

Facility: Oyster Creek Task No.: 2490401002Task Title: Determine New Thermal Limits with EPR Out of ServiceJob Performance Measure No.: NRC RO ADMIN JPM1K/A Reference: G2.1.7 (4.4)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom 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:

1. The plant is starting up following a forced outage, with reactor power currently being held constant
2. All Recirculation Pumps are in service
3. The Primary Containment is inerted
4. The EPR was just declared inoperable and the MPR is controlling RPV pressure

Task Standard: The new Core Thermal Limits have been calculated. It has been determined that the current MFLCPR violates the new Core Thermal Limit for MFLCPR in Column A, and the actions have been identified.

Required Materials:

1. Calculator
2. Copy of Attachment 202.1-5 and 202.1-7

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**General References:**

1. 202.1, Power Operation, Revision 118

Initiating Cue IAW Attachment 202.1-7, Operation with One Pressure Regulator, calculate the new thermal limits restrictions for MFLCPR, MFLPD, and MAPRAT for Column A, Column B, and Column C, of Attachment 202.1-5. Following this calculation, determine what actions are required, if any.

Fill-in the information in the table on the following page. See the Reactor Core State Parameters on the following pages also.

Time Critical Task: No.

Validation Time: 21 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

Note: The following steps can be performed in any order.

✓

Performance Step: 2

Procedure Step: 1 (Attachment 202.1-7)

Determine the MFLPD Multiplier at 80% reactor power

**Standard:** Determines the MFLPD Multiplier at 80% reactor power as 0.914

Comment:

**SAT/UNSAT**

## Performance Information

✓	Performance Step: 3
	Procedure Step: 1 (Attachment 202.1-7) Determine the new Attachment 202.1-5 MFLPD Limits
<b>Standard:</b>	Determines the new Attachment 202.1-5 MFLPD Limits as $(0.914) \times (\text{MFLPD Column Limit}) = \text{As shown in the Key}$
<b>Comment:</b>	  
<b>SAT/UNSAT</b>	
✓	Performance Step: 4
	Procedure Step: 1 (Attachment 202.1-7) Determine Recirculation Flow $> 14.4 \times 10^4$ GPM
<b>Standard:</b>	Determines Recirculation Flow $> 14.4 \times 10^4$ GPM and no flow multiplier is required
<b>Comment:</b>	  
<b>SAT/UNSAT</b>	



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Performance Information

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✓

Performance Step: 5

Procedure Step: 1 (Attachment 202.1-7)

Determine the MFLCPR Multiplier at 80% reactor power

**Standard:**

Determines the MFLCPR Multiplier at 80% reactor power as 0.923

Comment:

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**SAT/UNSAT**

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✓

Performance Step: 6

Procedure Step: 1 (Attachment 202.1-7)

Determine the new Attachment 202.1-5 MFLCPR Limits

**Standard:**Determines the new Attachment 202.1-5 MFLCPR Limits as  
(0.923) X (MFLCPR Column Limit) = As shown in the Key

Comment:

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**SAT/UNSAT**

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Performance Information

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Performance Step: 7

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Procedure Step: 1 (Attachment 202.1-7)

Determine the MAPRAT limit remains unchanged

**Standard:** Determine the MAPRAT limit remains unchanged

Comment:

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**SAT/UNSAT**

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✓

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Performance Step: 8

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Procedure Step: 1 (Attachment 202.1-7)

Compare the new Core Thermal Limit for MFLPD of Columns A, B &amp; C with the actual MFLPD of 0.795.

**Standard:** Compares the new Core Thermal Limit for MFLPD of Columns A, B & C with the actual MFLPD of 0.795. Determines that no limits are exceeded and determines no actions are required.

Comment:

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**SAT/UNSAT**

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## Performance Information

✓

## Performance Step: 9

Procedure Step: 1 (Attachment 202.1-7)

Compare the new Core Thermal Limit for MFLCPR of Columns A, B & C with the actual MFLCPR of 0.916.

**Standard:** Compares the new Core Thermal Limit for MFLCPR of Columns A, B & C with the actual MFLCPR of 0.916. Determines the actual MFLCPR is greater than Column A and B.

Required actions include the following:

Column A: Contact US and Reactor Engineer, and monitor thermal limit trend

Column B: Take immediate action to restore operation within limits (e.g., inserting control rods or reducing core flow)

Comment:

**SAT/UNSAT**

## Performance Step: 10

Procedure Step: 1 (Attachment 202.1-7)

Compare the new Core Thermal Limit for MAPRAT of Columns A, B & C with the actual MAPRAT of 0.875.

**Standard:** Compares the new Core Thermal Limit for MAPRAT of Columns A, B & C with the actual MAPRAT of 0.875. Determines that no limits are exceeded and determines no actions are required.

Comment:

**SAT/UNSAT**

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Performance Information

**Terminating Cue:** The new Core Thermal Limits have been calculated. It has been determined that the current MFLCPR violates the new Core Thermal Limit for MFLCPR in Column B, and the actions have been identified. (See table on attached page)

**JPM Stop Time:** \_\_\_\_\_

## Performance Information

Thermal Limit Summary Table - KEY

	Column A Limit	Column B Limit	Column C Limit
<b>MFLCPR</b> Multiplier = 0.923 (MFLCPR Actual: 0.916)			
Current 202.1 Limit	> 0.98	> 0.99	> 1.00
New 202.1 Limit	> 0.905	> 0.914	> 0.923
<b>MFLPD</b> Multiplier = 0.914 (MFLPD Actual: 0.795)			
Current 202.1 Limit	> 0.98	> 0.99	> 1.00
New 202.1 Limit	> 0.896	> 0.905	> 0.914
<b>MAPRAT</b> No changes (MAPRAT Actual: 0.875)			
Current 202.1 Limit	> 0.98	> 0.99	> 1.00
New 202.1 Limit	> 0.98	> 0.99	> 1.00

**Note:** The values are rounded to the nearest 0.001.

## Validation of Completion

JPM Number: NRC RO ADMIN JPM1

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. None.

STUDENT HANDOUTInitial Conditions:

1. The plant is starting up following a forced outage, with reactor power currently being held constant
2. All Recirculation Pumps are in service
3. The Primary Containment is inerted
4. The EPR was just declared inoperable and the MPR is controlling RPV pressure

Task Cue:

IAW Attachment 202.1-7, Operation with One Pressure Regulator, calculate the new thermal limits restrictions for MFLCPR, MFLPD, and MAPRAT for Column A, Column B, and Column C, of Attachment 202.1-5. Following this calculation, determine what actions are required, if any.

Fill-in the information in the table on the following page. See the Reactor Core State Parameters on the following pages also.



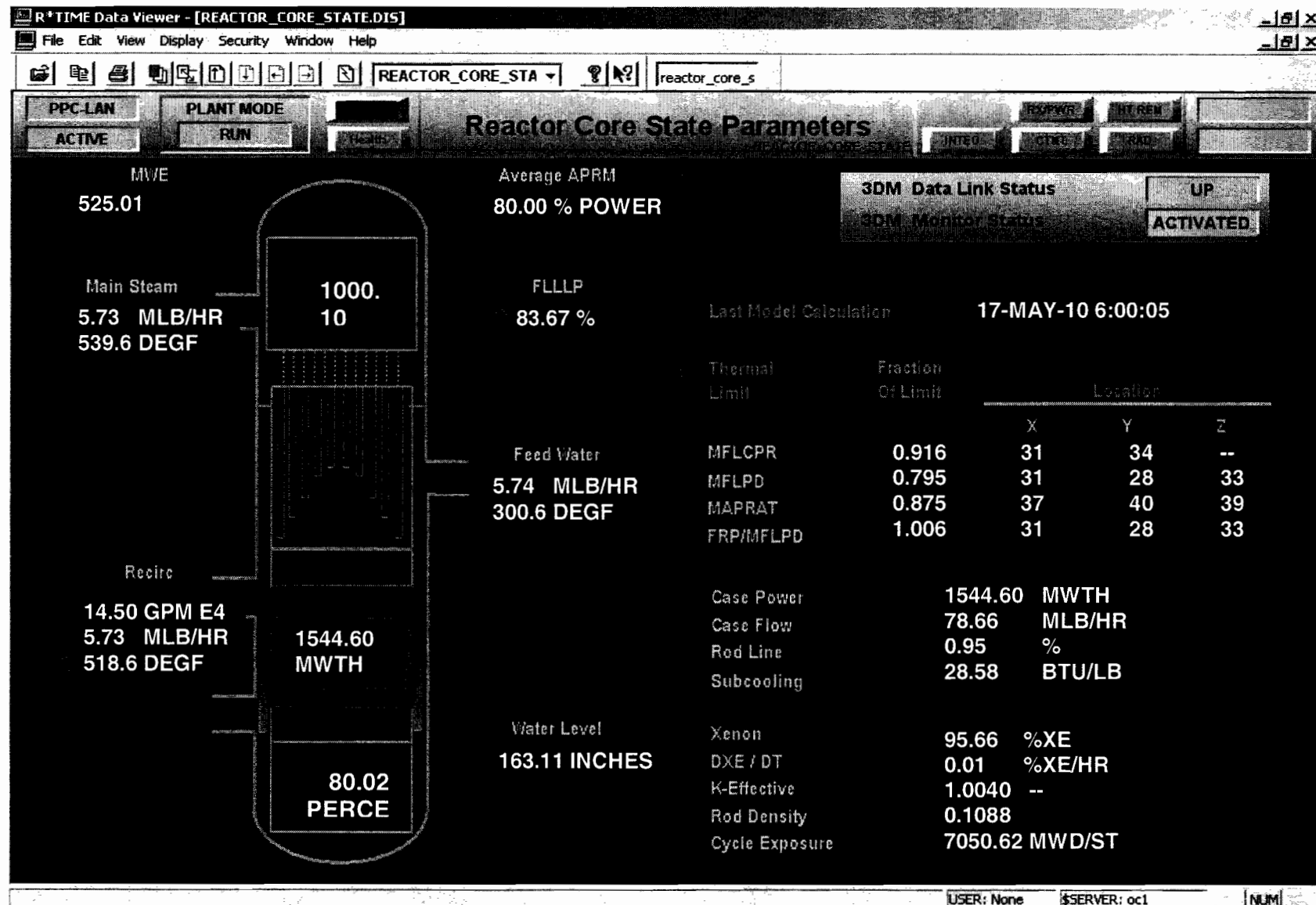
Thermal Limit Summary Table

	Column A Limit	Column B Limit	Column C Limit
<b>MFLCPR</b>			
Actual MFLCPR: _____			
<b>Current</b> 202.1 Limit	<b>&gt; 0.98</b>	<b>&gt; 0.99</b>	<b>&gt; 1.00</b>
<b>New 202.1</b> Limit			
<b>MFLPD</b>			
Actual MFLPD: _____			
<b>Current</b> 202.1 Limit	<b>&gt; 0.98</b>	<b>&gt; 0.99</b>	<b>&gt; 1.00</b>
<b>New 202.1</b> Limit			
<b>MAPRAT</b>			
Actual MAPRAT: _____			
<b>Current</b> 202.1 Limit	<b>&gt; 0.98</b>	<b>&gt; 0.99</b>	<b>&gt; 1.00</b>
<b>New 202.1</b> Limit			

Required Actions, if any: \_\_\_\_\_

\_\_\_\_\_

Name: \_\_\_\_\_



Facility: Oyster Creek Task No.: COOO00044Task Title: Week 4 Safety Related Equipment VerificationJob Performance Measure No.: NRC RO ADMIN JPM2K/A Reference: G2.1.29 (4.1)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The plant is at rated power

Task Standard: Three instances of improper EOP Jumper Bypass Plug placement have been identified. The Acceptance Criteria is declared Unsat (not met)

Required Materials: None.

## General References:

1. 680.4.007, Safety Related Equipment Verification, Revision 14

Initiating Cue: Complete Section 6.4, Week Four Verification, IAW 680.4.007, Safety Related Equipment Verification, starting at Step 6.4.3.

Time Critical Task: No.

Validation Time: 10 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

Performance Step: 2

Procedure Step: Verifies Prerequisites and reviews Precautions and Limitations.

**Standard:** Verifies Prerequisites and reviews Precautions and Limitations.

Comment:

**SAT/UNSAT**

## Performance Information

✓

Performance Step: 3

Procedure Step: 6.4.3.1

Verify that the bypass plugs are positioned as follows:

1. EOP Bypass Plug Panel in rear of Panel 2R

- Bypass plug in position BP1
- Bypass plug in position BP2
- No other plugs inserted

**Standard:**

Verifies Verify that the bypass plugs are positioned as follows:

1. EOP Bypass Plug Panel in rear of Panel 2R

- Bypass plug in position BP1
- Bypass plug in position BP2
- No other plugs inserted

Comment:

**SAT/UNSAT**

## Performance Information



## Performance Step: 4

## Procedure Step: 6.4.3.2

Verify that the bypass plugs are positioned as follows:

## 2. EOP Bypass Plug Panel in rear of Panel 3F

- BP2, BP4, BP6, BP8, BP10, BP12, BP14
- No other plugs inserted

**Standard:**

Verifies that the bypass plugs are positioned as follows:

## 2. EOP Bypass Plug Panel in rear of Panel 3F

- BP2, BP4, BP6, BP8, BP10, BP12, BP14
- No other plugs inserted
- Reports that no plug is located in BP14

**Cue:**

Acknowledge the report and tell the Candidate to continue (Leave the plugs in their current positions)

Comment:

SAT/UNSAT



## Performance Step: 5

## Procedure Step: 6.4.3.3

Verify that the bypass plugs are positioned as follows

## 3. EOP Bypass Plug Panel in rear of Panel 6R

- No plugs inserted

**Standard:**

Verifies that the bypass plugs are positioned as follows

## 3. EOP Bypass Plug Panel in rear of Panel 6R

- No plugs inserted

Comment:

SAT/UNSAT

## Performance Information

✓	Performance Step: 6
	Procedure Step: 6.4.3.5 Verify that the bypass plugs are positioned as follows 4. EOP Bypass Plug Panel in rear of Panel 7R <ul style="list-style-type: none"><li>• No plugs inserted</li></ul>
<b>Standard:</b>	Verifies that the bypass plugs are positioned as follows 4. EOP Bypass Plug Panel in rear of Panel 7R <ul style="list-style-type: none"><li>• No plugs inserted</li></ul>
Comment:	<hr/> <hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>

✓	Performance Step: 7
	Procedure Step: 6.4.3.5 Verify that the bypass plugs are positioned as follows 5. EOP Bypass Plug Panel in rear of Panel 11R <ul style="list-style-type: none"><li>• Bypass plug in position BP4</li><li>• No other plugs installed</li></ul>
<b>Standard:</b>	Verifies that the bypass plugs are positioned as follows 5. EOP Bypass Plug Panel in rear of Panel 11R <ul style="list-style-type: none"><li>• Bypass plug in position BP4</li><li>• No other plugs installed</li><li>• Reports that plug is installed in BP2 instead of BP4</li></ul>
<b>Cue:</b>	Acknowledge the report and tell the Candidate to continue (Leave the plugs in their current positions)
Comment:	<hr/> <hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>

## Performance Information



Performance Step: 8

Procedure Step: 6.4.3.6

Verify that the bypass plugs are positioned as follows

6. EOP Bypass Plug Panel inside of Panel 10XF

- Bypass plug in position BP2
- Bypass plug in position BP4
- No other plugs installed

**Standard:**

Verify that the bypass plugs are positioned as follows

6. EOP Bypass Plug Panel inside of Panel 10XF

- Bypass plug in position BP2
- Bypass plug in position BP4
- No other plugs installed
- Reports that plug is installed in BP3

**Cue:**

Acknowledge the report and tell the Candidate to continue (Leave the plugs in their current positions)

Comment:

**SAT/UNSAT**



## Performance Information

✓

Performance Step: 9

Procedure Step: 6.4.4

Compare results of this surveillance with Section 7.0, Acceptance Criteria. Record comments/discrepancies.

**Standard:** Reviews Acceptance Criteria and determines the Acceptance Criteria 7.1.3 is Unsat (has not been met)

**Note:** For failure of the acceptance criteria, the procedure then directs that the requirements of LS-OC-125 be followed. That procedure has been superseded by LA-AA-125, Corrective Action program, which would require generation of an IR or AR (incident report). The Candidate may state generation of an IR is required. (Not required for critical step.) Writing comments in Step 6.4.4 is not required.

Comment:

SAT/UNSAT

**Terminating Cue:** Three instances of improper EOP Jumper Bypass Plug placement have been identified. The Acceptance Criteria is declared Unsat (not met)

JPM Stop Time: \_\_\_\_\_

Validation of Completion

JPM Number: NRC RO ADMIN JPM2

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Response:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Result:                      Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

Simulator Setup

1. This JPM can be performed at any power level
2. Remove EOP Bypass Plug in rear Panel 3F at position BP14
3. Remove EOP Bypass Plug in rear Panel 11R from position BP4 and place in BP2
4. Place an additional EOP Bypass Plug in Panel inside Panel 10XF in position BP3

STUDENT HANDOUTInitial Conditions:

1. The plant is at rated power

Task Cue:

Complete Section 6.4, Week Four Verification, IAW 680.4.007, Safety Related Equipment Verification, starting at Step 6.4.3.

Facility: Oyster Creek Task No.: 2000101404Task Title: Perform a Manual Reactor Core Heat BalanceJob Performance Measure No.: NRC RO ADMIN JPM3K/A Reference: G2.2.12 (3.7)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom 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:

1. The reactor has been steady at full power for several hours
2. The most recent stable PPC Core Thermal Power (15-minute average) was 1928 MWth
3. All prerequisites to perform this procedure have been met
4. Calculating RWCU system differential temperature is not required
5. The following indications are provided:
  - a. APRMs indicate 100% power
  - b. RPV water level instrument NR GEMAC indicates 161"
  - c. Local total Feedwater  $\Delta P$  from the venturi transmitter (FT-422-1) indicates 491.0 inches of water
  - d. Core  $\Delta P$  indicates 16.5 psid
  - e. Reactor pressure (NR recorder Panel 5F/6F) indicates 1020 psig
  - f. Feedwater temperature (ID0101) (recorder Panel 5F/6F) indicates 312 °F
  - g. Total steam flow (recorder Panel 5F/6F) indicates 7.1 Mlb/hr
  - h. Total recirculation flow (recorder Panel 3F) indicates  $15 \times 10^4$  gpm
  - i. RWCU flow (recorder Panel 3F) indicates 400 gpm

Task Standard: A manual core heat balance has been completed IAW Procedure 1001.6, Core Heat Balance and Feedwater Flow Calculation – Power Range. The core heat balance shows a reactor power of approximately 1927 MWth.

Required Materials: Calculator.

## General References:

1. 1001.6, Core Heat Balance and Feedwater Flow Calculation – Power Range, revision 28

Initiating Cue: Calculate core thermal power (CTP) IAW Procedure 1001.6, Core Heat Balance and Feedwater Flow Calculation – Power Range

Time Critical Task: No.

Validation Time: 32 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

Performance Step: 2

Procedure Step: Verifies Prerequisites and reviews Precautions and Limitations.

**Standard:** Verifies Prerequisites and reviews Precautions and Limitations.

Comment:

**SAT/UNSAT**

Note: See the completed procedure for recorded and calculated values (at the end of the JPM)

## Performance Information

✓

## Performance Step: 3

## Procedure Step: 5.1.1.1

Record local total Feedwater  $\Delta P$  in inches of water from the venturi transmitter (FT-422-1) in the Feedwater Pump Room

**Standard:** Records local total Feedwater  $\Delta P$  in inches of water from the venturi transmitter (FT-422-1) in the Feedwater Pump Room (491.0 inches)

Comment:

SAT/UNSAT

✓

## Performance Step: 4

## Procedure Step: 5.1.1.2

Record Feedwater temperature (ID0101) from the Panel 5F/6F recorder to the nearest whole degree

**Standard:** Records Feedwater temperature (ID0101) from the Panel 5F/6F recorder to the nearest whole degree (312 °F)

Comment:

SAT/UNSAT



## Performance Information

✓

## Performance Step: 5

## Procedure Step: 5.1.1.3

Obtain the specific volume ( $v$ ) of the Feedwater at 1100 psia and the temperature recorded in Step 5.1.1.2 from Attachment 1001.6-3 or an ASME approved steam table

**Standard:** Obtains the specific volume ( $v$ ) of the Feedwater at 1100 psia and the temperature recorded in Step 5.1.1.2 from Attachment 1001.6-3 or an ASME approved steam table (0.01749)

Comment:

SAT/UNSAT

✓

## Performance Step: 6

## Procedure Step: 5.1.1.4

Calculate total Feedwater flow using the following equation:  
 $F = 0.0429387 \text{ SQRT } (\Delta P/v)$

**Standard:** Calculates total Feedwater flow using the following equation:  
 $F = 0.0429387 \text{ SQRT } (\Delta P/v)$   
 $F = 0.0429387 \times \sqrt{(491.0/0.01749)}$   
 $F = 7.194$

Comment:

SAT/UNSAT

Note: Step 5.2 requires no actions.

## Performance Information

✓

Performance Step: 7

Procedure Step: 5.2.1

Record reactor pressure to the nearest whole pound  
(Narrow range recorder – panel 5F/6F)**Standard:** Records reactor pressure to the nearest whole pound (1020)

Comment:

SAT/UNSAT

✓

Performance Step: 8

Procedure Step: 5.2.2

Record Feedwater temperature to the nearest whole degree.  
(Recorder panel 5F/6F)**Standard:** Record Feedwater temperature to the nearest whole degree (312)

Comment:

SAT/UNSAT

## Performance Information

✓

Performance Step: 9

Procedure Step: 5.2.3

Record recirculation flow to the nearest thousand gpm. (Recorder panel 3F)

**Standard:** Records recirculation flow to the nearest thousand gpm (15)

Comment:

SAT/UNSAT

✓

Performance Step: 10

Procedure Step: 5.2.4

Calculate the reactor absolute pressure by adding the value of step 5.2.1 + 14.7 pounds pressure

**Standard:** Calculates the reactor absolute pressure by adding the value of step 5.2.1 + 14.7 pounds pressure (1020 + 14.7 = 1034.7)

Comment:

SAT/UNSAT

## Performance Information

✓

Performance Step: 11

Procedure Step: 5.2.5

Record Main Steam enthalpy from Attachment 1001.6-5 or an ASME approved steam table, at saturated conditions using calculated absolute pressure

**Standard:** Record Main Steam enthalpy from Attachment 1001.6-5 or an ASME approved steam table, at saturated conditions using calculated absolute pressure (1191.61)

Comment:

SAT/UNSAT

✓

Performance Step: 12

Procedure Step: 5.2.6

Record the Feedwater enthalpy from Attachment 1001.6-6 or an ASME approved steam table for compressed water at 1100 psia using Feedwater temperature

**Standard:** Record the Feedwater enthalpy from Attachment 1001.6-6 or an ASME approved steam table for compressed water at 1100 psia using Feedwater temperature (283.94)

Comment:

SAT/UNSAT

## Performance Information

✓

Performance Step: 13

Procedure Step: 5.2.7

Calculate the difference of the Main Steam and Feedwater enthalpies

**Standard:** Calculates the difference of the Main Steam and Feedwater enthalpies ( $1191.61 - 283.94 = 907.67$ )

Comment:

SAT/UNSAT

✓

Performance Step: 14

Procedure Step: 5.2.8

Record total Feedwater flow(s) FLO (tot) for differential pressure 3 loop and/or local, venturi (single element) methods from the Feedwater flow calculation worksheet

- Obtain Total Flow Venturi method FLO (tot) from line (D) of the Feedwater flow calculation worksheet

**Standard:** Records total Feedwater flow(s) FLO (tot) for differential pressure 3 loop and/or local, venturi (single element) methods from the Feedwater flow calculation worksheet (7.194)

Comment:

SAT/UNSAT

## Performance Information

✓

Performance Step: 15

Procedure Step: 5.2.9

Calculate the product of the Feedwater flow and the enthalpy difference to obtain MBTU/hr

**Standard:** Calculates the product of the Feedwater flow and the enthalpy difference to obtain MBTU/hr ( $7.194 \times 907.67 = 6529.78$ )

Comment:

SAT/UNSAT

✓

Performance Step: 16

Procedure Step: 5.2.10

Convert MBTU/hr to Megawatts. ( $\text{MBTU/hr} \times 0.293$ )**Standard:** Converts MBTU/hr to Megawatts. ( $\text{MBTU/hr} \times 0.293$ )  
( $6529.78 \times 0.293 = 1913.23$ )

Comment:

SAT/UNSAT

## Performance Information

✓	Performance Step: 17
	Procedure Step: 5.2.11
	Record RWCU flow to the nearest gpm (recorder panel 3F) on line (K) of Attachment 1001.6-2
<b>Standard:</b>	Records RWCU flow to the nearest gpm (recorder panel 3F) on line (K) of Attachment 1001.6-2 (400)
Comment:	
<b>SAT/UNSAT</b>	
✓	Performance Step: 18
	Procedure Step: 5.2.12
	Calculate the CRD, recirc. pump power, RWCU and ambient losses adjustment (Fixed Losses), per the following equation. Enter the appropriate value for Fixed Losses on line (L) of Attachment 1001.6-2
	$\text{Fixed Losses} = [(K) \times 0.0136] + 9.0$
<b>Standard:</b>	Calculates the CRD, recirc. pump power, RWCU and ambient losses adjustment (Fixed Losses), per the following equation. Enter the appropriate value for Fixed Losses on line (L) of Attachment 1001.6-2
	$\text{Fixed Losses} = [(K) \times 0.0136] + 9.0$
	$\text{Fixed Losses} = [400 \times 0.0136] + 9.0 = 14.44$
Comment:	
<b>SAT/UNSAT</b>	

## Performance Information

✓	Performance Step: 19
	Procedure Step: 5.2.13
	Add the Fixed Losses from line (L) to the Megawatts from Line (J) and record the Calculated CTP on line (N)
<b>Standard:</b>	Adds the Fixed Losses from line (L) to the Megawatts from Line (J) and record the Calculated CTP on line (N) (14.44 + 1913.23 = 1927.67)
Comment:	
<b>SAT/UNSAT</b>	

✓	Performance Step: 20
	Procedure Step: 5.2.14
	If a comparison is to be made with the PPC, then PPC Core Thermal Power (CTP) on line (M). (Use 15 min. average value after reactor power is stable for at least 15 min)
<b>Standard:</b>	If a comparison is to be made with the PPC, then PPC Core Thermal Power (CTP) on line (M). (Use 15 min. average value after reactor power is stable for at least 15 min) (1928)
Comment:	
<b>SAT/UNSAT</b>	



## Performance Information

✓

Performance Step: 21

Procedure Step: 5.2.15

Subtract the Calculated CTP from the PPC Core Thermal Power [line (M) - line (N)]. If this value is positive, the comparison is considered conservative. If negative, the comparison is non-conservative. Place an "X" in the appropriate box.

**Standard:**

Subtracts the Calculated CTP from the PPC Core Thermal Power [line (M) - line (N)]

$$1928 - 1927.67 = 0.33$$

Comment:

**SAT/UNSAT**

**Terminating Cue:** A manual core heat balance has been completed IAW Procedure 1001.6, Core Heat Balance and Feedwater Flow Calculation – Power Range. The core heat balance shows a reactor power of approximately 1927 MWth.

**JPM Stop Time:** \_\_\_\_\_

## Performance Information

*Data Collection and Calculations ( print / sign)*

<b>Preparer:</b>	<b>Date:</b>	<b>Time:</b>	<b>Prerequisites met:</b>	<b>Initials</b>
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*Method 1: Total Flow Venturi Calculation*

<b>A</b>	<b>5.1.1.1</b>	DP From Total Flow Venturi Transmitter (FT-422-1)	Local Transmitter DP Reading	<b>491.0</b>	in H <sub>2</sub> O
<b>B</b>	<b>5.1.1.2</b>	Feedwater Temperature (ID 101)	Panel 5F/6F Recorder	<b>312</b>	deg F
<b>C</b>	<b>5.1.1.3</b>	Specific Volume at 1100 psia and (B)	Attachment 1001.6-3 or ASME Steam Tables	<b>0.01749</b>	ft <sup>3</sup> /lbm
<b>D</b>	<b>5.1.1.4</b>	<b>TOTAL FEEDWATER FLOW</b>	$F_T = 0.0429387 \times \text{SQRT}[(A) / (C)]$	<b>7.194</b>	Mlbm/hr

## Performance Information

<b>A</b>	<b>5.2.1</b>	Reactor Pressure (ID-45)	Panel 5F/6F Narrow Range Recorder	<b>1020</b>	psig
<b>B</b>	<b>5.2.2</b>	Feedwater Temperature (ID 101)	Panel 5F/6F Recorder	<b>312</b>	deg F
<b>C</b>	<b>5.2.3</b>	Recirculation Flow	Panel 3F Recorder	<b>15</b>	10 <sup>4</sup> gpm
<b>D</b>	<b>5.2.4</b>	Reactor Absolute Pressure	(A) + 14.7	<b>1034.7</b>	psia
<b>E</b>	<b>5.2.5</b>	Main Steam Enthalpy ( $h_{MS}$ )	Attachment 1001.6-5 or ASME Steam Tables	<b>1191.61</b>	BTU/lbm
<b>F</b>	<b>5.2.6</b>	Feedwater Enthalpy ( $h_{FW}$ )	Attachment 1001.6-6 or ASME Steam Tables	<b>283.94</b>	BTU/lbm
<b>G</b>	<b>5.2.7</b>	Enthalpy Difference ( $h_{MS} - h_{FW}$ )	(E) - (F)	<b>907.67</b>	BTU/lbm
<b>H</b>	<b>5.2.8</b>	Total Feedwater Flow	Attachment 1001.6-1, (D) or (K)	<b>7.194</b>	Mlbm/hr
<b>I</b>	<b>5.2.9</b>	Feedwater Flow x Enthalpy Difference	(H) x (G)	<b>6529.78</b>	MBTU/hr
<b>J</b>	<b>5.2.10</b>	Conversion to $MW_{TH}$	0.293 x (I)	<b>1913.23</b>	$MW_{TH}$
<b>K</b>	<b>5.2.11</b>	RWCU Flow	Panel 3F Recorder	<b>400</b>	gpm
<b>L</b>	<b>5.2.12</b>	Fixed Losses	[(K) x 0.0136] + 9.0	<b>14.44</b>	$MW_{TH}$
<b>M</b>	<b>5.2.14</b>	PPC Core Thermal Power (CTP)	PPC CTP 15 Minute Average	<b>1928</b>	$MW_{TH}$
<b>N</b>	<b>5.2.13</b>	Calculated Core Thermal Power	(J) + (L)	<b>1927.67</b>	$MW_{TH}$
<b>O</b>	<b>5.2.15</b>	Core Thermal Power Comparison	(M) - (N)	<div> <div>0.33</div> <div> <div>x</div> <div> Positive Value → Conservative Negative Value → Non-Conservative </div> </div> </div>	$MW_{TH}$

## Validation of Completion

JPM Number: NRC RO ADMIN JPM3

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. None

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STUDENT HANDOUTInitial Conditions:

1. The reactor has been steady at full power for several hours
2. The most recent stable PPC Core Thermal Power (15-minute average) was 1928 MWth
3. All prerequisites to perform this procedure have been met
4. Calculating RWCU system differential temperature is not required
5. The following indications are provided:
  - a. APRMs indicate 100% power
  - b. RPV water level instrument NR GEMAC indicates 161"
  - c. Local total Feedwater  $\Delta P$  from the venturi transmitter (FT-422-1) indicates 491.0 inches of water
  - d. Core  $\Delta P$  indicates 16.5 psid
  - e. Reactor pressure (NR recorder Panel 5F/6F) indicates 1020 psig
  - f. Feedwater temperature (ID0101) (recorder Panel 5F/6F) indicates 312 °F
  - g. Total steam flow (recorder Panel 5F/6F) indicates 7.1 Mlb/hr
  - h. Total recirculation flow (recorder Panel 3F) indicates  $15 \times 10^4$  gpm
  - i. RWCU flow (recorder Panel 3F) indicates 400 gpm

Task Cue:

Calculate core thermal power (CTP) IAW Procedure 1001.6, Core Heat Balance and Feedwater Flow Calculation – Power Range

Facility: Oyster Creek Task No.: EPAA105001Task Title: Perform Actions of Shift Communicator During an EmergencyJob Performance Measure No.: NRC RO ADMIN JPM4K/A Reference: G2.4.39 (3.9)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X (RSP Room) 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:

1. The plant was at rated power when the Shift Manager declared a Control Room Evacuation was required
2. ABN-30, Control Room Evacuation, has been entered
3. The Shift Manager has declared an initial emergency classification as an Alert emergency condition due to the evacuation
4. The SM has assumed the responsibilities of the Shift Emergency Director, SED
5. No Emergency Response Facilities have been staffed (TSC, EOF)
6. You and the SM/SED are at the TSC
7. The Auto Ring phone is **not** available
8. The SM/SED has just handed you a completed State/Local Notification Form

Task Standard: The State/Local Notification Form is reviewed, corrected, and transmitted to the State/Local authorities

Required Materials: Completed EP-MA-114-100-F-03, State/Local Notification Form, with SM/SED signature missing

General References:

1. EP-AA-112-100-F-05, Mid-Atlantic Shift Communicator (CR) Checklist, Revision D
2. EP-MA-114-100-F-03, State/Local Notification Form
3. EP-MA-114-100, Mid-Atlantic State/Local Notifications

Initiating Cue: As the Shift Manager/Shift Emergency Director, I am requesting that you act as the Shift Communicator and that you perform the following tasks:

1. IAW EP-MA-114-100, Mid-Atlantic State/Local Notifications, Section 4.4, verify the completeness of the State/Local Notification Form, and
2. IAW EP-MA-114-100, Mid-Atlantic State/Local Notifications, Section 4.5, transmit the information on the Form to the offsite authorities.

Time Critical Task: Yes: 14 minutes to  
pickup the  
telephone

Validation Time: 9 Minutes

Note: This JPM is to be performed in the Remote Shutdown Panel Room in the Simulator.



## Performance Information

*Denote critical steps with a check mark ✓*

**Note:** This JPM is intended to be performed in the Shutdown Panel Room in the Simulator.

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

✓

Performance Step: 2

Procedure Step: 4.4 (EP-MA-114-100)

Review the completed State/Local Notification Form.

**Standard:** Reviews the completed State/Local Notification Form. States that the emergency classification in Block 3 did not have ALERT selected.

**Cue:** Select the ALERT in Block 3

Comment:

**SAT/UNSAT**

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Performance Information

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✓

## Performance Step: 3

## Procedure Step: 4.5.2.1

Call the NJ OEM (609-444-4444 or 609-555-5555) using the regular phone in the RSP Room

**Standard:** Calls the NJ OEM (609-444-4444 or 609-555-5555) using the regular phone in the RSP Room

**Cue:** Picking up the phone and dialing is not required, but the Candidate should state how the communication is made (normal phone) and the phone number. Record time this is performed:

Comment:

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**SAT/UNSAT**

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## Performance Step: 4

## Procedure Step: 4.5.2.2.A

Record the time and name of person contacted

**Standard:** Records the time and name of person contacted

**Cue:** Provide the following: Joe Black; 609-444-4444 or 609-555-5555

Comment:

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**SAT/UNSAT**

---

## Performance Information

✓	Performance Step: 5
	Procedure Step: 4.5.2.2.B
	Read Blocks one at a time from the approved State/Local Notification Form
<b>Standard:</b>	Reads Blocks one at a time from the approved State/Local Notification Form
	Enters Candidate's name, call back number and time on the Form (not required for critical step)
<b>Cue:</b>	Repeat back as required
<b>Comment:</b>	
<b>SAT/UNSAT</b>	

Note: Step 4.5.3 is for a General Emergency classification

	Performance Step: 6
	Procedure Step: 4.5.4 and the Form
	Ask for questions and provide clarification
<b>Standard:</b>	Asks for questions and provide clarification. Record any unanswered questions or inquiries on an Information Request / Message Form (EP-AA-112-F-06) and forward to one of the following, as applicable, for resolution:
	Control Room – SM/SED
<b>Cue:</b>	State you have no questions
<b>Comment:</b>	
<b>SAT/UNSAT</b>	

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Performance Information

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Performance Step: 7

Procedure Step: 4.5.6 and the Form

Read the following: "This concludes the notification message."

**Standard:** Reads the following: "This concludes the notification message."Comment:  

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**SAT/UNSAT****Terminating Cue:** The State/Local Notification Form is reviewed, corrected, and transmitted to the State/Local authorities**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC RO ADMIN JPM4

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. None.

STUDENT HANDOUTInitial Conditions:

1. The plant was at rated power when the Shift Manager declared a Control Room Evacuation was required
2. ABN-30, Control Room Evacuation, has been entered
3. The Shift Manager has declared an initial emergency classification as an Alert emergency condition due to the evacuation
4. The SM has assumed the responsibilities of the Shift Emergency Director, SED
5. No Emergency Response Facilities have been staffed (TSC, EOF)
6. You and the SM/SED are at the TSC
7. The Auto Ring phone is **not** available
8. The SM/SED has just handed you a completed State/Local Notification Form

Task Cue:

As the Shift Manager/Shift Emergency Director, I am requesting that you act as the Shift Communicator and that you perform the following tasks:

1. IAW EP-MA-114-100, Mid-Atlantic State/Local Notifications, Section 4.4, verify the completeness of the State/Local Notification Form, and
2. IAW EP-MA-114-100, Mid-Atlantic State/Local Notifications, Section 4.5, transmit the information on the Form to the offsite authorities.

## STATE / LOCAL NOTIFICATION FORM

MESSAGE NO. 1

EMERGENCY DIRECTOR APPROVAL: J. Sisak, SM/SED

1. <u>CALL STATUS</u> is: <input type="checkbox"/> This is a <u>DRILL</u> . <input checked="" type="checkbox"/> This is an <u>ACTUAL EVENT</u>		2. This is * _____ at Oyster Creek Generating Station. My phone number is * _____ The current time is * _____ *Completed by Communicator at time notification is performed: use PPC time 24-hour clock	
3. <u>EMERGENCY CLASSIFICATION</u> : <input type="checkbox"/> UNUSUAL EVENT <input type="checkbox"/> ALERT <input type="checkbox"/> SITE AREA EMERGENCY <input type="checkbox"/> GENERAL EMERGENCY <input type="checkbox"/> RECOVERY <input type="checkbox"/> TERMINATION		<u>DECLARED AT</u> :  TIME: <u>1 minute ago</u> (use PPC time in 24-hour clock)  DATE: <u>Today</u>	<u>THIS REPRESENTS A/AN</u> : <input checked="" type="checkbox"/> INITIAL DECLARATION <input type="checkbox"/> ESCALATION <input type="checkbox"/> NO CHANGE <input type="checkbox"/> REDUCTION IN CLASSIFICATION STATUS
4. EMERGENCY ACTION LEVEL (EAL) NUMBER IS: <u>Alert – HA4</u> <u>BRIEF NON-TECHNICAL DESCRIPTION</u> : <b>Entry into ABN-30 for Control Room evacuation</b>			
5. <u>NON-ROUTINE RADIOLOGICAL RELEASE STATUS</u> : <input checked="" type="checkbox"/> <b>NO</b> non-routine radiological release in progress <input type="checkbox"/> <b>AIRBORNE</b> non-routine radiological release in progress <input type="checkbox"/> <b>LIQUID</b> non-routine radiological release in progress <input type="checkbox"/> Non-routine radiological release <b>TERMINATED</b>			
6. <u>METEOROLOGY</u> : Wind Direction is <i>FROM</i> : <u>200°</u> (degrees) Wind Speed is: <u>11</u> (miler per hour)			
7. <u>CONCLUSION</u> : <input type="checkbox"/> This is a DRILL. <input checked="" type="checkbox"/> This is an ACTUAL EVENT.			
<ul style="list-style-type: none"> <li>• <b>ASK</b> if there is any questions about the information provided and <b>PROVIDE</b> clarification as needed.</li> <li>• <b>READ</b>: "This concludes the notification message"</li> </ul>			



EP-MA-114-100-F-03  
Revision C  
Page 2 of 2**STATE / LOCAL NOTIFICATION FORM**

MESSAGE NO. 1

<p><b>"15 Minute Notifications UNUSUAL EVENT, ALERT or SITE AREA EMERGENCY</b> (Time Contacted: 24-hour clock)</p> <p><b>NJSP Office of Emergency Management</b> 609-444-4444 or 609-555-5555</p> <p>Time: _____ Person Contacted: _____</p> <p><b>VERIFICATION CALL RECEIVED</b> <b>NJSP Office of Emergency Management:</b> Time: _____ Person Contacted: _____</p> <p><b>FOLLOW-UP NOTIFICATIONS</b> <b>NRC Resident Inspector</b> 609-333-3333 or 609-222-2222</p> <p>Time: _____ Person Contacted: _____</p>	<p><b>"15 Minute Notifications GENERAL EMERGENCY</b> (Time Contacted: 24-hour clock)</p> <table><tr><td><b>Initial Roll Call</b> (Time)</td><td><b>Final Roll Call</b></td></tr><tr><td>_____ <b>NJSP Office of Emergency Management</b> 609-111-1111 or 609-999-9999 Person Contacted: _____</td><td></td></tr><tr><td>_____ <b>Ocean County</b> 732-111-2222 Person Contacted: _____</td><td></td></tr><tr><td>_____ <b>Lacey Township</b> 609-888-8888 or 609-777-7777 Person Contacted: _____</td><td></td></tr><tr><td>_____ <b>Ocean Township</b> 609-666-7777 or 609-777-6666 Person Contacted: _____</td><td></td></tr></table> <p>_____ <b>Initial Roll Call Completed</b></p> <p><b>VERIFICATION CALL RECEIVED</b> <b>NJSP Office of Emergency Management:</b> Time: _____ Person Contacted: _____</p> <p><b>Ocean County:</b> Time: _____ Person Contacted: _____</p> <p><b>FOLLOW-UP NOTIFICATIONS</b> <b>NRC Resident Inspector</b> 609-111-2222 or 609-222-3333</p> <p>Time: _____ Person Contacted: _____</p>	<b>Initial Roll Call</b> (Time)	<b>Final Roll Call</b>	_____ <b>NJSP Office of Emergency Management</b> 609-111-1111 or 609-999-9999 Person Contacted: _____		_____ <b>Ocean County</b> 732-111-2222 Person Contacted: _____		_____ <b>Lacey Township</b> 609-888-8888 or 609-777-7777 Person Contacted: _____		_____ <b>Ocean Township</b> 609-666-7777 or 609-777-6666 Person Contacted: _____	
<b>Initial Roll Call</b> (Time)	<b>Final Roll Call</b>										
_____ <b>NJSP Office of Emergency Management</b> 609-111-1111 or 609-999-9999 Person Contacted: _____											
_____ <b>Ocean County</b> 732-111-2222 Person Contacted: _____											
_____ <b>Lacey Township</b> 609-888-8888 or 609-777-7777 Person Contacted: _____											
_____ <b>Ocean Township</b> 609-666-7777 or 609-777-6666 Person Contacted: _____											

Facility: Oyster Creek Task No.: 3430302302Task Title: Coordinate Personnel Activities Outside the Control RoomJob Performance Measure No.: NRC SRO Admin JPM1K/A Reference: G.2.1.8 (4.1)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom 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:

1. The plant is at rated power
2. You are reviewing the work schedule for your shift for the first work day following the current training week
3. You have 7 Equipment Operators (EO 1 through EO 7) plus one EO candidate (EO 8), who are scheduled to report to your shift the first work day following the training week
4. EO 1 has been on medical leave since Jan. 1, 2010 and this will be his very first day back at the site since December 31, 2009
5. EO 2 must leave at 1600 due to working hour limitations

Task Standard: The attached table is completed as in the key

Required Materials: None.

