directory page is not displayed.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP __2__ _X_ Performance Steps: PRESS the "Core Summary" selection box.

GRADE ___ _X_ Standards: Core Summary screen displayed.

                         Cue: [illegible]

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

4

PM ID NUMBER: <u>JPM-064</u>   TITLE: <u>Display ICC System Parameters</u>

STEP <u>3</u> <u>X</u> Performance Steps: SELECT the desired parameter as follows:
- PRESS "Saturation Margin" on the display screen to display the "Saturation Margin" page.
- PRESS "Reactor Level" on the display screen to display the "Reactor Level" page.
- PRESS "Maximum CET Temp" on the display screen to display the "Maximum CET Temp" page.

GRADE ___ <u>X</u> Standards: .

- "Saturation Margin" page displayed and data recorded.
- "Reactor Level" page displayed and data recorded.
- "Maximum CET Temp" page displayed and data recorded.

Cue:

Comments: Method of recording data is not critical.
             After this step is completed, the JPM is considered complete.

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-064   Rev.   4

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No __X__

Validated Time (minutes): _____15_____

Actual Time to Complete (minutes): _____

Result of JPM: _____ (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

Areas for Improvement:

JPM ID Number: 064

Initiating Cues: The Unit Supervisor has directed you to determine the following data from the
                          Inadequate Core Cooling Monitoring System:
                          A) Saturation Margin
                          B) Reactor Level
                          C) Maximum CET Temperature

Initial Conditions: All Prerequisiites to perform this task have been met.

OK

JOB PERFORMANCE MEASURE APPROVAL SHEET

I.   JPM Title: **Dropped CEA Recovery - Alternate Path**

ID Number: JPM-208   Revision: 0

II.   Initiated:

F. Nygard   6/6/2000
Developer   Date

III.   Reviewed:

Technical Reviewer   6/16/00
                                                           Date

IV.   Approved:

_____   _____
User Department Supervisor   Date

Nuclear Training Supervisor   6/20/00
                                                  Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: ___MP-2___   Examinee: _____

JPM Number: _____JPM-208_____   Rev. ___5___

Task Title: **Respond to Control Element Assembly Malfunction**

System: ___Control Rod Drive System___

Time Critical Task: Yes _____ No __X__

Validated Time (minutes): ___15___

Task No.(s): ___NUTIMS 000-04-097_____

Applicable To: SRO __X__   RO __X__   PEO _____

K/A No.: ___000-003-AA1.02___   K/A Rating: ___3.6/3.4___

Method of Testing:

Simulated Performance: _____   Actual Performance: __X__

Location:

Classroom: _____   Simulator: ___X___   In-Plant: _____

Task Standards: At the completion of this JPM, the examinee has withdrawn the
                         dropped rod from the core 9 steps and is ready to proceed to the
                         next withdrawal sequence.

Required Materials   • AOP 2556
(procedures,equipment): • ARP 2590C C04 DB-18

General References: AOP 2556

---

* * * * READ TO THE EXAMINEE * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: _____ JPM-208 _____   Rev. _____ 0 _____

Initiating Cues:
- The plant was in the process of an up power with reactor power at ~ 50%.

- A dropped CEA recovery of rod #18 has commenced.

- You have been directed by the US to recover CEA #18 per AOP 2556, starting at step 4.3.17

- You are responsible for all operations on C04

- All other actions will be handled by others.

- I will act as the US.

Initial Conditions:
- The plant is at ~ 50% power and stable.

- CEA #18 dropped while performing a power increase.

- All steps of AOP 2556 up to, and including, step 4.3.16 have been completed.

- The "NSSS DATA SHEET" hardcopy and "INCORE DETECTOR OPERABILITY REPORT" have been printed and are being reviewed by Reactor Engineering

- I&C is in the East DC Switchgear room and will inform you if any problems are seen during the withdrawal.

Simulator Requirements:
- Initialize at an IC with power at ~ 50% and perform the following:
- Enter RD0118 to cause CEA #18 to drop, **then remove malfunction,**
- Stabilize reactor power and turbine load as necessary
- Display CVMWTH on C-04 PPC
- Place the simulator in freeze
- When the examinee is ready, place the simulator in run.
- **When examinee is near completion of JPM step 12, just after insertion of CEA as commenced, Annunciator Override C04 DB-18 "CEDS Logic or Relay power Failure " ON".**
- **Be prepared to remove the Annunciator Override during JPM step 14**

3

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

PERFORMANCE INFORMATION

JPM ID NUMBER: __JPM-208__ TITLE: **Dropped CEA Recovery - Alternate Path**

START TIME: ⬚⬚⬚⬚

STEP **1**   __ Performance Steps: During CEA movement, MONITOR the following:

- "CEAPDS MONITOR"
- Backup scanner
- PPC CEA positions display, "CEA"
- Core mimic

GRADE __ __ Standards: *During CEA movement the examinee must observe the indications listed above.*

Cue: If asked, provide oversight and peer checks.

Comments: Reactivity oversight and peer checks are expected during operation with a full crew compliment. Due to the nature of the JPM, the examinee may not implement these good practices.

~~~~~~

STEP **2**   __ Performance Steps: Select the dropped CEA on the Backup Scanner

GRADE __ __ Standards: *Examinee rotates the backup scanner CEA select thumbwheels to "1" & "8".*

Cue:

Comments:

~~~~~~

STEP **3**   __ Performance Steps: As desired, SELECT applicable CEA group "+/- 15 STEPS" or "FULL SCALE" ("CEAPDS MONITOR").

5

JPM ID NUMBER: <u>JPM-208</u>   TITLE: **Dropped CEA Recovery - Alternate Path**

GRADE __ __ Standards: *Examinee should normally select the "+/- 15 STEPS"*
when initially withdrawing the CEA

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **4**   <u>X</u> Performance Steps: PRESS "MANUAL INDIVIDUAL, MI" button and
CHECK light lit

GRADE __ <u>X</u> Standards: *Examinee presses the "MANUAL INDIVIDUAL, MI"*
button and observes light lit

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **5**   <u>X</u> Performance Steps: PRESS applicable *group* "INHIBIT BYPASS" button
and CHECK the following:
* Appropriate group red "INHIBIT BYPASS" button lit
* "CEA MOTION INHIBIT BYP" annunciator lit (BA-19, C-04) (depends on group selected)

GRADE __ <u>X</u> Standards: *Examinee presses the Group 2 "INHIBIT BYPASS" switch*
and observes it lit and that BA-19 on C-04 annunciates.

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **6**   <u>X</u> Performance Steps: PRESS applicable "GROUP SELECTION" button.

