

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

STATION: HOPE CREEK  
SYSTEM: Reactor Recirculation  
TASK: Perform a Reactor Recirculation Pump Quick Restart  
TASK NUMBER: 2020160101  
JPM NUMBER: ROA.1.1

ALTERNATE PATH:

K/A NUMBER: 2.1.12  
IMPORTANCE FACTOR:  $\frac{2.9}{RO}$   $\frac{\quad}{SRO}$

APPLICABILITY: EO  RO  STA  SRO  LSRO

EVALUATION SETTING/METHOD: Simulator/Perform

REFERENCES: HC.OP-AB.RPV-0003(Q), Rev. 3

TOOLS AND EQUIPMENT: Steam Tables/Calculator

VALIDATED JPM COMPLETION TIME: 5 Minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the OS or Unit CRS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME: \_\_\_\_\_ Minutes

ACTUAL TIME CRITICAL COMPLETION: \_\_\_\_\_ N/A

JPM PERFORMED \_\_\_\_\_ GRADE:  SAT  UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** Reactor Recirculation

**TASK:** Perform a Reactor Recirculation Pump Quick Restart

**TASK NUMBER:** 2020160101

**INITIAL CONDITIONS:**

1. The Reactor was scrammed when both Reactor Recirculation Pumps tripped.
2. Evidence of thermal stratification is present.
3. Actions have been taken in accordance with HC.OP-AB.RPV-0003 through step I.6.

**INITIATING CUE:**

Ensure Differential Temperature requirements are met for Recirculation Pump A by completing Attachment 1 of HC.OP-AB.RPV-0003 (provided).

**Successful Completion Criteria:**

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM:  
TASK:

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
			<b>Examiner Note:</b> It is not critical to initial the procedure steps.		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 1.0.		
	1.0	START TIME: _____ <b>Reactor Vessel to Bottom Head Drain Line Differential Temperature Criteria</b> A. Rx Pressure Vessel Steam Space Coolant Saturation Temperature. (Rx Pressure (OD-3) and Steam Tables) ( <b>Note 1</b> )	Operator simulates obtaining an OD-3. <b>Examiner Cue: OD-3 indicates 845 psia.</b> Operator determines Reactor Pressure, and utilizes either the attached Steam Table, or a more detailed one, to determine Rx Pressure Vessel Steam Space Coolant Saturation Temperature. Operator places this value (525F $\pm$ 1F) in the appropriate space on Attachment 1.		
# *		B. Bottom Head Drain Coolant Temperature. ( <b>Note 2</b> ) (Computer Point A2942)	Operator utilizes CRIDS to determine Bottom Head Drain Coolant Temperature and places this value (480F $\pm$ 1F) in the appropriate space on Attachment 1.		
# *		C. < 145°F between Rx Pressure Vessel Steam Space Coolant AND Bottom Head Drain Line Coolant (A – B). [T/S 4.4.1.4]	Operator determines that Rx Pressure Vessel Steam Space Coolant and Bottom Head Drain Line Coolant temperatures are within 145°F and places SAT in the appropriate space on Attachment 1.		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM:  
TASK:

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		D. Time Readings taken:	Operator notes the time that the readings were taken in the appropriate space on Attachment 1.		
# *	2.0	<b><u>Reactor Vessel to Recirculation Loop Differential Temperature Criteria</u></b>  A. Temperature of the Rx Coolant within the idle loop to be started up. (Note 3)	Operator utilizes TR-650-B31 Recirc Pump Suction Loop A or CRIDS points A221 and A222 for A loop to determine Reactor Coolant Loop A temperature and places this value (511F +1F) in the appropriate space on Attachment 1.		
		B. Temperature of coolant in the Rx Pressure Vessel. (RX Pressure (OD-3) and Steam Tables (Note 1) OR Bottom Head Drain Coolant Temperature (Note 2) (Computer Point A2942))	Operator places the temperature obtained in step 1.0.A or 1.0.B in the appropriate space on Attachment 1.		
# *		C. $\leq 50^{\circ}\text{F}$ between the Rx Coolant within the loop not in operation <u>AND</u> the Coolant in the Rx Pressure Vessel (A-B). [T/S 4.4.1.4]	Operator compares the temperatures obtained in 2.0.A and 2.0.B, determines that these temperatures are within $50^{\circ}\text{F}$ , and enters SAT in the appropriate space on Attachment 1.		
		D. Time Readings taken:	Operator notes the time that the readings were taken in the appropriate space on Attachment 1.		
		STOP TIME: _____			

**Terminating Cue:** Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete".

JOB PERFORMANCE MEASURE  
SIMULATOR INSTRUCTIONS

Reset to IC-8.

Trip both Recirculation Drive Motor Breakers.

Take appropriate scram actions.

Acknowledge alarms.

Put Simulator in freeze.

Set CRIDS point B2058 to 150

**RESTORE CRIDS B2058 TO SCAN UPON COMPLETION OF JPM.**

## JOB PERFORMANCE MEASURE

### INITIAL CONDITIONS:

1. The Reactor was scrammed when both Reactor Recirculation Pumps tripped.
2. Evidence of thermal stratification is present.
3. Actions have been taken in accordance with HC.OP-AB.RPV-0003 through step I.6.

### INITIATING CUE:

Ensure Differential Temperature requirements are met for Recirculation Pump A by completing Attachment 1 of HC.OP-AB.RPV-0003 (provided).



ATTACHMENT 1  
REACTOR RECIRCULATION PUMP PRE-START  
TEMPERATURE DIFFERENTIAL CRITERIA DETERMINATION  
(Page 2 of 2)

EXAMINEE'S COPY  
TRAINING ONLY

SATURATED STEAM TABLES

TEMP °F	ABS PRESS (PSIA)
200	11.526
212	14.696
220	17.186
228	20.015
236	23.216
244	26.826
252	30.883
260	35.427
268	40.500
276	46.147
284	52.414
292	59.350
300	67.005
308	75.433
316	84.688
324	94.826
332	105.907
340	117.992
348	131.142
356	145.424
364	160.903
372	177.648
380	195.729

TEMP °F	ABS PRESS (PSIA)
388	215.220
396	236.193
404	258.725
412	282.894
420	308.780
428	336.463
436	366.03
444	397.56
452	431.14
460	466.87
468	504.83
476	545.11
484	587.81
492	633.03
500	680.86
508	731.40
516	784.76
524	841.04
532	900.34
540	962.79
548	1028.49
556	1097.55
564	1170.10

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

STATION: HOPE CREEK  
SYSTEM: Residual Heat Removal  
TASK: RHR System Piping and Flow Path Verification

TASK NUMBER:

JPM NUMBER: ROA1.2

ALTERNATE PATH:

K/A NUMBER: 2.1.31

IMPORTANCE FACTOR:  $\frac{4.2}{RO}$

APPLICABILITY:

EO

RO

STA

SRO

RO

SRO

EVALUATION SETTING/METHOD: Simulator/Perform

REFERENCES: HC.OP-ST.BC-0001, Rev. 11

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 8 Minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the OS or Unit CRS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME: \_\_\_\_\_ Minutes

ACTUAL TIME CRITICAL COMPLETION: N/A

JPM PERFORMED BY: \_\_\_\_\_

GRADE:  SAT  UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** Residual Heat Removal

**TASK:** Conduct A Retest As Specified In The Retest Package

**TASK NUMBER:** 2990580301

**INITIAL CONDITIONS:**

1. Fill and vent of RHR System Loop B has been complete in accordance with HC.OP-ST.BC-0001.
2. No other testing or maintenance is in progress at this time.