General References:

1. LMS Qual Check

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Initiating Cue: Given a work schedule and the qualification reports for the EOs on your crew, determine who can be assigned to perform the scheduled work, shown below and on the attached schedule

Time Critical Task: No.

Validation Time: 26 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

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Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SAT/UNSAT** \_\_\_\_\_

**Note:** The steps may be performed in any order.

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✓

## Performance Step: 2

Procedure Step: Determines what tasks EO 1 can be assigned to perform.

**Standard:** Determines that EO 1 cannot be assigned to any tasks.

**Note:** EO 1 is not currently qualified as an on-shift EO. Also, EO1 cannot enter the RCA due to the lapse of GET training.

Comment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SAT/UNSAT** \_\_\_\_\_

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Performance Information

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✓

## Performance Step: 3

Procedure Step: Determines what tasks EO 2 can be assigned to.

**Standard:** Determines that EO 2 can be assigned to Task 1, Task 2, and Task 3. Since EO 2 must leave at 1600, EO 2 cannot perform the OJT (Task 4) or stand a building watch (Task 5).

Comment:

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**SAT/UNSAT**

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✓

## Performance Step: 4

Procedure Step: Determines what tasks EO 3 can be assigned to.

**Standard:** Determines that EO 3 can be assigned to all Tasks except Task 2.

**Note:** Task 2 requires a torque wrench qualification.

Comment:

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**SAT/UNSAT**

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## Performance Information

✓

Performance Step: 5

Procedure Step: Determines what tasks EO 4 can be assigned to.

**Standard:** Determines that EO 4 can be assigned to all Tasks except Task 4.**Note:** Task 4 requires an OJT Trainer qualification.

Comment:

SAT/UNSAT

✓

Performance Step: 6

Procedure Step: Determines what tasks EO 5 can be assigned to.

**Standard:** Determines that EO 5 can be assigned to all Tasks except Task 2 and Task 4.**Note:** Task 4 requires an OJT Trainer qualification and Task 2 requires a torque wrench qualification.

Comment:

SAT/UNSAT

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Performance Information

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✓

Performance Step: 7

Procedure Step: Determines what tasks EO 6 can be assigned to.

**Standard:** Determines that EO 6 can be assigned to all Tasks.

Comment:

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SAT/UNSAT

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✓

Performance Step: 8

Procedure Step: Determines what tasks EO 7 can be assigned to.

**Standard:** Determines that EO 7 can be assigned to all Tasks.

Comment:

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SAT/UNSAT

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## Performance Information

✓

Performance Step: 9

Procedure Step: Determines what tasks EO 8 can be assigned to.

**Standard:** Determines that EO 8 can only be assigned to Task 3.**Note:** EO 8 is not currently a qualified EO, but is fire watch qualified.

Comment:

**SAT/UNSAT**

State Yes or No, if the EO can be assigned to the tasks listed, as scheduled.

Note: An EO can perform multiple tasks, if qualified.

	Task 1	Task 2	Task 3	Task 4	Task 5
EO 1	No	No	No	No	No
EO 2	Yes	Yes	Yes	No	No
EO 3	Yes	No	Yes	Yes	Yes
EO 4	Yes	Yes	Yes	No	Yes
EO 5	Yes	No	Yes	No	Yes
EO 6	Yes	Yes	Yes	Yes	Yes
EO 7	Yes	Yes	Yes	Yes	Yes
EO 8	No	No	Yes	NA	No

**Terminating Cue:** The attached table is completed as in the key.**JPM Stop Time:** \_\_\_\_\_



## Validation of Completion

JPM Number: NRC SRO Admin JPM 1

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. None.

STUDENT HANDOUTInitial Conditions:

1. The plant is at rated power
2. You are reviewing the work schedule for your shift for the first work day following the current training week
3. You have 7 Equipment Operators (EO 1 through EO 7) plus one EO candidate (EO 8), who are scheduled to report to your shift the first work day following the training week
4. EO 1 has been on medical leave since Jan. 1, 2010 and this will be his very first day back at the site since December 31, 2009
5. EO 2 must leave at 1600 due to working hour limitations

Task Cue:

Given a work schedule and the qualification reports for the EOs on your crew, determine who can be assigned to perform the scheduled work, shown below and on the attached schedule:

- Task 1
  - Hang tags inside the RCA for a fire suppression/detection system (0830 – 0900)
  - Remove the tags hung above following work on the fire system (1500 – 1530)
- Task 2
  - Perform a surveillance inside the RCA which includes the use of a calibrated torque wrench (0900 – 1400)
- Task 3
  - Perform Fire Watch duties inside the RCA during the fire suppression/detection system tag-out (0900 – 1500)
- Task 4
  - Perform OJT with EO 8 inside the RCA (1530 – 1900)
- Task 5
  - Perform Building Operator (RB, TB, Radwaste, Intake) duties (0800 – 2000)

	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
1		Hang Tags								Remove Tags			
2		Perform Surveillance											
3		Perform Fire Watch											
4									Perform OJT				
5	Building Operators (RB, TB, Radwaste, Intake)												

T  
A  
S  
K  
S

Work Schedule

State Yes or No, if the EO can be assigned to the tasks listed, as scheduled.

Note: An EO can be assigned to multiple tasks, if qualified.

	Task 1	Task 2	Task 3	Task 4	Task 5
EO 1					
EO 2					
EO 3					
EO 4					
EO 5					
EO 6					
EO 7					
EO 8				NA	

- Task 1
  - Hang tags inside the RCA for a fire suppression/detection system (0830 – 0900)
  - Remove the tags hung above following work on the fire system (1500 – 1530)
- Task 2
  - Perform a surveillance inside the RCA which includes the use of a calibrated torque wrench (0900 – 1400)
- Task 3
  - Perform Fire Watch duties inside the RCA during the fire suppression/detection system tag-out (0900 – 1500)
- Task 4
  - Perform OJT with EO 8 inside the RCA (1530 – 1900)
- Task 5
  - Perform Building Operator (RB, TB, Radwaste, Intake) duties (0800 – 2000)

## Student Information

**Date:** Today    **Employee ID:** 111111    **Employee Name:** EO 1

**Legend:**

**Y** = Currently  
Qualified (will not  
expire in next 60 days)

**O** = Currently  
Qualified (due to  
expire in 60 days or  
less)

**N** = Not Qualified  
(expired)

**(blank)** = Qualification  
Never Assigned

**33 Qualifications Found**

Page 1 of 2

**FILTER APPLIED: ALL QUALS VIEW**

Qualification ID	Qualification Title	Status	Expiration Date
N-AN-HR-MEDICAL_RESPIRATOR	RESPIRATOR MEDICAL	N	1/30/2010
N-AN-RP-GET-SSEAST	Exelon East Specific Study Guide	N	3/31/2010
N-AN-RP-NGET-1	General Employee Trng Level 1 (FFD/PAT)	N	3/31/2010
N-AN-RP-NGET-2	General Employee Trng Level 2 (FFD/PAT/RWT)	N	3/31/2010
N-AN-TQ-TPE-JPM-EVALUATOR	Exelon TPE/JPM Evaluator	N	
N-OC-EP-CR/OSC-NLO	Non-Licensed Operator (ERO)	N	4/25/2010
N-OC-EP-CR/OSC-OPS_LEAD	Operations Lead	N	4/25/2010
N-OC-EP-CR/OSC-SHIFT_COM	Shift Communicator (MA)	N	3/31/2010
N-OC-OP-BOILER BLACK SEAL	NJ BLACK SEAL BOILER LICENSE	N	
N-OC-OP-BOILER BLUE SEAL	NJ BLUE SEAL BOILER LICENSE	N	
N-OC-OP-NLO QUAL	OC NLO: SHIFT QUALIFIED	N	3/31/2010
N-OC-SA-CT_APPLIERREMOVER	Clearance and Tagging Applier/Remover(OysterCreek)	N	3/4/2010
N-MA-RP-GEN_RESPIRATOR	Generic Respirator Qual: Mid-Atlantic(med/fit/trg)	Y	6/25/2010

N-MA-RP-RESP-2-MSA-FIREHAWK	Respirator Level 2, FireHawk MMR (Mid-Atlantic)	Y	6/25/2010
N-OC-SA-FB_LEADER	OC FIRE BRIGADE LEADER	Y	6/25/2010
N-OC-SA-FB_MEMBER	OC FIRE BRIGADE MEMBER	Y	6/25/2010
B-ALL-ETHICSQUAL-BU	Annual Ethics Qualification Bargaining Unit	Y	
N-AN-RP-RESP_LEVEL-1_TRAINED	Respiratory Protection Level 1 Training	Y	2/3/2011
N-AN-SA-ASBESTOS-CL-4	Asbestos Class IV Worker	Y	12/31/2011
N-AN-SA-BLOODBORNE	Bloodborne Pathogens Level 2	Y	2/4/2011
N-AN-SA-CONF-SPC-ENTRY	CONFINED SPACE ENTRANT ATTENDANT	Y	
N-AN-SA-ELECTRAL-SAFTY	Electrical Safety	Y	
N-AN-SA-FALL-PROT	Fall Protection	Y	
N-AN-SA-FIREWATCH	Fire Extinguisher (Fire Watch)	Y	3/31/2011
N-AN-SA-FIRSTAID/CPR/AED	First Aid, CPR. and AED Qualified	Y	2/3/2011
N-AN-SA-NEIT-EXELON	Nuclear Employee In-Processing Training (Exelon Nuclear Employees)	Y	
N-AN-TQ-OJT_TRAINER	Exelon OJT Trainer	Y	12/31/2010
N-MA-SA-CONF-SPC-MONITOR	Confined Space Monitoring: Mid-Atlantic (LM/PB/OC)	Y	
N-OC-NDE-VT2 QUAL	VT2 QUALIFIED AT OC	Y	9/30/2010
N-OC-OPS-CHEM TASK QUALIFIED	CHEMISTRY TASK ACTIVITIES FOR OPERATIONS	Y	
N-OC-OPS-GEN ELECTRICAL EO	GENERAL ELECTRICAL WORK FOR EQUIPMENT OPERATORS	Y	
N-OC-OPS-TORQUE WRENCH USE	TORQUE WRENCH USE	Y	
N-OC-SA-ENVIRON AWARENESS	OC ENVIRONMENTAL AWARENESS	Y	12/31/2011

**END**



## Student Information

**Date:** Today    **Employee ID:** 222222    **Employee Name:** EO 2

**Legend:**

**Y** = Currently Qualified (will not expire in next 60 days)    **O** = Currently Qualified (due to expire in 60 days or less)    **N** = Not Qualified (expired)    **(blank)** = Qualification Never Assigned

**34 Qualifications Found**

Page 1 of 2

**FILTER APPLIED: ALL QUALS VIEW**

Qualification ID	Qualification Title	Status	Expiration Date
N-AN-TQ-TPE-JPM-EVALUATOR	Exelon TPE/JPM Evaluator	N	9/30/2006
N-MA-SA-CONF-SPC-MONITOR	Confined Space Monitoring: Mid-Atlantic (LM/PB/OC)	N	
N-OC-NDE-VT2 QUAL	VT2 QUALIFIED AT OC	N	5/5/2006
N-OC-OP-BOILER BLACK SEAL	NJ BLACK SEAL BOILER LICENSE	N	
N-OC-OP-BOILER BLUE SEAL	NJ BLUE SEAL BOILER LICENSE	N	
N-OC-OPS-CHEM TASK QUALIFIED	CHEMISTRY TASK ACTIVITIES FOR OPERATIONS	N	
N-AN-HR-MEDICAL_RESPIRATOR	RESPIRATOR MEDICAL	Y	6/30/2010
N-AN-TQ-OJT_TRAINER	Exelon OJT Trainer	Y	6/30/2010
N-MA-RP-GEN_RESPIRATOR	Generic Respirator Qual: Mid-Atlantic(med/fit/trg)	Y	6/22/2010
N-MA-RP-RESP-2-MSA-FIREHAWK	Respirator Level 2, FireHawk MMR (Mid-Atlantic)	Y	6/22/2010
N-OC-EP-CR/OSC-NLO	Non-Licensed Operator (ERO)	Y	6/22/2010
N-OC-EP-CR/OSC-OPS_LEAD	Operations Lead	Y	6/22/2010
N-OC-OP-NLO QUAL	OC NLO: SHIFT QUALIFIED	Y	6/30/2010
N-OC-SA-FB_LEADER	OC FIRE BRIGADE LEADER	Y	6/22/2010
N-OC-SA-FB_MEMBER	OC FIRE BRIGADE MEMBER	Y	6/22/2010
B-ALL-ETHICSQUAL-BU	Annual Ethics Qualification Bargaining Unit	Y	



## Appendix C

Job Performance Measure  
WORKSHEET

Form ES-C-1

N-AN-RP-GET-SSEAST	Exelon East Specific Study Guide	Y	12/31/2010
N-AN-RP-NGET-1	General Employee Trng Level 1 (FFD/PAT)	Y	12/31/2010
N-AN-RP-NGET-2	General Employee Trng Level 2 (FFD/PAT/RWT)	Y	12/31/2010
N-AN-RP-RESP_LEVEL-1_TRAINED	Respiratory Protection Level 1 Training	Y	1/5/2011
N-AN-SA-ASBESTOS-CL-4	Asbestos Class IV Worker	Y	12/31/2011
N-AN-SA-BLOODBORNE	Bloodborne Pathogens Level 2	Y	1/7/2011
N-AN-SA-CONF-SPC-ENTRY	CONFINED SPACE ENTRANT ATTENDANT	Y	
N-AN-SA-ELECTRAL-SAFTY	Electrical Safety	Y	
N-AN-SA-FALL-PROT	Fall Protection	Y	
N-AN-SA-FIREWATCH	Fire Extinguisher (Fire Watch)	Y	3/31/2011
N-AN-SA-FIRSTAID/CPR/AED	First Aid, CPR. and AED Qualified	Y	1/5/2011
N-AN-SA-NEIT-EXELON	Nuclear Employee In-Processing Training (Exelon Nuclear Employees)	Y	
N-MA-SA-CONF-SPC-SUPV	Confined Space Entry Supervisor (Mid-Atlantic)	Y	
N-OC-EP-CR/OSC-SHIFT_COM	Shift Communicator (MA)	Y	12/31/2010
N-OC-OPS-GEN ELECTRICAL EO	GENERAL ELECTRICAL WORK FOR EQUIPMENT OPERATORS	Y	
N-OC-OPS-TORQUE WRENCH USE	TORQUE WRENCH USE	Y	
N-OC-SA-CT_APPLIERREMOVER	Clearance and Tagging Applier/Remover(OysterCreek)	Y	11/15/2010
N-OC-SA-ENVIRON AWARENESS	OC ENVIRONMENTAL AWARENESS	Y	12/31/2011

**END**

## Student Information

**Date:** Today    **Employee ID:** 333333    **Employee Name:** EO 3

**Legend:**

**Y** = Currently Qualified (will not expire in next 60 days)    **O** = Currently Qualified (due to expire in 60 days or less)    **N** = Not Qualified (expired)    **(blank)** = Qualification Never Assigned

**34 Qualifications Found**

Page 1 of 2

**FILTER APPLIED: ALL QUALS VIEW**

Qualification ID	Qualification Title	Status	Expiration Date
N-AN-TQ-TPE-JPM-EVALUATOR	Exelon TPE/JPM Evaluator	N	9/30/2006
N-MA-SA-CONF-SPC-MONITOR	Confined Space Monitoring: Mid-Atlantic (LM/PB/OC)	N	
N-OC-NDE-VT2 QUAL	VT2 QUALIFIED AT OC	N	
N-OC-OP-BOILER BLUE SEAL	NJ BLUE SEAL BOILER LICENSE	N	
N-OC-OPS-CHEM TASK QUALIFIED	CHEMISTRY TASK ACTIVITIES FOR OPERATIONS	N	
N-OC-OPS-TORQUE WRENCH USE	TORQUE WRENCH USE	N	
N-AN-HR-MEDICAL_RESPIRATOR	RESPIRATOR MEDICAL	Y	6/30/2010
N-MA-RP-GEN_RESPIRATOR	Generic Respirator Qual: Mid-Atlantic(med/fit/trg)	Y	6/30/2010
N-MA-RP-RESP-2-MSA-FIREHAWK	Respirator Level 2, FireHawk MMR (Mid-Atlantic)	Y	6/30/2010
N-OC-EP-CR/OSC-NLO	Non-Licensed Operator (ERO)	Y	6/30/2010
N-OC-EP-CR/OSC-OPS_LEAD	Operations Lead	Y	6/30/2010
N-OC-OP-NLO QUAL	OC NLO: SHIFT QUALIFIED	Y	6/30/2010
B-ALL-ETHICSQUAL-BU	Annual Ethics Qualification Bargaining Unit	Y	
N-AN-RP-GET-SSEAST	Exelon East Specific Study Guide	Y	3/31/2011
N-AN-RP-NGET-1	General Employee Trng Level 1	Y	3/31/2011

	(FFD/PAT)		
N-AN-RP-NGET-2	General Employee Trng Level 2 (FFD/PAT/RWT)	Y	3/31/2011
N-AN-RP-RESP_LEVEL- 1_TRAINED	Respiratory Protection Level 1 Training	Y	1/13/2011
N-AN-SA-ASBESTOS-CL-4	Asbestos Class IV Worker	Y	12/31/2011
N-AN-SA-BLOODBORNE	Bloodborne Pathogens Level 2	Y	1/20/2011
N-AN-SA-CONF-SPC- ENTRY	CONFINED SPACE ENTRANT ATTENDANT	Y	
N-AN-SA-ELECTRAL- SAFTY	Electrical Safety	Y	
N-AN-SA-FALL-PROT	Fall Protection	Y	
N-AN-SA-FIREWATCH	Fire Extinguisher (Fire Watch)	Y	3/31/2011
N-AN-SA- FIRSTAID/CPR/AED	First Aid, CPR. and AED Qualified	Y	1/13/2011
N-AN-SA-NEIT-EXELON	Nuclear Employee In-Processing Training (Exelon Nuclear Employees)	Y	
N-AN-TQ-OJT_TRAINER	Exelon OJT Trainer	Y	9/30/2010
N-MA-SA-CONF-SPC-SUPV	Confined Space Entry Supervisor (Mid- Atlantic)	Y	
N-OC-EP-CR/OSC- SHIFT_COM	Shift Communicator (MA)	Y	3/31/2011
N-OC-OP-BOILER BLACK SEAL	NJ BLACK SEAL BOILER LICENSE	Y	1/31/2013
N-OC-OPS-GEN ELECTRICAL EO	GENERAL ELECTRICAL WORK FOR EQUIPMENT OPERATORS	Y	
N-OC-SA- CT_APPLIERREMOVER	Clearance and Tagging Applier/Remover(OysterCreek)	Y	11/22/2010
N-OC-SA-FB_LEADER	OC FIRE BRIGADE LEADER	N	4/2/2011
N-OC-SA-FB_MEMBER	OC FIRE BRIGADE MEMBER	N	4/2/2011
N-OC-SA-ENVIRON AWARENESS	OC ENVIRONMENTAL AWARENESS	Y	12/31/2011

**END**

## Student Information

**Date:** Today    **Employee ID:** 444444    **Employee Name:** EO 4

**Legend:**

**Y** = Currently Qualified (will not expire in next 60 days)    **O** = Currently Qualified (due to expire in 60 days or less)    **N** = Not Qualified (expired)    **(blank)** = Qualification Never Assigned

**33 Qualifications Found**

Page 1 of 2

**FILTER APPLIED: ALL QUALS VIEW**

Qualification ID	Qualification Title	Status	Expiration Date
N-AN-TQ-OJT_TRAINER	Exelon OJT Trainer	N	12/31/2009
N-AN-TQ-TPE-JPM-EVALUATOR	Exelon TPE/JPM Evaluator	N	
N-OC-OP-BOILER BLUE SEAL	NJ BLUE SEAL BOILER LICENSE	N	
N-MA-RP-GEN_RESPIRATOR	Generic Respirator Qual: Mid-Atlantic(med/fit/trg)	Y	6/22/2010
N-MA-RP-RESP-2-MSA-FIREHAWK	Respirator Level 2, FireHawk MMR (Mid-Atlantic)	Y	6/22/2010
N-OC-EP-CR/OSC-NLO	Non-Licensed Operator (ERO)	Y	6/22/2010
N-OC-EP-CR/OSC-OPS_LEAD	Operations Lead	Y	6/22/2010
N-OC-SA-FB_LEADER	OC FIRE BRIGADE LEADER	Y	6/22/2010
N-OC-SA-FB_MEMBER	OC FIRE BRIGADE MEMBER	Y	6/22/2010
B-ALL-ETHICSQUAL-BU	Annual Ethics Qualification Bargaining Unit	Y	
N-AN-HR-MEDICAL_RESPIRATOR	RESPIRATOR MEDICAL	Y	12/31/2010
N-AN-RP-GET-SSEAST	Exelon East Specific Study Guide	Y	12/31/2010
N-AN-RP-NGET-1	General Employee Trng Level 1 (FFD/PAT)	Y	3/31/2011
N-AN-RP-NGET-2	General Employee Trng Level 2 (FFD/PAT/RWT)	Y	3/31/2011
N-AN-RP-RESP_LEVEL-	Respiratory Protection Level 1	Y	1/5/2011



1 TRAINED	Training		
N-AN-SA-ASBESTOS-CL-4	Asbestos Class IV Worker	Y	12/31/2011
N-AN-SA-BLOODBORNE	Bloodborne Pathogens Level 2	Y	1/7/2011
N-AN-SA-CONF-SPC-ENTRY	CONFINED SPACE ENTRANT ATTENDANT	Y	
N-AN-SA-ELECTRAL-SAFTY	Electrical Safety	Y	
N-AN-SA-FALL-PROT	Fall Protection	Y	
N-AN-SA-FIREWATCH	Fire Extinguisher (Fire Watch)	Y	3/31/2011
N-AN-SA-FIRSTAID/CPR/AED	First Aid, CPR. and AED Qualified	Y	1/5/2011
N-AN-SA-NEIT-EXELON	Nuclear Employee In-Processing Training (Exelon Nuclear Employees)	Y	
N-MA-SA-CONF-SPC-MONITOR	Confined Space Monitoring: Mid-Atlantic (LM/PB/OC)	Y	
N-OC-EP-CR/OSC-SHIFT_COM	Shift Communicator (MA)	Y	3/31/2011
N-OC-NDE-VT2 QUAL	VT2 QUALIFIED AT OC	Y	11/5/2010
N-OC-OP-BOILER BLACK SEAL	NJ BLACK SEAL BOILER LICENSE	Y	9/30/2011
N-OC-OP-NLO QUAL	OC NLO: SHIFT QUALIFIED	Y	12/31/2010
N-OC-OPS-CHEM TASK QUALIFIED	CHEMISTRY TASK ACTIVITIES FOR OPERATIONS	Y	
N-OC-OPS-GEN ELECTRICAL EO	GENERAL ELECTRICAL WORK FOR EQUIPMENT OPERATORS	Y	
N-OC-OPS-TORQUE WRENCH USE	TORQUE WRENCH USE	Y	
N-OC-SA-CT_APPLIERREMOVER	Clearance and Tagging Applier/Remover(OysterCreek)	Y	11/15/2010
N-OC-SA-ENVIRON AWARENESS	OC ENVIRONMENTAL AWARENESS	Y	12/31/2011
END			

## Student Information

**Date:** Today **Employee ID:** 555555 **Employee Name:** EO 5

**Legend:**

**Y** = Currently Qualified (will not expire in next 60 days) **O** = Currently Qualified (due to expire in 60 days or less) **N** = Not Qualified (expired) **(blank)** = Qualification Never Assigned

**33 Qualifications Found** Page 1 of 2 **FILTER APPLIED: ALL QUALS VIEW**

Qualification ID	Qualification Title	Status	Expiration Date
N-AN-TQ-OJT_TRAINER	Exelon OJT Trainer	N	12/31/2009
N-AN-TQ-TPE-JPM-EVALUATOR	Exelon TPE/JPM Evaluator	N	12/31/2009
N-OC-NDE-VT2 QUAL	VT2 QUALIFIED AT OC	N	4/18/2010
N-OC-OP-BOILER BLUE SEAL	NJ BLUE SEAL BOILER LICENSE	N	
N-OC-OPS-CHEM TASK QUALIFIED	CHEMISTRY TASK ACTIVITIES FOR OPERATIONS	N	
N-OC-OPS-TORQUE WRENCH USE	TORQUE WRENCH USE	N	
N-AN-HR-MEDICAL_RESPIRATOR	RESPIRATOR MEDICAL	Y	6/30/2010
N-MA-RP-GEN_RESPIRATOR	Generic Respirator Qual: Mid-Atlantic(med/fit/trg)	Y	6/22/2010
N-MA-RP-RESP-2-MSA-FIREHAWK	Respirator Level 2, FireHawk MMR (Mid-Atlantic)	Y	6/22/2010
N-OC-EP-CR/OSC-NLO	Non-Licensed Operator (ERO)	Y	6/22/2010
N-OC-EP-CR/OSC-OPS_LEAD	Operations Lead	Y	6/22/2010
N-OC-OP-NLO QUAL	OC NLO: SHIFT QUALIFIED	Y	6/30/2010
N-OC-SA-FB_LEADER	OC FIRE BRIGADE LEADER	Y	6/22/2010
N-OC-SA-FB_MEMBER	OC FIRE BRIGADE MEMBER	Y	6/22/2010
B-ALL-ETHICSQUAL-BU	Annual Ethics Qualification Bargaining Unit	Y	
N-AN-RP-GET-SSEAST	Exelon East Specific Study Guide	Y	12/31/2010

N-AN-RP-NGET-1	General Employee Trng Level 1 (FFD/PAT)	Y	12/31/2010
N-AN-RP-NGET-2	General Employee Trng Level 2 (FFD/PAT/RWT)	Y	12/31/2010
N-AN-RP-RESP_LEVEL-1_TRAINED	Respiratory Protection Level 1 Training	Y	1/5/2011
N-AN-SA-ASBESTOS-CL-4	Asbestos Class IV Worker	Y	12/31/2011
N-AN-SA-BLOODBORNE	Bloodborne Pathogens Level 2	Y	1/7/2011
N-AN-SA-CONF-SPC-ENTRY	CONFINED SPACE ENTRANT ATTENDANT	Y	
N-AN-SA-ELECTRAL-SAFTY	Electrical Safety	Y	
N-AN-SA-FALL-PROT	Fall Protection	Y	
N-AN-SA-FIREWATCH	Fire Extinguisher (Fire Watch)	Y	3/31/2011
N-AN-SA-FIRSTAID/CPR/AED	First Aid, CPR. and AED Qualified	Y	1/5/2011
N-AN-SA-NEIT-EXELON	Nuclear Employee In-Processing Training (Exelon Nuclear Employees)	Y	
N-MA-SA-CONF-SPC-MONITOR	Confined Space Monitoring: Mid-Atlantic (LM/PB/OC)	Y	
N-OC-EP-CR/OSC-SHIFT_COM	Shift Communicator (MA)	Y	12/31/2010
N-OC-OP-BOILER BLACK SEAL	NJ BLACK SEAL BOILER LICENSE	Y	5/31/2012
N-OC-OPS-GEN ELECTRICAL EO	GENERAL ELECTRICAL WORK FOR EQUIPMENT OPERATORS	Y	
N-OC-SA-CT_APPLIERREMOVER	Clearance and Tagging Applier/Remover(OysterCreek)	Y	11/15/2010
N-OC-SA-ENVIRON AWARENESS	OC ENVIRONMENTAL AWARENESS	Y	12/31/2011

**END**

## Student Information

**Date:** Today    **Employee ID:** 666666    **Employee Name:** EO 6

**Legend:**

**Y** = Currently Qualified (will not expire in next 60 days)    **O** = Currently Qualified (due to expire in 60 days or less)    **N** = Not Qualified (expired)    **(blank)** = Qualification Never Assigned

**33 Qualifications Found**

Page 1 of 2

**FILTER APPLIED: ALL QUALS VIEW**

Qualification ID	Qualification Title	Status	Expiration Date
N-AN-TQ-TPE-JPM-EVALUATOR	Exelon TPE/JPM Evaluator	N	12/31/2006
N-OC-NDE-VT2 QUAL	VT2 QUALIFIED AT OC	N	
N-OC-OP-BOILER BLUE SEAL	NJ BLUE SEAL BOILER LICENSE	N	
N-OC-SA-FB_MEMBER	OC FIRE BRIGADE MEMBER	Y	6/30/2010
B-ALL-ETHICSQUAL-BU	Annual Ethics Qualification Bargaining Unit	Y	
N-AN-HR-MEDICAL_RESPIRATOR	RESPIRATOR MEDICAL	Y	12/31/2010
N-AN-RP-GET-SSEAST	Exelon East Specific Study Guide	Y	3/31/2011
N-AN-RP-NGET-1	General Employee Trng Level 1 (FFD/PAT)	Y	3/31/2011
N-AN-RP-NGET-2	General Employee Trng Level 2 (FFD/PAT/RWT)	Y	3/31/2011
N-AN-RP-RESP_LEVEL-1_TRAINED	Respiratory Protection Level 1 Training	Y	1/20/2011
N-AN-SA-ASBESTOS-CL-4	Asbestos Class IV Worker	Y	12/31/2011
N-AN-SA-BLOODBORNE	Bloodborne Pathogens Level 2	Y	1/21/2011
N-AN-SA-CONF-SPC-ENTRY	CONFINED SPACE ENTRANT ATTENDANT	Y	
N-AN-SA-ELECTRAL-SAFTY	Electrical Safety	Y	



N-AN-SA-FALL-PROT	Fall Protection	Y	
N-AN-SA-FIREWATCH	Fire Extinguisher (Fire Watch)	Y	3/31/2011
N-AN-SA-FIRSTAID/CPR/AED	First Aid, CPR. and AED Qualified	Y	1/15/2011
N-AN-SA-NEIT-EXELON	Nuclear Employee In-Processing Training (Exelon Nuclear Employees)	Y	
N-AN-TQ-OJT_TRAINER	Exelon OJT Trainer	Y	9/30/2010
N-MA-RP-GEN_RESPIRATOR	Generic Respirator Qual: Mid-Atlantic(med/fit/trg)	Y	10/28/2010
N-MA-RP-RESP-2-MSA-FIREHAWK	Respirator Level 2, FireHawk MMR (Mid-Atlantic)	Y	10/28/2010
N-MA-SA-CONF-SPC-MONITOR	Confined Space Monitoring: Mid-Atlantic (LM/PB/OC)	Y	
N-MA-SA-CONF-SPC-SUPV	Confined Space Entry Supervisor (Mid-Atlantic)	Y	
N-OC-EP-CR/OSC-NLO	Non-Licensed Operator (ERO)	Y	10/28/2010
N-OC-EP-CR/OSC-OPS_LEAD	Operations Lead	Y	10/28/2010
N-OC-EP-CR/OSC-SHIFT_COM	Shift Communicator (MA)	Y	3/31/2011
N-OC-OP-BOILER BLACK SEAL	NJ BLACK SEAL BOILER LICENSE	Y	9/30/2010
N-OC-OP-NLO QUAL	OC NLO: SHIFT QUALIFIED	Y	12/31/2010
N-OC-OPS-CHEM TASK QUALIFIED	CHEMISTRY TASK ACTIVITIES FOR OPERATIONS	Y	
N-OC-OPS-GEN ELECTRICAL EO	GENERAL ELECTRICAL WORK FOR EQUIPMENT OPERATORS	Y	
N-OC-OPS-TORQUE WRENCH USE	TORQUE WRENCH USE	Y	
N-OC-SA-CT_APPLIERREMOVER	Clearance and Tagging Applier/Remover(OysterCreek)	Y	10/25/2010
N-OC-SA-ENVIRON AWARENESS	OC ENVIRONMENTAL AWARENESS	Y	12/31/2011
N-OC-SA-FB_LEADER	OC FIRE BRIGADE LEADER	Y	10/28/2010
<b>END</b>			

## Student Information

**Date:** Today    **Employee ID:** 777777    **Employee Name:** EO 7

**Legend:**

**Y** = Currently Qualified (will not expire in next 60 days)    **O** = Currently Qualified (due to expire in 60 days or less)    **N** = Not Qualified (expired)    **(blank)** = Qualification Never Assigned

**33 Qualifications Found**

Page 1 of 2

**FILTER APPLIED: ALL QUALS VIEW**

Qualification ID	Qualification Title	Status	Expiration Date
N-AN-TQ-TPE-JPM-EVALUATOR	Exelon TPE/JPM Evaluator	N	
N-OC-OP-BOILER BLUE SEAL	NJ BLUE SEAL BOILER LICENSE	N	
N-MA-RP-GEN_RESPIRATOR	Generic Respirator Qual: Mid-Atlantic(med/fit/trg)	Y	6/3/2010
N-MA-RP-RESP-2-MSA-FIREHAWK	Respirator Level 2, FireHawk MMR (Mid-Atlantic)	Y	6/3/2010
N-OC-EP-CR/OSC-NLO	Non-Licensed Operator (ERO)	Y	6/3/2010
N-OC-EP-CR/OSC-OPS_LEAD	Operations Lead	Y	6/3/2010
N-OC-SA-FB_LEADER	OC FIRE BRIGADE LEADER	Y	6/3/2010
N-OC-SA-FB_MEMBER	OC FIRE BRIGADE MEMBER	Y	6/3/2010
B-ALL-ETHICSQUAL-BU	Annual Ethics Qualification Bargaining Unit	Y	
N-AN-HR-MEDICAL_RESPIRATOR	RESPIRATOR MEDICAL	Y	9/30/2010
N-AN-RP-GET-SSEAST	Exelon East Specific Study Guide	Y	3/31/2011
N-AN-RP-NGET-1	General Employee Trng Level 1 (FFD/PAT)	Y	3/31/2011
N-AN-RP-NGET-2	General Employee Trng Level 2 (FFD/PAT/RWT)	Y	3/31/2011
N-AN-RP-RESP_LEVEL-1_TRAINED	Respiratory Protection Level 1 Training	Y	2/3/2011

N-AN-SA-ASBESTOS-CL-4	Asbestos Class IV Worker	Y	12/31/2011
N-AN-SA-BLOODBORNE	Bloodborne Pathogens Level 2	Y	2/4/2011
N-AN-SA-CONF-SPC-ENTRY	CONFINED SPACE ENTRANT ATTENDANT	Y	
N-AN-SA-ELECTRAL-SAFTY	Electrical Safety	Y	
N-AN-SA-FALL-PROT	Fall Protection	Y	
N-AN-SA-FIREWATCH	Fire Extinguisher (Fire Watch)	Y	3/31/2011
N-AN-SA-FIRSTAID/CPR/AED	First Aid, CPR. and AED Qualified	Y	1/5/2011
N-AN-SA-NEIT-EXELON	Nuclear Employee In- Processing Training (Exelon Nuclear Employees)	Y	
N-AN-TQ-OJT_TRAINER	Exelon OJT Trainer	Y	12/31/2010
N-MA-SA-CONF-SPC-MONITOR	Confined Space Monitoring: Mid-Atlantic (LM/PB/OC)	Y	
N-OC-EP-CR/OSC-SHIFT_COM	Shift Communicator (MA)	Y	3/31/2011
N-OC-NDE-VT2 QUAL	VT2 QUALIFIED AT OC	Y	9/9/2010
N-OC-OP-BOILER BLACK SEAL	NJ BLACK SEAL BOILER LICENSE	Y	5/31/2012
N-OC-OP-NLO QUAL	OC NLO: SHIFT QUALIFIED	Y	9/30/2010
N-OC-OPS-CHEM TASK QUALIFIED	CHEMISTRY TASK ACTIVITIES FOR OPERATIONS	Y	
N-OC-OPS-GEN ELECTRICAL EO	GENERAL ELECTRICAL WORK FOR EQUIPMENT OPERATORS	Y	
N-OC-OPS-TORQUE WRENCH USE	TORQUE WRENCH USE	Y	
N-OC-SA-CT_APPLIERREMOVER	Clearance and Tagging Applier/Remover(OysterCreek)	Y	11/1/2010
N-OC-SA-ENVIRON AWARENESS	OC ENVIRONMENTAL AWARENESS	Y	12/31/2011

**END**

## Student Information

**Date:** Today **Employee ID:** 888888 **Employee Name:** EO 8

**Legend:**

**Y** = Currently Qualified (will not expire in next 60 days) **O** = Currently Qualified (due to expire in 60 days or less) **N** = Not Qualified (expired) **(blank)** = Qualification Never Assigned

**33 Qualifications Found**

Page 1 of 2

**FILTER APPLIED: ALL QUALS VIEW**

Qualification ID	Qualification Title	Status	Expiration Date
N-AN-RP-RESP_LEVEL-1_TRAINED	Respiratory Protection Level 1 Training	N	
N-AN-SA-BLOODBORNE	Bloodborne Pathogens Level 2	N	
N-AN-SA-FIRSTAID/CPR/AED	First Aid, CPR, and AED Qualified	N	
N-AN-TQ-OJT_TRAINER	Exelon OJT Trainer	N	
N-AN-TQ-TPE-JPM-EVALUATOR	Exelon TPE/JPM Evaluator	N	
N-MA-RP-GEN_RESPIRATOR	Generic Respirator Qual: Mid-Atlantic(med/fit/trg)	N	
N-MA-RP-RESP-2-MSA-FIREHAWK	Respirator Level 2, FireHawk MMR (Mid-Atlantic)	N	
N-OC-EP-CR/OSC-NLO	Non-Licensed Operator (ERO)	N	
N-OC-EP-CR/OSC-OPS_LEAD	Operations Lead	N	
N-OC-EP-CR/OSC-SHIFT_COM	Shift Communicator (MA)	N	
N-OC-OP-BOILER BLACK SEAL	NJ BLACK SEAL BOILER LICENSE	N	
N-OC-OP-BOILER BLUE SEAL	NJ BLUE SEAL BOILER LICENSE	N	
N-OC-OP-NLO QUAL	OC NLO: SHIFT QUALIFIED	N	
N-OC-OPS-CHEM TASK QUALIFIED	CHEMISTRY TASK ACTIVITIES FOR	N	



N-OC-OPS-GEN ELECTRICAL EO	OPERATIONS GENERAL ELECTRICAL WORK FOR EQUIPMENT OPERATORS	N	
N-OC-SA- CT_APPLIERREMOVER	Clearance and Tagging Applier/Remover(OysterCreek)	N	
N-OC-SA-FB_LEADER	OC FIRE BRIGADE LEADER	N	
N-OC-SA-FB_MEMBER	OC FIRE BRIGADE MEMBER	N	
B-ALL-ETHICSQUAL- BU	Annual Ethics Qualification Bargaining Unit	Y	
N-AN-HR- MEDICAL_RESPIRATOR	RESPIRATOR MEDICAL	Y	12/31/2010
N-AN-RP-GET-SSEAST	Exelon East Specific Study Guide	Y	3/31/2011
N-AN-RP-GET-SSWEST	Exelon West Specific Study Guide	Y	3/31/2011
N-AN-RP-NGET-1	General Employee Trng Level 1 (FFD/PAT)	Y	3/31/2011
N-AN-RP-NGET-2	General Employee Trng Level 2 (FFD/PAT/RWT)	Y	3/31/2011
N-AN-SA-ASBESTOS- CL-4	Asbestos Class IV Worker	Y	12/31/2010
N-AN-SA-CONF-SPC- ENTRY	CONFINED SPACE ENTRANT ATTENDANT	Y	12/31/2010
N-AN-SA-ELECTRAL- SAFTY	Electrical Safety	Y	
N-AN-SA-FALL-PROT	Fall Protection	Y	
N-AN-SA-FIREWATCH	Fire Extinguisher (Fire Watch)	Y	12/31/2010
N-AN-SA-NEIT-EXELON	Nuclear Employee In- Processing Training (Exelon Nuclear Employees)	Y	
N-OC-NDE-VT2 QUAL	VT2 QUALIFIED AT OC	Y	6/30/2011
N-OC-OPS-TORQUE WRENCH USE	TORQUE WRENCH USE	Y	
N-OC-SA-ENVIRON AWARENESS	OC ENVIRONMENTAL AWARENESS	Y	12/31/2011

**END**

Facility: Oyster Creek Task No.: \_\_\_\_\_Task Title: Applying Work Hour RulesJob Performance Measure No.: NRC SRO ADMIN JPM2K/A Reference: G.2.1.5 (3.9)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The plant is at reduced power during coastdown at the end of the operating cycle and is preparing for a refuel outage starting in a few days
2. The Operators shown have been off for the 6-day period (Monday-Saturday) prior to the schedule provided
3. The schedule shows the Reactor Operator work schedule for the next 9 days in order to support outage readiness
4. Shift turnover is NOT included in the schedule shown [each turnover (on-coming and off-going) is 15 minutes in length]
5. The average minimum days-off rule has already been verified as satisfactory

Task Standard: Work Hour Limits Waiver are required for Charlie Downs and Ed Frankel for the reasons given

Required Materials: None.

## General References:

1. LS-AA-119, Fatigue management and Work Hour Limits, revision 8
2. LS-AA-119-1003, Calculating Work Hours, Revision 0

Initiating Cue: IAW LS-AA-119-1003, Calculating Work Hours, determine if any Operators will require a Work Hour Limits Waiver for the 10CFR26 Work Hour Limits, and what work hour limit will be exceeded.

Time Critical Task: No.

Validation Time: 15 minutes

## Performance Information

*Denote critical steps with a check mark ✓*

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

Note: The steps may be completed in any order. Also, since the task is to determine which operators will require a Work Hour Limits Waiver, since Allen Black does not, his name may not be mentioned.

