

RO ADMIN JPMs

Facility: **BVPS Unit 1** Task No.: 0481-014-03-013

Task Title: Perform RCS Cooldown Verification JPM No.: 2005 NRC RO Admin No. 1

K/A Reference: 2.1.25 (2.8)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:

- A plant shutdown to Mode 5 is in progress.
- Current RCS wide range temperature and pressure are 238°F and 1,220 psig respectively.
- Data Sheet 3: RCS Cooldown Determination is in effect to track RCS cooldown limits per 1OM-52.4.NR.1.F, Non-Refueling Station Shutdown From 100% Power To Mode 5.

Task Standard: RCS cooldown rate calculated and temperature and pressure verified NOT to be within region of 1OM-51.5, Figure 51-2.

Required Materials: Calculator

General References: 1OM-52.4.NR.1.F, Non-Refueling Station Shutdown From 100% Power To Mode 5, Rev. 6

Handouts: Data Sheet 3: RCS Cooldown Determination (Modified with entries)
 1OM-52.4.NR.1.F, Attachment 13: RCS/PRZR COOLDOWN SURVEILLANCE
 Figure 51-2, Beaver Valley Unit 1 Reactor Coolant System Cooldown
 Limitations

Initiating Cue: The Unit Supervisor directs you to complete the information required for the 1100 hour entry of Data Sheet 3, RCS Cooldown Determination and verify the RCS cooldown is within acceptable limits using Attachment 13, RCS/PRZR Cooldown Surveillance. Report your results when finished.

Time Critical Task: No

Validation Time: 9 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

- √ **Performance Step: 1** Calculate the RCS cooldown rate at least once per 30 minutes during system cooldown using the following equation AND Record the results on Data Sheet 3:
(Step 1)

$$\text{COOLDOWN RATE} = \frac{(\text{TEMPf} - \text{TEMPi}) \times 60 \text{ MIN/HR}}{\text{CHANGE IN TIME}}$$

Standard: Candidate correctly calculates current RCS cooldown rate as 50°F/hr.

$$\frac{(238^{\circ}\text{F} - 263^{\circ}\text{F}) \times 60}{30} = - 50^{\circ}\text{F}$$

Comment:

Performance Step: 2 Verify the RCS cooldown rate is ≤ 100 F/HR at least once per 30 minutes during system cooldown.
(Step 1)

Standard: Candidate determines RCS cooldown rate is within the acceptable limit of less than or equal to 100°/hr.

Comment:

- √ **Performance Step: 3**
(Step 1) Verify temperature [TR-1RC-410] OR (T0406A, T0426A, T0446A) AND [PR-1RC-403], RCS Pressure (P0499A) are WITHIN the Acceptable Operation region of 1OM-51.5, Figure 51-2, "Beaver Valley Unit 1 Reactor Coolant System Cooldown Limitations", at least once per 30 minutes during system cooldown **AND** Record the results on Data Sheet 3.
- Standard:** Candidate determines that current RCS temperature and pressure are **NOT** within the acceptable region of Figure 51-2.
- Standard:** Candidate reports the results to the Unit Supervisor.
- Comment:**

Terminating Cue: When the Candidate reports the results of the cooldown determination, the evaluation for this JPM is complete.
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STOP TIME: _____

JPM No.: 2005 NRC RO No. 1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's Signature: _____

Date: _____

INITIAL CONDITIONS:

- A plant shutdown to Mode 5 is in progress.
- Current RCS wide range temperature and pressure are 238°F and 1,220 psig respectively.
- Data Sheet 3: RCS Cooldown Determination is in effect to track RCS cooldown limits per 1OM-52.4.NR.1.F, Non-Refueling Station Shutdown From 100% Power To Mode 5.

INITIATING CUE:

The Unit Supervisor directs you to complete the information required for the 1100 hour entry of Data Sheet 3, RCS Cooldown Determination and verify the RCS cooldown is within acceptable limits using Attachment 13, RCS/PRZR Cooldown Surveillance. Report your results when finished.

Facility: **BVPS Unit 1** Task No.: 0011-003-01-013
 Task Title: Perform an Estimated Critical Position Calculation JPM No.: 2005 NRC RO Admin No. 2
 K/A Reference: 2.1.23 (3.9)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:

- A plant startup is being performed 5 days after a reactor trip from 100% power.
- Core burnup is 8,000 MWD/MTU.
- RCS boron concentration is 871 ppm.
- The plant computer is **NOT** available.
- B-10 Correction Factor is available from the Curve Book.