**INITIATING CUE:**

Perform the RHR System Piping and Flow Path Verification for RHR System Loop B in accordance with HC.OP-ST.BC-0001 (Provided).

**Successful Completion Criteria:**

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Residual Heat Removal  
TASK: Conduct A Retest As Specified In The Retest Package

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator reviews precautions and limitations.	Operator reviews precautions and limitations.  <b>Examiner Cue: If excessive time is taken to review precautions and limitations, inform operator that all are satisfied.</b>  <b>Examiner Note: Initialling step completion in the body of the procedure is not critical.</b>		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step of procedure to be 5.3.		
		START TIME: _____			
	5.3.1	<u>IF</u> this is the first subsection of this procedure to be performed, <u>THEN</u> <b>LOG</b> test start time in the Control Room log(s).	Operator determines that this is <b>NOT</b> the first subsection of this procedure to be performed and initials the substep.		
	5.3.2	<b>ENSURE</b> all prerequisites of Section 2.2 are satisfied.	Operator ensures that all prerequisites of Section 2.2 are satisfied, completes Section 3.0 of Attachment 1, and initials each prerequisite and this substep.		
	5.3.3	<b>ENSURE</b> Section 1.0 of Attachment 1 has been completed <u>AND</u> Regular Surveillance <u>OR</u> Retest is indicated.	Operator ensures that Section 1.0 of Attachment 1 has been completed and Retest is indicated.		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Residual Heat Removal  
TASK: Conduct A Retest As Specified In The Retest Package

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.3.4	GO TO Subsection 5.4.	Operator initials and moves to Subsection 5.4.		
*	5.4.2	IF flow path verification for RHR System Loop B is required, THEN REFER TO Attachment 3 AND PERFORM the following: [CD-408A, TS 4.6.2.2.a, T/S 4.6.2.3.a, TS 4.5.1.a.1.b]  A. VERIFY the valves listed in Section 1.0, are in their proper position as indicated on Panel 10C650.	Operator verifies the valves listed in Section 1.0 of Attachment 3 are in their proper position as indicated on Panel 10C650.		
*		B. INDICATE condition/performance.	Operator indicates on Attachment 3: <ul style="list-style-type: none"> <li>• The position of each of the valves checked in the ACTUAL block</li> <li>• Determines that each position is satisfactory and notes SAT in the SAT/UNSAT block</li> <li>• Initials the PERF block.</li> </ul> <p><b>Examiner Note:</b> Initialing the PERF block is not critical.</p>		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Residual Heat Removal  
TASK: Conduct A Retest As Specified In The Retest Package

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.4.5	<p><u>IF</u> this is the final subsection of the procedure to be performed, <u>THEN</u> <b>PERFORM</b> the following:</p> <p>A. <b>LOG</b> test end time in the Control Room log(s).</p>	<p>Operator determines that this is the final subsection of the procedure to be performed and requests that the completion be logged in the Control Room log.</p> <p><b>Examiner Cue: The test end time is logged in the Control Room log.</b></p>		
		<p>B. <b>SUBMIT</b> the procedure to the OS/CRS for review <u>AND</u> completion of Attachment 1.</p>	<p>Operator submits the procedure to the OS/CRS for review and completion of Attachment 1.</p>		
		<p>STOP TIME: _____</p>			

**Terminating Cue:** Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete"

JOB PERFORMANCE MEASURE  
SIMULATOR INSTRUCTIONS

Initialize the Simulator in an IC that has RHR Loop B in its normal lineup.

Note Operating Condition, Reactor Power Level, and GMWE on Attachment 1.

JOB PERFORMANCE MEASURE

**INITIAL CONDITIONS:**

- 1. Fill and vent of RHR System Loop B has been complete in accordance with HC.OP-ST.BC-0001.**
- 2. No other testing or maintenance is in progress at this time.**

**INITIATING CUE:**

**Perform the RHR System Piping and Flow Path Verification for RHR System Loop B in accordance with HC.OP-ST.BC-0001 (Provided).**



OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** Administrative

**TASK:** Complete A Control Console Log For Conditions 1, 2 & 3  
Perform alternate determination of Drywell Air Temperature

**TASK NUMBER:** 4010360301

**INITIAL CONDITIONS:**  
SPDS is out of service.

**INITIATING CUE:**

Complete the Reactor Operator portion of HC.OP-DL.ZZ-0026(Q), Attachment 1a, Item 31, Drywell Air Temperature log entry.

**Successful Completion Criteria:**

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Administrative

TASK: Complete A Control Console Log For Conditions 1, 2 & 3 / Perform alternate determination of Drywell Air Temperature

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains/locates procedure HC.OP-DL.ZZ-0026(Q).	Operator obtains the correct procedure.		
		START TIME: _____			

ITEM	SURVEILLANCE	OPER COND	ACCEPTABLE LIMITS			INSTRUMENT (PANEL)	DAY	EVE	MID	COMMENTS
			MIN	NORM	MAX					
31.	DRYWELL AIR TEMPERATURE	1,2,3	---	90-110	135	B5070 (SPDS OR CRIDS) OR ATTACHMENT 3q LINE F	N/A	N/A		(NOTE 27)

27. DURING NORMAL OPERATION, DRYWELL AIR TEMPERATURE HAS BEEN 90-110°F. ANY VALUE OUTSIDE THIS RANGE SHOULD BE INVESTIGATED. IF COMPUTER POINT B5070 IS INOP, DRYWELL TEMPERATURE MAY BE OBTAINED BY COMPLETING ATT 3Q.

		Operator manipulates CRIDS to display B5070.			
		Operator observes the BAD indication for point B5070.			
		Operator determines that Note 27 applies and moves to Attachment 3q page 1 of 6 to calculate Drywell Air Temperature.			
# *	1.	<b>RECORD</b> computer point values from CRIDS or SPDS in Column A. (Computer points have the same numbers for both CRIDS and SPDS.)	Operator manipulates CRIDS to obtain the required input values and records them in Column A. <b>Examiner Note:</b> See Attached.		
# *	2.	In Column B, <b>RECORD</b> sum of Column A for each elevation zone.	Operator records in Column B, the sum of Column A for each elevation zone.		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

SYSTEM: Administrative

TASK: Complete A Control Console Log For Conditions 1, 2 & 3 / Perform alternate determination of Drywell Air Temperature.

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
# *	3.	<b>DIVIDE</b> value obtained in Column B by number of operable computer inputs in Column A, <b>AND RECORD</b> result in Column C. (T/S require at least one operable input for each group.)	Operator divides the values obtained in Column B by number of operable computer inputs in Column A, <b>AND</b> records the results in Column C.		
# *	4.	<b>MULTIPLY</b> value obtained in Column C by value given in Column D <b>AND RECORD</b> result in Column E.	Operator multiplies the values obtained in Column C by values given in Column D <b>AND</b> records the result in Column E.		
# *	5.	<b>ADD</b> values obtained in Column E <b>AND RECORD</b> answer on Line F.	Operator adds the values obtained in Column E <b>AND</b> records the answers on Line F.  <b>EXAMINER NOTE: To be considered Satisfactory the calculated value of Drywell Air Temperature shall be 107 ±1 F.</b>		
	6.	<b>RECORD</b> value from Line F onto Attachment 1a Item 31.  STOP TIME: _____	Operator records the values from line F onto Attachment 1a item 31.		