✓

Performance Step: 2

Procedure Step: Determine that Work Hour Limits Waiver for Allen Black is not required

**Standard:** Determines that Work Hour Limits Waiver for Allen Black is not required

Comment:

**SAT/UNSAT**



## Performance Information

✓

## Performance Step: 3

Procedure Step: Determine that Work Hour Limits Waiver for Charlie Downs is required

**Standard:** Determines that Work Hour Limits Waiver for Charlie Downs is required

Comment:

SAT/UNSAT

✓

## Performance Step: 4

Procedure Step: Determine that Work Hour Limits Waiver for Charlie Downs is due to less than a 10-hour break between successive work periods

**Standard:** Determine that Work Hour Limits Waiver for Charlie Downs is due to less than a 10-hour break between successive work periods

Comment:

SAT/UNSAT

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Performance Information

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Performance Step: 5

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Procedure Step: Determine that Work Hour Limits Waiver for Ed Frankel is required

**Standard:** Determines that Work Hour Limits Waiver for ED Frankel is requiredComment:  

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**SAT/UNSAT**

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✓

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Performance Step: 6

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Procedure Step: Determine that Work Hour Limits Waiver for Ed Frankel is due more than 26 hours in a 48 hour period

**Standard:** Determines that Work Hour Limits Waiver for Ed Frankel is due to more than 26 hours in a 48 hour periodComment:  

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**SAT/UNSAT**

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**Terminating Cue:** Work Hour Limits Waivers are required for Charlie Downs and Ed Frankel for the reasons given.**Note:** Because the cue asks for only those Operators who require a Work Hour Limits Waiver, if a Candidate states that Allen Black requires a Work Hour Limits Waiver, this is incorrect and would result in a failure of this JPM.**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SRO ADMIN JPM2

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

## KEY

(Not required to be completed by the Candidates. Sunday and Monday July 12 & 13 are not shown below as all workers have these days off)

**Allen Black**: No Work Hour Limits Waiver is required.

<b><u>Name</u></b>	<b><u>Sunday</u> <u>July 5</u></b>	<b><u>Monday</u> <u>July 6</u></b>	<b><u>Tuesday</u> <u>July 7</u></b>	<b><u>Wednesday</u> <u>July 8</u></b>	<b><u>Thursday</u> <u>July 9</u></b>	<b><u>Friday</u> <u>July 10</u></b>	<b><u>Saturday</u> <u>July 11</u></b>
<b>Allen Black</b>	On-shift 0800-2000	On-shift 0800-2000	On-shift 0800-2000	JIT Training 0800-1600	On-shift 0800-2000	On-shift 0800-2000	Medical Leave
Total Hours (Daily)	12 (12)	24 (12)	36 (12)	44 (8)	56 (12)	68 (12)	68 (0)

**Charlie Downs**: Work Hour Limits Waiver is required due to less than a 10-hour break between successive work periods.

<b><u>Name</u></b>	<b><u>Sunday</u> <u>July 5</u></b>	<b><u>Monday</u> <u>July 6</u></b>	<b><u>Tuesday</u> <u>July 7</u></b>	<b><u>Wednesday</u> <u>July 8</u></b>	<b><u>Thursday</u> <u>July 9</u></b>	<b><u>Friday</u> <u>July 10</u></b>	<b><u>Saturday</u> <u>July 11</u></b>
<b>Charlie Downs</b>	On-shift 0800-2000	On-shift 0800-2000	On-shift 0800-2000	On-shift 0800-1600	On-shift 1600-2400	On-shift 0800-1600	JIT Training 0800-1600
Total Hours (Daily)	12 (12)	24 (12)	36 (12)	44 (8)	52 (8)	60 (8)	68 (8)

**Ed Frankel**: Work Hour Limits Waiver is required. Ed Frankel will reach/surpass 26 hours in a 48 hour period

<b><u>Name</u></b>	<b><u>Sunday</u> <u>July 5</u></b>	<b><u>Monday</u> <u>July 6</u></b>	<b><u>Tuesday</u> <u>July 7</u></b>	<b><u>Wednesday</u> <u>July 8</u></b>	<b><u>Thursday</u> <u>July 9</u></b>	<b><u>Friday</u> <u>July 10</u></b>	<b><u>Saturday</u> <u>July 11</u></b>
<b>Ed Frankel</b>	On-shift 0800-1600	On-shift 0800-2200	On-shift 0800-2200	On-shift 0800-2000	JIT Training 0800-1600	On-shift 0800-1600	On-shift 0800-1400
Total Hours (Daily)	8 (8)	22 (14)	36 (14)	48 (12)	56 (8)	64 (8)	72 (8)

Simulator/JPM Setup

1. None.

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STUDENT HANDOUTInitial Conditions:

1. The plant is at reduced power during coastdown at the end of the operating cycle and is preparing for a refuel outage starting in a few days
2. The Operators shown have been off for the 6-day period (Monday-Saturday) prior to the schedule provided
3. The schedule shows the Reactor Operator work schedule for the next 9 days in order to support outage readiness
4. Shift turnover is NOT included in the schedule shown [each turnover (on-coming and off-going) is 15 minutes in length]
5. The average minimum days-off rule has already been verified as satisfactory

Task Cue:

IAW LS-AA-119-1003, Calculating Work Hours, determine if any Operators will require a Work Hour Limits Waiver for the 10CFR26 Work Hour Limits, and what work hour limit will be exceeded.

STUDENT HANDOUT

<u>Name</u>	<u>Sunday</u> <u>July 5</u>	<u>Monday</u> <u>July 6</u>	<u>Tuesday</u> <u>July 7</u>	<u>Wednesday</u> <u>July 8</u>	<u>Thursday</u> <u>July 9</u>	<u>Friday</u> <u>July 10</u>	<u>Saturday</u> <u>July 11</u>	<u>Sunday</u> <u>July 12</u>	<u>Monday</u> <u>July 13</u>
Allen Black	On-shift 0800-2000	On-shift 0800-2000	On-shift 0800-2000	JIT Training 0800-1600	On-shift 0800-2000	On-shift 0800-2000	Medical Leave	Medical Leave	Medical Leave
Charlie Downs	On-shift 0800-2000	On-shift 0800-2000	On-shift 0800-2000	On-shift 0800-1600	On-shift 1600-2400	On-shift 0800-1600	JIT Training 0800-1600	OFF	OFF
Ed Frankel	On-shift 0800-1600	On-shift 0800-2200	On-shift 0800-2200	On-shift 0800-2000	JIT Training 0800-1600	On-shift 0800-1600	On-shift 0800-1600	OFF	OFF

Facility: Oyster Creek Task No.: 3420302026Task Title: Review Surveillance Test 619.3.016, High Drywell Pressure Scram Test and CalibrationJob Performance Measure No.: NRC SRO ADMIN JPM3K/A Reference: G2.2.12 (4.1)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom 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:

1. The plant is at rated power
2. Surveillance Test 619.3.016, High Drywell Pressure Scram Test and Calibration, was just completed

Task Standard: Section 7.0, Acceptance Criteria, is reviewed and found to be unsatisfactory due to sensor RE04C not meeting the criteria. Tech Spec required actions are stated.

Required Materials: A completed 619.3.016



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General References:

1. 619.3.016, High Drywell Pressure Scram Test and Calibration, Revision 29
2. Tech Spec Table 3.1.1
3. GE 237E566, Reactor Protection System, sheets 1 and 5
4. 420, Instrumentation Setpoints, Revision 10
5. LS-AA-125, Corrective Action Program (CAP) Procedure, Revision 13

Initiating Cue: Perform the Acceptance Criteria review of 619.3.016, High Drywell Pressure Scram Test and Calibration. Note any discrepancies, and state the required actions, if any.

Time Critical Task: No.

Validation Time: 25 Minutes

## Performance Information

Denote critical steps with a check mark ✓

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

JPM Start Time: \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

SAT/UNSAT

✓

Performance Step: 2

Procedure Step: 7.1

If the following criteria are met, components tested by this procedure meet Technical Specifications requirements for operability.

As-Left trip value for all sensors is:

1. Unadjusted:  $2.9 \pm 0.1$  psig (2.8 to 3.0)

OR

2. Adjusted:  $2.9 \pm 0.05$  psig (2.85 to 2.95)

**Standard:** Reviews Acceptance Criteria of 619.3.016, High Drywell Pressure Scram Test and Calibration, Attachment 619.3.016-2, Test Data Sheet

Comment:

SAT/UNSAT

## Performance Information

**Note:** The following steps are not required to be performed in the order provided.



## Performance Step: 3

## Procedure Step: 7.2

If any criteria of Step 7.1 are not met, declare the affected components inoperable and follow the requirements of Technical Specifications and Procedure LS-OC-125.

**Note:** The step refers to procedure LS-OC-125. This has been superseded.

**Standard:** Notes that sensor RE04C is outside of the allowed band (actual value of 2.98 with the allowed band of 2.85 – 2.95). Declares sensor RE04C inoperable.

Comment:

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**SAT/UNSAT**

## Performance Information

✓

Performance Step: 4

Procedure Step: 7.2

Determine Tech Spec applicability

**Standard:** Determines that, within 12 hours, either restore the inoperable sensor or place a ½ scram in RPS 1 (RN04A & RN04C input to RPS 1), or take the action to insert control rods.

**Note 1:** Determines sensor loss on Tech Spec applicability. Determines that sensor RN04C only affects a single Trip System. TS Table 3.1.1.A (Scram) requires the minimum number of Instrument Channels per Operable Trip System as 2. One Trip System only has 1 operable instrument.

TS Table 3.1.1.A (Scram) requires the minimum number of Operable or Operating (tripped) Trip System as 2. There is currently only 1 operable or operating (tripped) Trip System.

Note nn applies:

With one required channel inoperable in one Trip System, within 12 hours, restore the inoperable channel or place the inoperable channel and/or that Trip System in the tripped<sup>▲</sup> condition.

▲ An inoperable channel or Trip System need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, if the inoperable channel is not restored to OPERABLE status within the required time, the Action Required shall be taken.

Otherwise, take the Action Required.

**Note 2:** The Candidate may also state that an IR/CR (incident report/condition report) be generated and that notifications to Plant Management are required. (Not required for Critical Step)

Comment:

SAT/UNSAT

## Performance Information

✓

Performance Step: 5

Procedure Step: 7.2

Determine Tech Spec applicability

**Standard:** Determines that the inoperable channel shall be placed in the trip condition within 12 hours, or take the action to isolate the Primary Containment or place the plant in cold shutdown.

**Note:** Determines that a similar condition applies to Tech Spec Table 3.1.1.F, Primary Containment Isolation (RE04A, B, C & D input into the scram, Primary Containment Isolation, and Reactor Building isolation and SGTS initiation functions).

Determines sensor loss on Tech Spec applicability. Determines that sensor RN04C only affects a single Trip System. TS Table 3.1.1.F (Primary Containment Isolation) requires the minimum number of Instrument Channels per Operable Trip System as 2. One Trip System only has 1 operable instrument.

TS Table 3.1.1.F (Primary Containment Isolation) requires the minimum number of Operable or Operating (tripped) Trip System as 2. There is currently only 1 operable or operating (tripped) Trip System.

Note oo applies.

With one required channel inoperable in one Trip System, either

1. Place the inoperable channel in the tripped condition within
  - a. 12 hours for parameters common to Scram Instrumentation, and
  - b. 24 hours for parameters not common to Scram Instrumentation.

or, 2. Take the Action Required

(An IR, Incident Report, IAW LS-OC-125 is also required (not required for critical step) but this procedure has been replaced by LS-AA-125, Corrective Action Program)

Comment:

SAT/UNSAT

## Performance Information

✓

## Performance Step: 6

## Procedure Step: 7.3.1

As Found trip point for the following is less than or equal to 3.5 psig:

- RE04A
- RE04B
- RE04C
- RE04D

**Standard:** Verifies sensor trip as-found setpoints < 3.5 psig (no problems)

Comment:

SAT/UNSAT

✓

## Performance Step: 7

## Procedure Step: 7.3.2

Control Room alarms perform as specified

**Standard:** Verifies alarms performed as specified (no problems)

Comment:

SAT/UNSAT

## Performance Information

✓

Performance Step: 8

Procedure Step: 7.3.3

Plant Computer PIDs perform as specified

**Standard:** Verify plant computer PIDs performed as specified (no problems)

Comment:

SAT/UNSAT

**Terminating Cue:** Section 7.0, Acceptance Criteria, is reviewed and found to be unsatisfactory due to sensor RE04C not meeting the criteria. Tech Spec required actions are as stated.

**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SRO ADMIN JPM3

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_



JPM Setup

1. None.

STUDENT HANDOUTInitial Conditions:

1. The plant is at rated power
2. Surveillance Test 619.3.016, High Drywell Pressure Scram Test and Calibration, was just completed

Task Cue:

Perform the Acceptance Criteria review of 619.3.016, High Drywell Pressure Scram Test and Calibration. Note any discrepancies, and state the required actions, if any.



OYSTER CREEK GENERATING  
STATION PROCEDURE

DCC FILE: 20.2016.0008

Number

**619.3.016**

Title

**High Drywell Pressure Scram Test and Calibration**

Usage Level

**1**

Revision No.

**29**

Prior Revision 28 incorporated the  
following Temporary Changes:

N/A

This Revision 29 incorporates the  
following Temporary Changes:

N/A

List of Pages

1.0 to 29.0  
E1-1 to E1-3  
E2-1  
E3-1

Facility: Oyster Creek Task No.: EPAA101013Task Title: Determine Recommendation of KI Issuance During an EmergencyJob Performance Measure No.: NRC SRO ADMIN JPM4K/A Reference: G2.2.13 (3.8)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom 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:

1. The plant was at rated power when a LOCA occurred inside the Primary Containment
2. The reactor scrammed 20 minutes ago
3. RPV water level is -30" and steady
4. Stack RAGEMS has risen from 2.1 E+00  $\mu\text{Ci}/\text{CC}$  HRM to 2.7 E+01  $\mu\text{Ci}/\text{CC}$  HRM over the last 15 minutes
5. Containment Hi-Range Radiation Monitors indicate 585 R/hr
6. The RB Vent Radiation Monitors indicate 8 mr/hr
7. The Shift Manager has assumed the role of Shift Emergency Director (SED)
8. The Emergency Response Facilities (TSC, EOF) have not been activated yet

Task Standard: KI issuance should be recommended for the off-site Field Monitoring Team, and to the on-site emergency workers.

Required Materials: None.

General References:

1. EP-AA-113, Personnel Protective Actions, Revision 10
2. EP-AA-1010, Radiological Emergency Plan Annex for Oyster Creek Station, Revision 1

Initiating Cue: With only the information provided, and IAW EP-AA-113, Personnel Protective Actions, determine if the SED shall recommend KI issuance to:

- 1) Off-site Field Monitoring Teams, and/or
- 2) On-site Emergency Teams

Time Critical Task: No

Validation Time: 16 Minutes

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Performance Information

*Denote critical steps with a check mark ✓*

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Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

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## Performance Information

✓

## Performance Step: 2

## Procedure Step: 4.4.1.1.A (EP-AA-113)

Assess the potential of high thyroid exposure to emergency workers in, or projected to be sent into, areas where the possibility exists of exposure to radioactive iodine as follows:

For Field Monitoring Teams or other Exelon emergency workers working offsite, determine if either of the following conditions exist:

Condition 1

- There is an Offsite Release in Progress
- And
- There has been a loss or potential loss of the Fuel Clad Barrier

Or

Condition 2

- Dose Assessments project iodine thyroid exposure for emergency workers will be  $\geq 50$  Rem Committed Dose Equivalent (CDE)

**Standard:** Determines that an offsite release is in progress (as evidenced by the Stack RAGEMS)

This meets the first bullet of Condition 1.

Comment:

SAT/UNSAT

## Performance Information

✓

## Performance Step: 3

Procedure Step: Procedure Step: 4.4.1.1.A

Assess the potential of high thyroid exposure to emergency workers in, or projected to be sent into, areas where the possibility exists of exposure to radioactive iodine as follows:

For Field Monitoring Teams or other Exelon emergency workers working offsite, determine if either of the following conditions exist:

Condition 1

- There is an Offsite Release in Progress  
And
- There has been a loss or potential loss of the Fuel Clad Barrier

Or

Condition 2

Dose Assessments project iodine thyroid exposure for emergency workers will be  $\geq$  50 Rem Committed Dose Equivalent (CDE)

**Standard:** Determines either that a loss or potential loss of Fuel Clad Barrier exists (as evidenced by RPV water level at -30")

This meets the second bullet of Condition 1.

Comment:

SAT/UNSAT



## Performance Information

✓

## Performance Step: 4

## Procedure Step: 4.4.1.1.A

Assess the potential of high thyroid exposure to emergency workers in, or projected to be sent into, areas where the possibility exists of exposure to radioactive iodine as follows:

For Field Monitoring Teams or other Exelon emergency workers working offsite, determine if either of the following conditions exist:

Condition 1

- There is an Offsite Release in Progress  
And
- There has been a loss or potential loss of the Fuel Clad Barrier

Or

Condition 2

Dose Assessments project iodine thyroid exposure for emergency workers will be  $\geq 50$  Rem Committed Dose Equivalent (CDE)

**Standard:**

Determines the indications meet the 2 parts of Condition 1 to recommend issuance of KI to the off-site Field Monitoring Teams.

Thus, with the information provided, KI issuance to off-site Field Monitoring Teams should be recommended.

**Note:**

The Station (Shift) Emergency Director must authorize issuance of KI to Exelon emergency workers

Comment:

SAT/UNSAT

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Performance Information

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✓

Performance Step: 5

Procedure Step: 4.4.1.1.B

For OSC Emergency Teams and other onsite workers,  
determine if either of the following conditions exist:

Condition 1

- Workers will be entering an unknown radiological atmosphere that is suspected to have a high iodine concentration. Loss of the Fuel Clad barrier is a good indication of possible high iodine concentrations.

OR

Condition 2

- The calculated iodine thyroid exposure (actual or projected) for emergency workers, base on station Radiation Protection procedures or use of the DAPAR Program, will be  $\geq 50$  Rem Committed Dose Equivalent (CDE).

**Standard:** Determines there is currently a loss of the Fuel Clad Barrier,  
which is a good indication of possible high iodine concentrations

Comment:

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**SAT/UNSAT**

## Performance Information

✓

Performance Step: 6

Procedure Step: 4.4.1.1.B

For OSC Emergency Teams and other onsite workers, determine if either of the following conditions exist:

Condition 1

- Workers will be entering an unknown radiological atmosphere that is suspected to have a high iodine concentration. Loss of the Fuel Clad barrier is a good indication of possible high iodine concentrations.

OR

Condition 2

- The calculated iodine thyroid exposure (actual or projected) for emergency workers, base on station Radiation Protection procedures or use of the DAPAR Program, will be  $\geq 50$  Rem Committed Dose Equivalent (CDE).

**Standard:** Determines the indications meet Condition 1 to recommend issuance of KI to the on-site Emergency Teams.

Thus, with the information provided, KI issuance to on-site Emergency Teams should be recommended.

Comment:

SAT/UNSAT

**Terminating Cue:** KI issuance should be recommended for the off-site Field Monitoring Team, and to the on-site emergency workers.

JPM Stop Time: \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SRO ADMIN JPM4

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. None.

STUDENT HANDOUTInitial Conditions:

1. The plant was at rated power when a LOCA occurred inside the Primary Containment
2. The reactor scrammed 20 minutes ago
3. RPV water level is -30" and steady
4. Stack RAGEMS has risen from 2.1 E+00  $\mu\text{Ci}/\text{CC}$  HRM to 2.7 E+01  $\mu\text{Ci}/\text{CC}$  HRM over the last 15 minutes
5. Containment Hi-Range Radiation Monitors indicate 585 R/hr
6. The RB Vent Radiation Monitors indicate 8 mr/hr
7. The Shift Manager has assumed the role of Shift Emergency Director (SED)
8. The Emergency Response Facilities (TSC, EOF) have not been activated yet

Task Cue:

With only the information provided, and IAW EP-AA-113, Personnel Protective Actions, determine if the SED shall recommend KI issuance to:

- 1) Off-site Field Monitoring Teams, and/or
- 2) On-site Emergency Teams

Facility: Oyster Creek Task No.: EPAA101006Task Title: Classify an Emergency and Initiate the State/Local Notification FormJob Performance Measure No.: NRC SRO ADMIN JPM5K/A Reference: G2.3.14 (3.8)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom 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.

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Initial Conditions:

1. The plant was at rated power when an event occurred
2. Present plant conditions include the following:
  - a. RPV water level is -10" and steady
  - b. The Primary Containment Pressure Limit (PCPL) is being approached
    - i. Venting the Torus IAW SP-32, Venting the Torus for Primary Containment High Pressure, was initiated 5 minutes ago and Torus pressure is lowering
  - c. The RPV has been Emergency Depressurized
  - d. Containment Hi Range Radiation Monitors indicate 320 R/hr and rising slowly
  - e. Stack RAGEMS indicates 4.5 E+00  $\mu$ Ci/cc HRM and rising slowly
  - f. The Shift Manager has assumed the role of Shift Emergency Director (SED)
    - i. The SED has already completed and transmitted one State/Local Notification Form for an Alert
  - g. The TSC is unavailable due to a loss of power and the EOF is not yet activated
  - h. Dose projections indicate 245 mRem TEDE and 45 mRem CDE Thyroid
  - i. The PPC indicates the following:
    - i. Wind Direction 60 DEGREES
    - ii. Wind Speed 10 MPH

Task Standard: The emergency event is re-classified as a General Emergency, FG1, and the State/Local Notification Form is completed

Required Materials: None.

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General References:

1. EP-AA-1010, Radiological Emergency Plan Annex for Oyster Creek Station, Revision 1
2. Primary Containment Control EOP, Revision 6
3. EP-MA-114-100-F-03, State/Local Notification Form, Revision D
4. EP-MA-114-100, Mid-Atlantic State/Local Notifications, Revision 13
5. EP-AA-114-F-01, Release In Progress Determination Guidance, Revision D

## Initiating Cue:

(Part 1) IAW EP-AA-1010, Radiological Emergency Plan Annex for Oyster Creek Station, determine if the emergency event requires re-classification.

(Part 2) IAW EP-MA-114-100, Mid-Atlantic State/Local Notifications, initiate the State/Local Notification Form, EP-MA-114-100-F-03.

Time Critical Task: Yes: 15 Minutes for Part 1  
15 Minutes for Part 2

Validation Time: 10 Minutes (Part 1)  
7 Minutes (Part 2)

## Performance Information

*Denote critical steps with a check mark ✓*

## Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

**Note:** Steps may be performed in any order.

✓

## Performance Step: 2

Procedure Step: EP-AA-1010

Determine Emergency classification EAL

**Standard:** Determines Emergency classification EAL  
Determines the following:

- RPV water level -10" represents a Potential Loss of Fuel Clad barrier

Comment:

**SAT/UNSAT**

## Performance Information

✓

Performance Step: 3

Procedure Step: EP-AA-1010

Determine Emergency classification EAL

**Standard:**

Determines Emergency classification EAL

Determines the following:

- RPV water level -10" represents a Loss of Reactor Coolant System Barrier

Comment:

SAT/UNSAT

✓

Performance Step: 4

Procedure Step: EP-AA-1010

Determine Emergency classification EAL

**Standard:**

Determines Emergency classification EAL

Determines the following:

- With SP-33, this represents an intentional venting/purging of Primary Containment per EOPs or SAMGs due to accident conditions. This represents a loss of Primary Containment Barrier.

Comment:

SAT/UNSAT

## Performance Information

✓	Performance Step: 5
	Procedure Step: EP-AA-1010
	Determine Emergency classification EAL
<b>Standard:</b>	Determines Emergency classification EAL
	Determines the following:
	<ul style="list-style-type: none"><li>• A Potential Loss of Fuel Clad barrier plus a Loss of Reactor Coolant System Barrier plus a loss of Primary Containment Barrier results in a General Emergency, FG1, emergency declaration.</li></ul>
	Record time of completion _____
Comment:	_____ _____ _____
<b>SAT/UNSAT</b>	_____

## Performance Information

Record start Time: \_\_\_\_\_

✓

## Performance Step: 6

Procedure Step: EP-AA-114-100 and EP-AA-114-100-F-03

Initiate the State/Local Notification Form

**Standard:**

Initiates the State/Local Notification Form and enters the following as on the Key:

- Block 1: Message number 2
- Block 3: Actual Event, Declared at date/time, and Notification Status as Escalation
- Block 4: Emergency Action Level as General Emergency FG1 with short description
- Block 5: Airborne non-routine radiological release in progress
- Block 6: Wind Direction as 60 degrees, and Wind Speed as 6 mph
- Block 7: Actual Event selected
- Sign for Emergency Director Approval

Comment:

SAT/UNSAT

**Terminating Cue:** The emergency event is re-classified as a General Emergency, FG1, and the State/Local Notification Form is completed**JPM Stop Time:** \_\_\_\_\_

## Performance Information

**STATE / LOCAL NOTIFICATION FORM - KEY**MESSAGE NO. 2EMERGENCY DIRECTOR APPROVAL: Candidate Signature

1. <u>CALL STATUS is:</u> <input type="checkbox"/> This is a <u>DRILL</u> . <input checked="" type="checkbox"/> This is an <u>ACTUAL EVENT</u>	2. This is * _____ at Oyster Creek Generating Station. My phone number is * _____ The current time is * _____ *Completed by Communicator at time notification is performed: use PPC time 24-hour clock	
3. <u>EMERGENCY CLASSIFICATION:</u> <input type="checkbox"/> UNUSUAL EVENT <input type="checkbox"/> ALERT <input type="checkbox"/> SITE AREA EMERGENCY <input checked="" type="checkbox"/> GENERAL EMERGENCY <input type="checkbox"/> RECOVERY <input type="checkbox"/> TERMINATION	<u>DECLARED AT:</u>  TIME: _____ Time _____ (use PPC time in 24-hour clock)  DATE: _____ Date _____	<u>THIS REPRESENTS A/AN:</u> <input type="checkbox"/> INITIAL DECLARATION <input checked="" type="checkbox"/> ESCALATION <input type="checkbox"/> NO CHANGE <input type="checkbox"/> REDUCTION IN CLASSIFICATION STATUS
4. EMERGENCY ACTION LEVEL (EAL) NUMBER IS: <u>General Emergency – FG1</u> <u>BRIEF NON-TECHNICAL DESCRIPTION:</u> <b>Loss of 2 of 3 fission product barriers and the potential loss of the third (or similar)</b>		
5. <u>NON-ROUTINE RADIOLOGICAL RELEASE STATUS:</u> <input type="checkbox"/> <b>NO</b> non-routine radiological release in progress <input checked="" type="checkbox"/> <b>AIRBORNE</b> non-routine radiological release in progress <input type="checkbox"/> <b>LIQUID</b> non-routine radiological release in progress <input type="checkbox"/> Non-routine radiological release <b>TERMINATED</b>		
6. <u>METEOROLOGY:</u> Wind Direction is <i>FROM</i> : _____ 60° _____ (degrees) Wind Speed is: _____ 6 _____ (miler per hour)		
7. CONCLUSION: <input type="checkbox"/> This is a DRILL. <input checked="" type="checkbox"/> This is an ACTUAL EVENT.		
<ul style="list-style-type: none"> <li>• <b>ASK</b> if there is any questions about the information provided and <b>PROVIDE</b> clarification as needed.</li> <li>• <b>READ:</b> "This concludes the notification message"</li> </ul>		

## Validation of Completion

JPM Number: NRC SRO ADMIN JPM5

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. None.



STUDENT HANDOUTInitial Conditions:

1. The plant was at rated power when an event occurred
2. Present plant conditions include the following:
  - a. RPV water level is -10" and steady
  - b. The Primary Containment Pressure Limit (PCPL) is being approached
    - i. Venting the Torus IAW SP-32, Venting the Torus for Primary Containment High Pressure, was initiated 5 minutes ago and Torus pressure is lowering
  - c. The RPV has been Emergency Depressurized
  - d. Containment Hi Range Radiation Monitors indicate 320 R/hr and rising slowly
  - e. Stack RAGEMS indicates 4.5 E+00  $\mu\text{Ci/cc}$  HRM and rising slowly
  - f. The Shift Manager has assumed the role of Shift Emergency Director (SED)
    - i. The SED has already completed and transmitted one State/Local Notification Form for an Alert
  - g. The TSC is unavailable due to a loss of power and the EOF is not yet activated
  - h. Dose projections indicate 245 mRem TEDE and 45 mRem CDE Thyroid
  - i. The PPC indicates the following:
    - i. Wind Direction 60 DEGREES
    - ii. Wind Speed 10 MPH

Task Cue:

IAW EP-AA-1010, Radiological Emergency Plan Annex for Oyster Creek Station, determine if the emergency event requires re-classification.

Re-classification required? Yes / No. If Yes, new EAL: \_\_\_\_\_

**This JPM is Time Critical**

Name: \_\_\_\_\_

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**STUDENT HANDOUT**

1. The plant was at rated power when an event occurred
2. Present plant conditions include the following:
  - a. RPV water level is -10" and steady
  - b. The Primary Containment Pressure Limit (PCPL) is being approached
    - i. Venting the Torus IAW SP-32, Venting the Torus for Primary Containment High Pressure, was initiated 5 minutes ago and Torus pressure is lowering
  - c. The RPV has been Emergency Depressurized
  - d. Containment Hi Range Radiation Monitors indicate 320 R/hr and rising slowly
  - e. Stack RAGEMS indicates 4.5 E+00  $\mu$ Ci/cc HRM and rising slowly
  - f. The Shift Manager has assumed the role of Shift Emergency Director (SED)
    - i. The SED has already completed and transmitted one State/Local Notification Form for an Alert
  - g. The TSC is unavailable due to a loss of power and the EOF is not yet activated
  - h. Dose projections indicate 245 mRem TEDE and 45 mRem CDE Thyroid
  - i. The PPC indicates the following:
    - i. Wind Direction 60 DEGREES
    - ii. Wind Speed 6 MPH

**Task Cue:**

IAW EP-MA-114-100, Mid-Atlantic State/Local Notifications, initiate the State/Local Notification Form, EP-MA-114-100-F-03.

**This JPM is Time Critical**

Facility: Oyster Creek Task No.: 2020401401Task Title: Perform Recirculation Pumps Trip Circuitry Test, 603.4.001  
(Alternate Path)Job Performance Measure No.: NRC Sim JPM 1K/A Reference: 202001 A2.04 (3.7/3.8)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The plant is at rated power, in 5-Loop operation
2. All annunciators on Panel 3F are clear
3. Instrument & Controls has been notified of the surveillance test and is standing by
4. Another Operator will perform all timing evolutions using the stopwatch
5. The Unit Supervisor has performed a pre-job brief, and has given permission to perform the surveillance

Task Standard: The Candidate recognizes the trip of several Recirculation Pumps and scrams the reactor IAW ABN-1

Required Materials: None.

## General References:

1. 603.4.001, Recirculation Pumps Trip Circuitry Test, Revision 15
2. ABN-1, Reactor Scram, Revision 9
3. ABN-2, Recirculation System Failures, Revision 13

Initiating Cue: Perform surveillance test 603.4.001, Recirculation Pumps Trip Circuitry Test, beginning at step 6.0

Time Critical Task: No.

Validation Time: 6 minutes

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Performance Information

*Denote critical steps with a check mark ✓*

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Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

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Performance Step: 2

Procedure Step: 6.1

Reviews Precautions and Limitations and verify all Section 3.0 Prerequisites are satisfied and sign Attachment 603.4.001-1.

**Standard:** Reviews Precautions and Limitations and verifies all Section 3.0 Prerequisites are satisfied and signs Attachment 603.4.001-1.

Comment:

**SAT/UNSAT**

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## Performance Information

✓

Performance Step: 3

Procedure Step: 6.2

Place and verify Division 1 keylock test switch to TEST on RPT  
Drawer**Standard:** Places and verifies Division 1 keylock test switch to TEST on RPT  
Drawer

Comment:

SAT/UNSAT

Performance Step: 4

Procedure Step: 6.3

Verify TEST-I (E-3-a) alarm is received

**Standard:** Verifies TEST-I (E-3-a) alarm is received

Comment:

SAT/UNSAT

## Performance Information

**NOTE: The following step will result in the trip of several Recirculation Pumps and represents the Alternate Path.**

✓	Performance Step: 5
	Procedure Step: 6.4 Momentarily depress the CHAN A TRIP pushbutton.
<b>Standard:</b>	Momentarily depresses the CHAN A TRIP pushbutton. Reports the trip of several Recirculation Pumps (A, B, & E) and entry into ABN-2 is required.
Comment:	<hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>
✓	Performance Step: 6
	Procedure Step: 4.1.1 (ABN-2); Step 3.1.1 (ABN-1) Scram the reactor in accordance with ABN-1, Reactor Scram by: Depressing both Manual Scram Pushbuttons
<b>Standard:</b>	Scrams the reactor in accordance with ABN-1, Reactor Scram, by depressing MANUAL SCRAM BUS 1 and BUS 2 pushbuttons
Comment:	<hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>

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Performance Information

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✓

Performance Step: 7

Procedure Step: 4.1.1 (ABN-2); Step 3.1.2 (ABN-1)

Scram the reactor in accordance with ABN-1, Reactor Scram by:  
Place the Reactor Mode switch in SHUTDOWN**Standard:** Scrams the reactor in accordance with ABN-1, Reactor Scram, by placing the REACTOR MODE SELECTOR switch in SHUTDOWN**Cue:** Following these actions, tell the Candidate that another Operator will continue the actions of ABN-1

Comment:

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**SAT/UNSAT****Terminating Cue:** The Candidate recognizes the trip of several Recirculation Pumps and scrams the reactor IAW ABN-1**JPM Stop Time:** \_\_\_\_\_



## Validation of Completion

JPM Number: NRC Sim JPM 1

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

Simulator Setup

1. Reset to IC-65.
2. Verify NO annunciators are present on Panel 3F
3. Have a copy of procedure 603.4.001, completed up to step 6.0. Include the US signoff in step 3.7
4. On Event Triggers: Trigger 1
  - a. Enter: hwx02i006i.eq.1
  - b. This trigger becomes active when the candidate places the Recirc Pump/Trip Test DIVISION I keylock switch in TEST
5. Insert ANN-E-3-a to ON; on Trigger 1 with a 2 second time delay
  - c. This keeps annunciator E3a, TEST I, to ON 2 seconds after it is activated by placing the switch in TEST
6. Insert SWI-RFC001S to OFF on Trigger 1 with a 2 second time delay
  - d. This places the Recirc Pump/Trip Test DIVISION I keylock switch back in NORM 2 seconds after being placed in TEST
7. Insert ANN-E-2-a to OFF
  - e. This ensures annunciator E2a, ACTUATE B, remains OFF, when item 7 below is input
8. Insert SWI-RFC001L to ON
  - a. This presses the Recirc Pump/Trip Test CHANNEL B TEST pushbutton and results in the trip of 3 Recirculation Pumps

STUDENT HANDOUTInitial Conditions:

1. The plant is at rated power, in 5-Loop operation
2. All annunciators on Panel 3F are clear
3. Instrument & Controls has been notified of the surveillance test and is standing by
4. Another Operator will perform all timing evolutions using the stopwatch
5. The Unit Supervisor has performed a pre-job brief, and has given permission to perform the surveillance

Task Cue:

Perform surveillance test 603.4.001, Recirculation Pumps Trip Circuitry Test, beginning at step 6.0

Facility: Oyster Creek Task No.: 2040101412Task Title: Shutdown the Second RWCU PumpJob Performance Measure No.: NRC Sim JPM2K/A Reference: 204000 A4.01 (3.1/3.0)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The plant is at rated power
2. Both RWCU Pumps are in service
3. An EO has been briefed, has a copy of the procedure, and is standing by in the Reactor Building

Task Standard: RWCU Pump B has been secured IAW 303.

Required Materials: None.

## General References:

1. 303, Reactor Cleanup Demineralizer System, Revision 115

Initiating Cue: Secure RWCU Pump B IAW 303, Reactor Cleanup Demineralizer System, starting at Step 22.4

Time Critical Task: No.

Validation Time: 14 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

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Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

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Performance Step: 2

Procedure Step: Review Precautions and Limitations.

**Standard:** Verifies Reviews Precautions and Limitations.

Comment:

**SAT/UNSAT**

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Performance Information

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✓

## Performance Step: 3

Procedure Step: 22.4.1

Open the Minimum Flow Valves for both pumps using the local toggle switches:

- V-16-36, Minimum Flow Valve Pump A
- V-16-37, Minimum Flow Valve Pump B

**Standard:**

Directs the EO to open the Minimum Flow Valves for both pumps using the local toggle switches:

- V-16-36, Minimum Flow Valve Pump A
- V-16-37, Minimum Flow Valve Pump B

**Booth:**

Initiate Trigger 1, then report minimum flow valves for both RWCU Pumps are open

Comment:

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**SAT/UNSAT**

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Performance Information

**Note:** The Candidate will perform several cycles of manipulations using the RWCU Pump B discharge valve, V-16-50, and then the System Flow Control valve FCV-ND16. The cycle will repeat until the discharge valve V-16-50 is fully closed.



## Performance Step: 4

## Procedure Step: 22.4.2

Slowly close the discharge valve for the pump being removed from service by momentarily cycling the discharge valve control switch between CLOSE and mid position until a small decrease in pressure is seen (Panel 3F).

- V-16-49, RECIRC PUMP A DISCHARGE

OR

- V-16-50, RECIRC PUMP B DISCHARGE

**Standard:** Slowly closes RWCU Pump B discharge valve V-16-50 by momentarily cycling the discharge valve control switch between CLOSE and mid position until a small decrease in pressure is seen (Panel 3F) (red light on and green light on; RECIRC PUMP DISCHARGE PRESS lowers slightly)

Comment:

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**SAT/UNSAT**

## Performance Information

✓

## Performance Step: 5

Procedure Step: 22.4.3, 22.4.3.1, &amp; 22.4.3.2

Perform either or both of the following to increase pump discharge pressure to approximately the original value while adjusting PCV-ND11 as need to maintain system pressure at approximately 90 psig.

22.4.3.1 Slowly close FCV-ND16

22.4.3.2 Slowly close V-16-54, FCV Bypass

**Standard:** Rotates SYSTEM FLOW CONTROLLER FCV-ND16 CCW to increase pump discharge pressure to approximately the original value.

Comment:

SAT/UNSAT

✓

## Performance Step: 6

Procedure Step: 22.4.4

Continue to close the discharge valve by momentarily cycling the discharge valve control switch between CLOSE and mid position while adjusting flow and pressure until the valve is fully closed.

**Standard:** Continues to close the discharge valve by momentarily cycling the discharge valve control switch between CLOSE and mid position while adjusting flow and pressure with FCV-ND16 knob CCW until the discharge valve is fully closed. (green light on; red light off)

Comment:

SAT/UNSAT



## Performance Information

✓

Performance Step: 7

Procedure Step: 22.4.5

Stop the Cleanup Recirculation Pump being removed from service.

**Standard:** Stops the Cleanup Recirculation Pump B by placing RECIRC PUMP NC02B switch to STOP (green light on; red light off)

Comment:

SAT/UNSAT

✓

Performance Step: 8

Procedure Step: 22.4.6

Close the Minimum Flow Valves for both pumps using the local toggle switches:

- V-16-36, Minimum Flow Valve Pump A
- V-16-37, Minimum Flow Valve Pump B

**Standard:** Directs the EO to close the Minimum Flow Valves for both pumps using the local toggle switches:

- V-16-36, Minimum Flow Valve Pump A
- V-16-37, Minimum Flow Valve Pump B

**Booth** Insert LOA-RCU022 to 0 and LOA-RCU023 to 0; Then report minimum flow valves for both RWCU Pumps are closed

Comment:

SAT/UNSAT

## Performance Information

✓

## Performance Step: 9

Procedure Step: 22.4.7, 22.4.7.1, &amp; 22.4.7.2

Perform either or both of the following to adjust system flow to approximately 380-420 gpm

22.4.7.1 Throttle FCV-ND16 as necessary

22.4.7.2 Throttle V-16-54, FCV Bypass, as necessary

**Standard:** Throttle SYSTEM FLOW CONTROLLER FCV-ND16 knob as required to adjust CLEANUP DEMIN INLET FLOW to approximately 380-420 gpm

Comment:

SAT/UNSAT

✓

## Performance Step: 10

Procedure Step: 22.4.8

Adjust the PPC heat balance input for RWCU Flow to the value indicated on the 3F Recorder (IJ13).

**Standard:** Adjusts the PPC heat balance input for RWCU Flow to match the indicated flow.

**Cue:** Following step completion, report that another Operator will continue in the procedure.

Comment:

SAT/UNSAT

**Terminating Cue:** RWCU Pump B has been secured IAW 303.

JPM Stop Time: \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SIM JPM2

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

Simulator Setup

1. Reset to full power IC
2. Start the standby RBCCW Pump
3. Raise RBCCW flow through the NRHX as follows:
  - a. Insert LOA-RBC009 to 0.80
  - b. When the standby RWCU Pump is secured, place LOA-RBC009 to 0.39
4. Place the second RWCU Pump in service IAW 303, section 22
  - a. Leave the heat balance screen up and available
5. Place the following on Trigger 1:
  - a. LOA-RCU022 to 1 This opens RWCU Pump A minimum flow valve V-16-36
  - b. LOA-RCU023 to 1 This opens RWCU Pump B minimum flow valve V-16-37
  - c. These valves will be closed during JPM performance

STUDENT HANDOUTInitial Conditions:

1. The plant is at rated power
2. Both RWCU Pumps are in service
3. An EO has been briefed, has a copy of the procedure, and is standing by in the Reactor Building

Task Cue:

Secure RWCU Pump B IAW 303, Reactor Cleanup Demineralizer System, starting at Step 22.4

Facility: Oyster Creek Task No.: 2490101001Task Title: Transfer to the MPR and Raise RPV PressureJob Performance Measure No.: NRC SIM JPM3K/A Reference: 241000 A4.01 (3.8/3.8)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The reactor was at rated power when Recirculation Pump A tripped
2. All ABN-2, Recirculation System Failures, actions are complete for the tripped pump
3. Reactor power will not be returned to 100% power at this time
4. The EPR has been acting unstable and ABN-9, Electronic Pressure Regulator Malfunction, has been entered

Task Standard: RPV pressure control has been transferred to the MPR and RPV pressure has been adjusted to approximately 1020 psig using the MPR

Required Materials: None.

General References:

1. 315.5, Turbine Normal Operation, Revision 5
2. ABN-9, Electronic Pressure Regulator Malfunction, Revision 4

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Initiating Cue: Transfer to the MPR IAW ABN-9, Electronic Pressure Regulator Malfunction, Section 4.3. Then raise reactor pressure to approximately 1020 psig.

Time Critical Task: No.