JPM ID NUMBER: <u>JPM-208</u> TITLE: **Dropped CEA Recovery - Alternate Path**

GRADE __ <u>X</u> Standards: *Examinee selects Group 2 by pressing button "2" and observing it light.*

Cue:

Comments:

STEP **7** __ Performance Steps: LOG entry into Technical Specifications LCO, 3.1.3.1, ACTION b in SM Log (CMI bypassed).

GRADE __ __ Standards: *Examinee asks the US to log into the Technical Specifications*

Cue: Reply as the US that Technical Specifications have been logged.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

JPM ID NUMBER: __JPM-208__   TITLE: __Dropped CEA Recovery - Alternate Path__

STEP **8**   __ Performance Steps: **NOTE**
If recovering a Group 7 CEA, while a CMI condition exists, "CEA MOTION INHIBIT" annunciator (BA-18, C-04) clears when *system* "CEA MOTION INHIBIT BYPASS" button is depressed and returns when released, until the CMI condition has cleared. For all other groups the annunciator will remain lit until the CMI condition clears.

GRADE __ __   Standards: *Examinee reads note and does not become concerned when BA-18 does not clear when the CMI bypass button is pushed.*

Cue:

Comments:

~~~~~~

STEP **9**   __X__ Performance Steps: PRESS and HOLD *system* "CEA MOTION INHIBIT BYPASS" button.

GRADE __   __X__ Standards: *Examinee presses and holds the system "CEA MOTION INHIBIT BYPASS" button.*

Cue:

Comments:

~~~~~~

STEP **10**   __X__ Performance Steps: PRESS "INDIVIDUAL CEA SELECTION" button for dropped CEA.

GRADE __   __X__ Standards: *Examinee Selects the dropped CEA by pressing button "18" and observing it light.*

Cue:

Comments:

~~~~~~

STEP **11**   ___ Performance Steps: IF CEA is *lower* than all other CEAs in its group, PERFORM the following:

___   a.   OBSERVE starting CEA position.

X   b.   PLACE and HOLD CEA control switch to "WITHDRAW."

___   c.   WITHDRAW CEA 6 to 9 steps.

X   d.   WHEN CEA has been withdrawn 6 to 9 steps, RELEASE CEA control switch.

X   e.   PLACE and HOLD CEA control switch to "INSERT."

X   f.   INSERT CEA 3 to 5 steps.

X   g.   WHEN CEA has been inserted 3 to 5 steps, RELEASE CEA control switch.

GRADE ___   ___ Standards: a.   *Examinee notes starting CEA position.*

X   b.   *Examinee PLACE and HOLD CEA control switch to "WITHDRAW."*

___   c.   *Examinee WITHDRAW CEA 6 to 9 steps.*

X   d.   *Examinee WHEN CEA has been withdrawn 6 to 9 steps, RELEASE CEA control switch.*

X   e.   *Examinee PLACE and HOLD CEA control switch to "INSERT."*

X   f.   *INSERT CEA 3 to 5 steps.*

X   g.   *Examinee WHEN CEA has been inserted 3 to 5 steps, RELEASE CEA control switch.*

Cue:

Comments: **When CEA has be inserted 3-5 steps (step g. Above), Override C04 DB-18 "CEDS Logic or Relay power Failure " ON. In preparation for next JPM step.** Later, at JPM step 16, the examinee is expected to recommence rod movement at 4.3.26. h, after reselecting MI and bypassing CMI.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

JPM ID NUMBER: <u>JPM-208</u> TITLE: **Dropped CEA Recovery - Alternate Path**

STEP **12** <u>X</u> Performance Steps: If CEA motion is in progress, Stop all CEA movement.

GRADE __ <u>X</u> Standards: *Examinee acknowledges and reports CEDS Logic or Relay power Failure alarm to US and stops CEA motion by returning the CEA control switch to neutral. May release the CEA Motion Inhibit Bypass button and select the Off button.*

Cue: As US direct the examinee to perform C04 DB-18 CEDS Logic or Relay power Failure annunciator response procedure. If examinee requests to release the CEA Motion Inhibit Bypass button, direct that the button be released.

Comments: If examinee releases the CEA Motion Inhibit Bypass button when motion is stopped, determine that he waited at least 3 seconds after the CEA control switch was released.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **13** __ Performance Steps: Obtain ARP 2590C DB-18 and performs the following:
1. Stop all CEA Movement.
2. Send an operator to CEDS-LOGIC panel to determine how many power supplies have failed.
3. Observe DC alarm lights lit for both primary and secondary power supplies of the same voltage

GRADE __ __ Standards:
1. Stop all CEA Movement.
2. Send an operator to CEDS-LOGIC panel to determine how many power supplies have failed and report on . DC alarm lights lit for both primary and secondary power supplies of the same voltage

Cue: As the PEO, report that the primary and secondary +15 volt power supply for Group 3 are the only power supplies with the red DC Alarm lights lit. Also report that I&C reports there is no other obvious problem and they recommend cycling of the AC power switch..

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

JPM ID NUMBER: <u>JPM-208</u>   TITLE: **Dropped CEA Recovery - Alternate Path**

STEP **14**   __ Performance Steps: If no obvious problem exists with power supply drawer, to reset alarm, Cycle "AC Power" switch for both primary and secondary power supplies for the common drawer.

GRADE __ __ Standards: *Direct the PEO to Cycle "AC Power" switch for both primary and secondary power supplies for the common drawer.*

Cue: Report as the PEO that secondary DC Alarm light reset but the primary DC Alarm light did not reset

Comments: **Remove the annunciator override just before reporting back as the PEO.**

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **15**   __ Performance Steps: If only one power supply failed, Continue plant operation.

GRADE __ __ Standards: *Report the results to the US and recommend continued recovery of CEA 18. May request guidance for recommencing the procedure.*

Cue: As US, direct that CEA 18 recovery recommence. If guidance is requested, ask the examinee what his recommendations are.

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

JPM ID NUMBER: <u>JPM-208</u>   TITLE: **Dropped CEA Recovery - Alternate Path**

STEP **16**   __ Performance Steps: a.   PRESS "MANUAL INDIVIDUAL, MI" button and CHECK light lit

b.   PRESS and HOLD *system* "CEA MOTION INHIBIT BYPASS" button.

c.   PLACE and HOLD CEA control switch to "WITHDRAW."

d.   WITHDRAW CEA 3 to 5 steps, *not* to exceed 10 steps from starting CEA position.

e.   WHEN CEA has been withdrawn 3 to 5 steps, RELEASE

NOTE

1.   When CMI relay is bypassed for CEA movement, CMI should remain bypassed for at least 3 seconds after CEA motion is stopped (allows CPP operations to be completed).

2.   If recovering a Group 7 CEA, while a CMI condition exists, "CEA MOTION INHIBIT" annunciator (BA-18, C-04) clears when *system* "CEA MOTION INHIBIT BYPASS" button is depressed and returns when released, until the CMI condition has cleared. For all other groups the annunciator will remain lit until the CMI condition clears.

k.   WHEN at least 3 seconds have elapsed since CEA control switch was released, RELEASE *system* "CEA MOTION INHIBIT BYPASS" button.

m.   Go To step 4.3.28.

GRADE __   __ Standards: a.   *PRESS "MANUAL INDIVIDUAL, MI" button and CHECK light lit*

b.   *PRESS and HOLD system "CEA MOTION INHIBIT BYPASS" button.*

c.   *Examinee PLACE and HOLD CEA control switch to "WITHDRAW." i. WITHDRAW CEA 3 to 5 steps, not to exceed 10 steps from starting CEA position.*

d.   *Examinee WHEN CEA has been withdrawn 3 to 5*

JPM ID NUMBER: JPM-208   TITLE: **Dropped CEA Recovery - Alternate Path**

_____

steps, RELEASE

NOTE

1. *Examinee reads note and waits at least 3 seconds before releasing the CEA MOTION INHIBIT BYPASS button after CEA motion is stopped*

2. *Examinee reads note and does not become concerned when BA-18 does not clear when the CMI bypass button is pushed.*

e. *Examinee waits at least 3 seconds and then releases the system "CEA MOTION INHIBIT BYPASS" button.*

m. *Go To step 4.3.28.*

Cue:

Comments: This step recommences rod movement after the JPM alternate path at JPM step 12. These steps have not been designated as critical because of the potential US/SM input for continued rod recovery.

After this step is completed, the JPM is considered complete.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. JPM-201   Rev.   0

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No __ **X** __

Validated Time (minutes): _____ 15 _____

Actual Time to Complete (minutes): _____

Result of JPM: _____ (Denote by an S for satisfactory or a U for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: 208

Initiating Cues:
- The plant was in the process of an up power with reactor power at ~ 50%.

- A dropped CEA recovery of rod #18 has commenced.

- You have been directed by the US to recover CEA #18 per AOP 2556, starting at step 4.3.17

- You are responsible for all operations on C04

- All other actions will be handled by others.

- I will act as the US.

Initial Conditions:
- The plant is at ~ 50% power and stable.

- CEA #18 dropped while performing a power increase.

- All steps of AOP 2556 up to, and including, step 4.3.16 have been completed.

- The "NSSS DATA SHEET" hardcopy and "INCORE DETECTOR OPERABILITY REPORT" have been printed and are being reviewed by Reactor Engineering

- I&C is in the East DC Switchgear room and will inform you if any problems are seen during the withdrawal.

JOB PERFORMANCE MEASURE APPROVAL SHEET {PRIVATE }

I   JPM Title: **Manual Makeup to the VCT**

    ID Number: _____JPM-022_____   Revision: _5_

II.   Initiated:

    _Fred l Nygard_____   _6/5/2000_
          Fred Nygard   Date
          Developer

III. Reviewed:

    _Robert L Cummins_____   _6/15/00_
       Technical Reviewer   Date

IV. Approved:

    _____   _____
    User Department Supervisor   Date

    _____   _6/20/00_
    Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: **MP-2**   Examinee: _____

JPM Number: **JPM-022**   Rev.   **5**

Task Title: **Manual Makeup to the VCT**

System: **CVCS** _____

Time Critical Task: Yes _____   No   **X**

Validated Time (minutes):   **10**

Task No.(s):   NUTIMS #004-01-194   (004-094-01-01) _____

Applicable To: SRO   **X**   RO   **X**   PEO _____

K/A No.   **004-020-A4.04**   K/A Rating   **3.3/2.9**

Method of Testing:

Simulated Performance: _____   Actual Performance: **X**

Location:

Classroom: _____   Simulator: **X**   In-Plant: _____

<u>Task Standards:</u>	At the completion of this JPM, the examinee has recognized a malfunction with boric acid injection during attempted makeup to the VCT.
<u>Required Materials (procedures, equipment):</u>	OP 2304C
<u>General References:</u>	OP 2304C, Section 4.9 (Rev. 20, Ch. 2)

---

* * * * <u>READ TO THE EXAMINEE</u> * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

PM Number: _____ JPM-022 _____   Rev. ___ 5 ___

Initiating Cues:
- The Unit Supervisor has directed you to perform a manual blended makeup to the VCT and raise VCT level by 2% while maintaining the PMW and Boric Acid flow controllers in the "AUTO" mode of operation.

- When makeup is completed, return the system lineup to normal.

- The examiner will act as the US.

Initial Conditions:
- RCS boron concentration is 567 ppm

- In-service Boric Acid Storage Tank concentration is 5,944 ppm

Simulator Requirements:
- Initialize at any IC with charging, letdown, and makeup to the VCT available.

- Enter remote function CVR14 (CLOSE) to close 2-CH-172.

---

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations
   (i.e. "What are you looking at?" or "What are you observing?").

PM ID NUMBER: _JPM-022_   TITLE: _Manual Makeup to the VCT_

START TIME: _____   *O823O4C*

STEP __1__ ___ Performance Steps: Ensure PMW is available and at least one charging
                                     pump operating.

GRADE ___ ___ Standards: *Examinee observes red indicating lights lit on C-02 for PMW*
                            pumps and charging pumps.

                Cue:

Comments:

~~~~~~

STEP __2__ ___ Performance Steps: Determine the required ratio of boric acid flow to PMW
                                     flow.

GRADE ___ ___ Standards: *Examinee uses either OP 2208 or PPC to determine that the*
                            ratio of boric acid to PMW flow is 1 gallon to 9.5 gallons,
                            respectively.

                Cue:

Comments: PMW value does not have to be calculated to the decimal points if done by hand.

~~~~~~

STEP __3__ ___ Performance Steps: Ensure the following are closed:
                                     -    Makeup valve stop, CH-512 (C-04)
                                     -    VCT makeup bypass, CH-196 (C-02)
                                     -    RWST isolation, CH-192 (C-02)

GRADE ___ ___ Standards: *Examinee observes indicating lights for CH-512 on C-04 and*
                            CH-196/192 on C-02 by their green lights only lit.

                Cue:

Comments:

PM ID NUMBER: <u>JPM-022</u>   TITLE: <u>Manual Makeup to the VCT</u>

STEP __4__ ___   Performance Steps: Determine the desired VCT level change in % level and total gallons required.

GRADE ___ ___   Standards: *Examinee states that a 2% level rise is required and using 34 gal/% that a total of 68 gallons is required.*

Cue: If not stated, solicit information.

Comments:

~~~~~~

STEP __5__ ___   Performance Steps: Reset PMW and boric acid controllers (FC-210X / FC-210Y), to zero.