**Terminating Cue:** Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete"

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

SIMULATOR INSTRUCTIONS

Reset to IC-1.

Remove CRIDS B5070 from scan using the instructor station CRIDS terminal.

Insert Malfunction CC-03, SPDS Failure.

**RESTORE B5070 TO SCAN AT THE COMPLETION OF THE JPM.**

**ATTACHMENT 3q** Page 1 of 6  
**Drywell Volumetric Average Temperature Calculation Sheet T/S 4.6.1.7, 4.4.3.2.1.f, and 4.4.3.1.b**  
**Using SPDS/CRIDS Computer Point Values**

**HCGS**                      **DATE:** \_\_\_\_\_ **Today's Date**

1. **RECORD** computer point values from CRIDS or SPDS in Column A. (Computer points have the same numbers for both CRIDS and SPDS.) INITIALS
2. In Column B, **RECORD** sum of Column A for each elevation zone. INITIALS
3. **DIVIDE** value obtained in Column B by number of operable computer inputs in Column A, **AND RECORD** result in Column C. (T/S require at least one operable input for each group.) INITIALS
4. **MULTIPLY** value obtained in Column C by value given in Column D **AND RECORD** result in Column E. INITIALS
5. **ADD** values obtained in Column E **AND RECORD** answer on Line F. INITIALS
6. **RECORD** value from Line F onto Attachment 1a Item 31. INITIALS

ELEV ZONE	COLUMN A TEMP. VALUES	COLUMN B GROUP TOTAL	COLUMN C GROUP AVG. TEMP	COLUMN D FRACTION OF D.W. VOLUME	COLUMN E VOLUMETRIC TEMP.
e	A2264 <u>120.24</u> A2265 <u>120.73</u> A2268 <u>120.17</u> A2269 <u>120.90</u> A2270 <u>120.17</u> A2271 <u>120.90</u>	<u>723.11</u>	<u>120.518</u>	.082	<u>9.88</u>
d	A2266 <u>126.87</u> A2267 <u>126.87</u> A2272 <u>126.87</u> A2273 <u>126.87</u> A2274 <u>105.87</u> A2275 <u>107.95</u>	<u>721.3</u>	<u>120.22</u>	.123	<u>14.79</u>
c	A2276 <u>108.65</u> A2277 <u>105.62</u> A2278 <u>107.95</u> A2279 <u>105.87</u>	<u>428.09</u>	<u>107.02</u>	.361	<u>38.64</u>
b	A2282 <u>105.62</u> A2283 <u>105.87</u> A2284 <u>93.229</u> A2285 <u>98.159</u>	<u>402.878</u>	<u>100.72</u>	.385	<u>38.78</u>
a	A2280 <u>115.10</u> A2281 <u>115.10</u> A2286 <u>98.472</u> A2287 <u>98.472</u>	<u>427.144</u>	<u>106.79</u>	.049	<u>5.23</u>

LINE F - DRYWELL VOLUMETRIC AVERAGE AIR TEMPERATURE..... 107 °F

**ATTACHMENT 3q** Page 1 of 6  
**Drywell Volumetric Average Temperature Calculation Sheet T/S 4.6.1.7, 4.4.3.2.1.f, and 4.4.3.1.b**  
**Using SPDS/CRIDS Computer Point Values**

**HCGS**                      **DATE:** \_\_\_\_\_

1. **RECORD** computer point values from CRIDS or SPDS in Column A. (Computer points have the same numbers for both CRIDS and SPDS.) \_\_\_\_\_
2. In Column B, **RECORD** sum of Column A for each elevation zone. \_\_\_\_\_
3. **DIVIDE** value obtained in Column B by number of operable computer inputs in Column A, **AND RECORD** result in Column C. \_\_\_\_\_  
(T/S require at least one operable input for each group.)
4. **MULTIPLY** value obtained in Column C by value given in Column D **AND RECORD** result in Column E. \_\_\_\_\_
5. **ADD** values obtained in Column E **AND RECORD** answer on Line F. \_\_\_\_\_
6. **RECORD** value from Line F onto Attachment 1a Item 31. \_\_\_\_\_

ELEV ZONE	COLUMN A TEMP. VALUES	COLUMN B GROUP TOTAL	COLUMN C GROUP AVG. TEMP	COLUMN D FRACTION OF D.W. VOLUME	COLUMN E VOLUMETRIC TEMP.
e	A2264 _____ A2265 _____ A2268 _____ A2269 _____ A2270 _____ A2271 _____	_____	_____	.082	_____
d	A2266 _____ A2267 _____ A2272 _____ A2273 _____ A2274 _____ A2275 _____	_____	_____	.123	_____
c	A2276 _____ A2277 _____ A2278 _____ A2279 _____	_____	_____	.361	_____
b	A2282 _____ A2283 _____ A2284 _____ A2285 _____	_____	_____	.385	_____
a	A2280 _____ A2281 _____ A2286 _____ A2287 _____	_____	_____	.049	_____

LINE F - DRYWELL VOLUMETRIC AVERAGE AIR TEMPERATURE..... \_\_\_\_\_ °F

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

**INITIAL CONDITIONS:**

**SPDS is out of service.**

**INITIATING CUE:**

**Complete the Reactor Operator portion of HC.OP-DL.ZZ-0026(Q), Attachment 1a, Item 31, Drywell Air Temperature log entry.**