Validation Time: 10 Minutes

Denote critical steps with a check mark ✓

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

JPM Start Time: \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment: \_\_\_\_\_

SAT/UNSAT

✓

Performance Step: 2

Procedure Step: 4.3.1.1 (ABN-9)

Slowly lower the MPR setpoint by placing the MPR control switch in the ↑% position and using 1 second bumps, until the MPR relay position indicator moves in the direction of and reaches the EPR setting, and the MPR takes control (Panel 7F)

**Standard:** Slowly lowers the MPR setpoint by placing the MPR control switch in the ↑% position and using 1 second bumps, until the MPR relay position indicator moves in the direction of and reaches the EPR setting, and the MPR takes control (red MPR CONTROLLING ON light lit)

Comment: \_\_\_\_\_

SAT/UNSAT



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Performance Step: 3

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Procedure Step: 4.3.1.2

Verify the MPR CONTROLLING light is lit (7F)

**Standard:** Verifies the MPR CONTROLLING light is lit (7F)

**Note:** This step will be accomplished in the prior step.

Comment:

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**SAT/UNSAT**

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✓

Performance Step: 4

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Procedure Step: 4.3.1.3

Verify the EPR CONTROLLING light is extinguished (7F)

**Standard:** Verifies the EPR CONTROLLING light is extinguished (7F) (This may require placing the MPR control switch in the ↑% position for an additional second(s) until the EPR light is extinguished)

Comment:

---

**SAT/UNSAT**

✓	Performance Step: 5
	Procedure Step: 4.3.1.4
	Place the EPR power switch to OFF (7F)
<b>Standard:</b>	Places the EPR power switch to OFF (7F) (up position)
<b>Comment:</b>	
<b>SAT/UNSAT</b>	
	Performance Step: 6
	Procedure Step: 4.3.1.5
	Verify Alarm Q-6-A, EPR PWR LOST is received (Panel 7F)
<b>Standard:</b>	Verifies Alarm Q-6-A, EPR PWR LOST is received (Panel 7F)
<b>Comment:</b>	
<b>SAT/UNSAT</b>	

**Note:** The candidate may refer to procedure 315.5, Turbine Normal Operation, Section 5.2 for changing the MPR.

✓

Performance Step: 7

Procedure Step: 4.3.1.6

Slowly adjust Reactor Pressure to normal as directed by the Unit Supervisor using the MPR control switch.

**Standard:** Places the MPR Control Switch in the "↓%" position for approximately one-second periods while monitoring Reactor pressure until RPV pressure rises to and remains stable at approximately 1020 psig.

Comment:

SAT/UNSAT

Performance Step: 8

Procedure Step: 4.3.2

Refer to Procedure 202.1, Power Operation, for limitations on power with one pressure regulator out of service.

**Standard:** Refers to Procedure 202.1, Power Operation, for limitations on power with one pressure regulator out of service.

**Cue:** State that another Operator will refer to procedure 202.1.

Comment:

SAT/UNSAT

**Terminating Cue:** RPV pressure control has been transferred to the MPR and RPV pressure has been adjusted to approximately 1020 psig using the MPR

JPM Stop Time: \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SIM JPM3

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

Simulator Setup

1. This JPM is intended to be performed directly after NRC SIM JPM1 is completed. If not, reset to a full power IC, trip Recirculation Pump A, and close the associated discharge valve.

---

STUDENT HANDOUTInitial Conditions:

1. The reactor was at rated power when Recirculation Pump A tripped
2. All ABN-2, Recirculation System Failures, actions are complete for the tripped pump
3. Reactor power will not be returned to 100% power at this time
4. The EPR has been acting unstable and ABN-9, Electronic Pressure Regulator Malfunction, has been entered

Task Cue:

Transfer to the MPR IAW ABN-9, Electronic Pressure Regulator Malfunction, Section 4.3. Then raise reactor pressure to approximately 1020 psig.

Facility: Oyster Creek Task No.: 2090101005Task Title: Shutdown the Core Spray System with Actuating Signals Present (Alternate Path)Job Performance Measure No.: NRC SIM JPM4K/A Reference: 209001 A4.01 (3.8/3.6)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

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

1. The plant was at rated power when Drywell pressure switch RV46A failed upscale, resulting in the auto start of the Core Spray System
2. I&C reports that replacement of the switch will take several hours

Task Standard: Core Spray Systems 1 and 2 are secured IAW 308, Emergency Core Cooling System Operation, Section 7.0

Required Materials: None.

General References:

1. 308, Emergency Core Cooling System Operation, Revision 88

Initiating Cue: Shutdown the Core Spray System IAW 308, Emergency Core Cooling System Operation, starting at Step 7.3

Time Critical Task: No.

Validation Time: 13 Minutes



## Performance Information

*Denote critical steps with a check mark ✓*

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

Performance Step: 2

Procedure Step: Verifies Prerequisites and reviews Precautions and Limitations.

**Standard:** Verifies Prerequisites and reviews Precautions and Limitations.

Comment:

**SAT/UNSAT**

## Performance Information

**Note:** Step 7.3.1 is not applicable.

✓	Performance Step: 3
	Procedure Step: 7.3.2.1
	If all actuating signals are not cleared, then press the OVERRIDE push switch(es) which have a sensor window that is lit to override the signal(s) and reset the Core Spray start logic
<b>Standard:</b>	Presses the OVERRIDE push switches which have a sensor window that is lit (RV46A DW PRESS) to override the signal and reset the Core Spray start logic (the OVERRIDE light will light-up)
Comment:	
<b>SAT/UNSAT</b>	

✓	Performance Step: 4
	Procedure Step: 7.3.2.2
	If all actuating signals are not cleared, then press all ACTUATED push switches to reset the Core Spray start logic
<b>Standard:</b>	Presses all ACTUATED push switches to reset the Core Spray start logic
Comment:	
<b>SAT/UNSAT</b>	

## Performance Information

Performance Step: 5

Procedure Step: 7.3.3

Confirm the following valves are in the closed position:

7.3.3.1 V-20-15, System I Parallel Isolation Valve

7.3.3.2 V-20-40, System I Parallel Isolation Valve

**Standard:** Confirms the following valves are in the closed position:  
V-20-15, System I Parallel Isolation Valve (green light on; red light off)  
V-20-40, System I Parallel Isolation Valve (green light on; red light off)

Comment:

SAT/UNSAT

✓

Performance Step: 6

Procedure Step: 7.3.4

Place the control switches on Panel 1F/2F for the following Core Spray Booster Pumps to the STOP position to shutdown any running pump:

7.3.4.1 NZ03A - Core Spray Booster Pump

7.3.4.2 NZ03C - Core Spray Booster Pump

**Standard:** Places the control switch for NZ03A - Core Spray Booster Pump to the STOP position to shutdown NZ03A (green light on; red light off; System 1 PUMP DISCH PRESS BOOSTERS lowers)

Comment:

SAT/UNSAT

## Performance Information

**Note:** Step 7.3.5 is not applicable.

✓	Performance Step: 7
	Procedure Step: 7.3.6
	Place the control switches on Panel 1F/2F for the following Core Spray Pumps to the STOP or PULL TO LOCK position to shutdown any running pump.
	7.3.6.1 NZ01A – Core Spray Main Pump
	7.3.6.2 NZ01C – Core Spray Main Pump
<b>Standard:</b>	Places the control switch for NZ01A – Core Spray Main Pump in STOP or PULL TO LOCK position (green light on; red light off; MAIN PUMP AMP NZ01A goes to 0 amps)
<b>Cue:</b>	At the completion of this step, state that another Operator will continue with Core Spray System I and to shutdown Core spray System II
<b>Comment:</b>	
<b>SAT/UNSAT</b>	

**Note:** Step 7.4.1 is not applicable

	Performance Step: 8
	Procedure Step: 7.4.2.1
	If all actuating signals are not cleared, then press the OVERRIDE push switch(es) which have a sensor window that is lit to override the signal(s) and reset the Core Spray start logic
<b>Standard:</b>	Presses the OVERRIDE push switches which have a sensor window that is lit (RV46A DW PRESS) to override the signal and reset the Core Spray start logic (the OVERRIDE light is already lit)
<b>Comment:</b>	
<b>SAT/UNSAT</b>	

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Performance Information

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Performance Step: 9

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Procedure Step: 7.4.2.2

If all actuating signals are not cleared, then press all ACTUATED push switches to reset the Core Spray start logic

**Standard:** Presses all ACTUATED push switches to reset the Core Spray start logic

Comment:

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**SAT/UNSAT**

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Performance Step: 10

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Procedure Step: 7.4.3

Confirm the following valves are in the closed position:

7.4.3.1 V-20-21, System 2 Parallel Isolation Valve

7.4.3.2 V-20-41, System 2 Parallel Isolation Valve

**Standard:** Confirms the following valves are in the closed position:  
V-20-21, System 2 Parallel Isolation Valve (green light on; red light off)  
V-20-41, System 2 Parallel Isolation Valve (green light on; red light off)

Comment:

---

**SAT/UNSAT**

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## Performance Information

**Note:** The Alternate Path begins in the next step when the Core Spray Booster Pump NZ03B fails to trip from the switch

✓	Performance Step: 11
	Procedure Step: 7.4.4 Place the control switches on Panel 1F/2F for the following Core Spray Booster Pumps to the STOP position to shutdown any running pump: 7.4.4.1 NZ03B - Core Spray Booster Pump 7.4.4.2 NZ03D - Core Spray Booster Pump
<b>Standard:</b>	Places the control switch for NZ03B - Core Spray Booster Pump to the STOP position to shutdown NZ03B (green light on; red light off; System 2 PUMP DISCH PRESS BOOSTERS lowers) Recognizes the Core Spray Booster Pump NZ03B did not trip (green light off; red light on)
Comment:	_____
	_____
<b>SAT/UNSAT</b>	_____

✓	Performance Step: 12
	Procedure Step: 7.4.5 If the Core Spray Booster Pumps cannot be shutdown from the control room, then trip the appropriate breaker(s) at the unit substation. 7.4.5.1 NZ03D - Unit Substation 1A2 7.4.5.2 NZ03B - Unit Substation 1B2
<b>Standard:</b>	Calls the EO to trip Core Spray Booster Pump NZ03B at Unit Substation 1B2. Verifies Core Spray Booster Pump NZ03B is secured (green light on; red light off; System 2 PUMP DISCH PRESS BOOSTERS lowers)
<b>Booth/Cue:</b>	Insert BKR-CSS002 to TRIP. Then notify the Control Room that Core Spray Booster Pump NZ03B has been tripped at USS 1B2
Comment:	_____
	_____
<b>SAT/UNSAT</b>	_____

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Performance Information

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✓

Performance Step: 13

Procedure Step: 7.4.6

Place the control switches on Panel 1F/2F for the following  
Core Spray Pumps to the STOP or PULL TO LOCK position to  
shutdown any running pump.

7.4.6.1 NZ01B – Core Spray Main Pump

7.4.6.2 NZ01D – Core Spray Main Pump

**Standard:** Places the control switch for NZ01B – Core Spray Main Pump in  
STOP or PULL TO LOCK position (green light on; red light off;  
MAIN PUMP AMP NZ01B goes to 0 amps)

**Cue:** At the completion of this step, state that another Operator will  
continue with Core Spray System 2

Comment:

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**SAT/UNSAT**

**Terminating Cue:** Core Spray Systems 1 and 2 are secured IAW 308,  
Emergency Core Cooling System Operation, Section 7.0

**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SIM JPM4

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_



Simulator Setup

1. This JPM can be performed at any power level where Core Spray auto start signals are not present and RPV water level is normal
2. Insert PSW-PCN004A TRIP
  - a. This will cause the auto start of the Core Spray System on a single Drywell high pressure input
  - b. Wait for Core Spray Loops A and B to start
  - c. Then insert BKR-CSS002 to MECH SZ
    - i. This prevents Core Spray Booster Pump NZ03B from tripping with its control switch
    - ii. When contacted by the candidate in the JPM, change this malfunction to TRIP

STUDENT HANDOUTInitial Conditions:

1. The plant was at rated power when Drywell pressure switch RV46A failed upscale, resulting in the auto start of the Core Spray System
2. I&C reports that replacement of the switch will take several hours

Task Cue:

Shutdown the Core Spray System IAW 308, Emergency Core Cooling System Operation, starting at Step 7.3

Facility: Oyster Creek Task No.: 2230101509Task Title: Purging the Primary Containment with Elevated Stack  
Radiation (Alternate Path)Job Performance Measure No.: NRC SIM JPM5K/A Reference: 223001 A4.07 (4.2/4.1)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The plant is at rated power preparing for a shutdown
2. Entry into the Primary Containment will be required
3. The Primary Containment is being prepared to be purged with air, IAW 312.9, Primary Containment Control
4. All Prerequisites of Section 9.0, Purging Primary Containment With Air, are complete

Task Standard: Drywell air purge has been initiated, then isolated when stack gas high radiation indicated > 1000 CPS

Required Materials: None.

General References:

1. 312.9, Primary Containment Control, Revision 49

Initiating Cue: Purge the Primary Containment with air IAW 312.9, Primary Containment Control, starting at Step 9.3.6

---

Time Critical Task: No.

Validation Time: 15 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

## Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

## Performance Step: 2

Procedure Step: Verifies Prerequisites and reviews Precautions and Limitations.

**Standard:** Verifies Prerequisites and reviews Precautions and Limitations.

Comment:

**SAT/UNSAT**

## Performance Information

## Performance Step: 3

## Procedure Step: 9.3.6.1

Confirm closed Drywell Vent and Bypass valves:

- V-23-21
- V-23-22
- V-27-1
- V-27-2

**Standard:**

Confirm closed Drywell Vent and Bypass valves:

- V-23-21
- V-23-22
- V-27-1
- V-27-2 (green lights on; red lights off)

Comment:

**SAT/UNSAT**

## Performance Step: 4

## Procedure Step: 9.3.6.2

If the REACTOR MODE SELECTOR switch is in the RUN position, THEN place DRYWELL VENT-PURGE INTERLOCK BYPASS switch in BYPASS position (Panel 12XR)

**Standard:**

Places DRYWELL VENT-PURGE INTERLOCK BYPASS switch in the BYPASS position

Comment:

**SAT/UNSAT**

## Performance Information

✓

Performance Step: 5

Procedure Step: 9.3.6.3

Open Torus Vent valves (Panel 11F):

- V-28-17
- V-28-18

**Standard:**

Opens Torus Vent valves (Panel 11F):

- V-28-17
- V-28-18

By taking their control switches CW (green lights off; red lights on)

**Note/Cue:**

As Drywell pressure lowers, annunciator C3f, DW PRESS HI/LO may alarm. State that another operator will respond.

Comment:

**SAT/UNSAT**

Performance Step: 6

Procedure Step: 9.3.6.4

Monitor the following:

- Reactor Building ventilation exhaust activity (Panel 10F)
- Stack gas activity (Panel 10F)
- Stack gas activity (Panel 1R)

**Standard:**

Monitors the following:

- Reactor Building ventilation exhaust activity (Panel 10F)
- Stack gas activity (Panel 10F)
- Stack gas activity (Panel 1R)

Comment:

## Performance Information

**SAT/UNSAT**

Performance Step: 7

Procedure Step: 9.3.6.5

Mark the time the depressurization was started on the stack gas recorder (Panel 10F).

**Note/Cue:** These recorders have been changed to electronic recorders and do not allow marking. State that the recorders have been marked.**Standard:**

Comment:

**SAT/UNSAT****Note:** Step 9.3.6.6 is a conditional statement which requires no actions and is not provided here.

Performance Step: 8

Procedure Step: 9.3.6.7

Verify Torus pressure is approximately zero as indicated on the pressure recorder (Panel 12XR)

**Standard:** Verifies Torus pressure is approximately zero as indicated on the pressure recorder**Cue:** State that time compression is used here and that Torus pressure indicates approximately zero as indicated on the pressure recorder

Comment:

**SAT/UNSAT**



## Performance Information



## Performance Step: 9

## Procedure Step: 9.3.6.8

Close Torus Vent valves (Panel 11F):

- V-28-17
- V-28-18

**Standard:** Closes Torus Vent valves (Panel 11F):

- V-28-17
- V-28-18

By taking their control switches CCW (green lights on; red lights off)

Comment:

SAT/UNSAT

## Performance Step: 10

## Procedure Step: 9.3.7.1

Confirm closed Torus Vent and Bypass valves (Panel 11F):

- V-28-17
- V-28-18
- V-28-47

**Standard:** Confirm closed Torus Vent and Bypass valves (Panel 11F):

- V-28-17
- V-28-18
- V-28-47 (green lights on; red lights off)

Comment:

SAT/UNSAT

## Performance Information

Performance Step: 11

Procedure Step:

**Standard:** Procedure Step: 9.3.7.2

If the REACTOR MODE SELECTOR switch is in the RUN position, THEN place DRYWELL VENT-PURGE INTERLOCK BYPASS switch in BYPASS position (Panel 12XR)

**Comment:** Places DRYWELL VENT-PURGE INTERLOCK BYPASS switch in the BYPASS position (this step was already performed)

**SAT/UNSAT**

✓

Performance Step: 12

Procedure Step: 9.3.7.3

Open Drywell Vent valves (Panel 11F):

- V-27-1
- V-27-2

**Standard:** Opens Drywell Vent valves (Panel 11F):

- V-27-1
- V-27-2

By taking their control switches CW (green lights off; red lights on)

**Note/Cue:** Annunciator C6g, DW VENT VLV OPEN will alarm. State that another operator will respond. As Drywell pressure lowers, annunciator C3f, DW PRESS HI/LO may alarm. State that another operator will respond.

**Comment:****SAT/UNSAT**

**Note:** Trigger 1 will initiate the rise in stack gas radiation when V-27-2 goes open (red light on), and begins the Alternate Path.

## Performance Information

**Note:** Step 9.3.7.4 is a conditional statement which requires no actions and is not provided here.

## Performance Step: 13

## Procedure Step: 9.3.7.5

Monitor the following:

- a. Reactor Building ventilation exhaust activity (Panel 10F)
- b. Stack gas activity (Panel 1R)

**Standard:**

Monitors the following:

- a. Reactor Building ventilation exhaust activity (Panel 10F)
- b. Stack gas activity (Panel 1R)
- c. Recognizes/reports at some point that Stack Gas radiation is rising

Comment:

**SAT/UNSAT**

**Note:** When the Candidate sees the stack gas rise and notifies the SRO, acknowledge the report. When Stack radiation level reaches 1000 CPS, annunciator STACK EFFLUENT HI (10F2d) will alarm, and may be responded to by the Candidate.

## Performance Step: 14

## Procedure Step: 9.3.7.6

Mark the time the depressurization was started on the stack gas recorder (Panel 10F)

**Note/Cue:** These recorders have been changed to electronic recorders and do not allow marking. State the recorder has been marked.

**Standard:**

Comment:

**SAT/UNSAT**

## Performance Information

✓

## Performance Step: 15

## Procedure Step: 9.3.7.7

If stack gas activity exceeds 1000 cps, then immediately secure the purge:

- a. Close Drywell Vent V-27-1
- b. Close Drywell Vent V-27-2
- c. Notify the US

**Standard:**

If stack gas activity exceeds 1000 cps, then immediately secure the purge:

- a. Closes Drywell Vent V-27-1
- b. Closes Drywell Vent V-27-2

By taking their control switches CCW (green lights on; red lights off)

- c. Notifies the US (not required for Critical Step)

**Note:**

The Candidate may isolate the valves prior to reaching 1000 CPS.

Comment:

SAT/UNSAT

**Terminating Cue:** Drywell air purge has been initiated, then isolated when stack gas high radiation indicated > 1000 CPS

JPM Stop Time: \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SIM JPM5

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

Simulator Setup

1. This JPM can be performed at any power level
2. Insert the following:
  - a. ANN-C4f to OFF
  - b. ANN-C5f to OFF
  - c. This keeps the Torus-DW Vacuum Breakers Open annunciators off
3. Place the following on Conditional Trigger 1: hwx08o037r.eq.1
  - a. When Drywell vent valve V-27-2 red light comes on, Trigger 1 will initiate
4. Place the following on Trigger 1:
  - a. MAL-RMS005A to 1200 CPS over a 180-second period
  - b. MAL-RMS005B to 1300 CPS over a 200-second period
  - c. This ramps the Stack Low Range Radiation Monitors above 1000 CPS
5. Place the Stack Gas recorders on Panel 10F in Trend

STUDENT HANDOUTInitial Conditions:

1. The plant is at rated power preparing for a shutdown
2. Entry into the Primary Containment will be required
3. The Primary Containment is being prepared to be purged with air, IAW 312.9, Primary Containment Control
4. All Prerequisites of Section 9.0, Purging Primary Containment With Air, are complete

Task Cue:

Purge the Primary Containment with air IAW 312.9, Primary Containment Control, starting at Step 9.3.6

Facility: Oyster Creek Task No.: 2620104001Task Title: De-energize 1A1 Substation Transformer by Cross-tying USS 1A1 to USS 1B1Job Performance Measure No.: NRC SIM JPM6K/A Reference: 262001 A1.05 (3.2/3.5)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The plant is in a COLD SHUTDOWN CONDITION
2. Transformer USS 1A1 is over-heated and needs to be removed from service while still supplying power to USS 1A1
3. Section 8.0, De-Energizing Unit Substation Transformers, of procedure 337, 4160 Volt Electrical System, is complete up to Section 8.1.3
4. An EO has been briefed, has a copy of the procedure, and is standing by for support
5. Electrical Maintenance has been briefed and is standing by for support

Task Standard: USS 1A1 transformer has been removed from service IAW procedure 337, Section 8.0

Required Materials: None.



## General References:

1. 337, 4160 Electrical System, Revision 78

Initiating Cue: Continue in procedure 337, 4160 Electrical System, starting at Step 8.1.3, to de-energize Transformer 1A1

Time Critical Task: No.

Validation Time: 12 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

---

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

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Performance Step: 2

Procedure Step: Verifies Prerequisites and reviews Precautions and Limitations.

**Standard:** Verifies Prerequisites and reviews Precautions and Limitations.

Comment:

**SAT/UNSAT**

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Note: The Evaluator should be in communication with the Booth during this JPM. Where annotated, the Booth will perform the listed actions and notify the Evaluator. The Evaluator will provide feedback of the actions to the Candidate.

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Performance Information

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✓

Performance Step: 3

Procedure Step: 8.1.3.1

Rack in Tie Breaker EC

**Standard:** Directs the EO to rack-in breaker EC**Booth/Cue:** Activate Trigger 1. Report that Breaker EC is racked-in.Comment:  

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**SAT/UNSAT**

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✓

Performance Step: 4

Procedure Step: 8.1.3.2

Close Tie Breaker EC (Panel 8F/9F)

**Standard:** Closes Tie Breaker EC with the control switch to CLOSE (green light off; red light on)**Note:** Annunciator T8a will alarm and the Candidate will respond to the associated RAP (no actions required)Comment:  

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**SAT/UNSAT**

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## Performance Information

✓

Performance Step: 5

Procedure Step: 8.1.3.3

Rack in Tie Breaker ED

**Standard:** Directs the EO to rack-in breaker ED**Booth/Cue:** Activate Trigger 2. Report that Breaker ED is racked-in.

Comment:

SAT/UNSAT

✓

Performance Step: 6

Procedure Step: 8.1.3.4

1. Place Synchroscope Switch for Tie Breaker ED to ON
2. Place TIE BREAKER ED control switch to CLOSE
3. Verify TIE BREAKER ED red closed light is illuminated
4. Place the Synchroscope Switch for Tie Breaker ED to OFF

**Standard:**

1. Places Synchroscope Switch for Tie Breaker ED to ON
2. Checks voltages matched on Running and Incoming
3. Places TIE BREAKER ED control switch to CLOSE (green light off; red light on)
4. Verifies TIE BREAKER ED red closed light is illuminated
5. Places the Synchroscope Switch for Tie Breaker ED to OFF

(**Note:** Only steps 1 & 3 required for Critical Step)

**Note:** Annunciator T8e will alarm and the Candidate will respond to the associated RAP (no actions required)

Comment:

SAT/UNSAT

## Performance Information

**Note:** The next step cannot be performed in the Simulator. This step will be performed by the Booth and Cued by the Evaluator.

---

✓	Performance Step: 7
	Procedure Step: 8.1.3.5
	Install jumper from TB6-22 to TB6-24 in Panel 8F/9F
<b>Booth/Cue:</b>	Activate Trigger 3. Report that the jumper from TB6-22 to TB6-24 in Panel 8F/9F is installed, and has been concurrently verified. Also report that both performers have signed for the step.
<b>Standard:</b>	Jumper installed.
Comment:	<hr/> <hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>

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✓	Performance Step: 8
	Procedure Step: 8.1.3.6
	Rack in Tie Breaker US1T
<b>Standard:</b>	Directs the EO to rack-in Breaker US1T
<b>Booth/Cue:</b>	Activate Trigger 4. Report that Breaker US1T is racked-in.
Comment:	<hr/> <hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>

## Performance Information

✓

Performance Step: 9

Procedure Step: 8.3.1.7

Close TIE BREAKER US1T (Panel 8F/9F)

**Standard:** Closes TIE BREAKER US1T with the control switch to CLOSE  
(green light off; red light on)

**Note:** Annunciator U7b will alarm and the Candidate will respond to the  
associated RAP (no actions required)

Comment:

SAT/UNSAT

✓

Performance Step: 10

Procedure Step: 8.3.1.8

Open MAIN BREAKER 1A1M (Panel 8F/9F)

**Standard:** Opens MAIN BREAKER 1A1M with the control switch to TRIP  
(green light on; red light off)

Comment:

SAT/UNSAT

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Performance Information

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✓

Performance Step: 11

Procedure Step: 8.1.3.9

Open FEEDER BREAKER 1A1P (Panel 8F/9F)

**Standard:** Opens FEEDER BREAKER 1A1P with the control switch to TRIP  
(green light on; red light off)

Comment:

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SAT/UNSAT

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**Note:** The next step cannot be performed in the Simulator. This step will be performed by the Booth and Cued by the Evaluator.

---

Performance Step: 12

Procedure Step: 8.3.1.10

Remove jumper from TB6-22 to TB6-24 in Panel 8F/9F

**Booth/Cue:** Insert LOA-EDS068 to NORMAL. Report that the jumper from TB6-22 to TB6-24 in Panel 8F/9F is removed, and has been concurrently verified. Also report that both performers have signed for the step.

**Standard:** Jumper removed

Comment:

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SAT/UNSAT

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Performance Information

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Performance Step: 13

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Procedure Step: 8.3.11

Open the following TIE BREAKERs (Panel 8F/9F):

- EC
- ED

**Standard:** Opens TIE BREAKER EC and ED with their control switches to TRIP (Green light on; red light off)

Comment:

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SAT/UNSAT

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Performance Step: 14

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Procedure Step: 8.3.12

Rack out the following TIE BREAKERs:

- EC
- ED

**Standard:** Directs the EO to rack-out Tie Breakers EC and ED

**Booth/Cue:** Insert LOA-EDS021 to RACKED OUT and LOA-EDS030 to RACKED OUT. Report that Tie Breakers EC and ED are racked-out.

**Note:** The candidate may place breakers EC/ED in PTL

Comment:

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SAT/UNSAT

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Performance Information

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Performance Step: 15

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Procedure Step: 8.3.13

Rack out Feeder Breaker 1A1P

**Standard:** Directs the EO to rack-out Feeder Breaker 1A1P**Booth/Cue:** Activate Trigger 5. Report that Feeder Breaker 1A1P is racked out.**Note:** The candidate may place breakers EC/ED in PTL

Comment:

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**SAT/UNSAT**

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**Terminating Cue:** USS 1A1 transformer has been removed from service IAW procedure 337, Section 8.0**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SIM JPM6

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

Simulator Setup

1. The plant is in a scrammed condition with the reactor Mode switch in Shutdown
2. Insert LOA-EDS022 to CLOSE
  - a. This places the Tie Breaker EC 69 Permissive switch in Close
3. Place the following on Trigger 1
  - a. LOA-EDS021 to RACKED IN
    - i. This will rack-in Tie Breaker EC
4. Insert LOA-EDS031 to CLOSE
  - a. This places the Tie Breaker ED 69 Permissive switch in Close
5. Place the following on Trigger 2
  - a. LOA-EDS030 to RACKED IN
    - i. This will rack-in Tie Breaker ED
6. Place the following on Trigger 3
  - a. LOA-EDS068 to JUMPERED
    - i. This inserts jumpers on breaker US1T
7. Place the following on Trigger 4
  - a. LOA-EDS067 to RACKED IN
    - i. This will rack-in Breaker US1T
8. Place the following on Trigger 5
  - a. LOA-EDS036 to RACKED OUT
    - i. This will rack-out Feeder Breaker 1A1P

STUDENT HANDOUTInitial Conditions:

1. The plant is in a COLD SHUTDOWN CONDITION
2. Transformer USS 1A1 is over-heated and needs to be removed from service while still supplying power to USS 1A1
3. Section 8.0, De-Energizing Unit Substation Transformers, of procedure 337, 4160 Volt Electrical System, is complete up to Section 8.1.3
4. An EO has been briefed, has a copy of the procedure, and is standing by for support
5. Electrical Maintenance has been briefed and is standing by for support

Task Cue:

Continue in procedure 337, 4160 Electrical System, starting at Step 8.1.3, to de-energize Transformer 1A1

Facility: Oyster Creek Task No.: 2170101008Task Title: Substitute Control Rod Position and Initiate the Power Operations Mode of the RWMJob Performance Measure No.: NRC SIM JPM7K/A Reference: 201006 A4.02 (2.9/2.9)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The plant is at 10% power during a startup with the Reactor Mode Selector switch in RUN
2. Control rod 18-19, currently at position 46, had its position substituted into the RWM due to a loss of position indication. Its position indication has been restored.

Task Standard: The substitute position for control rod 18-19 at position 48 has been deleted from the RWM, and the RWM has been changed to the Power Operations Mode

Required Materials: None.

## General References:

1. 409, Operation of the Rod Worth Minimizer, Revision 24

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Initiating Cue: 1) Delete the substitute position for control rod 18-19 IAW 409, Operation of the Rod Worth Minimizer, Section 7.5, Substitute Control Rod Function. For Step 7.5.2.4, perform a Full Core Scan IAW Section 7.4.

2) When complete, place the RWM in the Power Operations Mode IAW Section 7.8.

Time Critical Task: No.

Validation Time: 12 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

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Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

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Performance Step: 2

Procedure Step: Verifies Prerequisites.

**Standard:** Verifies Prerequisites.

Comment:

**SAT/UNSAT**

## Performance Information

✓	Performance Step: 3
	Procedure Step: 7.5.2.1
	Touch the <SUB C,R,> button available on most displays.
<b>Standard:</b>	Touches the <SUB C,R,> button on the RWM screen (When pressed, the button will turn color and the screen will go to the substitute control rod screen)
<b>Comment:</b>	  
<b>SAT/UNSAT</b>	
✓	Performance Step: 4
	Procedure Step: 7.5.2.2
	Select the individual control rod whose rod position has been substituted and is now available. (At the Substitute Control Rod display)
<b>Standard:</b>	Touches control rod 18-19 on the RWM screen (the control rod designation will turn color)
<b>Comment:</b>	  
<b>SAT/UNSAT</b>	



## Performance Information

✓	Performance Step: 5
	Procedure Step: 7.5.2.3
	Touch the <DEL> button
<b>Standard:</b>	Touches the <DEL> button on the RWM screen (control rod 18-19 designation gets a red border, then displays UNK)
<b>Comment:</b>	
<b>SAT/UNSAT</b>	
✓	Performance Step: 6
	Procedure Step: 7.5.2.4/7.4.1.1.1
	Select the un-substituted control rod on Panel 4F, OR Perform a Full Core Scan in accordance with section 7.4 to update the rod's position in the RWM
	Touch the <SCAN DEMAND> button available on most displays
<b>Standard:</b>	Touches the <SCAN DEMAND> button on the RWM screen (When pressed, the button will turn color and the screen will go to the Scan Demand screen)
<b>Comment:</b>	
<b>SAT/UNSAT</b>	

## Performance Information

✓

Performance Step: 7

Procedure Step: 7.4.1.1.2

Touch the button labeled &lt;PRESS FOR FULL CORE SCAN&gt;

**Standard:** Touch the button labeled <PRESS FOR FULL CORE SCAN> on the RWM screen (The screen will display Scan Request in Progress, then Scan Request Complete)

Comment:

SAT/UNSAT

✓

Performance Step: 8

Procedure Step: 7.5.2.5

Verify that the correct position for the un-substituted rod is displayed on the RWM

**Standard:** Verifies that the RWM displays position 46 for control rod 18-19 by pressing the FULL CORE or PWR OPS MODE button and then verifying control rod 18-19 displays position 46

Comment:

SAT/UNSAT

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Performance Information

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✓

Performance Step: 9

Procedure Step: 7.8.1

If RWM Keylock Switch Is not In BYPASS, Then obtain US permission To place the RWM Keylock Switch In The BYPASS.  
And place RWM Keylock Switch In BYPASS.

**Cue:** If the Candidate asks the US for permission to place the RWM switch in BYPASS, state permission is allowed.

**Standard:** Places ROD WORTH MINIMIZER Keylock Switch In BYPASS

Comment:

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**SAT/UNSAT**

✓

Performance Step: 10

Procedure Step: 7.8.2

Touch <POWER OPS MODE> button/status block to select Power Operations Mode Main display. (upper right-hand corner of any display)

**Standard:** Touches <POWER OPS MODE> button/status block on the RWM screen (When pressed, the button will turn color)

Comment:

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**SAT/UNSAT**

## Performance Information

✓

## Performance Step: 11

## Procedure Step: 7.8.3

Touch red <START POM> button to select Power Operations Mode.

**Standard:** Touch red <START POM> button on the RWM screen (When pressed, the button will turn color)

Comment:

SAT/UNSAT

## Performance Step: 12

## Procedure Step: 7.8.3.1

Observe the following:

- Button will turn into a green <STOP POM> button
- Power Operations Mode status block will turn red

**Standard:** Observes the following:

- Button will turn into a green <STOP POM> button
- Power Operations Mode status block will turn red

Comment:

SAT/UNSAT

**Terminating Cue:** The substitute position for control rod 18-19 at position 46 has been deleted from the RWM, and the RWM has been changed to the Power Operations Mode

**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SIM JPM7

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

Simulator Setup

1. This JPM can be performed at any power level (>10%)
2. Insert control rod 18-19 to position 46 (from 48)
3. On the RWM, insert a substitute position of 46 for control rod 18-19:
  - a. Touch <SUB C.R.> button
  - b. Select control rod 18-19
  - c. Change position to 46 (if required) with up/down arrows
  - d. Touch the <SUB> button
4. On the RWM, insert a substitute position of 48 for control rod 14-19
5. Leave the RWM Main Screen displayed
6. Place the ROD WORTH MINIMIZER switch in NORMAL
7. Turn ROD POWER off

STUDENT HANDOUTInitial Conditions:

1. The plant is at 10% power during a startup with the Reactor Mode Selector switch in RUN
2. Control rod 18-19, currently at position 46, had its position substituted into the RWM due to a loss of position indication. Its position indication has been restored.

Task Cue:

1. Delete the substitute position for control rod 18-19 IAW 409, Operation of the Rod Worth Minimizer, Section 7.5, Substitute Control Rod Function.
  - a. For Step 7.5.2.4, perform a Full Core Scan IAW Section 7.4.
2. When complete, place the RWM in the Power Operations Mode IAW Section 7.8.

Facility: Oyster Creek Task No.: 2610104007Task Title: Reactor Building Ventilation Restart with Fan Failure (Alternate Path)Job Performance Measure No.: NRC SIM JPM8K/A Reference: 288000 A4.01 (3.1/2.9)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance \_\_\_\_\_ Actual Performance XClassroom \_\_\_\_\_ Simulator X 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:

1. The plant was at rated power when an event occurred requiring entry into the Secondary Containment Control EOP
2. Reactor Building ventilation has tripped and isolated
3. A ground level radioactive release is not in progress and is not imminent

Task Standard: The Reactor Building Ventilation System has been restarted using Supply Fans 1-13 and 1-14, IAW Support Procedure 50

Required Materials: None.

## General References:

1. Support Procedure 50, Reactor Building Ventilation Restart, Revision 0

Initiating Cue: Restart the Reactor Building Ventilation System IAW Support Procedure 50, Reactor Building Ventilation Restart. Restart the previously running fans.



Time Critical Task: No.

Validation Time: 13 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

---

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

---

Performance Step: 2

Procedure Step: Verifies Prerequisites

**Standard:** Verifies Prerequisites

Comment:

**SAT/UNSAT**

## Performance Information

Performance Step: 3

Procedure Step: 2.1

Verify at least one of the following conditions is in place:

- Reactor Building Ventilation Effluent Monitors (REACTOR BUILDING VENT MANIFOLD NO. 1 AND NO.2) are reading less than 9 mREM/hr. (Panel 2R), OR
- Rx Bldg Pressure is above 0 in. of water and a ground level release is imminent or in progress.

**Standard:** Verifies Reactor Building Ventilation Effluent Monitors (REACTOR BUILDING VENT MANIFOLD NO. 1 AND NO.2) are reading less than 9 mREM/hr, or Rx Bldg Pressure is above 0 in. of water and a ground level release is imminent or in progress

Comment:

SAT/UNSAT

✓

Performance Step: 4

Procedure Step: 2.2

Open the EOP BYPASS PLUGS panel in the rear of Panel 11R

2.2.1 Remove the bypass plug from Position BP4

2.2.2 Insert the bypass plug into Position BP1

**Standard:** Opens the EOP BYPASS PLUGS panel in the rear of Panel 11R, removes the bypass plug from BP4 and inserts into BP1

Comment:

SAT/UNSAT

## Performance Information

**Note/Cue:** Step 3.1 requires direction by the US to continue. If asked, direct the Candidate to continue.

---

Performance Step: 5

---

Procedure Step: 3.2

Open the following Exhaust Valves to Main Exhaust: (Panel 11R)

- V-28-21
- V-28-22

**Standard:** Confirms open the following valves:

- V-28-21
- V-28-22 (green lights on; red lights off)

Comment:

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**SAT/UNSAT**

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✓

Performance Step: 6

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Procedure Step: 3.3

Reset the Reactor Building Ventilation System by depressing the RX BLDG. VENT ISOLATION RESET button. (Panel 11R)

**Standard:** Resets the Reactor Building Ventilation System by depressing the RX BLDG. VENT ISOLATION RESET button (green RESET light on; red TRIP light off)

Comment:

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**SAT/UNSAT**

## Performance Information

✓	Performance Step: 7
	Procedure Step: 3.4 Start Reactor Building Exhaust Fan EF 1-5 or EF 1-6 (if lined up to Reactor Bldg.) by placing its control switch in START. (Panel 11R) <ul style="list-style-type: none"><li>• EF-1-5 OR</li><li>• EF-1-6</li></ul>
<b>Standard:</b>	Starts Reactor Building Exhaust Fan EF 1-5 or EF 1-6 with its control switch to START (green light off; red light on)
<b>Cue:</b>	If asked, report that Reactor Building Exhaust Fan EF 1-6 is not currently lined up to the Reactor Building
<b>Comment:</b>	<hr/> <hr/>
<b>SAT/UNSAT</b>	
<b>Note/Cue:</b> SF 1-12 will fail to start in the next step and starts the Alternate Path. Note that the Supply Fans can be started in any order.	

✓	Performance Step: 8
	Procedure Step: 3.5 Select and start two of the following Reactor Bldg Supply Fans by placing their control switches in ON. (Panel 11R) <ul style="list-style-type: none"><li>• SF 1-12</li><li>• SF 1-13</li><li>• SF 1-14</li></ul>
<b>Standard:</b>	Starts the following Reactor Bldg Supply Fans by placing their control switches in ON <ul style="list-style-type: none"><li>• SF 1-12 (green lights on; red lights off – See Note)<ul style="list-style-type: none"><li>○ Reports SF 1-12 will not stay on</li></ul></li></ul>
<b>Cue:</b>	When the candidate states that SF 1-12 will not start, acknowledges the report and direct the candidate to continue in the procedure.
<b>Comment:</b>	<hr/> <hr/>
<b>SAT/UNSAT</b>	

## Performance Information

**Note:** Steps 9 and 10 may be performed in any order.

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✓	<b>Performance Step: 9</b>
<hr/>	
	<b>Procedure Step: 3.5</b>
	Select and start two of the following Reactor Bldg Supply Fans by placing their control switches in ON. (Panel 11R)
	<ul style="list-style-type: none"><li>• SF 1-12</li><li>• SF 1-13</li><li>• SF 1-14</li></ul>
<b>Standard:</b>	Starts the following Reactor Bldg Supply Fans by placing their control switch in ON
	<ul style="list-style-type: none"><li>• SF 1-13 (green lights off; red lights on)</li></ul>
<b>Comment:</b>	
	<hr/>
	<hr/>
	<hr/>
<b>SAT/UNSAT</b>	

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✓	<b>Performance Step: 10</b>
<hr/>	
	<b>Procedure Step: 3.5</b>
	Select and start two of the following Reactor Bldg Supply Fans by placing their control switches in ON. (Panel 11R)
	<ul style="list-style-type: none"><li>• SF 1-12</li><li>• SF 1-13</li><li>• SF 1-14</li></ul>
<b>Standard:</b>	Starts the following Reactor Bldg Supply Fans by placing their control switch in ON
	<ul style="list-style-type: none"><li>• SF 1-14 (green lights off; red lights on)</li></ul>
<b>Comment:</b>	
	<hr/>
	<hr/>
	<hr/>
<b>SAT/UNSAT</b>	

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Performance Information

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Performance Step: 11

Procedure Step: 3.5

Confirm control switch for the following Main Supply Header  
Valves to DW in CLOSE. (Panel 11R)

- V-28-42
- V-28-43

**Standard:** Confirms control switch for the following Main Supply Header  
Valves to DW in CLOSE. (Panel 11R)

- V-28-42
- V-28-43 (green lights on; red lights off)

Comment:

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**SAT/UNSAT****Terminating Cue:** The Reactor Building Ventilation System has been restarted  
using Supply Fans 1-13 and 1-14, IAW Support Procedure 50**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC SIM JPM8

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_



Simulator Setup

1. This JPM can be run at any power level.
2. Insert PSW-SCN002A to TRIP
  - a. This will trip a RB Dp switch to isolate RB ventilation
3. Insert LOA-SCN033 to OPEN
  - a. This opens the breaker for RB SF 1-12
4. Insert SWI-SCN021A to ON
  - a. This keeps the green light on for RB SF 1-12
5. Verify that RB Supply Fans 1-12 and 1-14 are annotated by the magnetic blue X on the panel

STUDENT HANDOUTInitial Conditions:

1. The plant was at rated power when an event occurred requiring entry into the Secondary Containment Control EOP
2. Reactor Building ventilation has tripped and isolated
3. A ground level radioactive release is not in progress and is not imminent

Task Cue:

Restart the Reactor Building Ventilation System IAW Support Procedure 50, Reactor Building Ventilation Restart. Restart the previously running fans.