Task Standard: Boron concentration for startup calculated within the specified tolerance.

Required Materials: Calculator; ECP Answer Sheet

General References: 1OM-50.4.F, Performing An Estimated Critical Position Calculation, Rev. 3
BV-1 Curve Book

Handouts: 1OM-50.4.F, with Critical Data recorded in DATA SHEET 1
BV-1 Cycle 17 Curves

Initiating Cue: The Shift Manager directs you to determine the boron concentration for startup using 1OM-50.4.F, Performing An Estimated Critical Position Calculation. The Critical Data has been entered on Data Sheet 1.

Time Critical Task: No

Validation Time: 35 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

Performance Step: 1 Calculate Effective Boron Concentration
(Data Sheet 1)
Standard: Candidate correctly calculates Part A, Item V.
(Part A.III) Boron concentration = 871 ppm (Initial Conditions)
(Part A.IV) B-10 Correction Factor = 0.919 (CB-29)
(Part A.V) Effective Boron Concentration = 800 ppm

Comment:

Performance Step: 2 Calculate Reactivity Change
(Data Sheet 1)
Standard: Candidate correctly calculates Part B, Item 5.
(Part B.1) Power Defect = - 2100 pcm (CB-21)
(Part B.2) Control Rods = + 775 pcm (CB-24B)
(Part B.3) Xenon = - 2713 pcm (CB-23)
(Part B.4) Samarium = + 238 pcm (CB-22)
(Part B.5) Reactivity Change = - 3800 pcm

Comment:

Performance Step: 3 Calculate Effective Boron Concentration for Startup
(Data Sheet 1)

Standard: Candidate correctly calculates Part C, Line 1, Item V.

(Part C.I) Reactivity Change = - 3800 pcm (B.5)

(Part C.II) Differential Boron Worth = - 7.81 pcm/ppm (CB-20)

(Part C.III) Boron Change = + 487 ppm

(Part C.IV) Eff. Boron Conc. at Shutdown = 800 ppm (from Part A.V)

(Part C.V) Eff. Boron Conc. For Startup = 1287 ppm

Comment:

Performance Step: 4 Calculate Effective Boron Concentration for Startup
(Data Sheet 1)

Standard: Candidate correctly calculates Part C, Line 2, Item V.

(Part C.I) Reactivity Change = - 3800 pcm (from B.5)

(Part C.II) Differential Boron Worth = - 7.46 pcm/ppm (CB-20)

(Part C.III) Boron Change = + 509 ppm

(Part C.IV) Eff. Boron Conc. at Shutdown = 800 ppm

(Part C.V) Eff. Boron Conc. For Startup = 1309 ppm

Comment:

- √ **Performance Step: 5** Calculate Boron Concentration for Startup
(Data Sheet 1)
- Standard:** Candidate correctly calculates Part C, Item VIII.
- (Part C.VI) Eff. Boron Conc. For Startup = - 1309 pcm
- (Part C.VII) B-10 Correction Factor = 0.919 (CB-29)
- (Part C.VIII) Boron Concentration for Startup = 1424 ppm (1372 – 1472)

Comment:

Terminating Cue: When the Candidate completes the calculation, the evaluation for this JPM is complete.

STOP TIME: _____

JPM No.: 2005 NRC RO No. 2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's Signature: _____

Date: _____

INITIAL CONDITIONS:

- A plant startup is being performed 5 days after a reactor trip from 100% power.
- Core burnup is 8,000 MWD/MTU.
- RCS boron concentration is 871 ppm.
- The plant computer is **NOT** available.
- B-10 Correction Factor is available from the Curve Book.

INITIATING CUE:

The Shift Manager directs you to determine the boron concentration for startup using 1OM-50.4.F, Performing An Estimated Critical Position Calculation. The Critical Data has been entered on Data Sheet 1.

Facility: **BVPS Unit 1** Task No.: 0481-020-03-013

Task Title: Review a Tagging Request JPM No.: 2005 NRC RO Admin No. 3

K/A Reference: 2.2.13 (3.6)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The plant is operating at 100% power with all systems in their normal operating alignment. A tagout section has been prepared to isolate and drain [1QS-P-2B], RWST Recirculating Pump for maintenance.