Training Only  
Examinee's Copy

ATTACHMENT 1a  
Surveillance Log - Control Room

HCGS

Operational Condition \_\_\_\_\_ Date \_\_\_\_\_

ITEM	SURVEILLANCE	OPER COND	ACCEPTABLE LIMITS			INSTRUMENT (PANEL)	DAY	EVE	MID	COMMENTS																																																																											
			MIN	NORM	MAX																																																																																
31.	DRYWELL AIR TEMPERATURE	1,2,3	---	90-110	135	B5070 (SPDS OR CRIDS) OR ATTACHMENT 3q LINE F	N/A	N/A		(NOTE 27)																																																																											
a. HAVE CRS/OS VERIFY AT LEAST ONE OPERABLE INPUT FOR EACH ZONE.																																																																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Zone</th> <th style="width: 10%;">e</th> <th style="width: 10%;">d</th> <th style="width: 10%;">c</th> <th style="width: 10%;">b</th> <th style="width: 10%;">a</th> <th colspan="5"></th> </tr> </thead> <tbody> <tr> <td rowspan="6" style="text-align: center; vertical-align: middle;">Inputs</td> <td>A2264</td> <td>A2266</td> <td>A2276</td> <td>A2282</td> <td>A2280</td> <td rowspan="6" style="vertical-align: top;">CIRCLE ONE:  SAT / UNSAT  _____ CRS/OS INITIALS</td> <td colspan="5"></td> </tr> <tr> <td>A2265</td> <td>A2267</td> <td>A2277</td> <td>A2283</td> <td>A2281</td> <td colspan="5"></td> </tr> <tr> <td>A2268</td> <td>A2272</td> <td>A2278</td> <td>A2284</td> <td>A2286</td> <td colspan="5"></td> </tr> <tr> <td>A2269</td> <td>A2273</td> <td>A2279</td> <td>A2285</td> <td>A2287</td> <td colspan="5"></td> </tr> <tr> <td>A2270</td> <td>A2274</td> <td colspan="3"></td> <td></td> <td colspan="5"></td> </tr> <tr> <td>A2271</td> <td>A2275</td> <td colspan="3"></td> <td></td> <td colspan="5"></td> </tr> </tbody> </table>											Zone	e	d	c	b	a						Inputs	A2264	A2266	A2276	A2282	A2280	CIRCLE ONE:  SAT / UNSAT  _____ CRS/OS INITIALS						A2265	A2267	A2277	A2283	A2281						A2268	A2272	A2278	A2284	A2286						A2269	A2273	A2279	A2285	A2287						A2270	A2274										A2271	A2275									
Zone	e	d	c	b	a																																																																																
Inputs	A2264	A2266	A2276	A2282	A2280	CIRCLE ONE:  SAT / UNSAT  _____ CRS/OS INITIALS																																																																															
	A2265	A2267	A2277	A2283	A2281																																																																																
	A2268	A2272	A2278	A2284	A2286																																																																																
	A2269	A2273	A2279	A2285	A2287																																																																																
	A2270	A2274																																																																																			
	A2271	A2275																																																																																			
32.	CHANNEL CHECK: DRYWELL GASEOUS	1,2,3	---	---	5.00E-03	1SK-RI4991 (10C604)																																																																															
			---	NO	---	INST TRIPPED																																																																															
33.	CHANNEL CHECK:	1,2,3,* (NOTES 28, 30)	---	---	1E-3	1SP-RI4857A (10C604)																																																																															
	REACTOR BLDG EXHAUST		---	---	1E-3	1SP-RI4857B (10C604)																																																																															
	RADIATION MONITOR		---	---	1E-3	1SP-RI4857C (10C604)																																																																															
			---	NO	---	INST TRIPPED																																																																															
			---	---	NOTE 29	INST DEVIATION (SAT/UNSAT)																																																																															

- NOTES: 27. DURING NORMAL OPERATION, DRYWELL AIR TEMPERATURE HAS BEEN 90-110°F. ANY VALUE OUTSIDE THIS RANGE SHOULD BE INVESTIGATED. IF COMPUTER POINT B5070 IS INOP, DRYWELL TEMPERATURE MAY BE OBTAINED BY COMPLETING ATT 3Q.
28. (\*) - WHEN HANDLING RECENTLY IRRADIATED FUEL IN THE SECONDARY CONTAINMENT AND DURING OPERATIONS WITH A POTENTIAL FOR DRAINING THE REACTOR VESSEL.
29. TO OBTAIN MAX INST DEVIATION, MULTIPLY SMALLEST CHANNEL VALUE BY 10, THEN VERIFY OTHER CHANNEL VALUES FALL BETWEEN THE SMALLEST VALUE AND THE SMALLEST VALUE X10. [20009112]
30. ALSO REQUIRED WHEN SECONDARY CONTAINMENT REQUIRED TO BE IN EFFECT IAW T/S. [70021778]



OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** Containment Atmosphere Control

**TASK:** Purge the Containment

**TASK NUMBER:** 2290050101

**INITIAL CONDITIONS:**

1. A plant shutdown is in progress for a Refueling outage.
2. The Reactor is shutdown.
3. At 0200 today Purging of the Primary Containment commenced.
4. At 0846 today Operational Condition 4 was entered.
5. At 1142 today the purge lineup was secured in accordance with HC.OP-SO.GS-0001, Containment Atmosphere Control System Operation.

**INITIATING CUE:**

Complete today's Containment Prepurge Cleanup, Inerting, Or Pressure Control Valve Permit and Log in accordance with HC.OP-AP.ZZ-0104.

**Successful Completion Criteria:**

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Containment Atmosphere Control  
TASK: Purge the containment

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains/locates procedure.	Examiner Cue: Provide the operator with HC.OP-AP.ZZ-0104 and the supporting paperwork (Attached).		
		Operator reviews requirements.	Operator reviews requirements.		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 5.2.		
	5.2	<b>Calculating Valve Open Time</b>			
	5.2.1	In Section C of Form 2, enter the time the valve(s) listed in Section 6.3 or the line(s) listed in Section 6.4 OR 6.5 are opened in Condition 1, 2, or 3 OR when Condition 2 OR 3 is entered from Condition 4 with the valve(s)/line(s) open.	N/A	N/A	N/A
*	5.2.2	START TIME: _____ In Section C of Form 2, enter the time the valve(s) listed in Section 6.3 or the line(s) listed in Section 6.4 OR 6.5 are closed in Condition 1, 2, or 3 OR when Condition 4 is entered from Condition 2 OR 3 with the valve(s)/line(s) open. [T/S 1.34]	Operator enters 0846 in section C of Form 2 as the time that Operational Condition 4 was entered.		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Containment Atmosphere Control  
TASK: Purge the containment

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	5.2.3	Compute the total hours (to the nearest 0.01) for each open cycle.	Operator calculates the open cycle as 6.77 hours.		
	5.2.4	When the valve permit is no longer valid due to either the evolution is complete, <u>OR</u> mode change to Condition 4 has occurred, <u>OR</u> the day has ended total the hours that the valve(s)/line(s) were open (should be less than the time authorized in Section B of Form 2). [T/S 1.52]	Operator totals the hours that the valve(s)/line(s) were open. (6.77 hours)		
	5.2.5	The NCO performing the section C calculations should sign in the appropriate space and enter the time and date.	Operator signs the NCO performing calculations space in Section C.		
	5.2.6	The OS/CRS should verify the calculations, sign in the appropriate space for verification and close out and enter the time and date.	Operator hands the paper work to the OS/CRS.  <b>Examiner Cue: Sign and date the appropriate spaces and return to the operator.</b>		

OPERATOR TRAINING PROGRAM  
 JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

SYSTEM: Containment Atmosphere Control

TASK: Purge the containment

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.2.7	On Form 1, enter the name of the OS/CRS closing out the valve permit and the number of hours the valves were open on this permit. The NCO entering this information should initial in the appropriate space.  STOP TIME: _____	On Form 1, the operator enters the name of the OS/CRS closing out the valve permit and the number of hours the valves were open on this permit. Then initials in the appropriate space.		

**Terminating Cue:** Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete"

**FORM 1**

(This Form page 1 of 1)

**CONTAINMENT PREPURGE CLEANUP, INERTING, OR PRESSURE CONTROL VALVE PERMIT LOG**

DATE	HOURS PREV. YEAR (Note 1)	HOURS AUTH. THIS PERMIT	NAME OF SNSS/NSS AUTHORIZING THIS PERMIT	NCO INITIAL	HOURS USED THIS PERMIT	TOTAL HOURS PREVIOUS YEAR (Note 1)	NAME OF SNSS/NSS CLOSING THIS PERMIT	NCO INITIAL
7/3/02	22.46	24	H. Davidson	<i>SD</i>	5.24	27.46	A. West	<i>SD</i>
8/25/02	18.60	24	G. Washington	<i>TRW</i>	3.16	21.76	G. Clooney	<i>TRW</i>
8/30/02	21.76	24	O.W. Holmes	<i>R</i>	24.00	45.76	M. Keaton	<i>R</i>
8/31/02	45.76	24	B. Lee	<i>E</i>	2.58	48.34	V. Bono	<i>E</i>
Today	34.98	24	A. Jones	<i>JS</i>	6.77	41.75	Examiner's Name	Examinee's Initials

Note 1: The previous year includes the period from 2400 on today's date back to 0001 on the same date one year earlier.