Facility: Oyster Creek Task No.: 2010504001Task Title: Vent the CRD Over Piston VolumeJob Performance Measure No.: NRC PLANT JPM1K/A Reference: 201001 A2.01 (3.4/3.6)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance X Actual Performance \_\_\_\_\_Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant X*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:

1. The plant was rated power when an ATWS occurred
2. All other control rod insertion methods IAW SP-21, Alternate Insertion of Control Rods, have failed
3. All available CRD Pumps are running

Task Standard: The in-plant actions are performed to support venting the CRD Over Piston Volume IAW Support Procedure 21

Required Materials: None.

## General References:

1. EMG-SP21, Alternate Insertion of Control Rods, Revision 0

Initiating Cue: Perform the in-plant actions to support venting the CRD Over Piston Volume IAW SP-21, Alternate Insertion of Control Rods, Section 4.7. Notify the Control Room when complete.

---

Time Critical Task: No.

Validation Time: 6 Minutes

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Performance Information

*Denote critical steps with a check mark ✓*

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Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

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**SAT/UNSAT**

## Performance Information

**Note:** Steps 4.7.1 and 4.7.2 were provided in the JPM cue and have no action.

✓	Performance Step: 2
	Procedure Step: 4.7.3
	Close Cooling Water PCV Isolation valve V-15-24. (RB 23 SE)
<b>Standard:</b>	Closes Cooling Water PCV Isolation valve V-15-24 with the valve handwheel in the CW direction until tight
<b>Cue:</b>	Cooling Water PCV Isolation valve V-15-24 is closed
<b>Comment:</b>	<hr/> <hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>

✓	Performance Step: 3
	Procedure Step: 4.7.4
	Close Exhaust Header Root valve V-15-25. (RB 23 SE)
<b>Standard:</b>	Close Exhaust Header Root valve V-15-25 with the valve handwheel in the CW direction until tight
<b>Cue:</b>	Exhaust Header Root valve V-15-25 is closed
<b>Comment:</b>	<hr/> <hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>

## Performance Information

✓

Performance Step: 4

Procedure Step: 4.7.5

Close Stabilizer Unit Outlet valve V-15-40. (RB 23 SE)

**Standard:** Closes Stabilizer Unit Outlet valve V-15-40 with the valve handwheel in the CW direction until tight

**Cue:** Stabilizer Unit Outlet valve V-15-40 is closed

Comment:

SAT/UNSAT

Performance Step: 5

Procedure Step: 4.7.6

Confirm Closed Cooling Water PCV Bypass valve V-15-131.  
(RB 23 SE)

**Standard:** Confirms Closed Cooling Water PCV Bypass valve V-15-131 by attempting to turn the handwheel in the CW direction

**Cue:** Cooling Water PCV Bypass valve V-15-131 is closed

Comment:

SAT/UNSAT

## Performance Information

✓

Performance Step: 6

Procedure Step: 4.7.7

Open drain valve V-15-74. (RB 23 SE)

**Standard:** Opens drain valve V-15-74 with the valve handwheel in the CCW direction until tight**Cue:** drain valve V-15-74 is open

Comment:

SAT/UNSAT

Performance Step: 7

Procedure Step: 4.7.8

Evacuate the Reactor Building

**Standard:** Notifies the Control Room to announce Reactor Building evacuation.**Cue:** The Control Room has made an announcement to evacuate the Reactor Building.

Comment:

SAT/UNSAT

Note: The remaining steps are performed in the Control Room.

**Terminating Cue:** The in-plant actions are performed to support venting the CRD Over Piston Volume IAW Support Procedure 21**JPM Stop Time:** \_\_\_\_\_



## Validation of Completion

JPM Number: NRC PLANT JPM1

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. N/A

STUDENT HANDOUTInitial Conditions:

1. The plant was rated power when an ATWS occurred
2. All other control rod insertion methods IAW SP-21, Alternate Insertion of Control Rods, have failed
3. All available CRD Pumps are running

Task Cue:

Perform the in-plant actions to support venting the CRD Over Piston Volume IAW SP-21, Alternate Insertion of Control Rods, Section 4.7. Notify the Control Room when complete.

There will be **NO** valve manipulations or changes in plant configuration during this JPM. All steps are to be **SIMULATED**.

Facility: Oyster Creek Task No.: 2000501441Task Title: Inject the CST via the Core Spray SystemJob Performance Measure No.: NRC Plant JPM 2K/A Reference: 209001 A1.08 (3.3/3.2)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance X Actual Performance \_\_\_\_\_Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant X*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:

1. The plant scrambled following a LOCA
2. RPV water level is 50" and lowering slowly
3. The Feedwater and Condensate System is not available
4. RPV pressure is 225 psig and lowering
5. Torus water level has fallen below the Core Spray Vortex Limit

Task Standard: The Control Room is notified when the in-plant actions to inject CST using Core Spray System 1, IAW SP-56, are complete

Required Materials: MB-1 key

General References:

1. EMG-SP56, Injecting the CST via Core Spray, Revision 0
2. RPV Control – No ATWS EOP, Revision 8

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Initiating Cue: Inject CST using Core Spray System 1 IAW Support Procedure 56, Injecting the CST via Core Spray, starting at Step 3.2.4. Notify the Control Room when a Core Spray Pump may be started.

Time Critical Task: No.

Validation Time: 16 Minutes

## Performance Information

Denote critical steps with a check mark ✓

**Note: An MB-1 key is required for this JPM. The candidate does not have to possess this key but be able to say where the key can be obtained (Shift Manager's Office)**

Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

**Note:** steps 2 & 3 may be done in any order.

✓

Performance Step: 2

Procedure Step: 3.2.4

Place the following breakers for Core Spray Pump Suction valves in the OFF position:

- V-20-3 Bkr. (MCC 1A21A / RB 23 SW)
- V-20-32 Bkr. (MCC 1B21A / RB 23 NE)

**Standard:** Places the following breakers for Core Spray Pump Suction valves in the OFF position:

- V-20-3 Bkr. (MCC 1A21A / RB 23 SW) (Rotates breaker to the OFF position)

**Cue:** V-20-3 breaker is in the OFF position

Comment:

**SAT/UNSAT**

## Performance Information

✓

## Performance Step: 3

## Procedure Step: 3.2.4

Place the following breakers for Core Spray Pump Suction valves in the OFF position:

- V-20-3 Bkr. (MCC 1A21A / RB 23 SW)
- V-20-32 Bkr. (MCC 1B21A / RB 23 NE)

**Standard:** Places the following breakers for Core Spray Pump Suction valves in the OFF position:

- V-20-32 Bkr. (MCC 1B21A / RB 23 NE) (Rotates breaker to the OFF position)

**Cue:** V-20-32 breaker is in the OFF position

Comment:

SAT/UNSAT

## Performance Step: 4

## Procedure Step: 3.2.5

Confirm closed the Test Flow Return valve V-20-27 (Panel 1F/2F).

**Standard:** Directs Control Room to confirm closed the Test Flow Return valve V-20-27

**Cue:** The Test Flow Return valve V-20-27 is closed

Comment:

SAT/UNSAT

## Performance Information

**Note:** Steps 5, 6, & 7 may be performed in any order.

✓	Performance Step: 5
	Procedure Step: 3.2.6 Unlock and open the following CST supply valves: <ul style="list-style-type: none"><li>• V-20-1 (NW Corner Room)</li><li>• V-20-5 (NW Corner Room)</li><li>• V-20-34 (NW Corner Room)</li></ul>
<b>Standard:</b>	Unlocks and opens the following CST supply valves: <ul style="list-style-type: none"><li>• V-20-1 (NW Corner Room) (unlocks the restraining device with the MB-1 key, and rotates the valve handwheel CW using the chain until no further motion)</li></ul>
<b>Cue:</b>	Valve V-20-1 is open
<b>Comment:</b>	<hr/> <hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>

✓	Performance Step: 6
	Procedure Step: 3.2.6 Unlock and open the following CST supply valves: <ul style="list-style-type: none"><li>• V-20-1 (NW Corner Room)</li><li>• V-20-5 (NW Corner Room)</li><li>• V-20-34 (NW Corner Room)</li></ul>
<b>Standard:</b>	Unlocks and opens the following CST supply valves: <ul style="list-style-type: none"><li>• V-20-5 (NW Corner Room) (unlocks the restraining device with the MB-1 key, and rotates the valve handwheel CW until no further motion)</li></ul>
<b>Cue:</b>	Valve V-20-5 is open
<b>Comment:</b>	<hr/> <hr/> <hr/>
<b>SAT/UNSAT</b>	<hr/>



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Performance Information

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✓

## Performance Step: 7

## Procedure Step: 3.2.6

Unlock and open the following CST supply valves:

- V-20-1 (NW Corner Room)
- V-20-5 (NW Corner Room)
- V-20-34 (NW Corner Room)

**Standard:**

Unlocks and opens the following CST supply valves:

- V-20-34 (NW Corner Room) (unlocks the restraining device with the MB-1 key, and rotates the valve handwheel CW until no further motion)

**Cue:**

Valve V-20-34 is open

Comment:

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SAT/UNSAT

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**Note: Step 3.2.7 is NA and is not listed here.**

✓

## Performance Step: 8

## Procedure Step: 3.2.8

Start one of the following Core Spray System 1 Main Pumps:  
(Panel 1F/2F)

- Main Pump A
- Main Pump C

**Standard:**

Directs Control Room to a Start Core Spray System 1 Main Pump A or C

**Cue:**

Acknowledge the report

Comment:

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SAT/UNSAT

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## Performance Information

**Terminating Cue:** The Control Room is notified when the in-plant actions to inject CST using Core Spray System 1, IAW SP-56, are complete

**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC Plant JPM 2

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. N/A

STUDENT HANDOUTInitial Conditions:

1. The plant scrammed following a LOCA
2. RPV water level is 50" and lowering slowly
3. The Feedwater and Condensate System is not available
4. RPV pressure is 225 psig and lowering
5. Torus water level has fallen below the Core Spray Vortex Limit

Task Cue:

Inject CST using Core Spray System 1 IAW Support Procedure 56, Injecting the CST via Core Spray, starting at Step 3.2.4. Notify the Control Room when a Core Spray Pump may be started.

There will be **NO** valve manipulations or changes in plant configuration during this JPM.  
All steps are to be **SIMULATED**.

Facility: Oyster Creek Task No.: 2630104008Task Title: Swap Static Chargers from C1 to C2Job Performance Measure No.: NRC PLANT JPM3K/A Reference: 263000 K1.02 (3.2/3.3)

Examinee: \_\_\_\_\_ Examiner: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Method of Testing:

Simulated Performance X Actual Performance \_\_\_\_\_Classroom \_\_\_\_\_ Simulator \_\_\_\_\_ Plant X*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:

1. The plant is at rated power
2. Static Charger C1 is currently supplying 125 VDC Bus C
3. Static Charger C2 is in standby and is ready to be placed in service
4. This task is being performed for equipment rotation
5. The SRO has addressed all applicable Tech Specs
6. Procedure 340.3, 125 Volt DC Distribution System C, has been completed up to and including Step 8.3.2

Task Standard: Static Charger C2 is supplying Bus C IAW 340.3

Required Materials: None.

General References:

1. 340.3, 125 VDC Distribution Systems C, Revision 36

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Initiating Cue: Transfer operation from Charger C1 to the Alternate Static Charger C2 IAW procedure 340.3, 125 Volt DC Distribution System C, starting at Step 8.3.3.

Time Critical Task: No.

Validation Time: 10 Minutes

## Performance Information

*Denote critical steps with a check mark ✓*

## Performance Step: 1

Procedure Step: Provides repeat back of initiating cue.

**JPM Start Time:** \_\_\_\_\_

**Standard:** Provides repeat back of initiating cue. *Evaluator acknowledges the repeat back.*

Comment:

**SAT/UNSAT**

## Performance Step: 2

Procedure Step: Verifies Prerequisites and reviews Precautions and Limitations.

**Standard:** Verifies Prerequisites and reviews Precautions and Limitations.

Comment:

**SAT/UNSAT**



## Performance Information

✓	Performance Step: 3
	Procedure Step: 8.3.3.1
	Open the DC OUTPUT breaker at the charger cabinet: BTCHG C1\DC OUTPUT, Battery Charger C-1 DC Output breaker or BTCHG C2\DC OUTPUT, Battery Charger C-2 DC Output breaker
<b>Standard:</b>	Opens the DC OUTPUT breaker at the charger cabinet: BTCHG C1\DC OUTPUT, Battery Charger C-1 DC Output breaker (Breaker to the OFF position)
<b>Cue:</b>	The Battery Charger C-1 DC Output breaker is open
<b>Comment:</b>	
<b>SAT/UNSAT</b>	
	Performance Step: 4
	Procedure Step: 8.3.3.2
	Verify annunciator window 9XF-2-d, BUS C UV alarms
<b>Standard:</b>	Calls the Control Room to verify annunciator window 9XF2d, BUS C UV is in alarm
<b>Cue:</b>	Annunciator window 9XF2d, BUS C UV is in alarm
<b>Comment:</b>	
<b>SAT/UNSAT</b>	

## Performance Information

✓	Performance Step: 5
	Procedure Step: 8.3.3.3
	Open the breaker at Distribution Center C for the charger: DC-C 125V\2, DC-C 125V Breaker 2 for Battery Charger C1 Output or DC-C 125V\1, DC-C 125V Breaker 1 for Battery Charger C2 Output.
<b>Standard:</b>	Opens the breaker at Distribution Center C for the charger: DC-C 125V\2, DC-C 125V Breaker 2 for Battery Charger C1 Output (Breaker to the OFF position)
<b>Cue:</b>	DC-C 125V Breaker 2 for Battery Charger C1 Output is open
<b>Comment:</b>	   
<b>SAT/UNSAT</b>	
	Performance Step: 6
	Procedure Step: 8.3.3.4
	Verify annunciator window 9XF-5-d, BUS C INPUT BRKRS OPEN alarms
<b>Standard:</b>	Calls the Control Room to verify annunciator window 9XF-5-d, BUS C INPUT BRKRS OPEN is in alarm
<b>Cue:</b>	Annunciator window 9XF-5-d, BUS C INPUT BRKRS OPEN is in alarm
<b>Comment:</b>	   
<b>SAT/UNSAT</b>	

## Performance Information



## Performance Step: 7

## Procedure Step: 8.3.4.1

Close the breaker at Distribution Center C for the charger:

DC-C 125V\2, DC-C 125V Breaker 2 for Battery Charger C1  
Output

or

DC-C 125V\1, DC-C 125V Breaker 1 for Battery Charger C2  
Output

**Standard:** Close the breaker at Distribution Center C for the charger:  
DC-C 125V\1, DC-C 125V Breaker 1 for Battery Charger C2  
Output (Breaker to the ON position)

**Cue:** DC-C 125V Breaker 1 for Battery Charger C2 Output is closed

Comment:

**SAT/UNSAT**

## Performance Step: 8

## Procedure Step: 8.3.4.2

Verify annunciator window 9XF-5-d, BUS C INPUT BRKRS OPEN  
clears

**Standard:** Calls the Control Room to verify annunciator window 9XF-5-d,  
BUS C INPUT BRKRS OPEN clears

**Cue:** Annunciator window 9XF-5-d, BUS C INPUT BRKRS OPEN is  
clear

Comment:

**SAT/UNSAT**

## Performance Information

✓

## Performance Step: 9

## Procedure Step: 8.3.4.3

Adjust static charger C1 or C2 float voltage rheostat to set voltage at or slightly above battery bus voltage

**Cue:** Static Charger C2 float voltage is 131 volts.  
Bus DC-C voltage is 132 volts

**Standard:** Adjusts static charger C2 float voltage rheostat to set voltage at or slightly above battery bus voltage by rotating the screw-adjust rheostat until float voltage is equal to or slightly above 132 volts

**Cue:** After adjustment, report that Static charger C2 float voltage indicates 132.5 volts.

Comment:

SAT/UNSAT

✓

## Performance Step: 10

## Procedure Step: 8.3.4.4

Close the DC OUTPUT breaker at the charger cabinet:

BTCHG C1\DC OUTPUT, Battery Charger C-1 DC Output breaker  
or

BTCHG C2\DC OUTPUT, Battery Charger C-2 DC Output breaker

**Standard:** Closes the DC OUTPUT breaker at the charger cabinet:  
BTCHG C2\DC OUTPUT, Battery Charger C-2 DC Output breaker  
(Breaker to the ON position)

**Cue:** Battery Charger C-2 DC Output breaker is closed

Comment:

SAT/UNSAT

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Performance Information

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Performance Step: 11

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Procedure Step: 8.3.5

Maintain voltage on Distribution Center C in accordance with  
Section 11.0

Procedure Step: 11.3.1

If the battery is not on an equalizing charge, then maintain voltage  
between 130.6 and 135**Cue:** C Bus voltage indicates 132 VDC**Standard:** Adjust the appropriate Static Charger rheostat as necessary to  
maintain DC System voltage as follows: If the battery is not on an  
equalizing charge, then MAINTAIN voltage between 130.6 and  
135 (no adjustments are required)Comment:  

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**SAT/UNSAT**

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Performance Information

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Performance Step: 12

Procedure Step: 8.3.5.1

When C Bus voltage is adjusted above 130.5 VDC, then verify annunciator window 9XF-2-d, BUS C UV clears

**Standard:** Calls the Control Room to verify annunciator window 9XF-2-d, BUS C UV is clear**Cue:** Annunciator window 9XF-2-d, BUS C UV is clearComment:  

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**SAT/UNSAT**

Note: There are other steps to exit the Tech Specs and to shutdown the C1 Charger but this concludes the JPM.

**Terminating Cue:** Static Charger C2 is supplying Bus C IAW 340.3**JPM Stop Time:** \_\_\_\_\_

## Validation of Completion

JPM Number: NRC PLANT JPM3

Examinee's Name: \_\_\_\_\_

Examiner's Name: \_\_\_\_\_

Date Performed: \_\_\_\_\_

Facility Evaluator: \_\_\_\_\_

Number of Attempts: \_\_\_\_\_

Time to Complete: \_\_\_\_\_

Question:

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Response:

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Result: Satisfactory/Unsatisfactory

Examiner's Signature and Date: \_\_\_\_\_

JPM Setup

1. When creating the procedure for the candidates' use, include section 11.0



STUDENT HANDOUTInitial Conditions:

1. The plant is at rated power
2. Static Charger C1 is currently supplying 125 VDC Bus C
3. Static Charger C2 is in standby and is ready to be placed in service
4. This task is being performed for equipment rotation
5. The SRO has addressed all applicable Tech Specs
6. Procedure 340.3, 125 Volt DC Distribution System C, has been completed up to and including Step 8.3.2

Task Cue:

Transfer operation from Charger C1 to the Alternate Static Charger C2 IAW procedure 340.3, 125 Volt DC Distribution System C, starting at Step 8.3.3.

There will be **NO** valve manipulations or changes in plant configuration during this JPM.  
All steps are to be **SIMULATED**.

# Oyster Creek 09-1 NRC Exam Scenario

## Scenario Outline

<b>Facility:</b> <u>Oyster Creek</u>	<b>Scenario No.:</b> <u>1</u>	<b>Op Test No.:</b> <u>OC 2010</u>
<b>Examiners:</b> _____ <b>Operators:</b> _____ _____ _____		
<b>Initial Conditions:</b> <ul style="list-style-type: none"> <li>The plant is at 97% power</li> <li>RWCU Pump B is tagged out of service</li> </ul> <b>Turnover:</b> <ul style="list-style-type: none"> <li>Surveillance test Standby Gas Treatment System 10-Hour Run – System 1, 651.4.002, is in-progress</li> </ul>		

Event No.	Mal. No.	Event Type*	Event Description
1	NA	N BOP	Perform Automatic Scram Contactor Test, 619.4.025
2	NA	R ATC	Withdraw control rods IAW the ReMA
3	MAL-CRD005_1835	C TS ATC BOP SRO	Responds to a continuously outward drifting control rod
4	VLV-RCU001 VLV-RCU004 BKR-RCU001 MAL-RCU007	C TS BOP SRO	Responds to RWCU System high pressure and failure of system to automatically isolate
5	MAL-NSS012E	I TS ATC SRO	Respond to leak in GEMAC water level indicators ID13A and ID13C
6	MAL-CRD006	C ATC	Respond to multiple drifting control rods
7	MAL-NSS005	M All	Respond to an RPV coolant leak in the Primary Containment
8	MAL-OED001B MAL-FWC003A	C All	Respond to the loss of Startup Transformer B and MFRV A Closure

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient, (TS) Tech Specs

**Simulator Summary**

<b><u>Event</u></b>	<b><u>Event Summary</u></b>
1	The BOP will complete Automatic Scram Contactor Test, 619.4.025. The BOP will place the Subchannel Test 2A switch to Trip, verify proper plant response, place the switch back to Normal, and reset the ½ scram. The same will be performed with the 2B switch. [Normal Evolution: BOP]
2	The ATC will withdraw several control rods IAW the Reactivity Management Approval (ReMA) form from OP-AB-300-1003 and procedure 302.2. The ATC will turn Rod Power on, select the control rods and withdraw to the desired positions. [Reactivity Manipulation: ATC]
3	The ATC will respond to a control rod which drifts out of the core. The ATC will respond to the ROD DRIFT annunciator and ABN-6, Control Rod Malfunctions. The ATC will identify the drifting control rod, select the control rod and insert to its original position and release the drive switch. The ATC will identify that the control rod is still drifting outward. The ATC will insert the control rod to position 00, while the BOP scrams the single control room from a back panel. With the control rod successfully at position 00, it will be isolated IAW 302.1, Control Rod Hydraulic System. The SRO will declare the control rod inoperable and will apply Tech Spec 3.2.B.4. [Component Failure: ATC; Component Failure: BOP; Tech Spec: SRO]
4	The BOP will respond to an annunciator (D7b) for a high pressure condition in the Reactor Water Cleanup System (RWCU). This condition should have isolated the RWCU System but did not. The BOP will trip the RWCU Pump and isolate the RWCU System manually. The SRO will apply Tech Spec 3.5.A.3 for isolation valve failures. [Component Failure: BOP; Tech Spec: SRO]
5	The ATC will diagnose a lowering RPV water level as shown on GEMAC ID13A and ID13C, while all other water level instruments show a rising water level. This is due to a leak in the common variable leg inside the primary Containment. The Crew will enter ABN-17 and the ATC will take manual control of RPV water level and swap FWLC to the alternate water level instrument ID13B. The increased Primary Containment unidentified leakage will require the SRO to review/apply Tech Spec 3.3.D.2. [Instrument Failure: ATC; Tech Specs: SRO]
6	The ATC will identify/report multiple drifting control rods and IAW the ROD DRIFT annunciator response, and will insert a manual scram

## Oyster Creek 09-1 NRC Exam Scenario

IAW ABN-1, Reactor Scram. [Component Failure: ATC]

- 7 The crew will respond to an RPV water leak in the Primary Containment and the SRO will direct entering the RPV Control – No ATWS EOP and the Primary Containment Control EOP. The SRO will direct spraying the Drywell, which will be effective. [Major Evolution]
- 8 Startup Transformer B will experience a fault and MFRV A will fail closed. This will result in only Condensate Pump A and Feedwater Pump A having electrical power, and the injection path will only be through the low flow regulating valve. RPV water level will lower due to the leak. [Component failures after EOP entry]

Critical Task 1 When multiple drifting control rods are recognized, then reactor is scrammed IAW ABN-1, Reactor Scram

Critical Task 2 When Drywell or Torus exceeds 12 psig, or before Drywell bulk temperature reaches 281 °F, spray the Drywell IAW Support Procedure 29, Initiation of the Containment Spray System for Drywell Sprays

Critical Task 3 Reduce RPV pressure to allow low pressure systems to inject into the RPV or Emergency Depressurize the RPV when RPV water level reaches 0" with at least one injection source running

# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 1</u>	Event No.: <u>1</u>
Event Description: <u>Perform the Automatic Scram Contactor Test, 619.4.025 for RPS 2</u>			
Initiation: Following shift turnover, or as directed by the Lead Examiner			
Cues: As directed by the SRO following shift turnover			
Time	Position	Applicant's Actions or Behavior	
	SRO	<ul style="list-style-type: none"> <li>Directs BOP to complete the surveillance test Automatic Scram Contactor Test, 619.4.025 for RPS 2</li> <li>Reviews results of the surveillance against Section 7.0, Acceptance Criteria, when completed</li> </ul>	
	BOP	<ul style="list-style-type: none"> <li>Makes plant announcement for ½ scram testing</li> <li>Performs the Automatic Scram Contactor Test, 619.4.025 for RPS 2                             <ul style="list-style-type: none"> <li>Place SUBCHANNEL 2A TEST switch (Panel 7R) to TRIP</li> <li>Verify the following:                                     <ul style="list-style-type: none"> <li>2K51 (Panel 7R) de-energized</li> <li>2K51A (Panel 7R) de-energized</li> </ul> </li> </ul> </li> </ul>	
<b>Note:</b> The RPS relays are not simulated in the simulator. State that relays 2K51 and 2K51A are de-energized.			
		<ul style="list-style-type: none"> <li>SCRAM SOLENOIDS RPS-2 lights on Panel 4F extinguished</li> <li>SCRAM SOLENOIDS lights on Panel 7R extinguished</li> <li>SCRAM CONTACTOR OPEN (G-1-c) alarm received</li> <li>PCPID 2K51A (2K51A) de-energized</li> </ul> <ul style="list-style-type: none"> <li>Place SUBCHANNEL 2A TEST switch to NORMAL</li> <li>Reset half-scram (or directs ATC to reset)</li> <li>Verify the following:                             <ul style="list-style-type: none"> <li>2K51 energized</li> <li>2K51A</li> </ul> </li> </ul>	
<b>Note:</b> The RPS relays are not simulated in the simulator. State that relays 2K51 and 2K51A are energized.			

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>▪ SCRAM SOLENOIDS lights on Panel 4F illuminated</li> <li>▪ SCRAM SOLENOIDS lights on Panel 6R illuminated</li> <li>▪ SCRAM SOLENOIDS lights on Panel 7R illuminated</li> <li>▪ SCRAM CONTACTOR OPEN (G-1-c) alarm is clear</li> <li>▪ PCPID 2K51A (2K51A) energized</li> <li>○ Place SUBCHANNEL 2B TEST switch (Panel 7R) to TRIP</li> <li>○ Verify the following: <ul style="list-style-type: none"> <li>▪ 2K52 (Panel 7R) de-energized</li> <li>▪ 2K52A (Panel 7R) de-energized</li> </ul> </li> </ul>
<b>Note:</b> The RPS relays are not simulated in the simulator. State that relays 2K52 and 2K52A are de-energized.		
		<ul style="list-style-type: none"> <li>▪ SCRAM SOLENOIDS RPS-2 lights on Panel 4F extinguished</li> <li>▪ SCRAM SOLENOIDS lights on Panel 7R extinguished</li> <li>▪ SCRAM CONTACTOR OPEN (G-1-c) alarm received</li> <li>▪ PCPID 2K52A (2K52A) de-energized</li> <li>○ Place SUBCHANNEL 2B TEST switch to NORMAL</li> <li>○ Reset half-scrum (or directs ATC to reset)</li> <li>○ Verify the following: <ul style="list-style-type: none"> <li>▪ 2K52 energized</li> <li>▪ 2K52A energized</li> </ul> </li> </ul>
<b>Note:</b> The RPS relays are not simulated in the simulator. State that relays 2K52 and 2K52A are energized.		
		<ul style="list-style-type: none"> <li>▪ SCRAM SOLENOIDS lights on Panel 4F illuminated</li> <li>▪ SCRAM SOLENOIDS lights on Panel 6R illuminated</li> <li>▪ SCRAM SOLENOIDS lights on Panel 7R illuminated</li> <li>▪ SCRAM CONTACTOR OPEN (G-1-c) alarm is clear</li> <li>▪ PCPID 2K52A (2K52A) energized</li> <li>○ Reviews results of the surveillance against Section 7.0, Acceptance Criteria and provides to the SRO</li> </ul>
	ATC	<ul style="list-style-type: none"> <li>• May reset the ½ scram during the surveillance instead of the BOP</li> </ul>

## Oyster Creek 09-1 NRC Exam Scenario

<b>Terminus:</b>	The SRO has completed the Acceptance Criteria review of surveillance test Automatic Scram Contactor Test, 619.4.025
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### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u> Scenario No.: <u>NRC Sim 1</u> Event No.: <u>2</u>		
Event Description: <u>Withdraw control rods IAW the ReMA</u>		
Initiation: The SRO has completed the Acceptance Criteria review of surveillance test Automatic Scram Contactor Test, 619.4.025, or as directed by the Lead Examiner		
Cues: As directed by the SRO following shift turnover, or as directed by the Lead Examiner		
Time	Position	Applicant's Actions or Behavior
	SRO	<ul style="list-style-type: none"> <li>• Provides brief for reactivity manipulation</li> <li>• Directs ATC to withdraw control rods IAW the ReMA form and procedure 302.2</li> <li>• Provides overview as the Reactivity Manager</li> </ul>
	ATC	<ul style="list-style-type: none"> <li>• Withdraws control rods IAW the ReMA and procedure 302.2 for single notch               <ul style="list-style-type: none"> <li>○ Verify ROD POWER on</li> <li>○ Verify the PERMIT light is illuminated</li> <li>○ Select the control rod to be withdrawn by momentarily depressing the pushbutton on the CONTROL ROD SELECT pushbutton matrix</li> <li>○ Verify the following:                   <ul style="list-style-type: none"> <li>▪ The pushbutton light and the rod select indicator above the position display for selected rod are illuminated</li> <li>▪ Only the selected rod pushbutton and rod select indicator above the desired rod are illuminated</li> </ul> </li> <li>○ Place the ROD CONTROL switch to ROD OUT NOTCH position for approximately one second</li> <li>○ Immediately release the switch allowing it to return to OFF by spring action</li> <li>○ Verify the following:                   <ul style="list-style-type: none"> <li>▪ The red WITHDRAW light is illuminated approximately 2 seconds following switch movement and remains on for approximately 1.5 seconds</li> <li>▪ The rod latches in the next even-numbered position before the SETTLE light is extinguished</li> </ul> </li> <li>○ Initials the ReMA for each control rod movement</li> </ul> </li> </ul>



## Oyster Creek 09-1 NRC Exam Scenario

		<p>completion</p> <ul style="list-style-type: none"> <li>○ When drive movement is completed, no other rod positioning is immediately contemplated, then return ROD POWER Switch to OFF</li> <li>○ Notifies SRO that control rod withdrawals are complete</li> </ul>
	BOP	<ul style="list-style-type: none"> <li>● Performs actions as Peer Checker when a control rod is withdrawn: VERIFY the following                             <ul style="list-style-type: none"> <li>○ Green INSERT light is illuminated</li> <li>○ Green INSERT light remains illuminated approximately 1 second</li> </ul> </li> </ul>
<b>Terminus:</b>	Control rods have been withdrawn IAW the ReMA	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 1</u>	Event No.: <u>3</u>
Event Description: <u>Respond to a continuously outward drifting control rod 18-35</u>			
Initiation: Control rods have been withdrawn IAW the ReMA, or as directed by the Lead Examiner			
Cues: Annunciator Ha6, ROD DRIFT; Control rod 18-35 position indication changing			
Time	Position	Applicant's Actions or Behavior	
	ATC	<ul style="list-style-type: none"> <li>• Responds to annunciator Ha6, ROD DRIFT</li> <li>• Identifies/reports control rod 18-35 is drifting outward</li> <li>• Enters/executes ABN-6 for a single control rod drifting outward                             <ul style="list-style-type: none"> <li>○ Confirms Rod Power Switch is ON</li> <li>○ Selects control rod 18-35</li> <li>○ Applies an insert signal to control rod 18-35</li> <li>○ When the rod is returned to its programmed position of 40, then remove the insert signal</li> <li>○ Reports the control rod continues to drift outward</li> <li>○ If outward rod motion continues, then perform the following:                                     <ul style="list-style-type: none"> <li>▪ Apply a continuous INSERT signal to the rod and inserts to position 00</li> <li>▪ Scrams the affected rod from Panel 6XR in accordance with Procedure 302.2, Control Rod Drive Manual Control System (BOP)</li> </ul> </li> </ul> </li> </ul>	
<b>Booth:</b> When the scram signal is applied to control rod 18-35 and it is at position 00, then delete the drift malfunction: MAL-CRD005_1835			
		<ul style="list-style-type: none"> <li>▪ Remove the insert signal</li> <li>▪ Reports that the control rod remains at position 00</li> <li>▪ If the Control Rod is at position 00", then isolate the associated HCU in accordance with Procedure 302.1, Control Rod Hydraulic System [<b>Role Play</b>]</li> <li>▪ Turn ROD POWER Switch off</li> </ul>	
<b>Role</b>	As the EO directed to isolate HCU 18-35 in accordance with Procedure		

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<b>Play:</b>	302.1, report that it is isolated (no booth actions required)	
	SRO	<ul style="list-style-type: none"> <li>• Directs entry into ABN-6</li> <li>• Declares control rod 18-35 inoperable</li> <li>• Reviews TS 3.2.B.4 <ul style="list-style-type: none"> <li>○ In service control rods which cannot be moved with control rod drive pressure shall be considered inoperable. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure, the reactor shall be brought to a shutdown condition within 48 hours unless investigation demonstrates that the cause of the failure is not due to a failed control rod drive mechanism collet housing. Inoperable control rods shall be valved out of service, in such positions that Specification 3.2.A is met. In no case shall the number of inoperable control rods valved out of service be greater than six during the power operation. If this specification is not met, the reactor shall be placed in the shutdown condition.</li> <li>○ Verifies less than 6 inoperable control rods (there are none other than the one just declared inoperable)</li> </ul> </li> <li>• Notifies Shift Manager/Work Week Manager (SM/WWM) about the event</li> <li>• Notifies Reactor Engineering and Chemistry</li> <li>• Provides Crew update</li> </ul>
	BOP	<ul style="list-style-type: none"> <li>• Scrams the affected rod from Panel 6XR in accordance with Procedure 302.2, Control Rod Drive Manual Control System <ul style="list-style-type: none"> <li>○ Verify all of the prerequisites of Section 10.1 have been satisfied</li> <li>○ Directs EO to verify the following valves open for control rod 18-35: 101, 102, and 108 <b>[Role Play]</b></li> </ul> </li> </ul>
<b>Role Play:</b> As the EO directed to verify the following valves open for control rod 18-35: 101, 102, and 108, report all valves open		
		<ul style="list-style-type: none"> <li>○ Obtains panel key from SM Office and unlock Panel 6XR</li> <li>○ Select (BOP) the control rod to be scrambled by pointing to, without actuating, the test switch</li> <li>○ Apply (BOP), without losing eye contact with the test switch a single rod scram signal to the selected rod 18-35, by placing the appropriate toggle switch to the open (scram) position (up position) (Panel 6XR)</li> </ul>

## Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>○ Verify that the scram display illuminates on the selected rod position indicator (Panel 4F) and monitor the movement of the selected rod</li> <li>○ When movement stops or the rod is fully inserted, THEN immediately remove the scram signal by placing the appropriate toggle switch to the closed position (down position)</li> <li>○ Verify the scram signal is removed by observing the de-energization of the scram display on the CRD position indicator</li> <li>○ Lock Panel 6XR</li> <li>○ Return key to the key locker in SM office</li> </ul>
<b>Terminus:</b>	Control rod 18-35 has been scrammed and isolated at position 00. The SRO has reviewed Tech Specs.	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 1</u>	Event No.: <u>4</u>
Event Description: <u>Respond to a Reactor Water Cleanup System (RWCU) high pressure and failure to isolate</u>			
Initiation: Control rod 18-35 has been scrammed and isolated at position 00. The SRO has reviewed Tech Specs, or as directed by the Lead Examiner			
Cues: Annunciator D7b, PRV DISCH PRESS HI; system press controller PCV-ND11 INDICATES HIGH			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"><li>• Responds to annunciator D7b, PRV DISCH PRESS HI<ul style="list-style-type: none"><li>○ Verifies/reports high system pressure</li><li>○ Reports that the RWCU System did not automatically isolate and is isolating the system</li><li>○ Manually performs the following:<ul style="list-style-type: none"><li>▪ Closes V-16-1, Cleanup Inlet Isolation Valve from RPV</li><li>▪ Closes V-16-14, Cleanup Inlet Isolation Valve</li><li>▪ Trips RWCU Pump NC02A [<b>Booth</b>]</li></ul></li><li>○ Reports RWCU System isolated and RWCU Pump tripped</li><li>○ Dispatches EO to investigate the RWCU System [<b>Role Play 1</b>]</li><li>○ Directs RO to adjust RBCCW with RWCU System isolated [<b>Role Play 2</b>]</li></ul></li></ul>	
<b>Role Play:</b>	1) When directed as the EO to investigate RWCU, state that you see no apparent abnormalities. 2) When directed as the EO to adjust RBCCW due to the loss of RWCU, insert LOA-RBC011 to 0.5 (this will move RBCCW HX 1-1 outlet valve from full open to 50% open. Adjust as necessary. Report when complete.		
<b>Booth:</b>	When the RWCU valves are closed, delete the malfunction MAL-RCU007		
	SRO	<ul style="list-style-type: none"><li>• Directs BOP to perform automatic actions that did not occur</li><li>• Notifies SM/WWM about the event</li><li>• Notifies Chemistry that RWCU is out of service</li><li>• Declares RWCU System isolation valves inoperable</li></ul>	

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		<ul style="list-style-type: none"> <li>• Reviews/applies Tech Spec 3.5.A.3.a                             <ul style="list-style-type: none"> <li>○ With one or more of the automatic containment isolation valves inoperable:</li> <li>○ (1) Maintain at least one isolation valve OPERABLE in each affected penetration that is open and within 4 hours (48 hours for the traversing in-core probe system) either;                                     <ul style="list-style-type: none"> <li>(a) Restore the inoperable valve(s) to OPERABLE status or</li> <li>(b) Isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolation position, or</li> <li>(c) Isolate each affected penetration by use of at least one closed manual valve or blind flange.</li> </ul> </li> <li>○ (2) If Specification 3.5.A.3 or the provisions of Specifications 3.5.A.3.a.(1)(a), (b) or (c) can not be met, the reactor shall be PLACED IN the COLD SHUTDOWN CONDITION within 24 hours.</li> </ul> </li> </ul>
<b>Terminus:</b>	The RWCU System has been isolated and RWCU Pump tripped, and the SRO has reviewed/applied Tech Spec 3.5.A.3	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 1</u>	Event No.: <u>5</u>
Event Description: <u>Responds to a leak in the common variable leg to RPV water level instruments ID13A and ID13C</u>			
Initiation: The RWCU System has been isolated and RWCU Pump tripped and the SRO has reviewed/applied Tech Spec 3.5.A.3, or as directed by the Lead Examiner			
Cues: ID13A and ID13C indication lowers; Other RPV water level indicators rising; Drywell pressure, temperature, unidentified leakage rising			
Time	Position	Applicant's Actions or Behavior	
	ATC	<ul style="list-style-type: none"><li>• Reports Indicated RPV water level lowering on NR GEMACs ID13A and ID13C, with RPV water level rising on all other available RPV water level instruments</li><li>• Reports small rise in Drywell pressure, temperature and Drywell unidentified leak rate</li><li>• Performs ABN-17, Feedwater System Abnormal Conditions<ul style="list-style-type: none"><li>○ Places the MASTER FEEDWATER LEVEL CONTROLLER in manual by pressing the AUTO/MAN pushbutton</li><li>○ Confirms Feedwater flow is approximately equal to steam flow<ul style="list-style-type: none"><li>▪ Lowers feedwater flow by turning the manual knob on the MASTER FEEDWATER LEVEL CONTROLLER CCW to match TOTAL STEAM FLOW and TOTAL FEEDWATER FLOW</li></ul></li><li>○ Places the LEVEL TRANSMITTER SELECTOR to the B position</li><li>○ Selects the S display on the MASTER FEEDWATER LEVEL CONTROLLER</li><li>○ Matches the S display to the P display by turning the manual knob on the MASTER FEEDWATER LEVEL CONTROLLER</li><li>○ When the deviation = 0 (S = P; Y = 0), then places the turning the manual knob on the MASTER FEEDWATER LEVEL CONTROLLER in AUTO</li><li>○ Monitors RPV water level and Feedwater flow</li><li>○ Maintains RPV water level at 160" or as directed by the US</li></ul></li><li>• Reports RPV water level transmitters swapped, Feedwater in auto and controlling.</li></ul>	

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	BOP	<ul style="list-style-type: none"> <li>Performs Drywell venting IAW attachment 312.11-10, if directed               <ul style="list-style-type: none"> <li>Opens Torus vent valve V-28-47</li> <li>Opens Torus vent valve V-28-18</li> <li>Monitors DW pressure</li> </ul> </li> </ul>
	SRO	<ul style="list-style-type: none"> <li>Directs entry into ABN-17, Feedwater System Abnormal Conditions</li> <li>Notifies SM/WWM for repair/investigation of RPV water level instruments ID13A and ID13C</li> <li>May direct Drywell venting IAW 312.11-10</li> <li>Enters Tech Spec 3.3.D.1 for 2 gpm increase in unidentified leakage in a 24 hour period               <ul style="list-style-type: none"> <li>With the reactor coolant system leakage greater than the limits in 3.3.D.1.a or b above, reduce the leakage rate to within the acceptable limits within 8 hours, or place the reactor in the shutdown condition within the next 12 hours and be in the cold shutdown condition within the following 24 hours.</li> </ul> </li> </ul>
<b>Terminus:</b>	RPV water level transmitters have been swapped, Feedwater is in auto and is controlling, and the SRO has reviewed/applied the Tech Specs	

Notes/Comments




# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 1</u>	Event No.: <u>6</u>
Event Description: <u>Responds to simultaneously drifting control rods</u>			
Initiation: RPV water level transmitters have been swapped, Feedwater is in auto and is controlling, and the SRO has reviewed/applied the Tech Specs, or as directed by the Lead Examiner			
Cues: Annunciator H6a, ROD DRIFT; Indications of multiple control rods drifting inward			
Time	Position	Applicant's Actions or Behavior	
	ATC	<ul style="list-style-type: none"><li>• Responds to annunciator H6a, ROD DRIFT</li><li>• Recognizes/reports multiple control rods drifting and intention to manually scram</li><li>• Manually scrams the reactor IAW ABN-1<ul style="list-style-type: none"><li>○ Depresses both MANUAL SCRAM pushbuttons</li><li>○ Places the REACTOR MODE SELECTOR switch in SHUTDOWN</li><li>○ Reports all control rods fully inserted</li><li>○ Inserts SRMs</li><li>○ Inserts IRMs</li></ul></li><li>• Performs SP-1 when directed</li><li>• May direct closure of CRD Charging header valve V-15-52 [Role Play]</li><li>• Directs Chemistry to perform post-scram analysis of reactor water</li></ul>	
Role Play	If directed as the EO to close CRD Charging header valve V-15-52, insert LOA-CRD024 to 0. When done, report V-15-52 is closed		
	SRO	<ul style="list-style-type: none"><li>• Directs the ATC to manually scram the reactor IAW ABN-1, Reactor Scram</li><li>• Directs entry into RPV Control – No ATWS EOP<ul style="list-style-type: none"><li>○ Directs the BOP to control RPV water level 138"-175" IAW SP-2 (Feedwater) and SP-3 (CRD)</li><li>○ Directs RPV pressure 800 – 1000 psig with Turbine Bypass Valves</li><li>○ Directs SP-1, Confirmation of Automatic Initiations and</li></ul></li></ul>	