Task Standard: Correctly review a clearance tagout section and identify errors.

Required Materials: None

General References: NOP-OP-1001, Clearance/Tagging Program, Rev. 4

Handouts: Tagging Section with errors
 1OM-13.3.B.1, Valve List - 1QS, Rev. 12
 1OM-13.3.C, Power Supply And Control Switch List, Issue 4, Rev. 4,
 OP Manual Fig. No. 13-1, Containment Depressurization System, Rev. 18
 NOP-OP-1001, Clearance/Tagging Program, Rev. 4

Initiating Cue: The Unit Supervisor directs you to conduct a review of the attached tagout section that is being prepared for use and determine its completeness and accuracy. Report your results when finished.

Time Critical Task: Yes

Validation Time: 10 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

NOTE: This task is normally performed using the eSOMS clearance computer and signed electronically. If necessary, for the purpose of this JPM, inform the Candidate to review a hardcopy of the tagout for approval in place of performing an electronic review.

√ **Performance Step: 1** Review the tagout section for accuracy and completeness.

Standard: Candidate verifies tagout section is appropriate for the task.

Standard: Candidate identifies and reports the following tagout errors:

- Valve 1QS-20 is not the correct discharge isolation point. (1QS-P-2A vs. 2B). The correct valve is 1QS-21.
- Valve QS-16 is not a correct suction isolation point. (1QS-P-2A vs. 2B). The correct valve is 1QS-17.

CUE: If the Candidate asks for direction following identification of the first error, direct the Candidate to review the remainder of the tagout section.

NOTE: If questioned by the Candidate, confirm that valve 1QS-83-3 is not shown on the attached print; however, it is an appropriate drain point.

Comment:

Terminating Cue: When the Candidate reports the results of the review, the evaluation for this JPM is complete.

STOP TIME: _____

JPM No.: 2005 NRC RO No. 3

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's Signature: _____

Date: _____

INITIAL CONDITIONS:

The plant is operating at 100% power with all systems in their normal operating alignment. A tagout section has been prepared to isolate and drain [1QS-P-2B], RWST Recirculating Pump for maintenance.

INITIATING CUE:

The Unit Supervisor directs you to conduct a review of the attached tagout section that is being prepared for use and determine its completeness and accuracy. Report your results when finished.

Facility: **BVPS Unit 1** Task No.:

Task Title: Select RWP and Determine Maximum Allowable Stay Time JPM No.: 2005 NRC RO Admin No. 4

K/A Reference: 2.3.2 (2.5)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: Both Units are operating at 100% power. A void has developed in the suction line to [1CH-P-1B], Charging Pump. You are **NOT** currently signed on to fill any operator positions. Your current TEDE dose for the quarter is 150 mR.

Task Standard: Select the correct RWP and determine the maximum stay time according to the survey map dose rates.

Required Materials: None

General References: 1/2-ADM-1630, Radiation Worker Practices, Rev. 8

Handouts: Set of 3 RWP's
Radiation Survey Map

Initiating Cue: You are to assist a QC Inspector in performing an ultrasonic examination of the void. You are directed to **SELECT** the correct RWP to perform this task, and calculate your **MAXIMUM** stay time in the charging pump room based on the radiation readings from a survey map. Report your results when finished.

Time Critical Task: NO

Validation Time: 11 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

NOTE: Provide the Candidate with the set of RWP's and Survey Map.

√ **Performance Step: 1** Select the correct RWP.

Standard: Candidate correctly selects RWP 205 - 1003 based on < 100 mR/hr General Area Range and EAD dose alarm setpoint of 100 mR.

NOTE: If asked, inform the Candidate that it is permissible to perform the work on a non-Operations RWP.

Comment:

√ **Performance Step: 2** Calculate the maximum stay time.

Standard: Candidate correctly calculates maximum stay time as 2 hrs.

$$\begin{array}{ccccccc} 100 \text{ mR} & \div & 50 \text{ mR/hr.} & = & 2 \text{ hrs.} \\ \text{(EAD dose limit)} & & \text{(highest dose rate)} & & \text{(Stay time)} \end{array}$$

Comment:

Terminating Cue: When the Candidate reports the results, the evaluation for this JPM is complete.