Examiner's Copy  
FORM 2

(This Form page 1 of 1)

CONTAINMENT PREPURGE CLEANUP, INERTING, OR PRESSURE CONTROL VALVE PERMIT

SECTION A

Date: Today NOTE: This permit is valid only until 2400 of this date

Gaseous Effluent Permit #: 020030001

SECTION B

HOURS VALVES/LINES OPEN PREVIOUS YEAR (Note 1)

Calculate Total Hours Open During Previous Year (Note 1)

DATE	NUMBER OF HOURS
<u>7/3/02</u>	<u>5.24</u>
<u>8/25/02</u>	<u>3.16</u>
<u>8/30/02</u>	<u>24.00</u>
<u>8/31/02</u>	<u>2.58</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(1) Max. allowed for 365 days (admin limit)	<b>452 hrs</b>
(2) Total previous year (Note 1)	(-) <u>34.98</u>
Hours available this date (line 1 minus line 2 OR 24, whichever is less)	(=) <u>24</u>
Hours authorized this date (max 24 hours)	<u>24</u>

NCO performing calculation Date/Time

John Smith Today/0100

OS/CRS verification and authorization Date/Time

Andrew Jones Today/0130

SECTION C

VALVE/LINE OPEN TIME (Note 2)

START TIME	STOP TIME	TOTAL HOURS
Time at which valve/line was open or Condition 1, 2, or 3 was entered with valve/line open	Time at which valve/line was closed or Condition 4 or 5 was entered with valve/line opened	Total number of hours valve/line opened this cycle
<u>0200</u>	<u>0846</u>	<u>6.77</u>
_____	_____	_____
_____	_____	_____

Total number of hours valves/line open this permit: 6.77

NCO performing calculations \_\_\_\_\_ Examinee's Signature \_\_\_\_\_ Date/Time Today/Time

OS/CRS Closing permit \_\_\_\_\_ Examiner's Signature \_\_\_\_\_ Date/Time Today/Time

NOTE 1: The previous year includes the period from 2400 on today's date back to 0001 on the same date one year earlier.

NOTE 2: Completed Form 2 should be filed in the AP-104 binder in the control room.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

**INITIAL CONDITIONS:**

- 1. A plant shutdown is in progress for a Refueling outage.**
- 2. The Reactor is shutdown.**
- 3. At 0200 today Purging of the Primary Containment commenced.**
- 4. At 0846 today Operational Condition 4 was entered.**
- 5. At 1142 today the purge lineup was secured in accordance with HC.OP-SO.GS-0001, Containment Atmosphere Control System Operation.**

**INITIATING CUE:**

**Complete today's Containment Prepurge Cleanup, Inerting, Or Pressure Control Valve Permit and Log in accordance with HC.OP-AP.ZZ-0104.**

**TRAINING ONLY**  
**Examinee's Copy**  
**FORM 1**  
 (This Form page 1 of 1)

**CONTAINMENT PREPURGE CLEANUP, INERTING, OR PRESSURE CONTROL VALVE PERMIT LOG**

DATE	HOURS PREV. YEAR (NOTE 1)	HOURS AUTH. THIS PERMIT	NAME OF OS/CRS AUTHORIZING THIS PERMIT	NCO INITIAL	HOURS USED THIS PERMIT	TOTAL HOURS PREVIOUS YEAR (NOTE 1)	NAME OF OS/CRS CLOSING THIS PERMIT	NCO INITIAL
7/3/02	22.46	24	H. Davidson	<i>SD</i>	5.24	27.46	A. West	<i>SD</i>
8/25/02	18.60	24	G. Washington	<i>TRW</i>	3.16	21.76	G. Clooney	<i>TRW</i>
8/30/02	21.76	24	O.W. Holmes	<i>R</i>	24.00	45.76	V. Price	<i>R</i>
8/31/02	45.76	24	B. Lee	<i>E</i>	2.58	48.34	V. Bono	<i>E</i>
Today	34.98	24	A. Jones	<i>JS</i>				

Note 1: The previous year includes the period from 2400 on today's date back to 0001 on the same date one year earlier.

**FORM 2**  
(This Form page 1 of 1)

**CONTAINMENT PREPURGE CLEANUP, INERTING, OR PRESSURE CONTROL VALVE PERMIT**

**SECTION A**

Date: Today **NOTE:** This permit is valid only until 2400 of this date  
Gaseous Effluent Permit #: 020030001

**SECTION B**

**HOURS VALVES/LINES OPEN PREVIOUS YEAR (Note 1)**

Calculate Total Hours Open During Previous Year (Note 1)

DATE      NUMBER OF HOURS

<u>7/3/02</u>	<u>5.24</u>
<u>8/25/02</u>	<u>3.16</u>
<u>8/30/02</u>	<u>24.00</u>
<u>8/31/02</u>	<u>2.58</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

(1) Max. allowed for 365 days (admin limit)      **452 hrs**

(2) Total previous year (Note 1)      (-) 34.98

Hours available this date (line 1 minus line 2 OR 24, whichever is less)      (=) 24

Hours authorized this date (max 24 hours)      **24**

NCO performing calculation      Date/Time

John Smith      Today/0100

OS/CRS verification and authorization      Date/Time

Andrew Jones      Today/0130

**SECTION C**

**VALVE/LINE OPEN TIME (Note 2)**

**START TIME**

**STOP TIME**

**TOTAL HOURS**

Time at which valve/line was open or Condition 1, 2, or 3 was entered with valve/line open

Time at which valve/line was closed or Condition 4 or 5 was entered with valve/line opened

Total number of hours valve/line opened this cycle

<u>0200</u>	_____	_____
_____	_____	_____
_____	_____	_____

Total number of hours valves/line open this permit: \_\_\_\_\_

NCO performing calculations \_\_\_\_\_ Date/Time \_\_\_\_\_

OS/CRS Closing permit \_\_\_\_\_ Date/Time \_\_\_\_\_

**NOTE 1:** The previous year includes the period from 2400 on today's date back to 0001 on the same date one year earlier.

**NOTE 2:** Completed Form 2 should be filed in the AP-104 binder in the control room.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

STATION: HOPE CREEK  
SYSTEM: Emergency/ECG/E-Plan/Fire & Medical  
TASK: Complete the Operational Status Board-Hope Creek  
TASK NUMBER:  
JPM NUMBER: ROA.4

ALTERNATE PATH:

K/A NUMBER: 2.4.39  
IMPORTANCE FACTOR: 3.3  
RO SRO

APPLICABILITY: EO  RO  STA  SRO  LSRO

EVALUATION SETTING/METHOD: Simulator/Perform

REFERENCES: Hope Creek Event Classification Guide, Attachment 8, Rev.: 8

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 6 Minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:

1. Permission from the OS or Unit CRS;
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME:          Minutes

ACTUAL TIME CRITICAL COMPLETION:          N/A

JPM PERFORMED BY:                                  GRADE:  SAT  UNSAT

REASON, IF UNSATISFACTORY:

EVALUATOR'S SIGNATURE:                                  DATE:

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** Emergency/ECG/E-Plan/Fire & Medical

**TASK:** Perform the Licensed Operator Review of the Operational Status Board-  
Hope Creek

**TASK NUMBER:**

**INITIAL CONDITIONS:**

1. A small LOCA has occurred.
2. The plant was scrammed approximately 20 minutes ago.
3. Operator actions were taken IAW the Emergency Operating Procedures, HC.OP-EO.ZZ-0101, RPV Control, and HC.OP-EO.ZZ-0102, Primary Containment Control
4. An alert was declared approximately 10 minutes ago. (See Attached ICMF.)