GRADE ___ ___   Standards: *For each controller, examinee checks "L" indicated, presses and holds "SEL" button until "TOTAL RST" is displayed. Presses "R/L" button to shift controller to "R" (resets totalizer), then back to "L". Presses "SEL" to display controller number.*

Cue:

Comments:

~~~~~~

STEP __6__ ___   Performance Steps: Start PPC trend of VCT level (L226).

GRADE ___ ___   Standards: *Examinee starts PPC trend and displays it on PPC monitor.*

Cue:

Comments:

~~~~~~

PM ID NUMBER: <u>JPM-022</u>   TITLE: <u>Manual Makeup to the VCT</u>

STEP __7__ __X__ Performance Steps: Adjust automatic setpoints of PMW and boric acid controllers (FC-210X / FC-210Y), and ensure in automatic.

GRADE ___ __X__ Standards: *For each controller, examinee ensures "AM" is lit and adjusts controller setpoint as necessary to obtain a ratio of 1 gal. BA to 9.5 gal. PMW. Allow range of calculation to be based on 1 gal. BA to between 9 and 10 gallon of water.*

Cue:

Comments: Any ratio of approximately 1 gal. BA to 9.5 gal. PMW is acceptable (i .e. 6 gals. BA to 54-60 gals. PMW, 10 gals. BA to 90-100 gals. PMW, etc.). Controllers are normally in "AM" mode.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP __8__ __X__ Performance Steps: Place makeup mode selector switch in "MANUAL".

GRADE ___ __X__ Standards: *Examinee places the makeup mode selector switch from the "DILUTE" position to the "MANUAL" position on C-04.*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP __9__ __X__ Performance Steps: Start one boric acid pump.

GRADE ___ __X__ Standards: *Examinee starts the selected (by indicated switch position) B.A. pump by placing its handswitch to the "START" position, checks red light lit, and checks indicated discharge pressure is at least 98 psig.*

Cue:

Comments: The selected BA pump must be from the BAST used to determine VCT blend.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

PM ID NUMBER: <u>JPM-022</u>   TITLE: <u>Manual Makeup to the VCT</u>

STEP __**10**__ __X__ Performance Steps: Open makeup stop valve, CH-512.

GRADE ___ __X__ Standards: *Examinee places CH-512 switch to "OPEN" on C-04 and ensures red light only is lit.*

Cue:

Comments: Examinee may check that the "M" (of "AM"), extiguishes on makeup controllers.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP __**11**__ ___ Performance Steps: Ensure flows have stabilized at setpoints of the flow controllers.

GRADE ___ ___ Standards: *Examinee watches flow controllers on C-04 to ensure flow begins and then stabilizes at setpoints. Examinee observes that there is <u>no</u> B.A. flow indicated.*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP __**12**__ __X__ Performance Steps: Terminate the on-going dilution to the VCT or recommend termination to the Unit Supervisor.

GRADE ___ __X__ Standards: *Examinee closes CH-512 on C-04 by placing its switch in the "CLOSE" position until the green light only is lit, and secures the B.A. pump on C-02 by placing its handswitch in the "STOP" position and verifying the green light is lit. Examinee also ensures PMW flow has stopped as indicated on controller FC-210X.*
        <u>OR</u>
        Examinee places the Makeup Mode Selector switch on C-04 in the "DILUTE" or "BORATE" position. Examinee also ensures PMW flow has stopped as indicated on controller FC-210X.

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

PM ID NUMBER: <u>JPM-022</u>　　　　　　　　TITLE: <u>Manual Makeup to the VCT</u>

STEP __**13**__ ___ Performance Steps:　　Notify US that the dilution has been terminated.

GRADE ___ ___ Standards:　　*Examinee notifies US that the dilution has been terminated as indicated by no flow on FC-210X.*

Cue:

Comments: **After this step is completed, the JPM is considered complete.**

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. <u>JPM-022</u>   Rev.   5

Date Performed: _____

Operator: _____

Evaluator(s): _____

<div style="border:1px solid black">

For examinee to achieve a satisfactory grade, <u>ALL</u> critical steps must be completed correctly.
If task is Time Critical, it <u>MUST</u> be completed within the specified time to achieve a satisfactory grade.

</div>

Time Critical Task?   Yes _____   No __X__

Validated Time (minutes): _____10_____

Actual Time to Complete (minutes): _____

Result of JPM: _____   (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: <u>022</u>

Initiating Cues: -   The Unit Supervisor has directed you to perform a manual blended makeup to
the VCT and raise VCT level by 2% while maintaining the PMW and Boric Acid
flow controllers in the "AUTO" mode of operation.

-    When makeup is completed, return the system lineup to normal.

-    The examiner will act as the US.

Initial Conditions: -   RCS boron concentration is 567 ppm

-    In-service Boric Acid Storage Tank concentration is 5,944 ppm

OK

JOB PERFORMANCE MEASURE APPROVAL SHEET

I.   JPM Title: Respond to PORV Key Lock Switch Failure While Performing Once Through Cooling

      ID Number: JPM-118   Revision: 1

II.   Initiated:

Fred Nygard	6/12/2000
Developer	Date

III. Reviewed:

Technical Reviewer	6/15/00 Date

IV. Approved:

User Department Supervisor	Date

Nuclear Training Supervisor	6/26/00 Date

JPM ID NUMBER: JPM-118   TITLE: Respond to PORV Key Lock Switch Failure
While Performing Once Through Cooling

JOB PERFORMANCE MEASURE WORKSHEET

Facility: MP-2   Examinee: _____

JPM Number: 118   Rev.   1

Task Title: Carry Out Functional Recovery of Heat Removal ░░░░░░░░░░░░░░░░░

System: _____

Time Critical Task: Yes _____   No   **X**

Validated Time (minutes):   5

Task No.(s):   NUTIMS #000-05-230 _____

Applicable To: SRO   **X**   RO   **X**   PEO   **X**

K/A No.:   E06 EA1.1   K/A Rating: 4.0/3.9
                074 EA1.05   3.9/4.1

Method of Testing:

Simulated Performance: _____   Actual Performance: **X**

Location:

Classroom: _____   Simulator: **X**   In-Plant: **X**

Task Standards: At the completion of this JPM, Examinee performs opening of the
                         PORVs by the contingency action of EOP 2540D.