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Isolations		
	BOP	<ul style="list-style-type: none"> <li>• Reports RPV water level 138" – EOP entry</li> <li>• Controls RPV water level initially IAW ABN-1 <ul style="list-style-type: none"> <li>○ When RPV water level begins to rise following the scram, performs the following: <ul style="list-style-type: none"> <li>▪ Selects one Feedwater Pump and trips the other two Feedwater Pumps</li> <li>▪ Places all MFRVs in MANUAL</li> <li>▪ Closes all MFRVs</li> </ul> </li> </ul> </li> <li>• Performs SP-2 (Feedwater) <ul style="list-style-type: none"> <li>○ Controls RPV water level 138"-175" using the following as necessary: <ul style="list-style-type: none"> <li>▪ Feedwater Regulating Valves</li> <li>▪ Main Feed Regulating (MFRV) Block Valve</li> <li>▪ Feedwater Low Flow Valves</li> <li>▪ Heater Bank Outlet Isolation Valves</li> <li>▪ Feedwater and Condensate Pumps</li> </ul> </li> <li>○ Reports RPV water level in band</li> </ul> </li> <li>• Performs SP-3 (CRD) (if required) <ul style="list-style-type: none"> <li>○ Verifies running all available CRD Pumps</li> </ul> </li> </ul>
<b>Terminus:</b>	ABN-1 scram actions are complete and RPV water level is in/near the prescribed band	

## Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 1</u>		Event No.: <u>7/8</u>	
Event Description: <u>Respond to an RPV coolant leak in the Primary Containment</u>					
Initiation: ABN-1 scram actions are complete and RPV water level is in/near the prescribed band, or as directed by the Lead Examiner (Note: The leak will start 4 minutes after the scram; Event 8 (Loss of SB Transformer) will occur when Drywell pressure reaches 5 psig)					
Cues: (RPV leak) Annunciator C3f, DW PRESS HI/LO; C8h, DW TEMP HI; Drywell pressure, temperature and leak rate rising; (Loss of S/U Transformer) Annunciator S1c, LKOUT RELAY 86/S1B TRIP; Breakers S1B and 1D open; EGD 2 fasts starts and loads onto Bus 1D					
Time	Position	Applicant's Actions or Behavior			
	RO	<ul style="list-style-type: none"><li>• Monitor RPV water level and primary Containment temperature and pressure and report as required:<ul style="list-style-type: none"><li>○ RPV water level 138" – EOP entry</li><li>○ RPV water Level 90" RPV water level Lo-Lo</li><li>○ RPV water level at TAF</li><li>○ Drywell pressure 3.0 psig – EOP entry</li><li>○ Drywell temperature 150 °F – EOP entry</li><li>○ Drywell pressure 12 psig</li><li>○ Drywell temperature as it approaches 281 °F</li></ul></li><li>• Responds to annunciator C3f, DW PRESS HI/LO<ul style="list-style-type: none"><li>○ Reports Drywell pressure, temperature and leak rate rising</li><li>○ Reports Drywell high pressure – EOP entry</li></ul></li><li>• Responds to annunciator S1c, LKOUT RELAY 86/S1B TRIP<ul style="list-style-type: none"><li>○ Reports Startup Transformer SB tripped</li><li>○ Reports EDG2 fast started and loaded onto its emergency bus</li></ul></li><li>• Reports MFRV A not responding and unable to control RPV water level</li><li>• Performs SP-3 (CRD)<ul style="list-style-type: none"><li>○ Confirms both CRD Pumps running</li><li>○ Directs EO to close CRD Charging Header Supply valve V-15-52 <b>[Role Play]</b></li><li>○ Directs EO to open CRD Bypass valve V-15-237</li><li>○ Directs EO to monitor CRD flow</li></ul></li></ul>			

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		<ul style="list-style-type: none"> <li>○ Directs EO to throttle open CRD Bypass valve V-15-30 to not exceed 150 GPM</li> <li>○ Reports SP-3 complete</li> </ul>
<b>Role Play:</b> When directed as the EO to perform SP-3 actions above, insert Trigger 20. Report SP-3 actions complete.		
		<ul style="list-style-type: none"> <li>• Performs SP-7 (Liquid Poison)             <ul style="list-style-type: none"> <li>○ Inserts a key in the STANDBY LIQUID CONTROL Keylock and places to FIRE SYS 1 or FIRE SYS 2 position</li> <li>○ Verifies the following:                 <ul style="list-style-type: none"> <li>▪ PUMP ON light on</li> <li>▪ SQUIBS light on</li> <li>▪ PUMP DISCH PRESS &gt; RPV pressure</li> <li>▪ FLOW ON annunciator in alarm (G1b)</li> <li>▪ SQUIB VALVE OPEN annunciator in alarm (G2b)</li> </ul> </li> <li>○ Reports SP-7 complete</li> </ul> </li> <li>• Places ADS TIMERS in BYPASS</li> <li>• Performs SP-9 (Core Spray)             <ul style="list-style-type: none"> <li>○ Confirms Core Spray Suction valves open (V-20-32, V-20-3, V-20-33, &amp; V-20-4)</li> <li>○ Confirms Core Spray Test valves (V-20-27 &amp; V-20-26)</li> <li>○ Confirms one Core Spray Main Pump operating in each system</li> <li>○ Confirms one Core Spray Booster Pump operating in each system</li> <li>○ Confirms Core Spray Discharge valves open (V-20-12 &amp; V-20-18)</li> <li>○ When RPV pressure is below 305 psig, then confirms at least one Core Spray Parallel Isolation valve in each system opens</li> </ul> </li> <li>• Performs SP-4 (when RPV water level is recovering &gt;61")             <ul style="list-style-type: none"> <li>○ Overrides Core Spray logic by pressing lit OVERRIDE pushbuttons and all ACTUATED pushbuttons</li> <li>○ Restores/maintains the directed RPV water level band by cycling the Core Spray Parallel Isolation valves</li> </ul> </li> <li>• Confirms Isolation Condensers initiated, but may remove from service after</li> <li>• Lowers RPV pressure to allow low pressure systems to inject by (any): initiating Isolation Condensers and/or opening</li> </ul>

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		<p>EMRVs</p> <ul style="list-style-type: none"> <li>• Emergency Depressurization actions <ul style="list-style-type: none"> <li>○ Places ROPS in BYPASS</li> <li>○ Opens all EMRVs by placing the associated control switches to MAN</li> <li>○ Reports all EMRVs open</li> </ul> </li> <li>• Performs SP-29 (Drywell Sprays) <ul style="list-style-type: none"> <li>○ Confirms all Reactor Recirculation Pumps tripped</li> <li>○ Confirms all Drywell Recirc Fans tripped</li> <li>○ When directed, initiates Drywell Sprays <ul style="list-style-type: none"> <li>▪ Places the SYSTEM MODE SELECT switch for the selected system in the DW SPRAY position</li> <li>▪ Verifies the Torus CLG Discharge valve closes</li> <li>▪ Verifies the DW Spray Discharge valve opens</li> <li>▪ Starts an ESW Pump</li> <li>▪ Selects a Containment Spray Pump</li> <li>▪ Places and holds the System Pump Start Permissive keylock for the selected in the appropriate position</li> <li>▪ Starts the selected Containment Spray Pump</li> <li>▪ Monitors system and Drywell parameters</li> <li>▪ Confirms the following RBCCW valves closed <ul style="list-style-type: none"> <li>▪ V-5-147, V-5-148, V-5-166, &amp; V-5-167</li> </ul> </li> <li>▪ Starts an additional Containment Spray Pump if required</li> <li>▪ Reports Drywell Sprays in-service</li> </ul> </li> <li>○ Before Drywell/Torus pressure lowers to 4 psig, secure Drywell Sprays: <ul style="list-style-type: none"> <li>▪ Place the SYSTEM MODE SELECT switch in TORUS CLG position</li> <li>▪ Verifies the DW Spray Discharge valve closed</li> <li>▪ Verifies the Torus CLG Discharge valve opens</li> </ul> </li> </ul> </li> <li>• Reports EOP entry on high Torus water temperature (95 °F)</li> </ul>
	SRO	<ul style="list-style-type: none"> <li>• Directs entry into Primary Containment Control EOP on high Drywell pressure and/or temperature, and re-entry into RPV Control – No ATWS EOP on high Drywell pressure</li> <li>• RPV Control – No ATWS EOP <ul style="list-style-type: none"> <li>○ May direct RPV pressure band 500-600 psig due to the leak with Turbine Bypass Valves</li> </ul> </li> </ul>

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		<ul style="list-style-type: none"> <li>○ Directs SP-3 (CRD System Operation)</li> <li>○ Directs SP-7 (Liquid Poison Injection)</li> <li>○ Directs placing ADS Timers in Bypass (RPV water level &lt; 61")</li> <li>○ Directs confirming the Isolation Condensers have initiated</li> <li>○ Directs SP-9 (Core Spray)</li> <li>○ Confirms low pressure systems have the capacity for restoring and maintaining RPV water level</li> <li>○ Directs lowering RPV pressure to allow low pressure systems to inject</li> <li>○ Directs SP-4 (Core Spray)</li> <li>○ If RPV water level lowers to 0", directs entry into Emergency Depressurization – No ATWS EOP</li> <li>● Directs Emergency Depressurization – No ATWS EOP (if necessary on 0" RPV water level) <ul style="list-style-type: none"> <li>○ Directs ROPS bypassed</li> <li>○ Verifies Torus water level &gt; 90"</li> <li>○ Directs all EMRVs open</li> <li>○ When RPV water level rises to above 61", directs SP-4 (Core Spray) and to maintain RPV water level 100 – 175"</li> </ul> </li> <li>● Primary Containment Control EOP <ul style="list-style-type: none"> <li>○ Directs SP-1, Confirmation of Automatic Initiations and Isolations</li> <li>○ Directs line up of Drywell Sprays IAW SP-29</li> <li>○ Directs initiation of Drywell Sprays when either: <ul style="list-style-type: none"> <li>▪ Drywell or Torus pressure exceeds 12 psig</li> <li>▪ It has been determined that bulk Drywell temperature cannot be restored and maintained &lt; 281 °F</li> </ul> </li> </ul> </li> </ul>
<b>Booth Note</b>	If RPV water level does not lower to < 61" in a timely manner, raise the leak size in 0.5% increments. Notify Lead Examiner prior to taking this action.	
<b>Terminus:</b>	RPV water level is in the band or rising toward the band, and the Drywell Sprays has been initiated	

## Oyster Creek 09-1 NRC Exam Scenario

Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

## Procedures Used

<u>Event</u>	<u>Procedure</u>	✓	✓	✓	✓
1	<ul style="list-style-type: none"> <li>619.4.025 (handed out)</li> <li>Shift Turnover Sheet (Handed out)</li> <li>651.4.002 (Handed out)</li> </ul>				
2	<ul style="list-style-type: none"> <li>ReMA (Handed out)</li> <li>302.2 (single notch control rod movement and individual rod scram) (Handed out)</li> </ul>				
3	<ul style="list-style-type: none"> <li>ABN-6, Control Rod Malfunctions (Drifting-Out control rod)</li> <li>RAP-H6a</li> <li>Tech Specs 3.2.B.4</li> </ul>				
4	<ul style="list-style-type: none"> <li>RAP-D7b</li> </ul>				
5	<ul style="list-style-type: none"> <li>ABN-17</li> <li>Tech Specs 3.5.D</li> </ul>				
6	<ul style="list-style-type: none"> <li>RAP-H6a</li> <li>ABN-1, Reactor Scram</li> <li>RPV Control – No ATWS EOP</li> <li>SP-2</li> </ul>				
7/8	<ul style="list-style-type: none"> <li>RAP-C3f</li> <li>RAP-C8h</li> <li>RAP-S1c</li> <li>Primary Containment Control EOP</li> <li>SP-3</li> <li>SP-29</li> <li>SP-7</li> <li>SP-9</li> </ul>				



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	• SP-4				
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### Simulator Setup

- | <u>Event</u> | <u>Trigger</u>                                 | <u>Malfuction</u>   |
|--------------|--|---|
| 1            | NA   | NA  |
| 2            | NA   | NA  |
| 3            | <b>Trigger 2 →</b>                             | MAL-CRD005_1835 <ul style="list-style-type: none"> <li>This will cause control rod 18-35 to drift outward</li> <li>This malfuction will be deleted during the scenario</li> </ul>   |
| 4            | <b>PRESET →</b><br><br><br><br><b>PRESET →</b> | VLV-RCU001 to FAIL AUT CL<br>VLV-RCU004 to FAIL AUT CL <ul style="list-style-type: none"> <li>These will prevent V-16-1 &amp; V-16-14 from closing on a high system pressure, but can be manually closed</li> </ul> BKR-RCU001 to FAIL AUT TRIP <ul style="list-style-type: none"> <li>This prevents RWCU Pump NC02A from auto tripping on isolation valve</li> </ul> |

# Oyster Creek 09-1 NRC Exam Scenario

	<p><b>PRESET →</b></p> <p><b>Trigger 4 →</b></p>	<p>closure</p> <p>PSW-RCU017A to FAIL TO TRIP</p> <ul style="list-style-type: none"> <li>This prevents the RWCU backup pressure switch from activating</li> </ul> <p>MAL-RCU007 to 40%</p> <ul style="list-style-type: none"> <li>This opens RWCU PCV ND11 to 40% and results in a high system pressure condition</li> <li>This malfunction will be deleted during the scenario</li> </ul>
5	<b>Trigger 6→</b>	<p>MAL- NSS012E to 3% over a 15-minute ramp</p> <ul style="list-style-type: none"> <li>This places a leak in the common variable leg to NR GEMAC water level instruments ID13A and ID13C (this also inputs into FWLC).</li> </ul>
6	<b>Trigger 8→</b>	<p>MAL-CRD006_1819</p> <p>MAL-CRD006_3419 with 5-second delay</p> <p>MAL-CRD006_3435 with 10 second delay</p> <ul style="list-style-type: none"> <li>This will cause the listed control rods to drift inward at the same time</li> </ul>
7	<p><b>Conditional Trigger 10→</b></p> <p><b>Trigger 10→</b></p>	<p>Insert Conditional Trigger krpsmdsd.eq.1 on Trigger 10 with a 2-minute time delay</p> <ul style="list-style-type: none"> <li>This will activate Trigger 10 2-minutes after the Reactor Mode switch is placed in SHUTDOWN</li> </ul> <p>MAL-NSS005A to 7% over 15-minute ramp</p> <ul style="list-style-type: none"> <li>This inserts a recirculation line break</li> </ul>
8	<b>Conditional Trigger 12 →</b>	<p>Insert Conditional Trigger hwx01d201m.gt.5 on Trigger 12</p> <ul style="list-style-type: none"> <li>This will activate Trigger 12 when</li> </ul>

## Oyster Creek 09-1 NRC Exam Scenario

		indicated Drywell pressure (PT-642-009A) goes above 5 psig
	<b>Trigger 12→</b>	MAL-OED001B <ul style="list-style-type: none"><li>• This inserts a fault on Startup Transformer SB</li></ul>
	<b>Trigger 20→</b>	MAL-FWC003A to 0 <ul style="list-style-type: none"><li>• This causes MFRV A go to 0% open</li></ul> LOA-CRD024 to 0 <ul style="list-style-type: none"><li>• This will close CRD Charging header Isolation valve V-15-52</li></ul> LOA-CRD052 to 1LOA-CRD051 to 1 <ul style="list-style-type: none"><li>• This opens CRD Bypass valves V-5-237 and V-15-30</li></ul>

**Shift Turnover**

**Current plant conditions:**

- The plant is at 97% power
- Standby Gas Treatment System 10-Hour Run – System 1, 651.4.002, is in progress. The surveillance is complete up to 6.7 and the SGTS Fan was started 1 hour ago
- RWCU Pump B is tagged out of service
- The RWM is inoperable and is tagged in Bypass

**Shift Activities**

- Perform Automatic Scram Contactor Test, 619.4.025, for RPS 2 only
- Withdraw control rods IAW the ReMA. Notify Reactor Engineering after the rod manipulations are complete. Return to rated power will occur after Reactor Engineering evaluation.

# Oyster Creek 09-1 NRC Exam Scenario

## Scenario Outline

<b>Facility:</b> <u>Oyster Creek</u>	<b>Scenario No.:</b> <u>2</u>	<b>Op Test No.:</b> <u>OC 2010</u>
<b>Examiners:</b> _____		<b>Operators:</b> _____
_____		_____
_____		_____
<b>Initial Conditions:</b>		
<ul style="list-style-type: none"> <li>The plant is at 90% power</li> <li>The RWM is inoperable and bypassed</li> <li>Service Water Pump 1-2 is OOS</li> </ul>		
<b>Turnover:</b>		
<ul style="list-style-type: none"> <li>Perform Anticipatory Scram Turbine Stop Valve Closure Test (&gt;45% Load), 619.4.002</li> <li>Raise reactor power to rated</li> </ul>		

Event No.	Malf. No.	Event Type*	Event Description
1	NA	N BOP	Perform Anticipatory Scram Turbine Stop Valve Closure Test (>45% Load), 619.4.002
2	NA	R ATC	Raise reactor power to 100% with Recirculation Flow
3	ICH-NSS118A RLY-RPS044B RPS043B RPS048B RPS047B	I TS	Responds to RE05B RPV water level instrument failure (low) without the expected ½ scram response on RPS 1
4	MAL-MSS005A	C BOP	Responds to trip of Steam Packing Exhauster 1
5	CNH-FWH001B CNH-FWH004B CNH-FWH007B	C ATC	Responds to partial loss of feedwater heating
6	MAL-NSS026C	I TS	Responds to EMRV acoustic monitor failure (NR108C)
7	MAL-RSX001	M All	Responds to rising main steam and offgas radiation monitors due to fuel failures
8	VLV-ICS005 VLV-ICS006 MAL-ICS003A	C All	Responds to unisolable Isolation Condenser steam leak with fuel failures leading to Emergency Depressurization

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient, (TS) Tech Specs

**Simulator Summary**

<b><u>Event</u></b>	<b><u>Event Summary</u></b>
1	The BOP will complete the last portion of turbine stop valve testing surveillance IAW Anticipatory Scram Turbine Stop Valve Closure Test (>45% Load), 619.4.002. The BOP will manipulate the test pushbutton for Stop Valve # 3, verify expected plant response, then return the Test switch to the Off position, and again verify proper plant response. [Normal Evolution: BOP]
2	The ATC will raise power to rated with recirculation flow IAW a Reactivity Management Approval (ReMA) Form and procedure 202.1, Power Operation. [Reactivity Manipulation: ATC]
3	The ATC will respond to a downscale failure of an RPS water level instrument (RE05B) and the expected ½ scram will not occur. The SRO will direct entry into ABN-39, RPS Failures. The ATC will insert a ½ scram on RPS1 and the SRO will apply Tech Specs Table 3.1.1.A. [Instrument Failure: ATC; Tech Specs: SRO]
4	The BOP will respond to the failure of the in-service steam packing exhaustor. The BOP will start the standby Exhaustor and throttle open associated discharge valve to maintain the correct vacuum. [Component Failure: BOP]
5	The ATC will respond to the loss of the Feedwater Heating string A (HP, IP and LP). IAW ABN-17, the ATC will reduce reactor power to 20% below to pre-trip power level. [Component Failure: ATC]
6	The BOP will respond to indications of an open EMRV. The BOP will diagnose the event as a failed acoustic monitor and will bypass the alarms IAW procedure 413. The SRO will apply Tech Specs 3.13. [Instrument Failure: BOP; Tech Spec: SRO]
7	The Crew will respond to rising indications in main steam and offgas radiation monitors. The Crew will enter ABN-26, High Main Steam/Offgas/Stack Effluent Activity, and will reduce power, initiate a shutdown, then manually scram the reactor, and close the MSIVs, the Isolation Condenser vents, and reactor sample valves. [Major]
8	A steam leak will occur in the Isolation Condenser System, which will be unisolable. The steam leak combined with the fuel failures will result in exceeding the Max Safe radiation levels and/or temperature levels in two areas and the SRO will direct an Emergency Depressurization of the RPV. [Component Failure after EOP]

## Oyster Creek 09-1 NRC Exam Scenario

Critical Task 1 IAW in ABN-26, scram the reactor and close the MSIVs when the OFFGAS HI-HI alarm comes in and does not clear within 15 minutes.

Critical Task 2 With a primary system discharging into the Reactor Building, and radiation levels in two or more areas exceed the MAX SAFE values, or temperature levels in two or more areas exceed the MAX SAFE values, then Emergency Depressurized the RPV.



# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 2</u>	Event No.: <u>1</u>
Event Description: <u>Complete performance of Anticipatory Scram Turbine Stop Valve Closure Test (&gt;45% Load), 619.4.002</u>			
Initiation: Following shift turnover			
Cues: As directed by the SRO following shift turnover			
Time	Position	Applicant's Actions or Behavior	
	SRO	<ul style="list-style-type: none"><li>• Directs BOP to complete Anticipatory Scram Turbine Stop Valve Closure Test (&gt;45% Load), 619.4.002, starting at Step 6.27</li></ul>	
	BOP	<ul style="list-style-type: none"><li>• Completes Anticipatory Scram Turbine Stop Valve Closure Test (&gt;45% Load), 619.4.002, starting at Step 6.27<ul style="list-style-type: none"><li>○ Momentarily PRESS pushbutton Main Stop Valve Test</li><li>○ Verify Stop Valve #3 closed</li><li>○ Verify the following:<ul style="list-style-type: none"><li>▪ Relay 1K12 energized [<b>Evaluator Cue</b>]</li><li>▪ Relay 2K11 energized</li></ul></li></ul></li></ul>	
<b>Evaluator Cue:</b> The RPS relays are not simulated in the simulator. State that relays 1K12 and 2K11 are energized.			
		<ul style="list-style-type: none"><li>○ Place Main Stop Valve Test Select Switch in OFF</li><li>○ Verify No. 3 Stop Valve opens</li><li>○ verify all Stop Valves open</li><li>○ Review results of surveillance against section 7.0 Acceptance Criteria</li></ul>	
<b>Terminus:</b>	The Turbine Stop valve test is field complete.		

Oyster Creek 09-1 NRC Exam Scenario

Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 2</u>	Event No.: <u>2</u>
Event Description: <u>Raise recirculation flow to raise reactor power back to rated</u>			
Initiation: The Turbine Stop valve test is field complete, or as directed by the Lead Examiner			
Cues: As directed by the SRO			
Time	Position	Applicant's Actions or Behavior	
	SRO	<ul style="list-style-type: none"><li>• Directs the ATC to raise reactor power to 100% IAW the ReMA and 202.1</li><li>• Acts as the Reactivity Manager and provides an overview of the reactivity manipulation</li></ul>	
	ATC	<ul style="list-style-type: none"><li>• Raises reactor power to 100% IAW the ReMA<ul style="list-style-type: none"><li>◦ Raises reactor power using the MASTER RECIRC SPEED CONTROLLER manual knob CW</li><li>◦ Monitors the following:<ul style="list-style-type: none"><li>▪ Reactor power</li><li>▪ RPV pressure</li><li>▪ Steam flow</li><li>▪ Feedwater flow</li><li>▪ Turbine electrical output</li><li>▪ Turbine control valve position</li><li>▪ FLLLP</li></ul></li></ul></li></ul>	
	BOP	<ul style="list-style-type: none"><li>• Acts as peer checker for the reactivity manipulation</li><li>• May aid ATC in parameter monitoring</li></ul>	
Terminus:	Reactor power has risen from a rise in recirculation flow		

## Oyster Creek 09-1 NRC Exam Scenario

Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 2</u>	Event No.: <u>3</u>
Event Description: <u>Responds to RPV water level instrument failure (RE05B fails low) without the expected ½ scram response on RPS 1</u>			
Initiation: Reactor power has risen from a rise in recirculation Flow, or as directed by the Lead Examiner			
Cues: Annunciators H5e, RX LVL LO I; H7e, RX LVL HI/LO			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"><li>• Responds to annunciators H5e, RX LVL LO I; H7e, RX LVL HI/LO<ul style="list-style-type: none"><li>○ Checks RPV water level indications on front panels</li><li>○ Checks position of test switch (Panel 18R)</li><li>○ Checks for power supply output lights (Panel 18R)</li><li>○ Checks for annunciator J8c, FCS/RFCS TROUBLE</li><li>○ Checks the following:<ul style="list-style-type: none"><li>▪ Water level instrument reference leg temperature</li><li>▪ Drywell bulk temperature</li><li>▪ Drywell pressure</li></ul></li><li>○ Reports Water level instrument RE05B indicates downscale</li><li>○ Reports the instrument should have inserted a ½ scram on RPS 1 but did not</li></ul></li></ul>	
	ATC	<ul style="list-style-type: none"><li>• Inserts a ½ scram on RPS 1 by pressing the MANUAL SCRAM BUS 1 pushbutton</li><li>• Reports RPS 1 ½ scram inserted</li></ul>	
	SRO	<ul style="list-style-type: none"><li>• Directs entry into ABN-39, RPS Failures<ul style="list-style-type: none"><li>○ Directs ATC to insert a ½ scram on RPS 1</li></ul></li><li>• Reviews ABN-59, RPV Level Instrument Failures</li><li>• Declares water level instrument RE05B inoperable</li><li>• May declare RPS 1 inoperable and protect RPS 2</li><li>• Applies Tech Spec Table 3.1.1.A:<ul style="list-style-type: none"><li>○ Declares one channel of reactor scram on low water level inoperable</li></ul></li></ul>	

## Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>○ With one required channel inoperable in one Trip System, within 12 hours, restore the inoperable channel or place the inoperable channel and/or that Trip System in the tripped condition</li> <li>● Notifies SM/WWM for repair</li> </ul>
<b>Terminus:</b>	The Crew determines that RPV water level instrument RE05B has failed downscale. A ½ scram has been inserted on RPS 1. The SRO has addressed Tech Specs Table 3.1.1.	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 2</u>	Event No.: <u>4</u>
Event Description: <u>Responds to the trip of Steam Packing Exhauster 1</u>			
Initiation: The Crew determines that RPV water level instrument RE05B has failed downscale. A ½ scram has been inserted on RPS 1. The SRO has addressed Tech Specs Table 3.1.1, or as directed by the Lead Examiner			
Cues: Annunciator Q8c, EXHAUSTER TRIP			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"><li>• Responds to annunciator Q8c, EXHAUSTER TRIP<ul style="list-style-type: none"><li>○ Reports Exhauster Blower 1 has tripped</li><li>○ Verifies gland steam pressure</li><li>○ Closes Exhauster Blower 1 Valve V-7-38</li><li>○ Starts Exhauster Blower 2 and verifies the red light on</li><li>○ Throttles open Exhauster Valve 2 V-7-39</li><li>○ Adjusts Exhauster Valve 2 V-7-39 to maintain GLAND STM HEADER VACUUM at 15 - 17.5 inches of water</li><li>○ Reports Exhauster Blower 2 is in service</li></ul></li><li>• Directs EO to investigate the trip of Exhauster Blower 1 [<b>Role Play</b>]</li></ul>	
<b>Role Play</b>	As the EO sent to investigate the trip of Exhauster Blower 1, report there are indications of an overload on the breaker		
	SRO	<ul style="list-style-type: none"><li>• Notifies SM/WWM for repair</li><li>• May direct condenser vacuum as key parameter</li></ul>	
<b>Terminus:</b>	Exhauster Blower 2 has been started and proper gland steam header vacuum is established		

## Oyster Creek 09-1 NRC Exam Scenario

Notes/Comments




# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 2</u>	Event No.: <u>5</u>
Event Description: <u>Responds to a partial loss of Feedwater Heating</u>			
Initiation: Exhauster Blower 2 has been started and proper gland steam header vacuum is established, or as directed by the Lead Examiner			
Cues: Annunciators N7d, LP A1 MRV OPEN; N8d, LP A1 LEVEL HI/LO; N6d, IP A2 Level HI/LO; N4d, IP A2 REV CK VLV OPEN; N5d, IP A2 MRV OPEN; N3d, HP A3 LEVEL HI/LO; N2d, HP A3 MRV OPEN; N1d, HP A3 REV CK VLV OPEN			
Time	Position	Applicant's Actions or Behavior	
	SRO	<ul style="list-style-type: none"><li>• Directs entry into ABN-17, Feedwater System Abnormal Conditions<ul style="list-style-type: none"><li>○ With a single heater trip, directs ATC to maintain power at or below the pre-trip value</li><li>○ With a full Feedwater Heater String lost, directs the ATC to perform a power reduction to 20% below the current power level, but not to go lower than <math>8.5 \times 10^4</math> gpm recirculation flow or to <math>\leq 502.5</math> MWe (which is ever is less)</li><li>○ Notifies SM/WWM about the event</li><li>○ Notifies Reactor Engineering</li></ul></li></ul>	
	ATC	<ul style="list-style-type: none"><li>• Monitors reactor power<ul style="list-style-type: none"><li>○ Reports reactor power rising</li><li>○ Lowers reactor power to turning the MASTER RECIRC SPEED CONTROLLER manual knob CCW to maintain power at or below the pre-trip value (single heater)</li></ul></li><li>• Lowers reactor power to 20% below current power by turning the MASTER RECIRC SPEED CONTROLLER manual knob CCW, but not lower than <math>8.5 \times 10^4</math> gpm or to <math>\leq 502.5</math> MWe with recirculation flow (which ever is less)</li><li>• Reports power level after the reduction</li><li>• Monitors reactor power, pressure, RPV water level, FLLLP</li><li>• Monitors the Power Operations Curve</li></ul>	
	BOP	<ul style="list-style-type: none"><li>• Responds to annunciators</li><li>• Monitors Feedwater temperature<ul style="list-style-type: none"><li>○ Reports Feedwater temperature lowering</li></ul></li></ul>	

## Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>• Monitors turbine parameters (load, vacuum, vibrations)</li> <li>• Directs SRO to make notifications IAW OP-AA-106-101</li> <li>• Notifies Chemistry to perform primary coolant sampling due to the power reduction</li> <li>• Monitors offgas, main steam and reactor coolant activity</li> <li>• Directs EO to investigate loss of feedwater heating [<b>Role Play</b>]</li> </ul>
<b>Role Play</b>	When directed to investigate the loss of the A Feedwater heating string, report that all heaters indicate upscale	
<b>Terminus:</b>	Reactor power has been reduced with recirculation flow to 20% below current power or to $\leq 502.5$ MWe	

Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 2</u>	Event No.: <u>6</u>
Event Description: <u>Respond to indications of an open EMRV (NR108C)</u>			
Initiation: Reactor power has been reduced with recirculation flow to $\leq 502.5$ MWe, or as directed by the Lead Examiner			
Cues: Annunciator B4g, SV/EMRV NOT CLOSED; EMRV NR108C indicates in the VALVE OPEN REGION; Audible Acoustic Monitor alarm			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"><li>• Responds to annunciator B4g, SV/EMRV NOT CLOSED<ul style="list-style-type: none"><li>○ Checks RPV pressure and ADS status</li><li>○ Determines which valve indicates open</li><li>○ Checks Torus water temperature and Drywell pressure</li><li>○ Reports Drywell pressure and Torus water temperature is normal</li><li>○ Reports EMRV NR108C indicates in the VALVE OPEN REGION and that the green closed light is on for the EMRV and that no SV/EMRVs are open</li><li>○ Checks Panel 15R for indications<ul style="list-style-type: none"><li>▪ Verifies EMRV NR108C is the only alarming valve</li><li>▪ Attempts to reset the alarm by pressing the MASTER ALARM RESETS</li><li>▪ Reports only EMRV NR108C is in alarm and that the alarm will not reset [<b>Note</b>]</li></ul></li></ul></li></ul>	
<b>Note:</b> The next steps in the RAP direct disconnecting cables to clear the alarm. These Cables are not simulated in the simulator and not included here. State that the coaxial cable has been disconnected and reconnected and the alarm is still in.			
		<ul style="list-style-type: none"><li>▪ Refers SRO to Tech Spec 3.13A</li><li>▪ Defeats the alarm IAW procedure 413<ul style="list-style-type: none"><li>▪ Places the HI-ALARM switch to DEFEAT</li><li>▪ Places the LO-BIAS switch to DEFEAT</li><li>▪ Presses the MASTER ALARM RESETs</li><li>▪ Monitors EMRV tailpipe temperatures once a shift</li><li>▪ Reports the alarm is cleared</li></ul></li></ul>	

## Oyster Creek 09-1 NRC Exam Scenario

	SRO	<ul style="list-style-type: none"> <li>• Reviews TS 3.13.A                             <ul style="list-style-type: none"> <li>○ Relief Valve Position Indicators                                     <ul style="list-style-type: none"> <li>▪ 1. The accident monitoring instrumentation channels shown in Table 3.13.1 shall be OPERABLE when the mode switch is in the Startup or Run positions.</li> <li>▪ 2. With no accident monitoring instrumentation operable for a relief valve as specified in Table 3.13.1, either restore any inoperable channel to operable status within 7 days, or place the reactor in the SHUTDOWN condition within the next 24 hours. If only the primary* detector or the backup** indicator on a relief valve becomes inoperable, no action is required. The provisions of 3.0.A do not apply.</li> </ul> </li> </ul> </li> <li>• Notifies SM/WWM for repair/investigation</li> </ul>
<b>Terminus:</b>	The alarm for EMRV NR108C has been defeated and the SRO has reviewed and applied Tech Specs	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 2</u>	Event No.: <u>7</u>
Event Description: <u>Responds to rising main steam and offgas radiation monitor readings</u>			
Initiation: The alarm for EMRV NR108C has been cleared and the SRO has reviewed and applied Tech Specs, or as directed by the Lead Examiner			
Cues: Rising Main Steam and Offgas radiation monitors; Annunciators 10F1k, AREA MON HI; 10F2c, OFFGAS HI; 10F1c, OFFGAS HI-HI			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"> <li>• Reports rising MSL/OG radiation monitors if noticed</li> <li>• Responds to annunciator 10F1k, AREA MON HI <ul style="list-style-type: none"> <li>○ Reports ARM SJAE AREA is in high alarm and no others</li> <li>○ Makes plant page to evacuate SJAE area</li> </ul> </li> <li>• Reports main steam radiation monitors rising</li> <li>• Reports offgas radiation monitors rising</li> <li>• Performs ABN-26 actions (with rising OG radiation) <ul style="list-style-type: none"> <li>○ Directs Chemistry to sample offgas and reactor coolant</li> <li>○ Informs SRO of Tech Specs 3.6.E and 4.6.E</li> <li>○ Notifies Reactor Engineering</li> </ul> </li> <li>• Performs ABN-26 actions (following the manual scram) <ul style="list-style-type: none"> <li>○ Confirms the following valves closed: <ul style="list-style-type: none"> <li>▪ V-7-31, Offgas Exhaust Isolation Valve</li> <li>▪ AOV-001A/-001B, AOG Inlet Valve</li> <li>▪ Places the Drain Valve V-7-29/SOV-016 to CLOSE</li> </ul> </li> <li>○ Following the successful scram, closes the following: <ul style="list-style-type: none"> <li>▪ All MSIVs</li> <li>▪ Isolation Condenser vents (V-14-1 + V-14-19 with a single switch; V-14-5 + V-14-20 with a single switch)</li> <li>▪ Reactor Water Sample valves (V-24-29 and V-24-30)</li> <li>▪ Drywell Air Supply valve, V-6-395</li> </ul> </li> <li>○ Announces evacuation of Turbine Building and Reactor Building</li> </ul> </li> <li>• Reports RPV water level 138" – EOP entry</li> <li>• Controls RPV water level initially IAW ABN-1 <ul style="list-style-type: none"> <li>○ When RPV water level begins to rise following the scram, performs the following:</li> </ul> </li> </ul>	

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>▪ Selects one Feedwater Pump and trips the other two Feedwater Pumps</li> <li>▪ Places all MFRVs in MANUAL</li> <li>▪ Closes all MFRVs</li> <li>• Performs SP-2 (Feedwater)               <ul style="list-style-type: none"> <li>○ Controls RPV water level 138"-175" using the following as necessary:                   <ul style="list-style-type: none"> <li>▪ Feedwater Regulating Valves</li> <li>▪ Main Feed Regulating (MFRV) Block Valve</li> <li>▪ Feedwater Low Flow Valves</li> <li>▪ Heater Bank Outlet Isolation Valves</li> <li>▪ Feedwater and Condensate Pumps</li> </ul> </li> <li>○ Reports RPV water level in band</li> </ul> </li> <li>• Controls RPV pressure in prescribed band with Isolation Condensers (SP-11) or EMRVs (SP-12)               <ul style="list-style-type: none"> <li>○ Performs SP-11 (Isolation Condensers)                   <ul style="list-style-type: none"> <li>▪ Confirms Recirculation Pump A tripped (IC-A) or Recirculation Pump E for IC-B)</li> <li>▪ Verifies RPW water level &lt; 160"</li> <li>▪ Cycle Condensate Return Valve V-14-34 (IC-A) or V-14-35 for IC-B)</li> </ul> </li> <li>○ Performs SP-12 (EMRVs)                   <ul style="list-style-type: none"> <li>▪ Verifies Torus water &gt; 90"</li> <li>▪ Opens selected EMRVs with AUTO DEPRESS VALVE to MAN</li> <li>▪ Monitors Torus water temperature</li> </ul> </li> </ul> </li> </ul>
	SRO	<ul style="list-style-type: none"> <li>• Directs entry into ABN-26, High Main Steam/Offgas/Stack Effluent Activity               <ul style="list-style-type: none"> <li>○ Directs a reactor power reduction when the OFFGAS HI annunciator comes in (or before)</li> <li>○ Directs a plant shutdown when the OFFGAS HI-HI annunciator comes in</li> <li>○ Directs the ATC to scram the reactor IAW ABN-1</li> <li>○ Directs the BOP to isolate the RPV after the successful scram IAW ABN-26</li> <li>○ Directs BOP to evacuate the Turbine Building and Reactor Building</li> </ul> </li> <li>• Directs entry into RPV Control - No ATWS EOP               <ul style="list-style-type: none"> <li>○ Directs the BOP to control RPV water level 138"-175" IAW</li> </ul> </li> </ul>

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		SP-2 (Feedwater) and SP-3 (CRD) (if required) <ul style="list-style-type: none"> <li>○ Directs SP-1, Confirmation of Automatic Initiations and Isolations</li> <li>○ Directs BOP to control RPV pressure 800 – 1000 psig (or may be lower band) with Isolation Condensers (SP-11) or EMRVs (SP-12)</li> </ul>
	ATC	<ul style="list-style-type: none"> <li>• Reduces reactor power with the MASTER RECIRC FLOW CONTROLLER manual knob CCW when directed to reduce reactor power</li> <li>• Manually scrams the reactor IAW ABN-1               <ul style="list-style-type: none"> <li>○ Depresses both MANUAL SCRAM pushbuttons</li> <li>○ Places the REACTOR MODE SELECTOR switch in SHUTDOWN</li> <li>○ Reports all control rods fully inserted</li> <li>○ Inserts SRMs</li> <li>○ Inserts IRMs</li> </ul> </li> <li>• Performs SP-3 (CRD) (if required)               <ul style="list-style-type: none"> <li>○ Verifies all operable CRD Pumps running</li> </ul> </li> <li>• Performs SP-1, Confirmation of Automatic Initiations and Isolations, when directed</li> </ul>
<b>Terminus:</b>	The reactor has been scrammed, actions have been performed IAW ABN-26, and the plant is stable	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 2</u>		Event No.: <u>8</u>	
Event Description: <u>Responds to a steam leak in Isolation Condenser A steam line</u>					
Initiation: The reactor has been scrammed, actions have been performed IAW ABN-26, and the plant is stable, or as directed by the Lead Examiner					
Cues: Annunciator 10F1k, AREA MON HI; Isolation Condenser area temperatures rising; Annunciators 10F1m – 10F4m (refuel floor ARMs)					
Time	Position	Applicant's Actions or Behavior			
	RO	<ul style="list-style-type: none"><li>• Responds to annunciator 10F1k, AREA MON HI<ul style="list-style-type: none"><li>○ Reports ISOLATION COND AREA and LIQUID POISON SYSTEM AREA ARMs above the high setpoint and rising</li><li>○ Reports EOP entry required</li></ul></li><li>• Isolates the Isolation Condensers with their control switches<ul style="list-style-type: none"><li>○ Reports that Isolation Condenser System A steam valves will not close</li><li>○ May dispatch EO to isolate Isolation Condenser A [<b>Role Play</b>]</li></ul></li></ul>			
<b>Role Play:</b> If dispatched as the EO to isolate Isolation Condenser A, report a steam cloud at the Isolation Condensers and you have left the area.					
		<ul style="list-style-type: none"><li>• Monitors and records area temperature and radiation levels monitoring<ul style="list-style-type: none"><li>○ Reports Isolation Condenser System area temperatures rising</li><li>○ Reports radiation levels rising on the refuel floor area and any other areas</li><li>○ Reports radiation monitors for Isolation Condenser and Liquid Poison area (same EOP area) are at Max Safe 1000 mr/hr</li><li>○ Reports that Refuel Floor ARMs at the Max Safe level (different area)</li><li>○ Reports Isolation Condenser area temperatures at MAX Safe level</li><li>○ Reports RWCU area temperatures at Max Safe level</li></ul></li><li>• Performs Emergency Depressurization – No ATWS EOP</li></ul>			



## Oyster Creek 09-1 NRC Exam Scenario

		<b>actions</b> <ul style="list-style-type: none"> <li>○ Places ROPS in BYPASS</li> <li>○ Opens all EMRVs with their control switch to MAN</li> <li>○ Reports all EMRVs open</li> </ul>
	SRO	<ul style="list-style-type: none"> <li>• Directs entry into the Secondary Containment Control EOP from ARMs                             <ul style="list-style-type: none"> <li>○ Directs isolating the Isolation Condensers</li> <li>○ Directs area temperature and radiation levels monitoring</li> <li>○ When area temperature levels (Area 1 at 225 °F and Area 4 at 212 °F) or radiation levels (Area 1 at 1000 mr/hr and Area 2 at 1000 mr/hr) in <math>\geq 2</math> areas exceed the Max Safe values, directs Emergency Depressurization</li> </ul> </li> <li>• May direct lowering RPV pressure to reduce the driving head of the leak</li> <li>• Directs entry into the Emergency Depressurization – No ATWS EOP                             <ul style="list-style-type: none"> <li>○ Directs ROPS bypassed</li> <li>○ Verifies Torus water level &gt; 90"</li> <li>○ Directs all EMRVs open</li> </ul> </li> </ul>
<b>Terminus:</b>	The RPV has been Emergency Depressurized when area radiation levels or area temperature levels in $\geq 2$ areas exceed the Max Safe values	