**INITIATING CUE:**

Complete the Operational Status Board-Hope Creek in accordance with ECG Attachment 8, Step B.2.

**Successful Completion Criteria:**

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Emergency/ECG/E-Plan/Fire & Medical

TASK: Perform the Licensed Operator Review of the Operational Status Board-Hope Creek

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	2.	START TIME: _____ <u>IF</u> requested by the TSC, <u>THEN COMPLETE</u> the <b>Operational Status Board (OSB)</b> Form every 15 minutes; (TSS may modify the frequency or data list as appropriate)  STOP TIME: _____	Operator should use CRIDS page 232 for Sections I – IV, although hard wire indications may be used instead, and uses the ICMF for Section V.  <b>Examiner Note:</b> Some hard wire values are obtainable from more than one indicator. Due to differences in indicators, it is not critical to get an exact value. Values, however, should be approximately as noted.  <b>Examiner Note:</b> Operator identifies the modes of RHR/LPCI FLOW A and RHR/LPCI FLOW B in step II.A <b>are NOT LPCI(CRITICAL).</b>  <ul style="list-style-type: none"> <li>• RHR/LPCI FLOW A = Pool Cooling(SPC) [Pool Spray(SPS) may also be noted]</li> <li>• RHR/LPCI FLOW B = Drywell Spray</li> </ul> <b>Examiner Note:</b> The operator may initial the appropriate space on the OSB. This is not critical.		

**Terminating Cue:** Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete"

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

Reset Simulator to a low power IC.

Set CRIDS points:

A208 and A210 to 0

B5040 to 78.3

B5019 to 424.770

B6033 to 453.898

Insert RR31A2 @ 10%

Take scram actions

Restore level to above 0 inches

Close MSIVs @ approx. 550 psig

Line up A RHR in SPC/SPS

Line up B RHR in Drywell Spray

Secure A-D Core Spray Pumps & C-D RHR pumps

Freeze simulator when stable and level is 12.5-54 inches

**TRAINING ONLY**  
**Examiner's Copy**

OSB

**OPERATIONAL STATUS BOARD - HOPE CREEK**

ECG  
ATT 8  
Pg. 6 of 9

- NOTE: 1) IF REQUESTED, TRANSMIT THIS FORM TO GROUP C (TSC AND EOF) EVERY 15 MINUTES.  
2) PROVIDE A COPY TO THE OSC COORDINATOR.  
3) SEE CRIDS PAGE 232 FOR DATA.

CRIDS pg 232

DATE: \_\_\_\_\_ Today's Date

TIMES (24-HOUR CLOCK)			Time				
I.	BALANCE OF PLANT	INST E PLAN	UNITS				Hard Wire
	A. CST LEVEL	(1)	X 10 <sup>4</sup> GAL	27.7			27.7
	B. CONDENSER PRESSURE	(2)	IN. HGa	8.53			8
	C. RCIC FLOW	(3)	GPM	0			0
	D. FEED FLOW	(4)	MLB/HR	0			0
II.	ECCS						
	A. RHR FLOW-A	(5)	GPM	10651			10696
	Mode (LPCI, S/D Cooling, Drywell Spray, Pool Cooling)			SPC/SPS			SPC/SPS
	RHR FLOW-C	(5)	GPM	0			4
	RHR FLOW-B	(6)	GPM	11602			11627
	Mode (LPCI, S/D Cooling, Drywell Spray, Pool Cooling)			Drywell Spray			Drywell Spray
	RHR FLOW-D	(6)	GPM	0			2
	B. HPCI PUMP FLOW	(7)	GPM	4644.5			4500
	C. CORE SPRAY FLOW-A	(8)	GPM	0			0
	CORE SPRAY FLOW-B	(9)	GPM	0			0
	D. SRV (OPEN) STATUS	(10)	# OPEN	0			0
III.	RX COOLANT SYSTEM						
	A. POWER	(11-16)	% or CPS	0%			0%, 4E4 or 5E4 cps
	B. WATER LEVEL	(17,20,21,22)	IN.	10.26			10, 9.7, 8, or 6
	C. PRESSURE	(18,19)	PSIG	424.77			423, or 424
	D. TEMPERATURE	(23)	DEGREES F	453.9			458
	E. RECIRC FLOW - A LOOP	(24)	X 10 <sup>3</sup> GPM	0.00			0.042
	RECIRC FLOW - B LOOP	(24)	X 10 <sup>3</sup> GPM	0.00			0.012
	F. JET PUMP FLOW (TOTAL)	(25)	MLB/HR	6.97			7.11
IV.	CONTAINMENT						
	A. DRYWELL PRESSURE	(26,27)	PSIG	1.71			1, or 2
	TEMPERATURE	(28,29)	DEGREES F	130.8			128.9
	H2 CONC.	(30,31)	%	0			0
	O2 CONC.	(30,31)	%	2.67			2.6
	B. SUPP. CHAMBER PRESS.	(26,27)	PSIG	1.81			1.81, 1.71, 1, or 2
	AIR TEMPERATURE	(28,29)	DEGREES F	92.32			91, or 92
	WATER LEVEL	(32)	IN.	78.3			78.3
	WATER TEMPERATURE	(33,34)	DEGREES F	95.24			96, or 95
	C. RX BLDG. DELTA P	(35,36)	IN. H <sub>2</sub> O	-0.55			-0.56
V.	SSCL						
	A. OFFSITE POWER AVAILABLE?		YES/NO	Yes			Yes
	B. 3 OR MORE DG'S AVAILABLE?		YES/NO	Yes			Yes
	C. DID ANY ECCS ACTUATE?		YES/NO	Yes			Yes
	D. IS THE PRIMARY CONTAINMENT BARRIER FAILED?		YES/NO	No			No
	LICENSED OPERATOR REVIEW		INITIALS:				
	OTHER SIGNIFICANT ITEMS						

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

**INITIAL CONDITIONS:**

1. A small LOCA has occurred.
2. The plant was scrammed approximately 20 minutes ago.
3. Operator actions were taken IAW the Emergency Operating Procedures, HC.OP-EO.ZZ-0101, RPV Control, and HC.OP-EO.ZZ-0102, Primary Containment Control
4. An alert was declared approximately 10 minutes ago. (See Attached ICMF.)