Required Materials   • EOP-2540D, HR 3
(procedures,equipment):

General References: EOP-2540D, HR 3 Step 1 Draft 4.0

---

* * * * READ TO THE EXAMINEE * * * *

*I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When
you complete the task successfully, the objective for this job performance measure will be satisfied. You
may use any approved reference materials normally available in the Control Room, including logs. Make
all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually
being performed.*

JOB PERFORMANCE MEASURE WORKSHEET (Continued)

Initiating Cues:
- The US directs you to open both PORVs to commence once through cooling.
- All other actions will be handled by others.
- I will act as the US; make all reports to me.

Initial Conditions:
- The shift is in EOP 2540 due to a Loss of all Feedwater and a Loss of Coolant Accident inside containment.
- Steps 1.a through 1.j of EOP 2540D -HR-3 have been completed.

Simulator Requirements: Initialize at a normal 100% power IC and perform the following:

- Enter ED08A & ED08B @ BT1 (Failure of 6.9 KV Bus Xfer on trip)

- FW20A, FW20B, & FW20C (AFP trips)

- RC02A @ .1% @ BT1 (#1 Hot leg LOCA)

- RC06A & RC06B @ 0% (PORV's failed closed)

- RP02 (Spurious Rx trip)

- Carry out all actions of EOP 2525

- Carry out Steps 1.a thru 1.j of EOP 2540D HR-3

- Place the simulator in freeze

- When the examinee is on station and has stated that he is ready, place the simulator in run

---

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

---

4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the
performance of this JPM (in-plant only).

START TIME: [illegible]

STEP __1__   Performance Steps: Open both PORVs using key lock switches.

GRADE __ __   Standards: *Examinee attempts to open both PORVs by taking their
handswitches to "OPEN" and observes their failure to
open by both green lights only still lit and/or no open
indication on the acoustic valve monitors for these
valves.*

Cue:

Comments:

~~~~~~

STEP __2__   Performance Steps: Report the failure of the PORVs to open.

GRADE __ __   Standards: *Examinee informs the SCO of the failure of both PORVs
to open with their handswitches.*

Cue: Understand that the PORVs will not open with their
handswitches; What are your required actions now?; Use
Channel 'A' & 'B' high pressure trip modules

Comments: If the examinee does not state the contingency actions required, see "Cue".

~~~~~~

STEP   3   X   Performance Steps: Position the bypass key in one high pressure trip
bistable and Select "Bypass" position on RPS.

GRADE ___ X   Standards: Examinee performs the following:

-   *Obtains the high pressure trip module bypass key*
-   *Places this key in one channel of high pressure trip
module bypass key slot*
-   *Turns the key to the right to bypass the trip module*

Cue: As US direct that RPS channels 'A' and 'B' are to be
used.

Comments: RPS channels 'A' and 'B' need to be used at the simulator because of simulator
program.

~~~~~~

STEP   4   X   Performance Steps: OPEN PORVs by pulling the high pressure trip
bistable on the bypassed channel and on one
other channel.

GRADE ___ X   Standards: *Examinee states that he would pull the high pressure trip
bistable on the bypassed channel and on one other
channel.*

Cue: The Channel 'A' & 'B' high pressure trip modules are
pulled.

Comments: If the examinee tries to remove the modules, stop him and question him as to
what his actions would be. **The simulator instructor must enter RPR18 to disconnect
Channel 'A' & 'B' high pressure trip modules. At this point the simulator instructor must
also remove malfunctions RC06A and RC06B.**

~~~~~~

STEP   5   X   Performance Steps: Open both PORVs using the bypass key.

GRADE ___ X   Standards: *Examinee performs the following:*

                          -     *Turns the bypass key that was inserted in Step #3 to the
                                left to unbypass that module*
                          -     *Observes that both PORVs open by their red lights only lit
                                and/or by indication on the acoustic valve monitors for
                                these valves.*

                     Cue:

Comments: When both PORVs have been opened by the contingency actions, then this JPM
is complete.

VERIFICATION OF JPM COMPLETION

Job Performance Measure No.   JPM-118   Rev.   1

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No __**X**__

Validated Time (minutes): _____5_____

Actual Time to Complete (minutes): _____

Result of JPM: _____ (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

<u>Areas for Improvement:</u>

EXAMINEE HANDOUT

JPM ID Number: 118

Initiating Cues:

- The US directs you to open both PORVs to commence once through cooling.
- All other actions will be handled by others.
- I will act as the US; make all reports to me.

Initial Conditions:

- The shift is in EOP 2540 due to a Loss of all Feedwater and a Loss of Coolant Accident inside containment.
- Steps 1.a through 1.j of EOP 2540D -HR-3 have been completed.

JOB PERFORMANCE MEASURE APPROVAL SHEET {PRIVATE }

I JPM Title: **Manually Placing EBFS in Operation on the Enclosure Building Filtration Region**

ID Number: JPM-130   Revision: 3

II. Initiated:

Fred / Nygard

_____   6/12/2000
Fred Nygard   Date
Developer

III. Reviewed:

Robert Comerin

_____   6/15/08
Technical Reviewer   Date

IV. Approved:

_____   _____
User Department Supervisor   Date

_____   6/20/00
Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: __MP-2__   Examinee: _____

JPM Number: __JPM-130__   Rev. __3__

Task Title: **Manually Placing EBFS in Operation on the Enclosure Building Filtration Region**

System: EBFS _____

Time Critical Task: Yes _____   No __X__

Validated Time (minutes):   __15__

Task No.(s):   NUTIMS #088-01-366 (088-044-01-01) _____

Applicable To: SRO __X__   RO __X__   PEO _____

K/A No.   __013-000-Gen. 9__   K/A Rating __3.9/3.8__

Method of Testing:

Simulated Performance: _____   Actual Performance: __X__

Location:

Classroom: _____   Simulator: __X__   In-Plant: _____

<u>Task Standards:</u>	At the completion of this JPM, the examinee has placed EBFS in operation on the E.B. filtration region.
<u>Required Materials (procedures, equipment):</u>	OP 2314G
<u>General References:</u>	OP 2314G, Section 4.1 (Rev. 13 chg 1)

---

* * * * <u>READ TO THE EXAMINEE</u> * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

PM Number: _____ JPM-130 _____   Rev. ___ 3 ___

Initiating Cues: -   The Unit Supervisor has directed you to manually place "A" EBFS in operation on the E.B. filtration region for 2 hours.

Initial Conditions:

- A sign is hanging on the door to 38'6" West Penetration stating: "IF DOOR DOES NOT CLOSE NOTIFY CONTROL ROOM AT X4352".
- Enclosure Building Purge has been ongoing for several hours *through the main exh. sy.*
- All other plant conditions are normal

Simulator Requirements: -   Initialize in any IC with EBFS not in operation.

---

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations
   (i.e. "What are you looking at?" or "What are you observing?").