STOP TIME: _____

JPM No.: 2005 NRC RO No. 4

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's Signature: _____

Date: _____

INITIAL CONDITIONS: Both Units are operating at 100% power. A void has developed in the suction line to [1CH-P-1B], Charging Pump. You are **NOT** currently signed on to fill any operator positions. Your current TEDE dose for the quarter is 150 mR.

INITIATING CUE: You are to assist a QC Inspector in performing an ultrasonic examination of the void. You are directed to **SELECT** the correct RWP to perform this task, and calculate your **MAXIMUM** stay time in the charging pump room based on the radiation readings from a survey map. Report your results when finished.

SRO ADMIN JPMs

Facility: **BVPS Unit 1** Task No.: 1320-008-03-023

Task Title: Determine Action Required For Failed AC Sources Surveillance JPM No.: 2005 NRC SRO Admin No. 1

K/A Reference: 2.1.12 (4.0)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The plant is operating at 100% power with all systems in their normal operating alignment. The No. 1 EDG was declared inoperable and removed from service 30 minutes ago due to a ruptured engine cylinder. The PO has completed 1OST-36.7, Offsite to Onsite Power Distribution System Breaker Alignment Verification.

Task Standard: Procedure errors are identified and Technical Specification action requirements are determined for a failed surveillance test.

Required Materials: None

General References: 1OST-36.7, Offsite To Onsite Power Distribution System Breaker Alignment Verification, Rev. 8
 BVPS Unit 1 Technical Specifications LCO 3.8.1.1

Handouts: 1OST-36.7, Offsite To Onsite Power Distribution System Breaker Alignment Verification, Rev. 8 (marked up copy)
 BVPS Unit 1 Technical Specifications LCO 3.8.1.1

Initiating Cue: The Shift Manager directs you to review the completed 1OST-36.7, Offsite To Onsite Power Distribution System Breaker Alignment Verification for completeness. Report your results when finished.

Time Critical Task: No

Validation Time: 10 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

√ **Performance Step: 1** Review the Initial Conditions section for completeness.

Standard: Candidate determines that signoffs are missing for the following steps:

- III.1.b (power via USST's or SSST's)
- III.3 (operators have reviewed procedure)

Comment:

√ **Performance Step: 2** Review Data Sheet 1 for completeness.

Standard: Candidate determines that the white light for 4KV breaker ACB-341B is marked as OFF.

NOTE: This lineup is required to satisfy the requirement for physically independent offsite circuits indicated by the white light being ON.

Comment:

- √ **Performance Step: 3** Determine Technical Specification Action Statement requirements.
- Standard:** Candidate determines that OST does not satisfy the Acceptance Criteria.
- Standard:** Candidate identifies applicability of T.S. Action Statement 3.8.1.1.c with one offsite circuit and one diesel generator inoperable.

NOTE: Provide the Candidate with a copy of the T.S. handout.

NOTE: Refer to attached Technical Specification LCO 3.8.1.1 Action c for applicable requirements for an inoperable offsite circuit and diesel generator.

Comment:

Terminating Cue: When the Candidate identifies the Technical Specification action statement requirement, the evaluation for this JPM is complete.
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STOP TIME: _____

JPM No.: 2005 NRC SRO No. 1

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's Signature: _____

Date: _____

INITIAL CONDITIONS: The plant is operating at 100% power with all systems in their normal operating alignment. The No. 1 EDG was declared inoperable and removed from service 30 minutes ago due to a ruptured engine cylinder. The PO has completed 1OST-36.7, Offsite to Onsite Power Distribution System Breaker Alignment Verification.

INITIATING CUE: The Shift Manager directs you to review the completed 1OST-36.7, Offsite To Onsite Power Distribution System Breaker Alignment Verification for completeness. Report your results when finished.

Facility: **BVPS Unit 1** Task No.: 0011-003-01-013
 Task Title: Review an Estimated Critical Position Calculation JPM No.: 2005 NRC SRO Admin No. 2
 K/A Reference: 2.1.23 (4.0)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions:

- A plant startup is being performed 5 days after a reactor trip from 100% power.
- Core burnup is 8,000 MWD/MTU.
- RCS boron concentration is 871 ppm.
- The plant computer is **NOT** available.
- B-10 Correction Factor is available from the CB Curves.