### Notes/Comments


## Oyster Creek 09-1 NRC Exam Scenario

### **Procedures Used**

<b><u>Event</u></b>	<b><u>Procedure</u></b>	✓	✓	✓	✓
1	<ul style="list-style-type: none"> <li>Shift Turnover (Handed out)</li> <li>619.4.002 (Handed out)</li> </ul>				
2	<ul style="list-style-type: none"> <li>ReMA (Handed out)</li> <li>202.1, Section 5</li> </ul>				
3	<ul style="list-style-type: none"> <li>RAP-H5e</li> <li>RAP-H7e</li> <li>TS Table 3.1.1</li> <li>ABN-39</li> <li>ABN-59</li> </ul>				
4	<ul style="list-style-type: none"> <li>RAP-Q8c</li> </ul>				
5	<ul style="list-style-type: none"> <li>RAP-N1d</li> <li>RAP-N2d</li> <li>RAP-N3d</li> <li>RAP-N4d</li> <li>RAP-N5d</li> <li>RAP-N6d</li> <li>RAP-N7d</li> <li>RAP-N8d</li> <li>ABN-17</li> <li>202.1 (Power reduction)</li> </ul>				
6	<ul style="list-style-type: none"> <li>RAP-B4g</li> <li>413 (Bypass failed EMRV acoustic monitor)</li> <li>TS 3.13</li> </ul>				
7	<ul style="list-style-type: none"> <li>RAP-10F1k</li> <li>RAP-10F2c</li> </ul>				

## Oyster Creek 09-1 NRC Exam Scenario

	<ul style="list-style-type: none"> <li>• RAP-10F1c</li> <li>• ABN-26</li> <li>• RPV Control – No ATWS</li> <li>• SP-1</li> <li>• SP-2</li> <li>• SP-3</li> <li>• SP-11</li> <li>• SP-12</li> <li>• ABN-1</li> </ul>				
8	<ul style="list-style-type: none"> <li>• Secondary Containment Control EOP (with associated rad/temp monitoring hardcards)</li> <li>• Emergency Depressurization – No ATWS EOP</li> </ul>				

## Oyster Creek 09-1 NRC Exam Scenario

### Simulator Setup

1. Reset to full power IC
2. Reduce recirculation flow to 90% power
3. Have a ReMA with 2 steps: 1) reduce power to 90% with recirculation flow; 2) raise power to 100% with recirculation flow
4. Have a copy of Anticipatory Scram Turbine Stop Valve Closure Test (>45% Load), 619.4.002 completed up to/including step 6.26.2
5. Place Main Stop Test Select switch in #3 position
6. Place the Anticipatory Scram Test Select Switch clockwise to the Off position
7. Ensure Exhauster Blower 1 is running
8. Place RWM in Bypass and hang tag
9. Place Service Water Pump 1-2 in PTL and hang tag

<u>Event</u>	<u>Trigger</u>	<u>Malfunction</u>
1	NA	NA
2	NA	NA
3	<b>Trigger 2 →</b>  <b>PRESETS →</b>	ICH-NSS118A to 85 <ul style="list-style-type: none"> <li>This causes RPS water level instrument RE05B (RPS1) to fail downscale</li> </ul> RLY-RPS043B (1K51) RLY-RPS044B (1K51A) RLY-RPS047B (1K52) RLY-RPS048B (1K52A) <ul style="list-style-type: none"> <li>These will prevent the auto ½ scram on RPS 1 from the water level instrument failure</li> </ul>
4	<b>Trigger 4 →</b>	MAL-MSS005A <ul style="list-style-type: none"> <li>This will trip Exhauster Blower 1</li> </ul>
5	<b>Trigger 6 →</b>	CNH-FWH001B to 0 with a 180-second time delay (HP Heater 3A) CNH-FWH004B to 0 with a 60-second time delay (IP Heater 2A) CNH-FWH007B to 0 (LP Heater 1A)

		<ul style="list-style-type: none"> <li>This places the heater controller outputs to 0 to result in a high level in LP Heater A1, then IP Heater A2, then HP Heater A3</li> <li>Note: If the A Heaters do not all trip after a few minutes, then insert the following annunciators which are not currently active: N1d, N2d, N3d, N4d, N5d, N6d, N7d, N8d (to simulate the trip)</li> </ul>
6	<b>Trigger 8→</b>	MAL-NSS026C to 120 <ul style="list-style-type: none"> <li>This will fail the acoustic upscale for EMRV NR108C</li> </ul>
7	<b>Trigger 10→</b>	MAL-RXS001 to 0.005 over a 20-minute ramp <ul style="list-style-type: none"> <li>This will insert a fuel failure and will raise main steam and offgas radiation monitors</li> </ul>
8	<b>PRESETS →</b>    <b>Trigger 12→</b>	VLV-ICS005 to MECH SZ (V-14-30) VLV-ICS006 to MECH SZ (V-14-31) <ul style="list-style-type: none"> <li>This keeps Isolation Condenser A steam valves open and cannot be closed</li> </ul> MAL-ICS003A to 10% over a 15-minute ramp <ul style="list-style-type: none"> <li>This inserts a steam line break in Isolation Condenser A after 6 minutes</li> </ul>

**Shift Turnover**

**Current plant conditions:**

- The plant is at 90% power
- The RWM is inoperable and is Bypassed
- Service Water Pump 1-2 is tagged out for repair

**Shift Activities**

- Complete the Anticipatory Scram Turbine Stop Valve Closure Test (>45% Load), 619.4.002, starting at Step 6.27
- Following completion of the surveillance test, raise power to rated IAW the ReMA

# Oyster Creek 09-1 NRC Exam Scenario

## Scenario Outline

<b>Facility:</b> <u>Oyster Creek</u>		<b>Scenario No.:</b> <u>3</u>		<b>Op Test No.:</b> <u>OC 2010</u>	
<b>Examiners:</b> _____			<b>Operators:</b> _____		
_____			_____		
_____			_____		
<b><u>Initial Conditions:</u></b>					
<ul style="list-style-type: none"> <li>The plant is at 100% power</li> <li>Air Compressor 3 is tagged out of service</li> </ul>					
<b><u>Turnover:</u></b>					
<ul style="list-style-type: none"> <li>Reduce power IAW the ReMA</li> <li>Perform 323.6, Backwashing Condensers</li> </ul>					
Event No.	Malf. No.	Event Type*		Event Description	
1	NA	R	ATC	Reduces reactor power with recirculation flow to 97%	
2	NA	N	BOP	Performs Condenser A North Condenser Backwash procedure	
3	MAL-SLC003A	TS	SRO	Respond to Standby Liquid Control System 1 loss of squib continuity	
4	BKR-RFC001 MAL-RFC002A	C	BOP	Respond to abnormalities on Recirculation Pump A	
5	MAL-EDS003B	C TS	All	Respond to the loss of 480 VAC USS 1A2	
6	BKR-CRD001 MAL-CRD010 MAL-CRD007	C	ATC	Respond to CRD Pump NC08B trip leads to a manual scram; Four control rods remain at position 48	
7	MAL-NSS005C MAL-PCN008	M C	All	Respond to primary coolant leak in the Drywell	
8	VLV-CNS005	C	All	Respond to the loss of Drywell Sprays	

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient, (TS) Tech Specs

**Simulator Summary**

<b><u>Event</u></b>	<b><u>Event Summary</u></b>
1	The ATC will lower reactor power with recirculation flow IAW the Reactivity Management Approval Form (ReMA) too allow condenser backwashing in the next event [Reactivity Manipulation: ATC]
2	The BOP will perform a backwash of the condenser half A North IAW procedure 323.6, Backwashing Condensers. The BOP will verify the correct lineup, place the Backwash Control switch in Backwash, place the Cond A North switch to Close, verify the lineup, place the Cond A North switch to Open, place the Backwash Control switch to Close, and then verify the proper lineup. [Normal Evolution: BOP]
3	The BOP will respond to a loss of Standby Liquid Control System 1 squib valve continuity. The SRO will declare Standby Liquid Control System 1 inoperable and will apply Tech Specs 3.2.C.3.a. [Tech Specs: SRO]
4	The BOP will respond to the trip of the Recirculation MG Set A field breaker. The drive motor breaker will fail to auto trip. The BOP will trip the drive breaker, enter ABN-2, Recirculation System Failures, and close the pump discharge valve. [Component Failure: BOP]
5	The Crew will respond to the loss of 480 VAC USS 1A2. The ATC will start CRD Pump NC08B and reset the RPS 1 ½ scram and ½ isolation when RPS power is restored. The BOP will start RBCCW Pump 1-2, secure Reactor Building ventilation, initiate Standby Gas Treatment System 2, restore power to RPS 1, and reset alarms. The SRO will review and apply Tech Specs 3.7.B. [Component Failure: ATC & BOP; Tech Specs: SRO]
6	The ATC will respond to CRD Pump NC08B trip. HCU accumulator trouble alarms will then be received. The Alarm Response for CRD Pump trip directs a manual scram given no CRD Pumps and multiple HCU accumulator alarms. Four control rods will remain at position 48 following the manual scram. [Component Failure: ATC]
7/8	The Crew will respond to a primary coolant leak in the Primary Containment. At the same time, a pre-existing leak in a Drywell downcomer will allow communication between the Drywell air space and the Torus air space. The SRO will direct Drywell Sprays but sprays will not operate. The SRO will direct Emergency Depressurization when it has been determined that Torus pressure cannot be maintained below the Primary System Pressure (PSP) Curve. [Major Event; Component Failure after EOP]



## Oyster Creek 09-1 NRC Exam Scenario

- Critical Task 1 With RPV pressure > 850 psig and CRD charging water pressure cannot be immediately re-established, and two or more accumulator alarms are received, then scram the reactor
- Critical Task 2 When it has been determined that Torus pressure cannot be maintained below the Primary System Pressure (PSP) Curve, then Emergency Depressurize the RPV

# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 3</u>	Event No.: <u>1</u>
Event Description: <u>Reduce reactor power with recirculation flow</u>			
Initiation: Following shift turnover			
Cues: As directed by the SRO following shift turnover			
Time	Position	Applicant's Actions or Behavior	
	SRO	<ul style="list-style-type: none"> <li>• Directs ATC to reduce reactor power to 97% power IAW the ReMA and 202.1</li> <li>• Acts as the Reactivity Manager during the evolution</li> </ul>	
	ATC	<ul style="list-style-type: none"> <li>• Reduces reactor power to 97% IAW the ReMA                             <ul style="list-style-type: none"> <li>○ Reduces reactor power using the MASTER RECIRC SPEED CONTROLLER manual knob CCW</li> <li>○ Monitors the following during the evolution:                                     <ul style="list-style-type: none"> <li>▪ LPRMs/APRMs</li> <li>▪ RPV pressure</li> <li>▪ Steam flow</li> <li>▪ Turbine electrical output</li> <li>▪ Turbine control valve position</li> <li>▪ Feedwater flow</li> <li>▪ Core thermal power</li> <li>▪ FLLLP</li> </ul> </li> </ul> </li> </ul>	
	BOP	<ul style="list-style-type: none"> <li>• Acts as peer checker for the reactivity manipulation</li> <li>• May aid in parameter monitoring</li> </ul>	
<b>Terminus:</b>		Reactor power has lowered from a reduction in recirculation flow	

## Oyster Creek 09-1 NRC Exam Scenario

Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 3</u>	Event No.: <u>2</u>
Event Description: <u>Perform Condenser Backwash procedure</u>			
Initiation: Reactor power has lowered from a reduction in recirculation flow, or as directed by the Lead Examiner			
Cues: As directed by the SRO following the reactor power reduction			
Time	Position	Applicant's Actions or Behavior	
	SRO	<ul style="list-style-type: none"><li>• Directs BOP to perform condenser backwash IAW 323.6, Backwashing Condensers, starting at Step 5.1.3.1</li></ul>	
	BOP	<ul style="list-style-type: none"><li>• Performs condenser backwash IAW 323.6, Backwashing Condensers, starting at Step 5.1.3.1<ul style="list-style-type: none"><li>○ Verifies the following items prior to initiating condenser backwash:<ul style="list-style-type: none"><li>▪ All Condenser valves are in normal position</li><li>▪ Verify the inlet valve and outlet valves for each condenser halves are Open</li><li>▪ Verify the backwash valves and the cross connect valve for each condenser are Closed</li><li>▪ An electrician/operator is aware of which valves will be moving, going into and out of backwash. These valves may have to be reset</li></ul></li><li>○ Place COND A NORTH BACKWASH CONTROL Switch in BACKWASH</li><li>○ After approximately 10 seconds, then place COND A NORTH CIRC WATER INLET &amp; OUTLET Switch to CLOSE</li><li>○ Verify final valve positions are as follows:<ul style="list-style-type: none"><li>▪ V-3-12, Cond. A North Inlet Valve closed</li><li>▪ V-3-27, Cond. A North Outlet Valve closed</li><li>▪ V-3-18, Cond. A North Backwash Valve open</li><li>▪ V-3-24, Cond. A Cross-connect Valve open</li><li>▪ V-3-28, Cond. A South Outlet Valve closed</li><li>▪ V-3-13, Cond. A South Inlet Valve open</li><li>▪ V-3-19, Cond. A South Backwash Valve closed</li></ul></li><li>○ Backwash condenser for approximately 3-5 minutes or as</li></ul></li></ul>	

## Oyster Creek 09-1 NRC Exam Scenario

		<p>directed by the US</p> <ul style="list-style-type: none"> <li>○ Monitor the following parameters while backwashing is in progress: <ul style="list-style-type: none"> <li>▪ Condenser Hotwell Level</li> <li>▪ Turbine Exhaust Hood Temp</li> <li>▪ Condenser Vacuum</li> </ul> </li> <li>○ If any abnormalities are observed, then stop backwashing operations</li> <li>○ Place COND A NORTH CIRC WATER INLET &amp; OUTLET Switch to OPEN to return Condenser Section A North back in service</li> <li>○ After approximately 10 seconds, then place COND A NORTH BACKWASH CONTROL Switch to CLOSE to stop the backwashing process</li> <li>○ Confirm the following valve lineup to ensure condenser A North is in service: <ul style="list-style-type: none"> <li>▪ V-3-12, Cond. A North Inlet Valve open</li> <li>▪ V-3-27, Cond. A North Outlet Valve open</li> <li>▪ V-3-18, Cond. A North Backwash Valve closed</li> <li>▪ V-3-13, Cond. A South Inlet Valve open</li> <li>▪ V-3-28, Cond. A South Outlet Valve open</li> <li>▪ V-3-19, Cond. A South Backwash Valve closed</li> <li>▪ V-3-24, Cond. A Cross-connect Valve closed</li> </ul> </li> </ul>
<b>Terminus:</b>	Condenser Half A North has been backwashed	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 3</u>	Event No.: <u>3</u>
Event Description: <u>Respond to Standby Liquid Control System 2 loss of squib continuity</u>			
Initiation: Condenser Half A North has been backwashed, or as directed by the Lead Examiner			
Cues: Annunciator G2b, SQUIB VALVE OPEN; SLC continuity meter for EV NP5A indicates downscale			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"><li>• Responds to annunciator G2b, SQUIB VALVE OPEN<ul style="list-style-type: none"><li>○ Checks squib continuity meters behind Panel 4F<ul style="list-style-type: none"><li>▪ Reports both continuity meters read downscale</li><li>▪ Directs EO to check for SLC Pump 1 breaker trip [<b>Role Play</b>]</li></ul></li></ul></li></ul>	
<b>Role Play</b>	As the EO sent to investigate the SLC Pump 1 breaker, state that the breaker appears normal		
	ATC	<ul style="list-style-type: none"><li>• Checks SLC System status and indications</li></ul>	
	SRO	<ul style="list-style-type: none"><li>• Declares SLC System 1 inoperable</li><li>• Reviews/applies Tech Spec 3.2.C.3(a)<ul style="list-style-type: none"><li>○ If one standby liquid control system pumping circuit becomes inoperable during the RUN mode and Specification 3.2.A is met, the reactor may remain in operation for a period not to exceed 7 days, provided the pump in the other circuit is verified daily to be operable, otherwise be in the Shutdown condition within 24 hours</li></ul></li><li>• Notifies SM/WWM for repair/investigation</li></ul>	

Oyster Creek 09-1 NRC Exam Scenario

<b>Terminus:</b>	The SRO has declared SLC System 1 inoperable and has reviewed/applied the Tech Specs
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Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 3</u>	Event No.: <u>4</u>
Event Description: <u>Respond to Recirculation Pump A abnormalities</u>			
Initiation: The SRO has declared SLC System 1 inoperable and has reviewed/applied the Tech Specs, or as directed by the Lead Examiner			
Cues: Annunciators E2c, DRV MOT BRKR LOCKOUT A; E1d, PUMP ΔP LO A; Recirculation MG Set A generator amps and volts downscale; Pump A flow lowered			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"><li>• Responds to annunciators E2c, DRV MOT BRKR LOCKOUT A; E1d, PUMP ΔP LO A<ul style="list-style-type: none"><li>○ Checks pump indications</li><li>○ Reports Recirculation MG Set A generator amps and volts is downscale</li><li>○ Reports that annunciators E2c, DRV MOT BRKR LOCKOUT A should have tripped the pump drive motor breaker and did not, and will be tripping it manually</li><li>○ Trips Recirculation Pump A drive motor breaker</li></ul></li><li>• Performs ABN-2 actions for a single tripped recirculation pump<ul style="list-style-type: none"><li>○ Confirm open the DISCH BYPASS valve V-37-11</li><li>○ Close the DISCHARGE valve V-37-10</li><li>○ Verify the plotted point on the Power Operation Curve</li><li>○ Inform US to refer to the following Technical Specifications Sections for limitations on continued power operation:<ul style="list-style-type: none"><li>▪ Section 3.3.F, Recirculation Loop Operability</li><li>▪ Section 3. 10.A, Core Limits</li></ul></li></ul></li></ul>	
	SRO	<ul style="list-style-type: none"><li>• Directs entry into ABN-2, Recirculation System Failures</li><li>• Notifies SM/WWM about the event</li><li>• Reviews Tech Specs (no LCOs)</li></ul>	
	ATC	<ul style="list-style-type: none"><li>• Reports reactor power has lowered</li><li>• Monitors reactor power</li></ul>	



## Oyster Creek 09-1 NRC Exam Scenario

<b>Terminus:</b>	Recirculation Pump A has been tripped and the discharge valve is closed.	

Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 3</u>	Event No.: <u>5</u>
Event Description: <u>Respond to the loss of 480 VAC USS 1A2</u>			
Initiation: Recirculation Pump A has been tripped and the discharge valve is closed, or as directed by the Lead Examiner			
Cues: Many energized annunciators; Breakers 1A2P and 1A2M indicate open; Bus 1A2 AMPS indicates downscale; Equipment energized by Bus 1A2 are de-energized			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"><li>• Responds to the electrical panel</li><li>• Diagnoses and reports the loss of USS 1A2</li><li>• Performs ABN-45<ul style="list-style-type: none"><li>○ Starts RBCCW Pump 1-2</li><li>○ Confirms the following DW Recirculation Fans are operating:<ul style="list-style-type: none"><li>▪ Recirc Fan 1-4, DW Cooling Recirculation Fan</li><li>▪ Recirc Fan 1-5, DW Cooling Recirculation Fan</li></ul></li><li>○ Secures Reactor Building ventilation as follows:<ul style="list-style-type: none"><li>▪ Confirms Closed the following Main Supply Header Valves to the Drywell are CLOSED (11R):<ul style="list-style-type: none"><li>▪ V-28-42, RB Ventilation Isolation Inlet Valve to Drywell</li><li>▪ V-28-43, RB Ventilation Isolation Inlet Valve to Drywell</li></ul></li><li>▪ Confirms Tripped the following RB Ventilation Supply Fans<ul style="list-style-type: none"><li>▪ SF-1-13, Reactor Building Supply Fan</li><li>▪ SF-1-14, Reactor Building Supply Fan</li></ul></li><li>▪ Confirms Tripped EF-1-6, Reactor Building Exhaust Fan</li><li>▪ Position EXH VALVES TO MAIN EXHAUST control switch to CLOSE</li><li>▪ Verifies the following valves close (11R):<ul style="list-style-type: none"><li>▪ V-28-21, Reactor Building Exhaust Main Isolation Damper</li><li>▪ V-28-22, Reactor Building Exhaust Main Isolation Damper</li></ul></li></ul></li></ul></li></ul>	

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>▪ Verifies Closed the following pairs of RB Ventilation Supply Isolation Valves (11R): <ul style="list-style-type: none"> <li>▪ V-28-1 and V-28-2</li> <li>▪ V-28-3 and V-28-4</li> <li>▪ V-28-5 and V-28-6</li> <li>▪ V-28-7 and V-28-8</li> <li>▪ V-28-9 and V-28-10</li> <li>▪ V-28-11 and V-28-12</li> <li>▪ V-28-13 and V-28-14</li> <li>▪ V-28-15 and V-28-16</li> <li>▪ V-28-36 and V-28-37</li> <li>▪ V-28-38 and V-28-39</li> </ul> </li> </ul>
<p><b>Note:</b> The truck ventilation hose for the Reactor Building railroad airlock is NOT in use.</p>		
		<ul style="list-style-type: none"> <li>▪ If SGTS II is available, then confirms STANDBY GAS SELECT switch is in the SYS 2 position (11R)</li> <li>▪ Starts EF 1-9, SGTS System Exhaust Fan (FN-28-29), by placing the control switch to HAND</li> <li>▪ Verifies the following (11R): <ul style="list-style-type: none"> <li>▪ EF 1-9, SGTS II Exhaust Fan, on</li> <li>▪ V-28-27, Inlet Valve, open</li> <li>▪ V-28-28, Orifice Valve, open</li> <li>▪ V-28-30, Outlet Valve, open</li> </ul> </li> <li>▪ After SGTS II flow is established, then verifies the following: <ul style="list-style-type: none"> <li>▪ V-28-28, Orifice Valve to SGTS II, closed</li> <li>▪ V-28-24, Orifice Valve to SGTS I, open</li> </ul> </li> <li>▪ Places SGTS Cross-Tie Valve, V-28-48, control switch to CLOSE and verifies green light on</li> <li>○ Protection System Panel No. 1 Restoration <ul style="list-style-type: none"> <li>▪ If TRANS OUTPUT green OFF light is not lit, then perform the following: (Directs EO to perform) [<b>Role Play</b>] <ul style="list-style-type: none"> <li>▪ Confirm VMCC-1B2 breaker, C4L is closed</li> <li>▪ Confirm disconnect switch SW-733-169 (Old Cable Spreading Room [OCSR]) is OFF and the Kirk Key removed</li> <li>▪ Confirm the Kirk Key inserted and disconnect switch, SW-733-170, is ON</li> </ul> </li> </ul> </li> </ul>

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>▪ Confirm closed EPA breaker #5</li> <li>▪ Confirm closed EPA breaker #6</li> <li>▪ Verifies TRANSFORMER OUTPUT green OFF light is lit above POWER SELECT switch (6R)</li> <li>▪ Place POWER SELECT switch in the TRANS position (6R)</li> </ul>
<b>Role Play:</b> When asked as the EO to align PSP-1 to USS 1B2, insert Trigger 8. Then report that Steps 4.5.2.1 through 4.5.2.5 are complete.		
		<ul style="list-style-type: none"> <li>▪ Verifies TRANSFORMER OUTPUT green OFF light is lit above POWER SELECT switch (6R)</li> <li>▪ Places POWER SELECT switch in the TRANS position (6R)</li> <li>▪ verifies TRANSFORMER OUTPUT red ON light is lit above POWER SELECT switch (6R)</li> <li>○ When power has been restored to PSP-1, then perform the following:             <ul style="list-style-type: none"> <li>▪ Resets the following:                 <ul style="list-style-type: none"> <li>▪ APRM lights</li> <li>▪ APRM flow converters</li> <li>▪ Main Steam Line Rad Monitors (Resets NOT modeled)</li> </ul> </li> <li>▪ Verifies status LED on FCTR card is GREEN (NOT modeled)</li> <li>▪ Verifies annunciator 9XF-3-a PROT SYS PNL 1 PWR LOST, can be cleared</li> </ul> </li> <li>○ Verifies automatic restart of DCC-Y computer or restart DCC-Y Computer per Procedure 418.1, Operation of Digital Feedwater and Reactor Recirculation Flow Control System (NOT modeled)</li> <li>○ Confirms VLDP-1 transferred to VMCC 1B2 by verifying VLDP-1 PWR XFER (9XF-1-c) alarm is received</li> <li>○ Informs the US of following valves being inoperable IAW Technical Specifications section 3.7, Auxiliary Electric Power:             <ul style="list-style-type: none"> <li>▪ V-14-33, DC Steam Inlet Valve to 'B' Isolation Condenser</li> <li>▪ V-14-35, DC Condensate Return Valve from 'B' Isolation Condenser</li> </ul> </li> <li>○ Informs the US to declare C Battery inoperable</li> </ul>

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>○ Monitors several plant parameters</li> <li>• Reports Drywell temperature &gt; 150 °F – EOP entry</li> <li>• Performs SP-27, if directed <ul style="list-style-type: none"> <li>○ Verifies RBCCW is not isolated</li> <li>○ Opens the EOP BYPASS PLUGS panel in the rear of Panel 2R <ul style="list-style-type: none"> <li>▪ Removes the bypass plug from position BP1</li> <li>▪ Removes the bypass plug from position BP2</li> </ul> </li> <li>○ Confirms open the following RBCCW Isolation Valves: (Panel 1F/2F) <ul style="list-style-type: none"> <li>▪ V-5-147</li> <li>▪ V-5-166</li> <li>▪ V-5-167</li> <li>▪ V-5-148</li> </ul> </li> <li>○ Starts all available DW RECIRC FANS by placing their respective control switches in ON</li> <li>○ Places the ISOL SIGNAL BYPASS V-6-395 switch in BYPASS position. (Panel 11F)</li> <li>○ Operates DW RECIRC FANS as required to control Drywell temperature (<b>Note:</b> All DW Recirc Fans will already be running)</li> </ul> </li> <li>• Performs SP-31, as directed <ul style="list-style-type: none"> <li>○ Vents the Torus <ul style="list-style-type: none"> <li>▪ Opens Torus Vent valve V-28-18</li> <li>▪ Cycles Torus Vent valve V-28-47</li> </ul> </li> </ul> </li> <li>• Performs 312.11-12 as directed <ul style="list-style-type: none"> <li>○ Opens Drywell Vent Valve V-23-21</li> <li>○ Opens Drywell vent valve V-23-22 to maintain pressure 1.1 to 1.3 psig</li> </ul> </li> </ul>
	ATC	<ul style="list-style-type: none"> <li>• Reports ½ scram on RPS 1</li> <li>• Performs ABN-45, Loss of USS 1A2 <ul style="list-style-type: none"> <li>○ Starts CRD Pump NC08B</li> <li>○ Reports CRD Pump NC08B started</li> <li>○ When power has been restored to PSP-1, then performs the following: <ul style="list-style-type: none"> <li>▪ Resets the following: <ul style="list-style-type: none"> <li>▪ Half scram trip signal</li> <li>▪ Main steam isolation</li> </ul> </li> </ul> </li> </ul> </li> </ul>

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>Reviews ABN-19, RBCCW Failure Response (no actions required)</li> <li>Directs EO to investigate USS 1A2 [<b>Role Play</b>]</li> </ul>
<b>Role Play</b>	When directed as the EO to investigate USS 1A2, report there are indications of an overload	
	SRO	<ul style="list-style-type: none"> <li>Directs entry into ABN-45, Loss of USS 1A2</li> <li>Reviews ABN-19, RBCCW Failure Response (no actions required)</li> <li>Declares the following inoperable: <ul style="list-style-type: none"> <li>V-14-33, DC Steam Inlet Valve to 'B' Isolation Condenser</li> <li>V-14-35, DC Condensate Return Valve from 'B' Isolation Condenser <ul style="list-style-type: none"> <li>Declares Isolation Condenser B inoperable and applies Tech Spec 3.8.C</li> <li>If one isolation condenser becomes inoperable during the run mode the reactor may remain in operation for a period not to exceed 7 days provided the motor operated isolation and condensate makeup valves in the operable isolation condenser are verified daily to be operable</li> </ul> </li> </ul> </li> <li>C Battery <ul style="list-style-type: none"> <li>Applies Tech Spec 3.7.D.3</li> <li>With one station battery inoperable for reasons other than allowed in 3.7.D.2.a through 3.7.D.2.g, restore the battery to OPERABLE status within 2 hours or the reactor shall be PLACED IN the COLD SHUTDOWN CONDITION</li> </ul> </li> <li>USS 1A2 <ul style="list-style-type: none"> <li>Applies Tech Spec 3.7.B</li> <li>The reactor shall be PLACED IN the COLD SHUTDOWN CONDITION if the availability of power falls below that required by Specification A above</li> </ul> </li> <li>CCW OUTLET ISOLATION valve V-5-167 <ul style="list-style-type: none"> <li>Applies Tech Spec 3.5.A.3.a.(1)</li> <li>With one or more of the automatic containment isolation valves inoperable: <ul style="list-style-type: none"> <li>(1) Maintain at least one isolation valve OPERABLE in</li> </ul> </li> </ul> </li> </ul>

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		<p>each affected penetration that is open and within 4 hours (48 hours for the traversing in-core probe system) either,</p> <p>(a) Restore the inoperable valve(s) to OPERABLE status, or</p> <p>(b) Isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolation position. Or</p> <p>(c) Isolate each affected penetration by use of at least one closed manual valve or blind flange</p> <p>If Specification 3.5.A.3 or the provisions of Specifications 3.5.A.3.a.(1)(a), (b) or (c) can not be met, the reactor shall be PLACED IN the COLD SHUTDOWN CONDITION within 24 hours</p> <ul style="list-style-type: none"> <li>○ Loss of Drywell leakage monitoring capability <ul style="list-style-type: none"> <li>▪ Applies Tech Spec 3.3.D.4</li> <li>▪ For determination of unidentified leakage, the primary containment sump flow monitoring system shall be operable except as specified below: <ul style="list-style-type: none"> <li>a. With the primary containment sump flow integrator inoperable: <ol style="list-style-type: none"> <li>1. Restore it to operable status within 7 days.</li> <li>2. Calculate the unidentified leakage rate utilizing an acceptable alternate means as specified in plant procedures.</li> </ol> </li> <li>b. If Specification 3.3.D.4a cannot be met, place the reactor in the shutdown condition within the next 12 hours</li> </ul> </li> </ul> </li> <li>• Notifies SM/WWM for repair/investigation and for TS required shutdowns</li> <li>• Directs entry into Primary Containment Control EOP when bulk Drywell temperature exceeds 150 °F <ul style="list-style-type: none"> <li>○ May direct BOP to perform Support Procedure 27, Maximizing Drywell Cooling</li> <li>○ May direct BOP to perform Support Procedure 31, Venting the Primary Containment to Maintain Pressure Below 3 psig or 312.11, Nitrogen System and Containment Atmosphere Control, Attachment 12</li> </ul> </li> </ul>
<b>Terminus:</b>	ABN-45 actions are complete and the SRO has reviewed/applied the Tech Specs	

## Oyster Creek 09-1 NRC Exam Scenario

Notes/Comments




# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 3</u>	Event No.: <u>6</u>
Event Description: <u>Respond to tripped CRD Pump NC08B and four control rods fail to insert on the scram</u>			
Initiation: ABN-45 actions are complete and the SRO has reviewed/applied the Tech Specs, or as directed by the Lead Examiner			
Cues: Annunciator H2c, PUMP B TRIP; Indications of CRD PUMP NC08B trip; Annunciators H8c, ACCUMULATOR PRESS LO/LEVEL HI; H7c, CHARG WTR PRESS LO; H7a, ROD BLOCK; H5c, CRD TEMP HI; CRD flows and ΔP indications downscale			
Time	Position	Applicant's Actions or Behavior	
	ATC	<ul style="list-style-type: none"><li>• Responds to annunciator H2c, PUMP B TRIP<ul style="list-style-type: none"><li>○ Reports CRD Pump B tripped and no CRD Pumps operating</li><li>○ Dispatches EO to investigate CRD Pump B and breaker <b>[Role Play]</b></li></ul></li></ul>	
<b>Role Play:</b> As the EO sent to investigate the CRD Pump B trip, report that there are indications of overload on the CRD Pump B breaker			
		<ul style="list-style-type: none"><li>○ Reports that the RAP requires a manual scram if 2 or more HCU accumulator alarms come in</li><li>• Responds to annunciator ACCUMULATOR PRESS LO/LEVEL HI<ul style="list-style-type: none"><li>○ Dispatches EO to investigate HCU accumulators <b>[Role Play]</b></li></ul></li></ul>	
<b>Role Play:</b> As the EO sent to EO to investigate HCU accumulators the <b>first</b> time, report there are indications of low pressure on HCU 02-19. When called the <b>second</b> time, report there are indications of low pressure on HCU 02-23.			
		<ul style="list-style-type: none"><li>• Responds to annunciator ACCUMULATOR PRESS LO/LEVEL HI<ul style="list-style-type: none"><li>○ Dispatches EO to investigate HCU accumulators <b>[Role Play]</b></li></ul></li><li>• State intent to scram the reactor</li><li>• Manually scrams the reactor IAW ABN-1<ul style="list-style-type: none"><li>○ Depresses both MANUAL SCRAM pushbuttons</li></ul></li></ul>	

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>○ Places the REACTOR MODE SELECTOR switch in SHUTDOWN</li> <li>○ Reports all control rods NOT fully inserted</li> <li>○ Reports 4 control rods still at position 48 but power is &lt; 2%</li> <li>○ Initiates ARI</li> <li>○ Places ROPs in BYPASS</li> <li>○ Reduces recirculation flow to minimum</li> <li>○ Inserts SRMs</li> <li>○ Inserts IRMs</li> <li>● Performs SP-21 (Alternate control rod insertion) [<b>Note:</b> The 4 control rods are stuck and will not insert] [<b>Role Play</b>]</li> </ul>
<b>Role Play</b>	As the EO, when directed by the ATC to perform SP-21 actions, acknowledge the request. No booth actions are required and the control rods will remain at position 48.	
	SRO	<ul style="list-style-type: none"> <li>● Directs the ATC to scram the reactor IAW ABN-1</li> <li>● Directs entry into RPV Control – With ATWS EOP <ul style="list-style-type: none"> <li>○ Directs SP-1, Confirmation of Automatic Initiations and Isolations</li> <li>○ Directs bypassing ADS</li> <li>○ Directs SP-16 (Bypassing MSIV Lo-Lo isolation/RBCCW)</li> <li>○ Directs the BOP to control RPV water level 138"-175" IAW SP-19 (Feedwater/CRD)</li> <li>○ Directs ATC to Bypass ROPS</li> <li>○ Directs ATC to insert control rods IAW SP-21 (Alternate control rod insertion)</li> <li>○ Directs RPV pressure 800 – 1000 with Turbine Bypass Valves</li> </ul> </li> </ul>
	BOP	<ul style="list-style-type: none"> <li>● Reports RPV water level 138" – EOP entry</li> <li>● Controls RPV water level initially IAW ABN-1 <ul style="list-style-type: none"> <li>○ When RPV water level begins to rise following the scram, performs the following: <ul style="list-style-type: none"> <li>▪ Selects one Feedwater Pump and trips the other two Feedwater Pumps</li> <li>▪ Places all MFRVs in MANUAL</li> </ul> </li> </ul> </li> </ul>

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>▪ Closes all MFRVs</li> <li>• Performs SP-19 (Feedwater/CRD)               <ul style="list-style-type: none"> <li>○ Confirms only one Condensate Pump and one Feedwater Pump operating</li> <li>○ Controls RPV water level 138"-175" using the following as necessary:                   <ul style="list-style-type: none"> <li>▪ Feedwater Regulating Valves</li> <li>▪ Main Feed Regulating (MFRV) Block Valve</li> <li>▪ Feedwater Low Flow Valves</li> <li>▪ Heater Bank Outlet Isolation Valves</li> <li>▪ Feedwater and Condensate Pumps</li> </ul> </li> <li>○ Reports RPV water level in band</li> </ul> </li> <li>• Performs SP-1, Confirmation of Automatic Initiations and Isolations</li> <li>• Places ADS TIMER switches to BYPASS</li> <li>• Performs SP-16 (Bypassing MSIV Lo-Lo isolation/RBCCW)               <ul style="list-style-type: none"> <li>○ Obtains four (4) bypass plugs from the Control Room EOP Tool Box</li> <li>○ Opens the EOP BYPASS PLUGS panel in the rear of Panel 6R                   <ul style="list-style-type: none"> <li>▪ Inserts a bypass plug in position BP1</li> <li>▪ Inserts a bypass plug in position BP2</li> </ul> </li> <li>○ Opens the EOP BYPASS PLUGS panel in the rear of Panel 7R                   <ul style="list-style-type: none"> <li>▪ Inserts a bypass plug in position BP1</li> <li>▪ Inserts a bypass plug in position BP2</li> </ul> </li> <li>○ Places the ISOL SIGNAL BYPASS V-6-395 switch in the BYPASS position</li> <li>○ Informs the Unit Supervisor that the MSIV LO-LO Level Isolation Interlock has been bypassed</li> <li>○ Verifies that the RBCCW System is <b>not</b> isolated due to high Drywell pressure/low RPV water level conditions</li> <li>○ Opens the EOP BYPASS PLUGS panel in the rear of Panel 2R                   <ul style="list-style-type: none"> <li>▪ Removes a bypass plug in position BP1</li> <li>▪ Removes a bypass plug in position BP2</li> </ul> </li> <li>○ Reports SP-16 complete</li> </ul> </li> </ul>

## Oyster Creek 09-1 NRC Exam Scenario

<b>Terminus:</b>	RPV Control – With ATWS EOP actions are complete and the plant is stable
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Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 3</u>	Event No.: <u>7</u>
Event Description: <u>Respond to a primary coolant leak in the Primary Containment with total loss of Drywell Sprays and leaking Drywell Downcomer leads to Emergency Depressurization</u>			
Initiation: RPV Control – With ATWS EOP actions are complete and the plant is stable, or as directed by the Lead Examiner			
Cues: Annunciators (C3f, DW PRESS HI/LO; C8h, DW TEMP HI;) C1f/C2f, DW PRESS HI-HI; Drywell pressure and temperature rising			
Time	Position	Applicant's Actions or Behavior	
	RO	<ul style="list-style-type: none"><li>• Responds to annunciators for Primary Containment rising temperature and pressure</li><li>• Reports Drywell temperature and pressure are rising</li><li>• Reports Drywell pressure &gt; 3 psig – EOP entry</li><li>• Monitors Primary Containment indications</li><li>• Performs Drywell Sprays IAW SP-29<ul style="list-style-type: none"><li>○ Confirms all Reactor Recirculation Pumps tripped</li><li>○ Confirms all Drywell Recirc Fans tripped</li><li>○ When directed, initiates Drywell Sprays<ul style="list-style-type: none"><li>▪ Places the SYSTEM MODE SELECT switch for the selected system in the DW SPRAY position</li><li>▪ Verifies the Torus CLG Discharge valve closes</li></ul></li><li>○ Verifies the DW Spray Discharge valve opens</li><li>○ Reports the DW Spray Discharge for System 2 (V-21-5) will not open and thus no Drywell Sprays are available</li><li>○ Directs EO to open DW Spray Discharge for System 2 (V-21-5) [<b>Role Play</b>]</li></ul></li></ul>	
<b>Role Play:</b> As the directed as the EO to open DW Spray Discharge for System 2 (V-21-5), report that the valve is stuck closed and you cannot open it.			
		<ul style="list-style-type: none"><li>• Monitors Primary Containment conditions (temperature, pressure)<ul style="list-style-type: none"><li>○ Reports when PSP is being approached</li><li>○ Reports when 281 °F Drywell bulk temperature is being approached</li></ul></li></ul>	

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		<ul style="list-style-type: none"> <li>• Performs SP-17, Terminating and preventing Injection <ul style="list-style-type: none"> <li>○ Terminate and prevent the Core Spray System injection into the RPV by performing the following: <ul style="list-style-type: none"> <li>▪ Override Core Spray initiation logic by performing the following: <ul style="list-style-type: none"> <li>▪ Press the OVERRIDE switches for all the sensors that are lit</li> <li>▪ Press all ACTUATED switches, whether lit or unlit</li> </ul> </li> <li>▪ Confirm Core Spray Parallel Isolation Valves closed</li> <li>▪ Confirm Core Spray Booster Pumps tripped</li> <li>▪ Confirm Core Spray Main Pumps that are <u>not</u> being used to provide makeup water to the torus per SP37 are in the PULL-TO-LOCK position</li> </ul> </li> <li>○ Terminate and prevent Condensate and Feedwater injection by performing the following: <ul style="list-style-type: none"> <li>▪ Trip all operating Feedwater Pumps</li> <li>▪ Confirm only <u>one</u> Condensate Pump running</li> <li>▪ Place all individual FRV Controllers in MAN position</li> <li>▪ Close all Feedwater Regulating Valves</li> <li>▪ Close the Low Flow Valves</li> </ul> </li> <li>○ Reports RPV injection terminated</li> </ul> </li> <li>• Opens all EMRVs by placing the AUTO DEPRESS VALVE switches to MAN <ul style="list-style-type: none"> <li>○ Reports all EMRVs open</li> </ul> </li> <li>• Performs SP-19 (Feedwater/CRD) <ul style="list-style-type: none"> <li>○ Confirms only one Condensate Pump and one Feedwater Pump operating</li> <li>○ Controls RPV water level &gt;-20" using the following as necessary: <ul style="list-style-type: none"> <li>▪ Feedwater Regulating Valves</li> <li>▪ Main Feed Regulating (MFRV) Block Valve</li> <li>▪ Feedwater Low Flow Valves</li> <li>▪ Heater Bank Outlet Isolation Valves</li> <li>▪ Feedwater and Condensate Pumps</li> </ul> </li> </ul> </li> <li>• Reports Torus water temperature &gt; 95 °F – EOP entry</li> </ul>
	SRO	<ul style="list-style-type: none"> <li>• Directs entry into Primary Containment Control EOP <ul style="list-style-type: none"> <li>○ Directs SP-1, Confirmation of Automatic Initiations and</li> </ul> </li> </ul>