PM ID NUMBER: __JPM-130__   TITLE: __Manually Placing EBFS in Operation on the Enclosure__
                                                 __Building Filtration Region__

START TIME: _____

STEP __1__ ___   Performance Steps: Review equipment run hours data from PPC and
                                        record the "A" EBFS filter fan run hours in SM log.

                                        Examinee obtains Procedure 2413G

GRADE ___ ___   Standards: *Examinee obtains "A" EBFS fan, F-25A, run hours from the*
                                        PPC program for pump and fan motor run times, and states
                                        that it needs to be recorded in the SM log.

                     Cue: 'Run hours are recorded in SM Log.   145

Comments: Examinee may also state that SP 2609D does not need to be completed due to not
             exceeding 720 hours run time during this operation.

~~~~~~

STEP __2__ ___   Performance Steps: Perform the following:
                                        -     Terminate use of chemicals in the E.B.
                                        -     Ensure signs posted at entrances to E.B.
                                              prohibiting chemical use.
                                        -     Inspect E.B. and ensure no chemical use in
                                        progress.

GRADE ___ ___   Standards: *Examinee announces or notifies US of need to announce*
                                        change of chemical use status over page, notifies HP to
                                        update status board, ensures signs are posted and an
                                        inspection is completed.

                     Cue: All necessary actions/notifications have been completed.

Comments:

~~~~~~

NOTE TO EXAMINER:	**When the examinee gets to the step to perform an E.B. purge with the Main Exhaust system for one hour, inform them that the purge has been performed for an hour and the lineup has been returned to normal.**

PERFORMANCE INFORMATION

'PM ID NUMBER: JPM-130   TITLE: Manually Placing EBFS in Operation on the Enclosure
                                     Building Filtration Region

3 step – Sec. Maineed – Cue step already complete.

STEP **4** ___ Performance Steps: Notify Unit 1 Control Room of intentions to start EBFS.

GRADE ___ ___ Standards: *Examinee states they would contact or ask US to contact
                             Unit 1 to inform them that EBFS will be running aligned to Unit
                             1 stack.*

                    Cue: Acknowledge as Unit 1.

Comments:

~~~~~~

STEP **4**   **X** Performance Steps: Align Condenser Air Removal flowpath to Unit 2 Stack:
                                           Open "COND AIR RMVL #2 STACK, EB-57".
                                           Close "COND AIR RMVL #1 STACK, EB-56"
                                           and "COND AIR RMVL #1 STACK, EB-55".

GRADE ___ **X** Standards: *Examinee opens EB-57 on C-06 and observes red light only
                               is lit and closes EB-56 and EB-55 on C-06 and observes
                               each respective green light only is lit.*

                    Cue:

Comments:

~~~~~~

STEP **5**   **X** Performance Steps: Establish a suction flowpath from the EBFS:
                                           Open "EBFS SUCT DMPR, EB-50".
                                           Open "HDR A ISOL, EB-51".

GRADE ___ **X** Standards: *Examinee opens EB-50 and EB-51 on C-01 and observes
                               each respective red light only is lit.*

                    Cue:

Comments:

PM ID NUMBER: JPM-130   TITLE: Manually Placing EBFS in Operation on the Enclosure
                                      Building Filtration Region

---

STEP   **6**   **X**   Performance Steps: Start "A" EBFS fan, F-25A, and check "FAN A DIS
                                             DMPR, EB-52," opens.

GRADE __   **X**   Standards: *Examinee starts F-25A by taking handswitch "EBFS FAN A,*
                                  F-25A" to "START" and observing its red light only lit and
                                  checking EB-52 open by observing its red light only lit.

                        Cue:

Comments: .

~~~~~~

STEP   **7**   __   Performance Steps: Monitor the following during operation:
                                          -    Associated filter train D/P
                                          -    Associated charcoal filter bank temperatures
                                          -    "EBDP, PDI-8060"
                                          -    Activity levels indicated on Unit 2 stack
                                               radiation monitor

GRADE __   __   Standards: *Examinee states they are monitoring D/P and temperatures*
                               for the "A" EBFS train and EB D/P on C-01, and U-2 stack RM
                               on RC-14, C-06, or PPC.

                        Cue:

Comments: If examinee does not state this, question as to what they are monitoring, and why.
            The maximum values, per the precautions, for the filters are 2.6" H_2O and $200°F$.

~~~~~~

STEP   **8**   **X**   Performance Steps: Maintain E.B. D/P greater than -0.6" H_2O.

GRADE __   **X**   Standards: *Examinee observes EB DP, PDI-8060, and operates*
                                  "SUPPLY FAN, AC-1" & "EB PURGE SPLY DMPR, AC-3" as
                                  necessary to limit EB negative D/P.

                        Cue:

Comments: **Note: This is only a critical step if E.B. D/P goes below -0.6" H_2O during JPM.**
            If examinee does not state this, question as to what they are monitoring and why.
            After this step is completed, the JPM is considered complete.

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No. __JPM-130__ Rev. 3

Date Performed: _____

Operator: _____

Evaluator(s): _____

| For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. |
| If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade. |

Time Critical Task? Yes _____ No __X__

Validated Time (minutes): _____15_____

Actual Time to Complete (minutes): _____

Result of JPM: _____ (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: 130

Initiating Cues: -   The Unit Supervisor has directed you to manually place "A" EBFS in operation
                                   on the E.B. filtration region for 2 hours.

Initial Conditions:

- A sign is hanging on the door to 38'6" West Penetration stating: "IF DOOR
  DOES NOT CLOSE NOTIFY CONTROL ROOM AT X4352".

- Enclosure Building Purge has been ongoing for several hours

- All other plant conditions are normal

JOB PERFORMANCE MEASURE APPROVAL SHEET

I.   JPM Title: Unload and Shutdown the "A" Diesel Generator

ID Number: JPM-059   Revision: 5

II.   Initiated:

Fred I. Nygard

_____   6/01/2000
Fred Nygard   Date
Developer

III.   Reviewed:

_____   6/15/00
Technical Reviewer   Date

IV.   Approved:

_____   _____
User Department Supervisor   Date

_____   6/20/00
Nuclear Training Supervisor   Date

JOB PERFORMANCE MEASURE WORKSHEET

Facility: ___MP-2___   Examinee: _____

JPM Number: ___JPM-059___   Rev. ___5___

Task Title: **Unload and Shutdown the "A" Diesel Generator**

System: ___EDG___

Time Critical Task: Yes _____ No __X__

Validated Time (minutes): ___15___

Task No.(s): ___NUTIMS #064 01 121___

Applicable To: SRO __X__   RO __X__   PEO __X__

K/A No.: ___064--A4.06___   K/A Rating: ___3.9/3.9___

Method of Testing:

Simulated Performance: _____   Actual Performance: ___X___

Location:

Classroom: _____   Simulator: ___X___   In-Plant: _____

<u>Task Standards:</u>	At the completion of this JPM, The 'A' D/G has been unloaded and secured per OP-2346A.
<u>Required Materials</u> <u>(procedures,equipment):</u>	• OP-2346A.
<u>General References:</u>	OP-2346A, Section (Rev. , Ch.)