**INITIATING CUE:**

**Complete the Operational Status Board-Hope Creek in accordance with ECG Attachment 8, Step B.2.**

**TRAINING ONLY**

**Operational Information**

HOPE CREEK GENERATING STATION Message Date Today Time 10 Min. ago

Transmitted By: Name John Smith Position CMI  
(CR/TSC/EOF)

1. Date and Time Event Declared: Date Today Time 10 Min. ago (24 hr clock)

2. Event Classification:  Unusual Event  Site Area Emergency  
 Alert  General Emergency

3. Cause of Event: Primary Initiating Condition used for declaration

EAL #(s) 3.2.2.b

Description of the event Loss of Reactor Coolant System Boundary

4. Status of Reactor:  Scrammed/Time 20 Min. ago  At Power  
 Startup  Hot Shutdown  Cold Shutdown  Refuel

5. Rx Pressure 425 psig Rx Temp 450 °F Rx Water Level 7 in.

6. Is offsite power available?  YES  NO

7. Are three or more diesel generators available?  YES  NO

8. Did any Emergency Core Cooling Systems actuate?  YES  NO

9. Is the Containment barrier failed? (Loss per EAL section 3.3)  YES  NO

10. Other pertinent information \_\_\_\_\_

APPROVED: JS  
(EC) or TSS or SSM

**TRAINING ONLY**  
**Examinee's Copy**

OSB

**OPERATIONAL STATUS BOARD - HOPE CREEK**

ECG  
ATT 8  
Pg. 6 of 9

NOTE: 1) IF REQUESTED, TRANSMIT THIS FORM TO GROUP C (TSC AND EOF) EVERY 15 MINUTES.  
2) PROVIDE A COPY TO THE OSC COORDINATOR.  
3) SEE CRIDS PAGE 232 FOR DATA.

DATE: \_\_\_\_\_

**TIMES (24-HOUR CLOCK)**

I. BALANCE OF PLANT	INST E PLAN	UNITS				
A. CST LEVEL	(1)	X 10 <sup>4</sup> GAL				
B. CONDENSER PRESSURE	(2)	IN. HGa				
C. RCIC FLOW	(3)	GPM				
D. FEED FLOW	(4)	MLB/HR				
II. ECCS						
A. RHR FLOW-A	(5)	GPM				
Mode (LPCI, S/D Cooling, Drywell Spray, Pool Cooling)						
RHR FLOW-C	(5)	GPM				
RHR FLOW-B	(6)	GPM				
Mode (LPCI, S/D Cooling, Drywell Spray, Pool Cooling)						
RHR FLOW-D	(6)	GPM				
B. HPCI PUMP FLOW	(7)	GPM				
C. CORE SPRAY FLOW-A	(8)	GPM				
CORE SPRAY FLOW-B	(9)	GPM				
D. SRV (OPEN) STATUS	(10)	# OPEN				
III. RX COOLANT SYSTEM						
A. POWER	(11-16)	% or CPS				
B. WATER LEVEL	(17,20,21,22)	IN.				
C. PRESSURE	(18,19)	PSIG				
D. TEMPERATURE	(23)	DEGREES F				
E. RECIRC FLOW - A LOOP	(24)	X 10 <sup>3</sup> GPM				
RECIRC FLOW - B LOOP	(24)	X 10 <sup>3</sup> GPM				
F. JET PUMP FLOW (TOTAL)	(25)	MLB/HR				
IV. CONTAINMENT						
A. DRYWELL PRESSURE	(26,27)	PSIG				
TEMPERATURE	(28,29)	DEGREES F				
H2 CONC.	(30,31)	%				
O2 CONC.	(30,31)	%				
B. SUPP. CHAMBER PRESS.	(26,27)	PSIG				
AIR TEMPERATURE	(28,29)	DEGREES F				
WATER LEVEL	(32)	IN.				
WATER TEMPERATURE	(33,34)	DEGREES F				
C. RX BLDG. DELTA P	(35,36)	IN. H <sub>2</sub> O				
V. SSCL						
A. OFFSITE POWER AVAILABLE?		YES/NO				
B. 3 OR MORE DG'S AVAILABLE?		YES/NO				
C. DID ANY ECCS ACTUATE?		YES/NO				
D. IS THE PRIMARY CONTAINMENT BARRIER FAILED?		YES/NO				

LICENSED OPERATOR REVIEW INITIALS: \_\_\_\_\_  
OTHER SIGNIFICANT ITEMS \_\_\_\_\_

ADMINISTRATIVE TOPICS

Facility: <u>HOPE CREEK</u>	Date of Examination: <u>6/16/03</u>
Examination Level: <input type="checkbox"/> RO <input checked="" type="checkbox"/> SRO	Operating Test Number: _____
TOPIC: <u>A.1-1</u>	QUESTION: <u>1</u>
Subject Description: Plant Parameter Verification	
K/A: 2.1.25 Ability to obtain and interpret station reference materials such as graphs/monographs/and tables which contain data. (3.1)	
DESCRIPTION: Given plant conditions, what is the highest recommended 00K107 discharge pressure that gives reasonable assurance of avoiding surge conditions. (New)	
<b>QUESTION:</b>	
Given the following:	
<ul style="list-style-type: none"><li>• Outside air temperature is 90F</li></ul>	
What is the highest recommended 00K107 discharge pressure that gives reasonable assurance of avoiding surge conditions?	
<b>ANSWER:</b> Reference HC.OP-SO.KA-0001, Service Air System Operation, Attachment 3.	
109 psig	