Task Standard: Boron concentration for startup value is calculated within the specified tolerance.

Required Materials: Calculator; ECP Answer Sheet

General References: 1OM-50.4.F, Performing An Estimated Critical Position Calculation, Rev. 3
BV-1 Curve Book

Handouts: 1OM-50.4.F, (with completed DATA SHEET 1)
BV-1 Cycle 17 Curves

Initiating Cue: The Shift Manager directs you to perform a review of a completed ECP calculation in accordance with 1OM-50.4.F, Performing An Estimated Critical Position Calculation. Report your results when finished.

Time Critical Task: No

Validation Time: 15 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

Performance Step: 1 (Data Sheet 1)	Review the ECP calculation.
Standard: (Step IV.1.1.b)	Candidate identifies the following errors:
(Part B.2)	'Performed By' signature is missing.
(Part B.2)	CB-24A is incorrectly circled. Correct figure is CB-24B.
(Part B.5)	Control Rod reactivity values are incorrect in Columns II and III. The correct number is 775.
(Part C.I, Line 1)	Reactivity Change value is incorrect. The correct number is 3800.
(Part C.III, Line 1)	Reactivity Change value is incorrect (carryover from previous step).
(Part C.V, Line 1)	Boron Change value is incorrect. The correct number is 487.
(Part C.V, Line 1)	Eff. Boron Conc. For Startup value is incorrect. The correct number is 1287.
(Part C.III, Line 2)	Boron Change value is incorrect. The correct number is 509.
(Part C.V, Line 2)	Eff. Boron Conc. For Startup value is incorrect. The correct number is 1309.
(Part C.VI)	Eff. Boron Conc. For Startup value is incorrect (carryover from previous step).
(Part C.VII)	B-10 Correction Factor for Criticality value is incorrect. The correct number is 0.919.

Comment:

- √ **Performance Step: 2** Review the ECP calculation.
(Data Sheet 1)
- Standard:** Candidate correctly determines the boron concentration required for startup.
- (Part C.VIII) Boron Concentration for Startup value is incorrect. The correct number is 1424. (Accept value between **1372 – 1472**).

Comment:

Terminating Cue: When the Candidate completes the review of the calculation and reports the results, the evaluation for this JPM is complete.

STOP TIME: _____

JPM No.: 2005 NRC SRO No. 2

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's Signature: _____

Date: _____

INITIAL CONDITIONS:

- A plant startup is being performed 5 days after a reactor trip from 100% power.
- Core burnup is 8,000 MWD/MTU.
- RCS boron concentration is 871 ppm.
- The plant computer is **NOT** available.
- B-10 Correction Factor is available from the CB Curves.

INITIATING CUE:

The Shift Manager directs you to perform a review of a completed ECP calculation in accordance with 1OM-50.4.F, Performing An Estimated Critical Position Calculation. Report your results when finished.

Facility: **BVPS Unit 1** Task No.: 1300-023-03-023

Task Title: Approve a Tagging Request JPM No.: 2005 NRC SRO Admin No. 3

K/A Reference: 2.2.13 (3.8)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The plant is operating at 100% power with all systems in their normal operating alignment. A tagout section has been prepared to isolate and drain [1QS-P-2B]; RWST Recirculating Pump for maintenance.

Task Standard: Review a clearance tagout section and identify errors.

Required Materials: None

General References: NOP-OP-1001, Clearance/Tagging Program, Rev. 4

Handouts: Modified Tagging Request
 1OM-13.3.B.1, Valve List - 1QS, Rev. 12
 1OM-13.3.C, Power Supply And Control Switch List, Issue 4, Rev. 4,
 OP Manual Fig. No. 13-1, Containment Depressurization System, Rev. 18
 NOP-OP-1001, Clearance/Tagging Program, Rev. 4

Initiating Cue: The Shift Manager directs you to conduct a review of the attached tagout section that is ready for approval for completeness and accuracy. Report your results when finished.

Time Critical Task: Yes

Validation Time: 10 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

NOTE: This task is normally performed using the eSOMS clearance computer and signed electronically. If necessary, for the purpose of this JPM, inform the Candidate to review a hardcopy of the tagout for approval in place of performing an electronic review.