---

* * * * <u>READ TO THE EXAMINEE</u> * * * *

I will explain the initial conditions, which step(s) to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied. You may use any approved reference materials normally available in the Control Room, including logs. Make all written reports, oral reports, alarm acknowledgments, and log entries as if the evolution was actually being performed.

JOB PERFORMANCE MEASURE WORKSHEET

JPM Number: _____ JPM-059 _____   Rev. ___ 5 ___

Initiating Cues: • The Unit Supervisor has directed you to to unload and shutdown the 'A' D/G using OP 2346A.

Initial Conditions: • The 'A' D/G has been operating for four hours.
                          • All required data has been recorded on OPS Form 2346A-4.
                          • 'A' D/G running with a loading of 2600 KW and 1950 KVAR.
                          • Service water temperature is 58°F.
                          • Valve 2-DG-9A was not closed.

Simulator Requirements: • Initialize at any IC with:
                          • 'A' D/G in parallel with the NSST or RSST
                          • 'A' D/G loaded to 2600 KW & 1950 KVAR

---

* * * * NOTES TO EXAMINER * * * *

1. Critical steps for this JPM are indicated with an "X". For the examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly.

2. When examinee states what his/her simulated action/observation would be, read the appropriate "Cue".

3. If necessary, question examinee for details of simulated actions / observations (i.e. "What are you looking at?" or "What are you observing?").

4. Under **NO** circumstances must the examinee be allowed to manipulate any devices during the performance of this JPM (in-plant only).

JPM ID NUMBER: JPM-059   TITLE: Unload and Shutdown the "A" Diesel Generator

---

START TIME:

STEP **1**   __ Performance Steps:

NOTE

1. The use of step 4.7.1 should be avoided since it causes abrupt changes in engine loading and power output to the line.
2. During isochronous mode of operation (i.e., *not* in unit parallel), generator load is decreased by stopping components powered from applicable buses.

IF absolutely necessary, to immediately stop "A" DG, PERFORM the following:
a. Using trip push button, TRIP "A" DG fuel racks OR simultaneously PRESS *both* "EMERG STOP" buttons for "A" DG (C-08).
b. ENSURE the following (C-08):
   - "DG A FDR BKR, 15G-12U-2 (A312)" opens
   - Field excitation indicates 0 volts
   - Diesel engine shuts down

GRADE __   __ Standards: *Examinee determines that it is not necessary to perform this step*

Cue:

Comments:

~~~~~~

STEP **2**   __ Performance Steps: ENSURE required data has been recorded on OPS Form 2346A-4, "A DG Data Sheet."

GRADE _   __ Standards: *Examinee asks if required data has been recorded*

Cue: As the US report that all required data has be recorded.

Comments:

~~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: <u>JPM-059</u>   TITLE: <u>Unload and Shutdown the "A" Diesel Generator</u>

STEP **3**   _X_ Performance Steps: WHEN *all* data has been recorded, ADJUST "A" DG "LOAD CNTL GOVERNOR CNTL" switch to reduce "A" DG load to approximately 1,400 kW (C-08).

GRADE __   _X_ Standards: *Examinee locates the 'A' D/G governor switch on C-08 and turns it to "LOWER" until KW meter indicates 1300-1400 KW.*

Cue:

Comments: Examinee implements step 4.7.5 (JPM step 5) while lowering load

~~~~~~

STEP **4**   _ Performance Steps: IF possible, ALLOW DG to operate at approximately 1,400 kW for at least 5 minutes.

GRADE __   _ Standards: *Examinee reads step and begins timing*

Cue: Report that 5 minutes have passed

Comments:

~~~~~~

STEP **5**   _ Performance Steps: WHEN lowering DG load, MAINTAIN kvar loading value at 50% of kW value, using "A" DG "VOLTAGE CNTL REG AUTO CNTL" (C-08).

GRADE __   _ Standards: *Examinee monitors and controls kvar loading at approximately 50% of kW value using the "A" DG "VOLTAGE CNTL REG AUTO CNTL" (C-08).*

Cue:

Comments:

~~~~~~

JPM ID NUMBER: JPM-059   TITLE: Unload and Shutdown the "A" Diesel Generator

---

STEP **6** _ Performance Steps: **NOTE**

If operating in isochronous mode (i.e., *not* in unit parallel), step 4.7.6 does *not* apply.

WHEN 5 minutes at approximately 1,400 kW has elapsed, using "A" DG "VOLTAGE CNTL REG AUTO CNTL," REDUCE reactive load to approximately 100 kvar (C-08).

GRADE __ _ Standards: *Examinee reduces reactive load to 100 kvar by using the "A" DG "VOLTAGE CNTL REG AUTO CNTL switch.*

Cue:

Comments:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

STEP **7** _X_ Performance Steps: ADJUST "A" DG "LOAD CNTL GOVERNOR CNTL" switch to reduce "A" DG load to approximately 100 kW (C-08).

GRADE __ _X_ Standards: *Examinee locates the 'A' D/G governor switch on C-08 and turns it to "LOWER" until KW meter indicates 50-150 KW.*

Cue:

Comments: Examinee may occasionally lower KVAR's during this step to maintain ~ 100 KVAR loading.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

PERFORMANCE INFORMATION

JPM ID NUMBER: <u>JPM-059</u>   TITLE: <u>Unload and Shutdown the "A" Diesel Generator</u>

STEP **7**   <u>X</u> Performance Steps: OPEN "DG A FDR BKR, 15G-12U-2 (A312)" (C-08).

GRADE __ <u>X</u> Standards: Examinee opens A312 by taking its handswitch to "TRIP" and observing its green light only lit.

Cue:

Comments: .

~~~~~~

STEP **8**   _ Performance Steps: IF Technical Specifications ACTION Statement was logged for "A" DG being paralleled to its bus, LOG out of Technical Specifications ACTION Statement in SM Log.

GRADE __ _ Standards: *Examinee informs the US of this step.*

Cue: US has been informed.

Comments:

~~~~~~

STEP **9**   _ Performance Steps: ALLOW DG to operate unloaded for 2 to 3 minutes.