## Oyster Creek 09-1 NRC Exam Scenario

		<p>Isolations</p> <ul style="list-style-type: none"> <li>○ Directs line-up of Drywell Sprays IAW SP-29</li> <li>○ Directs initiation of Drywell Sprays when either: <ul style="list-style-type: none"> <li>▪ Drywell or Torus pressure exceeds 12 psig</li> <li>▪ When Primary Containment conditions are within the Containment Spray Initiation Limit (CSIL) Curve</li> </ul> </li> <li>● When determined that Torus pressure cannot be maintained &lt; PSP, or when bulk Drywell temperature cannot be restored and maintained &lt; 281 °F, directs entry into Emergency Depressurization – With AWS EOP</li> <li>○ Directs termination and prevention of injection into the RPV except CRD and boron IAW SP-17, Terminating and preventing Injection</li> <li>○ Directs an EO to the Reactor Building to standby for Fire Water to Core Spray lineup</li> <li>○ Directs RO to Bypass ROPS</li> <li>○ Verifies Torus water level &gt; 90"</li> <li>○ Directs RO to open all EMRVs</li> <li>○ Waits until RPV pressure lowers to 230 psig, then directs SP-19 (Feedwater/Condensate) to slowly raise RPV injection to maintain RPV water level &gt; -20"</li> </ul>
<b>Terminus:</b>	The RPV has been emergency depressurized due to Primary Containment conditions; RPV pressure is < 230 psig and RPV water level is being controlled with Feedwater/Condensate at > -20"	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

## Procedures Used

<u>Event</u>	<u>Procedure</u>	✓	✓	✓	✓
1	<ul style="list-style-type: none"> <li>• ReMA (Handed out)</li> <li>• Shift Turnover (Handed out)</li> <li>• 202.1</li> </ul>				
2	<ul style="list-style-type: none"> <li>• 323.6 (Handed out)</li> </ul>				
3	<ul style="list-style-type: none"> <li>• RAP-G2b</li> <li>• TS 3.2 (SLC)</li> </ul>				
4	<ul style="list-style-type: none"> <li>• RAP-F2d</li> <li>• ABN-2</li> <li>• 301.2</li> </ul>				
5	<ul style="list-style-type: none"> <li>• ABN-45</li> <li>• TS 3.5</li> <li>• TS 3.7</li> <li>• TS 3.8</li> <li>• TS 3.3</li> <li>• SP-27</li> <li>• 312.11</li> <li>• SP-31</li> </ul>				
6	<ul style="list-style-type: none"> <li>• RAP-H2c</li> <li>• RAP-H8c</li> <li>• ABN-1</li> <li>• RPV Control – With ATWS</li> <li>• SP-16</li> <li>• SP-19</li> <li>• SP-21</li> </ul>				
7	<ul style="list-style-type: none"> <li>• RAP-C3f</li> </ul>				



## Oyster Creek 09-1 NRC Exam Scenario

	<ul style="list-style-type: none"><li>• RAP-C8h</li><li>• Primary Containment Control EOP</li><li>• SP-29</li><li>• Emergency Depressurization – With ATWS</li><li>• SP-17</li></ul>				
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## Simulator Setup

1. Reset to full power IC
2. Have a copy of 323.6, Backwashing Condensers, starting with A North condenser half
3. Verify CRD Pump NC08A and RBCCW Pump 1-1 are in service
4. Have a ReMA with 2 steps: 1) reduce power to 97% with recirculation flow; 2) raise power to 100% with recirculation flow
5. Have a copy of 202.1, Section 6 filled out up to Step 6.3.5
6. Ensure CR HVAC B is in service
7. Place Air Compressor 3 in PTL and hang info tag

[illegible]

6	<p><b>Trigger 10→</b></p>  <p><b>Trigger 10→</b></p>   <p><b>PRESETS →</b></p>	<p>BKR-CRD001 to TRIP</p> <ul style="list-style-type: none"> <li>This will trip CRD Pump NC08B</li> </ul> <p>MAL-CRD010_0219 with a 2-minute time delay</p> <p>MAL-CRD010_0223 with a 4-minute time delay</p> <ul style="list-style-type: none"> <li>These will result in HCU accumulator trouble alarms</li> </ul> <p>MAL-CRD007_2247</p> <p>MAL-CRD007_2643</p> <p>MAL-CRD007_3043</p> <p>MAL-CRD007_3439</p> <ul style="list-style-type: none"> <li>This sticks these control rods in their current location (48) and will not move</li> </ul>
7	<p><b>Conditional Trigger 12 →</b></p>   <p><b>Trigger 12→</b></p>   <p><b>PRESET →</b></p>  <p><b>PRESET →</b></p>	<p>Insert Conditional Trigger krpsmdsd.eq.1 on Trigger 12</p> <ul style="list-style-type: none"> <li>This will activate Trigger 12 when the Reactor Mode switch is placed in SHUTDOWN</li> </ul> <p>MAL-NSS005C to 7% over a 20-minute ramp with a 2-minute time delay</p> <ul style="list-style-type: none"> <li>This inserts a primary coolant leak into the primary Containment after 2 minutes</li> </ul> <p>MAL-PCN008 at 100%</p> <ul style="list-style-type: none"> <li>This inserts a leak in the Drywell downcomer into the Torus air space</li> </ul> <p>VLV-CNS005 to MECH SZ</p> <ul style="list-style-type: none"> <li>This keeps the Drywell Spray Discharge valve V-21-5 (System 2) closed and results in a loss of all</li> </ul>

## Oyster Creek 09-1 NRC Exam Scenario

		Drywell Spray capability
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**Shift Turnover**

**Current plant conditions:**

- The plant is at 100% power
- Air Compressor 3 is tagged out for repair

**Shift Activities**

- Reduce reactor power to 97% IAW the ReMA to allow condenser backwashing
- Backwash the condenser, string with A North condenser half, starting at Step 5.1.3.1
  - An EO is aware of which valves will be moving, going into and out of backwash, and is stationed at the breakers for these valves
- Following condenser backwash, raise reactor power to 100% IAW the ReMA

# Oyster Creek 09-1 NRC Exam Scenario

## Scenario Outline

Facility: Oyster Creek

Scenario No.: 4

Op Test No.: OC 2010

Examiners: \_\_\_\_\_ Operators: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Initial Conditions:**

- 14% power during a startup (IC 152)
- The RWM is inoperable and Bypassed
- Control Room HVC System A is inoperable

**Turnover:**

- Startup in progress

Event No.	Malf. No.	Event Type*		Event Description
1	NA	N	BOP	Swaps Service Water Pumps
2	NA	R	ATC	Withdraws control rods to raise reactor power
3	MAL-CRD007	C	ATC	Respond to indications of a stuck control rod
4	MAL-EDS004B	C TS	BOP SRO	Respond to the loss of Vital Bus 1B2
5	LOA-RCP003 MAL-RCP003C MAL-RCP004C	C TS	BOP SRO	Responds to Recirculation Pump C inner seal failure, then outer seal failure
6	MAL-NSS025C	C	ATC	Responds to an open EMRV leading to a manual scram
7	CAEP ATWS	M	All	Responds to an electric ATWS
8	PMP-SLC001A PMP-SLC002A	C	RO	Respond to Standby Liquid Control Pump shaft break

\* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor Transient, (TS) Tech Specs

**Simulator Summary**

<b><u>Event</u></b>	<b><u>Event Summary</u></b>
1	The BOP will swap Service Water Pumps to equalize run times. The BOP will start the standby pump, stop the running pump, and then verify expected conditions locally with the EO. [Normal Evolution: BOP]
2	The TC will withdraw control rods to raise reactor power IAW the pull sheet and 302.2. [Reactivity Manipulation: ATC]
3	The ATC will respond to indications of a stuck control rod. The ATC will raise drive pressure and attempt to move the control rod. The control rod will then move. The ATC will then return drive pressure to normal and continue withdrawing control rods. [Component Failure: ATC]
4	The BOP will respond to and diagnose the loss of Vital Bus 1B2 and will perform actions IAW ABN-51, Loss of VMCC 1B2. The BOP will place RPS 2 on an alternate power supply, reset alarms and place a diesel fire pump in the manual mode. The SRO will apply Tech Specs 3.7 for the bus loss. [Component Failure: BOP; Tech Specs: SRO]
5	The BOP will respond to a leak in Recirculation Pump C inner seal, followed by a leak in the outer seal. The SRO will direct entry into ABN-2 to trip and isolate the pump. The SRO will refer to Tech Specs 3.3.D for unidentified RCS leakage. [Component Failure: BOP; Tech Spec: SRO]
6	The BOP will respond to indications of an open EMRV. The SRO will direct entry into ABN-40. The ATC will place feedwater level control in manual, while the BOP will attempt to close the valve. When determined the valve will not close, the ATC will balance the feedwater level controller and place back in auto. The ATC will then scram the reactor IAW ABN-1. [Component Failure: ATC]
7	The Crew will diagnose an electric ATWS and the SRO will direct entry into RPV Control – With ATWS. The ATC will perform actions to insert control rods and the BOP will perform actions to control Torus water temperature and RPV water level. [Major Evolution]
8	Due to the Torus water heatup, Standby Liquid Control injection will be directed. The first SLC Pump started will have a broken shaft and the Candidate will start the second pump. [Component Failure after EOP]

## Oyster Creek 09-1 NRC Exam Scenario

- |                 |   |
|-----------------|---|
| Critical Task 1 | When it has been determined that Torus water temperature cannot be maintained < BIIT during an ATWS, then SLC is injected |
| Critical Task 2 | With reactor power > 2% during an ATWS, terminate and prevent injection into the RPV except CRD and Boron injection       |
| Critical Task 3 | With the reactor at power and an open EMRV which cannot be closed, then manually scram the reactor                        |



# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 4</u>	Event No.: <u>1</u>
Event Description: <u>Swap Service Water pumps</u>			
Initiation: Following shift turnover			
Cues: As directed by the SRO following shift turnover			
Time	Position	Applicant's Actions or Behavior	
	SRO	<ul style="list-style-type: none"><li>• Directs BOP to swap service water pumps IAW 322, Section 7.0</li></ul>	
	BOP	<ul style="list-style-type: none"><li>• Swaps service water pumps IAW 322, Section 7.0<ul style="list-style-type: none"><li>○ Directs an operator to the intake structure and establish communication with the Control Room <b>[Role Play 1]</b></li><li>○ Starts Service Water pump 1-2 from Panel 5F/6F by placing its control switch to START</li><li>○ Stops Service Water pump 1-1 by placing its control switch on Panel 5F/6F to STOP</li><li>○ Verifies idle pump discharge check valve closure by observing no reverse rotation of the idle pump <b>[Role Play 2]</b></li><li>○ If Service Water Pump 1-2 was started, then confirms water flow from V-3-300, pump casing continuous vent valve <b>[Role Play 3]</b></li><li>○ Reports Service Water pumps swapped</li></ul></li></ul>	
Role Play	1) As the EO at the SW Pumps, report Service Water Pump 2 is ready for a start, if asked. Also, report a good start on Service Water Pump 2, if asked. 2) As the EO, when asked to verify check valve closure for Service Water pump 1-1, state the pump is not rotating in the reverse direction. 3) As the EO, when asked to verify water flow from Service Water pump 1-2 continuous vent valve V-3-300, state there is water flow from Service Water pump 1-2 continuous vent valve V-3-300.		
Terminus:	Service Water pump 1-2 is running and Service Water pump 1-1 is secured		

## Oyster Creek 09-1 NRC Exam Scenario

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 4</u>	Event No.: <u>2</u>
Event Description: <u>Withdraw control rods to raise reactor power</u>			
Initiation: Service Water pump 1-2 is running and Service Water pump 1-1 is secured, or as directed by the Lead Examiner			
Cues: As directed by the SRO following Service Water pump swap			
Time	Position	Applicant's Actions or Behavior	
	SRO	<ul style="list-style-type: none"> <li>Directs ATC to withdraw control rods IAW the pull sheet and 302.2</li> <li>Acts as the Reactivity Manager to provide overview</li> </ul>	
	ATC	<ul style="list-style-type: none"> <li>Withdraws control rods IAW the pull sheet and 302.2 (Continuous Out)                             <ul style="list-style-type: none"> <li>Verifies the PERMIT light is illuminated</li> <li>Confirms the ROD POWER Switch ON</li> <li>Verifies ROD PERMIT light ON</li> <li>Confirms ROD POWER is ON</li> <li>Selects the control rod by momentarily depressing the associated pushbutton on the CONTROL ROD SELECT matrix                                     <ul style="list-style-type: none"> <li>Verifies the pushbutton is lit and on the full core display for the selected control rod</li> <li>Verifies no other control rods are selected</li> </ul> </li> <li>Turns the ROD CONTROL switch to ROD OUT NOTCH and the NOTCH OVERRIDE switch to NOTCH OVERRIDE</li> <li>Verify the WITHDRAW light remains ON for the duration of the rod withdrawal</li> <li>Verifies that the rod latches in an even-numbered position before the SETTLE light goes OUT</li> <li>Performs a coupling check at position 48:                                     <ul style="list-style-type: none"> <li>Holds the ROD CONTROL switch in ROD OUT NOTCH and simultaneously holds the NOTCH OVERRIDE switch to NOTCH OVERRIDE</li> </ul> </li> <li>When the red WITHDRAW light is ON and rod position displays 48 with red backlighting, then releases both</li> </ul> </li> </ul>	

## Oyster Creek 09-1 NRC Exam Scenario

		<p>switches</p> <ul style="list-style-type: none"> <li>○ Continues moving the other control rods</li> </ul>
	BOP	<ul style="list-style-type: none"> <li>• Acts as peer checker for reactivity manipulations</li> <li>• During control rod movements, verifies the following:                             <ul style="list-style-type: none"> <li>○ Amber OVERRIDE light ON</li> <li>○ Green INSERT light is ON after switch movement and remains ON for about 1 second</li> <li>○ Rod position readout momentarily displays the next lower odd-numbered digit as the drive unlatches</li> </ul> </li> </ul>
<b>Terminus:</b>	Control rods have been withdrawn to raise reactor power	

### Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 4</u>	Event No.: <u>3</u>
Event Description: <u>Responds to indications of a stuck control rod</u>			
Initiation: Control rods have been withdrawn to raise reactor power, or as directed by the Lead Examiner			
Cues: The selected control rod will not withdraw when a withdraw signal is applied			
Time	Position	Applicant's Actions or Behavior	
	ATC	<ul style="list-style-type: none"> <li>Reports that control rod 34-51 will not withdraw</li> <li>Raises drive pressure in approximately 10 to 50 psid increments and attempt to notch the Control Rod by momentarily placing the CRD DRIVE WATER PRESSURE CONTROL NC18 switch to CLOSE [<b>Booth</b>]</li> <li>Withdraws the control rod</li> <li>Reports the control rod has moved</li> <li>Lowers drive pressure in approximately 250 psid by momentarily placing the CRD DRIVE WATER PRESSURE CONTROL NC18 switch to OPEN</li> <li>Continues withdrawing control rods</li> </ul>	
<b>Booth</b>	When the ATC raises drive pressure, delete the malfunction MAL-CRD007_3451 to allow the control rod to withdraw		
	SRO	<ul style="list-style-type: none"> <li>Acts as the Reactivity Manager to provide overview</li> <li>May notify the Reactor Engineer</li> <li>May refer to ABN-6, Control Rod Malfunctions</li> </ul>	
<b>Terminus:</b>	The CRD drive pressure has been raised, the stuck control rod has been withdrawn, and the CRD drive pressure returned to normal		

## Oyster Creek 09-1 NRC Exam Scenario

Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 4</u>	Event No.: <u>4</u>
Event Description: <u>Respond to the loss of Vital Bus 1B2</u>			
Initiation: The CRD drive pressure has been raised, the stuck control rod has been withdrawn, and the CRD drive pressure returned to normal, or as directed by the Lead Examiner			
Cues: Annunciators G1c, SCRAM CONTACTOR OPEN; 9XF4a, PROT SYS PN 2 PWR LOST; Electrical power transfer annunciators on Panel 9XF; 1/2 scram on RPS 2			
Time	Position	Applicant's Actions or Behavior	
	ATC	<ul style="list-style-type: none"> <li>Reports 1/2 scram on RPS 2</li> <li>Reports ½ MSIV isolation</li> </ul>	
	BOP	<ul style="list-style-type: none"> <li>Diagnoses loss of VMCC 1B2</li> <li>Dispatches EO to investigate [<b>Role Play</b>]</li> </ul>	
<b>Role Play:</b> As the EO dispatched to investigate the loss of VMCC 1B2, report that the breaker on USS 1B2 to VMCC 1B2 is open and very hot and smells of burnt material.			
		<ul style="list-style-type: none"> <li>Performs ABN-51, Loss of VMCC 1B2                             <ul style="list-style-type: none"> <li>Confirms CIP-3 INV AC INP LOST (9XF-5-c) alarm received, indicating CIP-3 swapped to DC motor</li> <li>if the Trans Output green Off light is lit (transformer PS-1 powered by VMCC-1A2) above the Power Select switch (Panel 7R), then restores power to PSP-2 by placing the Power Select switch in the TRANS position</li> <li>Reports Protection System Panel 2 power has been restored</li> <li>Resets the following:                                     <ul style="list-style-type: none"> <li>Half Scram signal (May be performed by ATC)</li> <li>Main Steam Isolation signal (May be performed by ATC)</li> <li>APRM lights</li> <li>APRM flow converters</li> <li>Main Steam Line Rad Monitor drawers RN06C, RN06D</li> <li>Annunciators</li> </ul> </li> </ul> </li> </ul>	

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>▪ INOP status LED on APRM FCTR cards (NOT modeled; Report the display shows as shown in the drawer)</li> <li>○ Verifies status LED on FCTR card is Green (NOT modeled)</li> <li>○ Verifies annunciator window 9XF-4-a, PROT SYS PNL 2 PWR LOST, can be cleared</li> <li>○ Monitors 125 VDC A Bus Voltage</li> <li>○ Reduce loads as directed by the Unit Supervisor utilizing Attachment ABN-51-4, A Battery Load List</li> <li>○ Verifies the following alarms are received, indicating VMCC 1AB2, VACP-1, and IP-4 have transferred to alternate power supplies: <ul style="list-style-type: none"> <li>▪ MCC-1AB2 PWR XFER (9XF-2-c)</li> <li>▪ VACP-1 PWR XFER (9XF-3-c)</li> <li>▪ IP-4 PWR XFER (9XF-7-c)</li> </ul> </li> <li>○ Confirms one Fire Diesel Pump is operating in MANUAL mode and the other Fire Diesel Pump in AUTO mode</li> </ul>
	SRO	<ul style="list-style-type: none"> <li>• Directs entry into ABN-51, Loss of VMCC 1B2</li> <li>• Reviews/applies Tech Spec 3.7.B <ul style="list-style-type: none"> <li>○ The reactor shall be PLACED IN the COLD SHUTDOWN CONDITION if the availability of power falls below that required by Specification A above</li> </ul> </li> <li>• Notifies SM/WWM of the event</li> </ul>
<b>Terminus:</b>	The major actions of ABN-51 are complete the and the SRO has reviewed Tech Spec 3.7.B	

Notes/Comments




# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 4</u>	Event No.: <u>5</u>
Event Description: <u>Responds to Recirculation Pump C inner seal failure, then outer seal failure</u>			
Initiation: The RPV water level controller has been swapped to the B instrument and the SRO has reviewed Tech Spec 3.3.D, or as directed by the Lead Examiner			
Cues: Annunciator F2b, VIBRATION HI C; Recirculation Pump C Seal Cavity Pressure No. 2 indicates higher than normal			
Time	Position	Applicant's Actions or Behavior	
Booth	Once the event trigger is activated, insert LOA-RCP003 to FALSE. This will allow the vibration alarm to be reset and will be used later in this event.		
	BOP	<ul style="list-style-type: none"><li>Responds to annunciator F2b, VIBRATION HI C<ul style="list-style-type: none"><li>Checks pump parameters</li><li>Reports Recirculation Pump C Seal #2 pressure is elevated</li></ul></li><li>Refers to ABN-2 for a single seal failure</li></ul>	
Booth	After the inner seal has been diagnosed, insert LOA-RCP003 to TRUE and Trigger 6. This will bring in the vibration alarm again and a failure of the outer seal. The insert LOA-RCP003 to FALSE.		
	BOP	<ul style="list-style-type: none"><li>Responds to annunciator F2b, VIBRATION HI C<ul style="list-style-type: none"><li>Checks pump parameters</li></ul></li><li>Reports Recirculation Pump C Seal #2 pressure has lowered and Drywell unidentified leakage has risen indicating a failure of both seals</li><li>Performs ABN-2 for both seals failed<ul style="list-style-type: none"><li>Stops Recirculation Pump C with the DRIVE MOTOR switch to STOP</li><li>Closes the following Valves for Recirculation Pump C<ul style="list-style-type: none"><li>Pump DISCHARGE valve</li><li>Pump SUCTION valve</li><li>Pump DISCHARGE BYPASS valve</li></ul></li><li>Verifies that the core is operating at less than the</li></ul></li></ul>	

# Oyster Creek 09-1 NRC Exam Scenario

		<p>MAPRAT limits specified in Procedure 202.1-5</p> <ul style="list-style-type: none"> <li>o Notifies EO to Rack out MG-Set motor breaker for Recirculation Pump C IAW Procedure 337, Section 7.0</li> <li>o Notifies tagging desk to tag the MG-Set C Motor Breaker IAW Procedure OP-MA-109-101</li> <li>o Informs SRO to refer to Tech Specs 3.3.F.2.a and 3.3.F.2.b</li> </ul>
	SRO	<ul style="list-style-type: none"> <li>• Directs entry into ABN-2, Recirculation System Failures</li> <li>• Refers to Tech Specs 3.3.F.2.a and 3.3.F.2.b (No actions)</li> <li>• Refers to Tech Specs 3.3.D (Note: This leakage Tech Spec is only violated during the time prior to the recirculation pump isolation) <ul style="list-style-type: none"> <li>▪ Reactor coolant system leakage shall be limited to: <ul style="list-style-type: none"> <li>a. 5 gpm unidentified leakage</li> <li>b. 25 gpm total (identified and unidentified)</li> <li>c. 2 gpm increase in unidentified leakage rate within any 24 hour period while operating at steady state power</li> </ul> </li> <li>▪ With the reactor coolant system leakage greater than the limits in 3.3.D.1.a or b above, reduce the leakage rate to within the acceptable limits within 8 hours, or place the reactor in the shutdown condition within the next 12 hours and be in the cold shutdown condition within the following 24 hours</li> </ul> </li> <li>• Notifies SM/WWM of the event</li> </ul>
<b>Terminus:</b>	Recirculation Pump C has been shutdown and isolated	

## Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 4</u>	Event No.: <u>6</u>
Event Description: <u>Respond to a stuck open EMRV</u>			
Initiation: Recirculation Pump C has been shutdown and isolated, or as directed by the Lead Examiner			
Cues: Annunciator B4g, SV/EMRV NOT CLOSED; EMRV NR108C tailpipe temperature rising; Torus water temperature rising; EMRV NR108C indicates in the VALVE OPEN REGION			
Time	Position	Applicant's Actions or Behavior	
	BOP	<ul style="list-style-type: none"><li>• Responds to Annunciator B4g, SV/EMRV NOT CLOSED<ul style="list-style-type: none"><li>○ Checks RPV pressure, ADS and determines SV/EMRV status</li><li>○ Determines an EMRV is open (NR108C and/or NR108D)</li></ul></li><li>• Performs ABN-40 actions<ul style="list-style-type: none"><li>○ Verifies EMRV open conditions</li><li>○ Dispatches an EO to read EMRV tailpipe temperatures locally [<b>Role Play</b>]</li></ul></li></ul>	
<b>Role Play:</b> When directed as the EO to read EMRV tailpipe temperatures locally, report the following: EMRV NR108C indicates 330 °F, NR108D indicates about 220 °F and all others read 115 °F			
		<ul style="list-style-type: none"><li>○ Places the AUTO DEPRESS VALVE NR108C switch in OFF position</li><li>○ Determines EMRV still open</li><li>○ Cycles the AUTO DEPRESS VALVE NR108C switch from OFF to MAN to OFF</li><li>○ Determines EMRV still open</li><li>○ Cycles the AUTO DEPRESS VALVE NR108C switch from OFF to MAN to OFF 3-5 times</li><li>○ Determines EMRV still open</li><li>○ Places the EMRV NORMAL/DISABLE keylock switch for EMRV NR108C in DISABLE (rear of 1F/2F)</li><li>○ Determines EMRV still open</li></ul>	
	SRO	<ul style="list-style-type: none"><li>• Directs entry into ABN-40, Stuck Open EMRV<ul style="list-style-type: none"><li>○ With the EMRV not closed, directs the ATC to manually</li></ul></li></ul>	

# Oyster Creek 09-1 NRC Exam Scenario

		scram the reactor IAW ABN-1
	ATC	<ul style="list-style-type: none"> <li>• Performs ABN-40 actions <ul style="list-style-type: none"> <li>○ Places Feedwater Level Control in manual by depressing the AUTO/MAN pushbutton on the MASTER FEEDWATER CONTROLLER <ul style="list-style-type: none"> <li>▪ Verifies the red manual LED is illuminated</li> <li>▪ <b>ADJUST</b> MASTER FEEDWATER CONTROLLER as required to control RPV water level within the normal band of 155-165" TAF</li> </ul> </li> <li>○ Places Feedwater Level Control in the AUTO mode as follows: <ul style="list-style-type: none"> <li>▪ Selects the P display digital readout on the MASTER FEEDWATER LEVEL CONTROLLER using the CHNG DISP button</li> <li>▪ Selects the S display on the MASTER FEEDWATER LEVEL CONTROLLER</li> <li>▪ Raise or lower the S display digital readout to match the P display digital readout on the MASTER FEEDWATER LEVEL CONTROLLER</li> <li>▪ When the S display and P display digital readouts are equal, then places the MASTER FEEDWATER LEVEL CONTROLLER in AUTO by depressing the AUTO/MAN pushbutton.</li> <li>▪ Verifies the green AUTO light is illuminated</li> <li>▪ Monitors RPV water level and feedwater flow</li> <li>▪ Maintains Reactor level at 160 inches TAF or as directed by the US by adjusting the MASTER FEEDWATER LEVEL CONTROLLER setpoint</li> </ul> </li> </ul> </li> <li>• Manually scrams the reactor IAW ABN-1 <ul style="list-style-type: none"> <li>○ Depresses both MANUAL SCRAM pushbuttons</li> <li>○ Places the REACTOR MODE SELECTOR switch in SHUTDOWN</li> <li>○ Reports all control rods not fully inserted <ul style="list-style-type: none"> <li>▪ Initiates ARI</li> <li>▪ Places ROPS in BYPASS</li> <li>▪ Places recirculation flow to minimum</li> </ul> </li> <li>○ Inserts SRMs</li> <li>○ Inserts IRMs</li> </ul> </li> </ul>

Oyster Creek 09-1 NRC Exam Scenario

<b>Terminus:</b>	The Crew has determined that EMRV NR108C could not be closed and have inserted a manual scram, and have recognized ATWS conditions	

Notes/Comments


# Oyster Creek 09-1 NRC Exam Scenario

Op-Test No.: <u>OC 2010</u>		Scenario No.: <u>NRC Sim 4</u>	Event No.: <u>7/8</u>
Event Description: <u>Respond to an ATWS with reactor power &gt; 2%; Failure of SLC Pump</u>			
Initiation: The Crew has determined that EMRV NR108C could not be closed and have inserted a manual scram, and have recognized ATWS conditions			
Cues: As directed by the SRO following shift turnover, or as directed by the Lead Examiner			
Time	Position	Applicant's Actions or Behavior	
	ATC	<ul style="list-style-type: none"> <li>• Reports reactor power</li> <li>• Determines the ATWS is electric</li> <li>• Performs SP-22                             <ul style="list-style-type: none"> <li>○ Starts the selected SLC Pump by placing the STANDBY LIQUID CONTROL Keylock in either the FIRE SYS 1 or FIRE SYS 2 position [<b>Booth</b>]</li> </ul> </li> </ul>	
<b>Booth:</b> If the candidate starts SLC Pump 1 first, then delete PMP-SLC002A. If the candidate starts SLC Pump 2 first, then delete PMP-SLC001A. This will allow one pump to fail and the second pump to operate normally.			
		<ul style="list-style-type: none"> <li>○ Verifies the following:                             <ul style="list-style-type: none"> <li>▪ PUMP ON light for selected system illuminated</li> <li>▪ SQUIBS light for selected system illuminated</li> <li>▪ PUMP DISCH PRESS greater than Rx pressure</li> <li>▪ FLOW ON Alarm annunciates</li> <li>▪ SQUIB VALVE OPEN Alarm annunciates                                     <ul style="list-style-type: none"> <li>▪ Recognizes/reports failure of the first SLC Pump and starts the second pump</li> </ul> </li> </ul> </li> <li>• Performs SP-21 to insert control rods                             <ul style="list-style-type: none"> <li>○ Determines electrical ATWS</li> <li>○ Vent the Scram Air header (Success Path)                                     <ul style="list-style-type: none"> <li>▪ Directs the EO to vent the scram air header [<b>Role Play</b>]</li> </ul> </li> </ul> </li> </ul>	
<b>Role Play:</b> As the EO directed to vent the scram air header, acknowledge the request. Venting the header is the success path to be performed at a later time.			

# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>○ Manual Control Rod insertion (Success Path) <ul style="list-style-type: none"> <li>▪ Confirms all available CRD pumps are running</li> <li>▪ Places Reactor Mode Switch in REFUEL</li> <li>▪ Places the ROD WORTH MINIMIZER keylock in BYPASS</li> <li>▪ Closes CRD DRIVE WATER PRESSURE CONTROL NC18 to maximize CRD drive water differential pressure</li> <li>▪ Inserts Control Rods as directed by the US [<b>Booth</b>]</li> </ul> </li> </ul>
<b>Booth:</b> After the ATC has inserted a few control rods, fail the CRD FCV closed: insert MAL-CRD001A to 0.		
		<ul style="list-style-type: none"> <li>○ De-energize the Scram Solenoids (Not Successful) <ul style="list-style-type: none"> <li>▪ With the MSIVs open:</li> <li>▪ Places the following Sub channel Test Keylocks in the TRIP position: <ul style="list-style-type: none"> <li>▪ RPS Sub Channel 1A Keylock</li> <li>▪ RPS Sub Channel 1B Keylock</li> <li>▪ RPS Sub Channel 2A Keylock</li> <li>▪ RPS Sub Channel 2B Keylock</li> </ul> </li> <li>▪ When the control rods are no longer moving in, then places the RPS Channel I and II Sub channel Test Keylocks in the NORMAL position</li> </ul> </li> <li>○ Open Individual Scram Test Switches (Not Successful) <ul style="list-style-type: none"> <li>▪ Confirms all available CRD pumps are running</li> <li>▪ Confirms open SDV vent and drain valves</li> <li>▪ Obtains Key for 6XR Rod Scram Test Panel</li> <li>▪ Opens Rod Scram Test Panel</li> <li>▪ Individually OPEN the scram test toggle switch for a control rod not inserted as follows: <ul style="list-style-type: none"> <li>▪ Attempt to insert Cram Array Control Rods first</li> <li>▪ Then insert any other Control Rod as directed by the US</li> </ul> </li> <li>▪ Monitors Reactor Building airborne radiation levels</li> <li>▪ When the control rod stops moving, then CLOSE the scram test toggle switch</li> <li>▪ Repeat to insert other control rods</li> </ul> </li> <li>• Reports when control rods start moving inward (from scram</li> </ul>

# Oyster Creek 09-1 NRC Exam Scenario

		air header venting) • Reports all control rods in
	SRO	<ul style="list-style-type: none"> <li>• Directs entry into RPV Control – With ATWS EOP             <ul style="list-style-type: none"> <li>○ Confirms ARI initiated</li> <li>○ Directs ROPS bypassed</li> <li>○ Directs all Recirculation Pumps tripped</li> <li>○ Directs SLC initiated IAW SP-22, Initiating the Liquid Poison System</li> <li>○ Directs ATC to insert control rods IAW SP-21, Alternate Insertion of Control Rods</li> <li>○ Directs SP-1, Confirmation of Automatic Initiation and Isolations</li> <li>○ Directs ADS bypassed</li> <li>○ Directs SP-16, Bypassing MSIV Lo-Lo Level Isolation Interlocks and the RBCCW Interlocks</li> <li>○ Waits until MSIV isolations are bypassed, then directs terminate and prevent RPV injection IAW SP-17</li> <li>○ Directs RPV water level below -20" to 30" IAW SP-19, Feedwater/Condensate and CRD Operation <b>[Booth]</b></li> </ul> </li> <li>• Enters Primary Containment Control EOP on Torus high water temperature (95 °F)             <ul style="list-style-type: none"> <li>○ Directs Torus Cooling IAW Support Procedure 25</li> </ul> </li> <li>• Enters RPV Control - No ATWS EOP when all control rods are inserted             <ul style="list-style-type: none"> <li>○ Directs RPV water level 138" – 175" using SP-2 (FW)</li> </ul> </li> </ul>
<b>Booth:</b> To vent the scram air header when: RPV water level has been terminated/prevented, and, RPV water level is being controlled -20" to 30", and, control rods are being manually inserted (or the CRD FCV is failed closed): then insert Trigger 10. Verify these actions are allowed by the Lead Examiner prior to inserting the trigger.		
	BOP	<ul style="list-style-type: none"> <li>• Trips all Recirculation Pumps when directed with the DRIVE MOTOR switches to STOP</li> <li>• Performs SP-1</li> <li>• Places ADS TIMERS to BYPASS</li> <li>• Performs SP-16</li> </ul>



## Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>○ Obtains four (4) bypass plugs</li> <li>○ Opens the EOP BYPASS PLUGS panel in the rear of Panel 6R <ul style="list-style-type: none"> <li>▪ INSERT a bypass plug in position BP1</li> <li>▪ INSERT a bypass plug in position BP2</li> </ul> </li> <li>○ Opens the EOP BYPASS PLUGS panel in the rear of Panel 7R <ul style="list-style-type: none"> <li>▪ INSERT a bypass plug in position BP1</li> <li>▪ INSERT a bypass plug in position BP2</li> </ul> </li> <li>○ Places the ISOL SIGNAL BYPASS V-6-395 switch in the BYPASS position</li> <li>○ Informs the Unit Supervisor that the MSIV LO-LO Level Isolation Interlock has been bypassed</li> <li>○ Verifies that the RBCCW System is <b>not</b> isolated due to high Drywell pressure/low RPV water level conditions</li> <li>○ Opens the EOP BYPASS PLUGS panel in the rear of Panel 2R <ul style="list-style-type: none"> <li>▪ Removes the bypass plug from position BP1</li> <li>▪ Removes the bypass plug from position BP2</li> </ul> </li> <li>● Performs SP-17 <ul style="list-style-type: none"> <li>○ Terminates and prevents the Core Spray System injection into the RPV by performing the following: <ul style="list-style-type: none"> <li>▪ Presses the OVERRIDE switches for all the sensors that are lit</li> <li>▪ Presses all ACTUATED switches, whether lit or unlit</li> <li>▪ Confirms Core Spray Parallel Isolation Valves closed</li> <li>▪ Confirms Core Spray Booster Pumps tripped</li> <li>▪ Confirms Core Spray Main Pumps that are not being used to provide makeup water to the torus per SP37 are in the PULL-TO-LOCK position</li> </ul> </li> <li>○ Terminates and prevents Condensate and Feedwater injection by performing the following: <ul style="list-style-type: none"> <li>▪ Trips all operating Feedwater Pumps</li> <li>▪ Confirms only one Condensate Pump running</li> <li>▪ Places all individual FRV Controllers in MAN position</li> <li>▪ Closes all Feedwater Regulating Valves</li> <li>▪ Closes the Low Flow Valves</li> </ul> </li> <li>○ Reports RPV injection has been terminated and prevented</li> </ul> </li> <li>● Monitors RPV water level and controls Feedwater to maintain desired band -20" to 20" IAW SP-19</li> </ul>
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# Oyster Creek 09-1 NRC Exam Scenario

		<ul style="list-style-type: none"> <li>○ Confirms only one Condensate Pump and only one Feedwater Pump operating</li> <li>○ Controls RPV Water level using the following: <ul style="list-style-type: none"> <li>▪ Feedwater Regulating Valves</li> <li>▪ Feed Regulating Valve Block Valves</li> <li>▪ Feedwater Low Flow Valves</li> <li>▪ Heater Bank Outlet Isolation Valves</li> <li>▪ Feedwater and Condensate Pumps</li> </ul> </li> <li>○ Reports RPV water level in band</li> <li>● Performs SP-25 when directed (Torus cooling) <ul style="list-style-type: none"> <li>○ Confirm the SYSTEM MODE SELECT switch is in the TORUS COOLING position</li> <li>○ Start an ESW Pump</li> <li>○ Place and hold the System Pump Start Permissive Keylock for the selected pump in the appropriate position</li> <li>○ Start the selected Containment Spray Pump using its control switch</li> </ul> </li> </ul>
<b>Terminus:</b>	Control rods have been fully inserted and RPV water level is rising towards the prescribed band as directed in the RPV Control – No ATWS EOP	

## Notes/Comments


## Oyster Creek 09-1 NRC Exam Scenario

### Procedures Used

<u>Event</u>	<u>Procedure</u>	✓	✓	✓	✓
1	<ul style="list-style-type: none"> <li>Turnover Sheet (Handed out)</li> <li>322 (Handed out for SW pump swap)</li> </ul>				
2	<ul style="list-style-type: none"> <li>Pull sheet</li> <li>302.2 (single notch)</li> </ul>				
3	<ul style="list-style-type: none"> <li>302.2 (raise drive pressure for stuck rod)</li> </ul>				
4	<ul style="list-style-type: none"> <li>ABN-51</li> <li>Tech Spec 3.7</li> </ul>				
5a	<ul style="list-style-type: none"> <li>ABN-17</li> </ul>				
5	<ul style="list-style-type: none"> <li>ABN-2</li> <li>Tech Spec 3.3</li> </ul>				
6	<ul style="list-style-type: none"> <li>RAP-B4g</li> <li>ABN-40</li> <li>ABN-1</li> </ul>				
7	<ul style="list-style-type: none"> <li>RPV Control – With ATWS EOP</li> <li>SP-16</li> <li>SP-17</li> <li>SP-21</li> <li>SP-1</li> <li>SP-19</li> </ul>				
8	<ul style="list-style-type: none"> <li>SP-22</li> <li>SP-25</li> <li>RPV Control – No ATWS EOP</li> <li>Primary Containment Control EOP</li> </ul>				

## Oyster Creek 09-1 NRC Exam Scenario

### Simulator Setup

1. Reset to IC 152 (14% power)
2. Verify SW Pump 1-1 only in service
3. Ensure Feedwater is in AUTO on the Master Feedwater Level Controller
4. Ensure EPR is in control
5. Should be at step 5.59 in 201 to raise power to get 4-5 TBV open
6. Ensure CR HVAC B is in service
7. Hang an info tag on CR HVAC Fan A
8. Insert ANN-L3f to ON for CR HVAC A Trouble annunciator
9. Place RWM in Bypass and hang tag
10. Have a copy of 322 (up to > Section 7)
11. Have a copy of the pull sheet to be used
12. Turn Rod Power off
13. Verify CRD drive pressure at 250 psig
14. Remove the CRAM array sheet from 4F

<u>Event</u>	<u>Trigger</u>	<u>Malfunction</u>
1	NA	NA
2	NA	MAL-
3	<b>PRESET →</b>	MAL-CRD007_3451 <ul style="list-style-type: none"> <li>• This will stick control rod 34-51 at its current location</li> <li>• This malfunction will be deleted during the scenario</li> </ul>
4	<b>Trigger 2 →</b>	MAL-EDS004B <ul style="list-style-type: none"> <li>• This results in the loss of VMCC 1B2</li> </ul>
5	<b>Trigger 4→</b>  <b>Trigger 4→</b>	LOA-RCP003 to TRUE <ul style="list-style-type: none"> <li>• This will insert a high vibration on Recirculation Pump C</li> </ul> MAL-RCP003C to 10% with a 5-second time delay <ul style="list-style-type: none"> <li>• This will insert a 10% failure on Recirculation Pump C inner seal</li> </ul>

# Oyster Creek 09-1 NRC Exam Scenario

	<b>Trigger 6→</b>	<p>MAL-RCP004C to 4% with a 5-second time delay</p> <ul style="list-style-type: none"> <li>• This will insert a 4% failure on Recirculation Pump C outer seal</li> <li>• Note: Activate Trigger 6 at the same time that LOA-RCP003 to TRUE is activated the second time in the scenario</li> </ul>
6	<b>Trigger 8→</b>	<p>MAL-NSS025C to 100%</p> <ul style="list-style-type: none"> <li>• This inserts a 100% leak on EMRV NR108C</li> <li>• This leak will not be stopped</li> </ul>
7	<b>PRESET →</b>	<p>Activate ATWSHALF.CAE file</p> <ul style="list-style-type: none"> <li>• This inserts an electric ATWS on RPS 1 only; ARI does not function</li> </ul>
8	<p><b>PRESETS →</b></p> <p><b>Trigger 10→</b></p>	<p>PMP-SLC001A (SLC Pump 1) PMP-SLC002A (SLC Pump 2)</p> <ul style="list-style-type: none"> <li>• This inserts a shaft break on each SLC Pump</li> <li>• When the candidate starts Pump 1 (2), then delete the malfunction on Pump 2 (1)</li> </ul> <p>LOA-CAS021 to 0</p> <ul style="list-style-type: none"> <li>• This closes the scram air header air isolation valve V-6-175</li> </ul> <p>LOA-CAS022 to 1</p> <ul style="list-style-type: none"> <li>• This opens the scram air header vent valve to vent the header</li> </ul>

### **Shift Turnover**

#### **Current plant conditions:**

- The plant is at about 14% power during a startup
- CR HVAC System A is being worked on by I&C and is considered inoperable. The system, which has been inoperable for the last 2 hours, is expected to be operable in the next 2-3 hours.
- The RWM is inoperable and bypassed
- Inerting the Primary Containment is on hold for a nitrogen delivery. The reactor Mode switch has been in RUN for 2 hours.

#### **Shift Activities**

- Swap Service Water pumps to equalize run times IAW 322, Section 7.0
  - An EO is standing by at the Intake
- Procedure 201, Plant Startup is currently at Step 5.59 to withdraw control rods to achieve 4-5 Turbine Bypass valves open
- Continue withdrawing control rods IAW the pull sheet
  - The pull sheet is currently on RWM Sequence Step 24, Rod Group/Array 5-1
  - The next control rod to withdraw is 18-03 from 12-48
  - Continuous out is allowed for Step 24 control rods