√ **Performance Step: 1** Review the tagout section for accuracy and completeness.

Standard: Candidate verifies tagout section is appropriate for the task.

Standard: Candidate identifies and reports the following tagout errors:

- Breaker MCC1-19-G is tagged in the On position. The correct position is Off.
- Valve 1QS-20 is not a correct discharge isolation point (1QS-P-2A vs. 2B). The correct valve is 1QS-21.
- Valve 1QS-16 is not a correct discharge isolation point (1QS-P-2A vs. 2B). The correct valve is 1QS-17.

CUE: If the Candidate asks for direction following identification of the first error, direct the Candidate to review the remainder of the tagout section.

NOTE: If questioned by the Candidate, confirm that valve 1QS-83-3 is not shown on the attached print; however, it is an appropriate drain point.

Comment:

Terminating Cue: When the Candidate reports the results of the review, the evaluation for this JPM is complete.

STOP TIME: _____

JPM No.: 2005 NRC SRO No. 3

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's Signature: _____

Date: _____

INITIAL CONDITIONS:

The plant is operating at 100% power with all systems in their normal operating alignment. A tagout section has been prepared to isolate and drain [1QS-P-2B], RWST Recirculating Pump for maintenance.

INITIATING CUE:

The Shift Manager directs you to conduct a review of the attached tagout section that is ready for approval for completeness and accuracy. Report your results when finished.

Facility: **BVPS Unit 1** Task No.: 1300-009-03-023

Task Title: Review a Gaseous Waste Discharge Authorization JPM No.: 2005 NRC SRO Admin No. 4

K/A Reference: 2.3.8 (3.2)

Examinee: _____ NRC Examiner: _____

Facility Evaluator: _____ Date: _____

Method of testing:

Simulated Performance: _____ Actual Performance: X
 Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: The plant is in Mode 1 at 100% power. [1GW-TK-1A], Gas Decay Tank is in the process of being released via an RWDA-G. The discharge started two hours ago and is expected to continue for another 28 hours.

Task Standard: Identify the error contained in a partially completed RWDA-G and correctly calculate a 2-hour bleed flow rate in accordance with 1OM-19.4.E.

Required Materials: Calculator

General References: 1OM-19.4.E, Decay Tank Discharge, Rev. 6

Handouts: 1OM-19.4.E, Decay Tank Discharge, Rev. 6 (partially completed)
 1/2-HPP-3.006.F01, Gaseous Radioactive Waste Discharge Authorization (Partially Completed)
 1GW-TK-1A Parameters Table

Initiating Cue: As the Unit Supervisor, you are to perform a review of the attached RWDA-G to verify that the information entered is correct, and calculate a 2-hour bleed flow rate in accordance with 1OM-19.4.E, Decay Tank Discharge, Step IV.A.17. Report your results when finished.

Time Critical Task: No

Validation Time: 12 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

Performance Step: 1 Candidate reviews the procedure for completeness.

Standard: Candidate reviews the procedure verifying that the procedure is signed up to Step IV.A.17.

NOTE: This step may be performed at any time during the JPM.

Comment:

√ **Performance Step: 2** Candidate reviews the RWDA-G.

Standard: Candidate reviews the partially completed RWDA-G for required data entry and completeness.

Standard: Candidate determines the **Discharge Start** date exceeds the 72-hour limit and requests a confirmatory sample to extend the authorization.
(Step IV.A.6 Note)

CUE: Inform the Candidate that Chemistry will obtain a confirmatory sample and to continue with the JPM.

Comment:

Performance Step: 3 Candidate obtains required data for 2-hour bleed flow rate.

Standard: Candidate reviews the Data Sheet to obtain the current decay tank pressure and time.

Comment:

- √ **Performance Step: 4** Calculate 2-hour bleed flow rate.
(Step IV.A.17.a)

Standard: Candidate determines the discharge flow rate = 1.53 scfm as follows:

$$\text{Bleed Flow Rate} = \frac{(132 \text{ cu. ft.}) (55.0 \text{ PSIG} - 34.5 \text{ PSIG})}{(14.7 \text{ psi}) (120 \text{ min.} - 0 \text{ min.})} = 1.53$$

Comment:

- √ **Performance Step: 5** Verify bleed flow rate is within limits.