GRADE __ _ Standards: *Examinee reads step and waits 2-3 minutes*

Cue: *Inform examinee that 2 minutes has passed*

Comments:

~~~~~~

JPM ID NUMBER: <u>JPM-059</u>   TITLE: <u>Unload and Shutdown the "A" Diesel Generator</u>

STEP **10** ___ Performance Steps: TURN "UNIT PARALLEL SEL SW/12U," to "OFF" and OBSERVE unit parallel white light *not* lit (C-08).

GRADE ___ ___ Standards: *Examinee locates the unit paralled switch, turns it to "OFF" and allows it to return to "NORMAL".*

Cue:

Comments:

~~~~~~

STEP **11** ___ Performance Steps: TURN "A" DG "VOLT CNTL TRANS SW" to "MAN" (C-08).

GRADE ___ ___ Standards: *Examinee TURN "A" DG "VOLT CNTL TRANS SW" to "MAN" (C-08).*

Cue:

Comments:

~~~~~~

STEP **12** ___ Performance Steps: As necessary, ADJUST "A" DG "VOLTAGE CNTL REG MAN CNTL" to maintain 4,160 volts (C-08).

GRADE ___ ___ Standards: *Examinee turns the regulator manual control switch to "RAISE" or "LOWER" as necessary until 4100-4200V is indicated on the D/G KV meter.*

Cue:

Comments:

~~~~~~

JPM ID NUMBER: JPM-059   TITLE: Unload and Shutdown the "A" Diesel Generator

---

STEP **13**   _   Performance Steps: OBSERVE "DIESEL GEN 12U VOLT ADJ HI/LO," *not* lit (window C-30, C-08).

GRADE __   _   Standards: *Examinee observes that annunciator C-30 is not lit*

Cue:

Comments: If annunciator C-30 <u>does</u> alarm, the examinee must adjust voltage to clear the alarm and get as close to 4160V as possible (see JPM step 14)

~~~~~~

STEP **14**   _   Performance Steps: IF "DIESEL GEN 12U VOLT ADJ HI/LO" is lit, ADJUST "A" DG "VOLTAGE CNTL REG MAN CNTL" to clear annunciator and MAINTAIN 4,160 volts (4,100 to 4,200 volts) (window C-30, C-08).

GRADE __   _   Standards: *If annunciator C-30 <u>does</u> alarm, the examinee must adjust voltage to clear the alarm and get as close to 4160V as possible*

Cue:

Comments:

~~~~~~

STEP **15**   __   Performance Steps: TURN "A" DG "VOLT CNTL TRANS SW" to "AUTO" (C-08).

GRADE __   __   Standards: *Examinee turns "A" DG "VOLT CNTL TRANS SW" to "AUTO" (C-08).*

Cue:

Comments:

~~~~~~

JPM ID NUMBER: JPM-059   TITLE: Unload and Shutdown the "A" Diesel Generator

---

STEP **16**   __ Performance Steps: As necessary, ADJUST "A" DG "VOLTAGE CNTL,
REG AUTO CNTL" to maintain 4,160 volts

GRADE __   __ Standards: *I Examinee turns the regulator manual control switch to
"RAISE" or "LOWER" as necessary until 4100-4200V is
indicated on the D/G KV meter.*

Cue:

Comments:

~~~~~~

STEP **17**   _ Performance Steps: OBSERVE "DIESEL GEN 12U VOLT ADJ HI/LO," *not*
lit (window C-30, C-08).

GRADE __   _ Standards: *Examinee observes that annunciator C-30 is not lit*

Cue:

Comments: If annunciator C-30 <u>does</u> alarm, the examinee must adjust voltage to clear the
alarm and get as close to 4160V as possible (see JPM step 14)

~~~~~~

STEP **18**   _ Performance Steps: IF "DIESEL GEN 12U VOLT ADJ HI/LO" is lit,
ADJUST "A" DG "VOLTAGE CNTL REG MAN CNTL"
to clear annunciator and MAINTAIN 4,160 volts (4,100
to 4,200 volts) (window C-30, C-08).

GRADE __   _ Standards: *If annunciator C-30 <u>does</u> alarm, the examinee must adjust
voltage to clear the alarm and get as close to 4160V as
possible*

Cue:

Comments:

~~~~~~

JPM ID NUMBER: JPM-059   TITLE: Unload and Shutdown the "A" Diesel Generator

---

STEP **19**   _X_ Performance Steps: PERFORM the following:
   a. ADJUST "A" DG "LOAD CNTL GOVERNOR CNTL" to maintain 60 Hz (C-08).
   b. WHEN at least 2 to 3 minutes of unloaded operation have elapsed, PLACE "A" DG "MAN START-STOP" to "STOP" (C-08).

GRADE __   _X_   Standards: *Examinee locates the 'A' D/G governor switch and turns it to "LOWER" or "RAISE" as necessary until 59.9-60.1 Hz is indicated on the D/G frequency meter.*
Examinee locates the start-stop switch, turns it to "STOP" and allows it to return to "AUTO".

Cue: 2-3 minutes passed

Comments:

~~~~~~

STEP **20**   _ Performance Steps: WHEN "A" DG "STANDBY" light is lit (C-08), CLOSE "DG A HX SERV WTR SPLY, SW-89A" (C-06).

GRADE __   _   Standards: *Examinee observes stanby light lit and then closes 2-SW-89A by taking its handswitch to "CLOSE" until its green light only is lit and observes 2-SW-231A is open by its red light only lit.*

Cue:

Comments: After the D/G is secured, 2-SW-231A will open automatically after a time delay. During this time, 2-SW-89A cannot be closed.

Comments: **After this step is completed, the JPM is considered complete.**

STOP TIME: _____

VERIFICATION OF JPM COMPLETION

Job Performance Measure No.   JPM-059   Rev.   <u>5</u>

Date Performed: _____

Operator: _____

Evaluator(s): _____

For examinee to achieve a satisfactory grade, **ALL** critical steps must be completed correctly. If task is Time Critical, it **MUST** be completed within the specified time to achieve a satisfactory grade.

Time Critical Task?   Yes _____   No **X**

Validated Time (minutes): _____15_____

Actual Time to Complete (minutes): _____

Result of JPM: _____   (Denote by an <u>S</u> for satisfactory or a <u>U</u> for unsatisfactory)

Areas for Improvement:

EXAMINEE HANDOUT

JPM ID Number: <u>059</u>

<u>Initiating Cues</u>:

- The Unit Supervisor has directed you to to unload and shutdown the 'A' D/G using OP 2346A.

<u>Initial Conditions</u>:

- The 'A' D/G has been operating forfour hours.
- All required data has been recorded on OPS Form 2346A-4.
- 'A' D/G running with a loading of 2600 KW and 1950 KVAR.
- Service water temperature is 58°F.
- Valve 2-DG-9A was not closed.