Standard: Candidate verifies the calculated value is less than the RWDA-G limit of 2 scfm.

NOTE: The JPM may be stopped at this point.

Comment:

Terminating Cue: When the Candidate verifies the bleed flow rate is within limits, the evaluation for this JPM is complete.
--

STOP TIME: _____

JPM No.: 2005 NRC SRO No. 4

Examinee's Name:

Examiner's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question: _____

Response: _____

Result: Satisfactory/Unsatisfactory

Examiner's Signature: _____

Date: _____

INITIAL CONDITIONS: The plant is in Mode 1 at 100% power. [1GW-TK-1A], Gas Decay Tank is in the process of being released via an RWDA-G. The discharge started two hours ago and is expected to continue for another 28 hours.

INITIATING CUE: As the Unit Supervisor, you are to perform a review of the attached RWDA-G to verify that the information entered is correct, and calculate a 2-hour bleed flow rate in accordance with 1OM-19.4.E, Decay Tank Discharge, Step IV.A.17. Report your results when finished.

1GW-TK-1A Parameters Table

TIME	1GW-TK-1A PRESSURE (PR-1GW-103)
0	55.0 psig
60	44.8 psig
120	34.5 psig

Facility: **BVPS Unit 1** Task No.: 1350-004-03-023
1350-007-03-023
Task Title: Classify an Event and Determine JPM No.: 2005 NRC SRO
Protective Action Recommendations Admin No. 5
K/A Reference: 2.4.40 (4.0)

Examinee: NRC Examiner:

Facility Evaluator: Date:

Method of testing:

Simulated Performance: _____ Actual Performance: X
Classroom X Simulator _____ Plant _____

READ TO THE EXAMINEE

I will explain the initial conditions, which steps to simulate or discuss, and provide initiating cues. When you complete the task successfully, the objective for this Job Performance Measure will be satisfied.

Initial Conditions: Refer to **INITIAL CONDITIONS** pages for emergency classification and Protective Action Recommendations.

Task Standard: Correctly classify an emergency event using EPP/I-1a and determine Protective Action Recommendations in accordance with 1/2-EPP-IP-4.1.

Required Materials: NONE

General References: EPP/I-1a, Recognition And Classification of Emergency Conditions, Rev. 5
1/2-EPP-IP-4.1, Offsite Protective Actions, Rev. 18

Handouts: EPP/I-1a, Recognition And Classification of Emergency Conditions, Rev. 5
1/2-EPP-IP-4.1, Offsite Protective Actions, Rev. 18

Initiating Cue: As the Emergency Director, you are to evaluate the given plant conditions and determine the emergency classification in accordance with EPP/1-1a, Recognition And Classification of Emergency Conditions. Report your results when finished.

Time Critical Task: **YES - (15 minutes for Classification & 15 minutes for PAR)**

Validation Time: 16 minutes

(Denote Critical Steps with a check mark)

START TIME: _____

NOTE: Provide the Candidate with the first set of Initial Conditions and a copy of EPP/I-1a, Recognition and Classification of Emergency Conditions.

- √ **Performance Step: 1** Correctly classify the emergency event
- Standard:** Candidate classifies the event based on Tab 3.1, Loss of AC (Power Ops) as a General Emergency using the following criteria:
- AE and DF 4KV emergency buses NOT energized from Unit 1 sources for > 15 minutes, and
 - Five hottest CETs > 719F with no RCPs running and RVLIS full range < 40%
- CUE: Inform the Candidate that the Initial Notification Form will NOT be completed at this time.**
- NOTE: Time Critical - The Candidate has 15 minutes to complete the emergency classification.**
- NOTE: If the Candidate does NOT correctly classify the event, then stop the JPM at this point.**
- NOTE: This JPM is conducted in two (2) parts. Once the Candidate determines the correct emergency classification, then administer the PAR section of the JPM.**

Comment:

NOTE: Provide the Candidate with the second set of Initial Conditions and a copy of 1/2-EPP-IP-4.1, Offsite Protective Actions.

Performance Step: 2 Locate Offsite Protective Action Recommendation Flowchart

Standard: Candidate refers to 1/2-EPP-IP-4.1, Attachment A, Offsite Protective Action Recommendation Flowchart.

Comment:

Performance Step: 3 Determine offsite protective action

Standard: Candidate navigates PAR flow chart as follows:

- General Emergency already declared (↓)
- Met data provided in Initial Conditions (↓)
- None of the following are TRUE (↓):
 - 35' wind speed LESS than 2 MPH (or unavailable)?
 - Is either 150' or 500' wind directions unavailable?
 - The difference between the 150' & 500' wind directions is ≥ 165 and ≤ 195 degrees? (opposite wind directions) or unavailable?
 - Release (other than a non-routine minor release below Federally approved operating limits or wholly comprised of tritium) has started or is imminent. (within one hour)
 - Release transport will span sunrise or sunset hours.
- Dose projection results available (FSAR, monitor data, etc.)?
– YES (→).
- Projected dose at EAB > 1 REM TEDE or > 5 REM CDE –
YES (→)
- TEDE is less than 10 REM at EAB – NO (↓)
- Projected dose at 5 miles: > 1 REM TEDE or > 5 REM CDE –
NO (↓)
- Projected dose at 2 miles: > 1 REM TEDE or > 5 REM CDE –
YES (→)

Comment:

- √ **Performance Step: 4** Determine Offsite Protective Action Recommendations
- Standard:** Candidate determines the following PAR's:
- Evacuate 2 miles, 360 degrees, and
 - Evacuate 5 mile downwind wedge, and
 - Shelter the remainder of 10 mile EPZ, and
 - Advise the general public to administer KI
- CUE:** If necessary, direct the Candidate to perform downwind wedge determination as part of the PAR.

Comment:

- √ **Performance Step: 5** Determine downwind wedge.
- Standard:** Candidate determines that the 150' elevation downwind sectors are "CDEFG".
- Standard:** Candidate determines that the 500' elevation downwind sectors are "DEFGH".
- Standard:** Candidate determines that the combined sectors are "CDEFGH".
- NOTE:** Time Critical - The Candidate has 15 minutes to complete the PAR determination.
- NOTE:** Inform the Candidate that the Initial Notification Form will NOT be completed at this time.

Comment:

Terminating Cue: When the candidate completes the Protective Action Recommendation, the evaluation for this JPM is complete.

STOP TIME: _____

Job Performance Measure No.: 2005 NRC SRO No. 5

Examinee's Name:

Date Performed:

Facility Evaluator:

Number of Attempts:

Time to Complete:

Question Documentation:

Question:

Response:

Result: SAT _____ UNSAT _____

Examiner's Signature: _____ Date: _____

**INITIAL CONDITIONS:
(Emergency Classification)**

The Unit was operating at 100% power for 160 days on-line when the following occurred:

- EDG No. 1 was 12 hours into a maintenance outage to replace the motor driven fuel oil pump and not expected to return for another 16 hours.
- A lightning strike in the switchyard resulted in a loss of offsite power and a reactor trip.
- [ACB 1F9], Emerg Gen 2 Circuit Breaker tripped on overcurrent de-energizing the 4KV 1DF Bus.
- 30 minutes into the event, SPDS displays the 5 hottest CETs at greater than 720°F and RVLIS Full Range at 30%.
- No 4KV emergency power is expected for at least another 2 hours.

INITIATING CUE:

As the Emergency Director, you are to evaluate the given plant conditions and determine the **emergency classification** in accordance with EPP/1-1a, Recognition And Classification of Emergency Conditions. Report your results when finished.

**INITIAL CONDITIONS:
(Protective Action
Recommendations)**

A General Emergency has been declared at Unit 1 following a small break LOCA and the loss of all 4KV emergency power.

The following plant conditions exist:

- 35' wind direction is from 270° at 4 MPH.
- 150' wind direction is from 270° at 11 MPH.
- 500' wind direction is from 285° at 15 MPH.
- No radioactive release has occurred or is imminent (within 1 hour).
- Health Physics has provided the following dose projections:
 - At the EAB: 11 REM TEDE; 8 REM CDE
 - At 5 miles: 0.9 REM TEDE, 2.5 REM CDE
 - At 2 miles: 1.5 REM TEDE; 4 REM CDE

INITIATING CUE:

You are the Emergency Director and the TSC/EOF have **NOT** yet been activated. You are to evaluate the above conditions and determine which, if any, offsite **Protective Action Recommendations** are necessary.