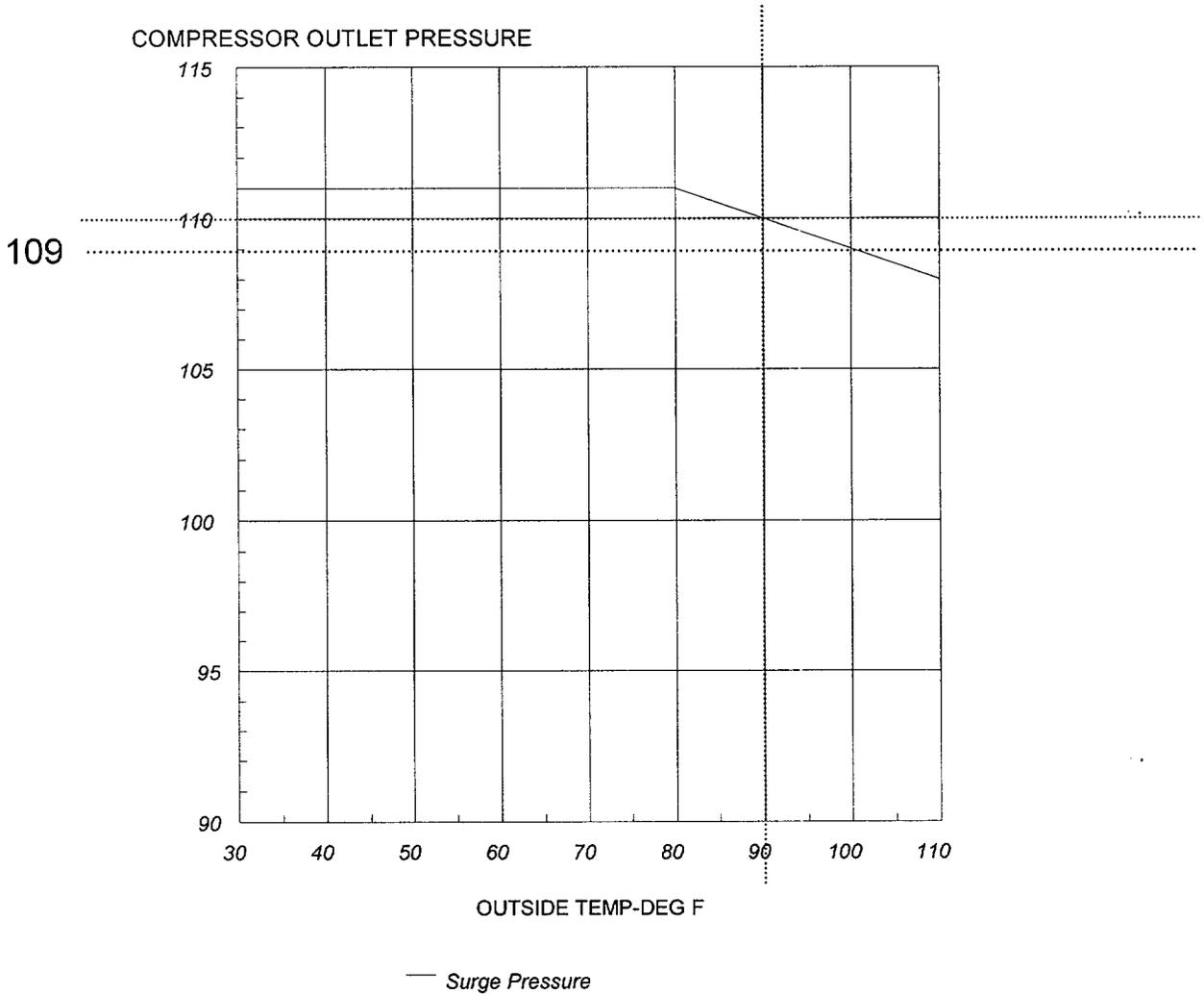
ATTACHMENT 3

(Page 1 of 1)

DISCHARGE PRESSURE VERSUS TEMPERATURE CURVE

00-K-107 and 10-K-107

SURGE AVOIDANCE CURVE\*



Surge point depends on machine condition and atmospheric conditions as well as system demand. Staying below the line gives reasonable assurance of avoiding surge. At least one psig (1 psig) below the line is recommended for operation above 80°F outside temperature.

## ADMINISTRATIVE TOPICS

**Given the following:**

- **Outside air temperature is 90F**

**What is the highest recommended 00K107 discharge pressure that gives reasonable assurance of avoiding surge conditions?**

ADMINISTRATIVE TOPICS

Facility: HOPE CREEK Date of Examination: 6/16/03  
Examination Level:  RO  SRO Operating Test Number: \_\_\_\_\_

TOPIC: A.1-1 QUESTION: 2

Subject Description: Plant Parameter Verification

K/A: 2.1.25 Ability to obtain and interpret station reference materials such as graphs/monographs/and tables which contain data. (3.1)

DESCRIPTION: Given plant conditions, determine the Reactor Temperature at which a HPCI high RPV Level 8 Trip occurs during a Reactor cooldown. (New)

**QUESTION:**

Given the following:

- The reactor is shutdown
- Reactor Pressure is 920 psig
- Reactor Water Level is 35 inches
- DFCS Level Control Setpoint is set at 35 inches
- A plant cooldown is required

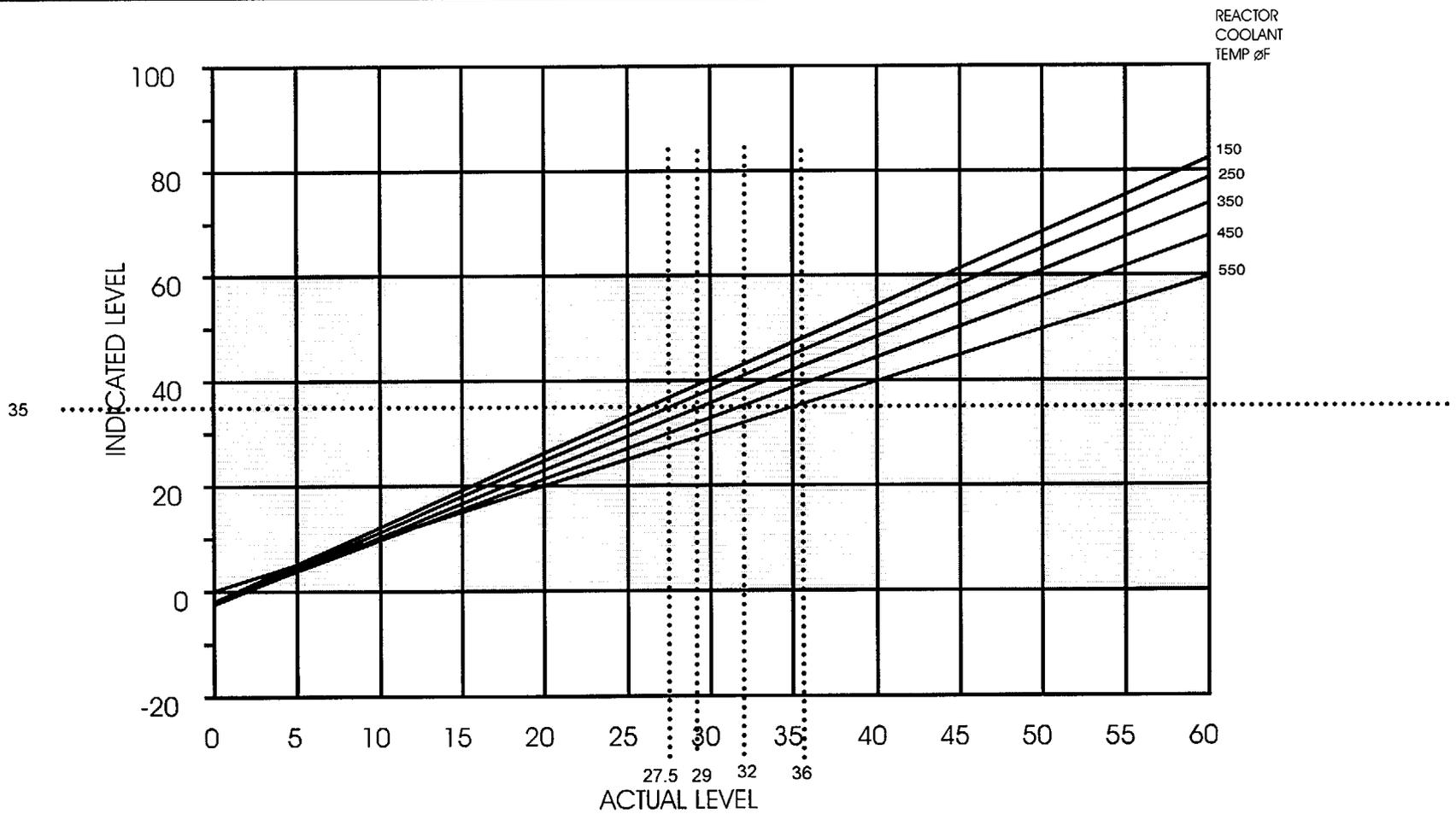
At what temperature during a cooldown would you expect the HPCI System to receive an RPV Level 8 trip?

**ANSWER:** Reference HC.OP-IO.ZZ-0004, Shutdown From Rated Power To Cold Shutdown, Attachment 7.

450F (+25F)

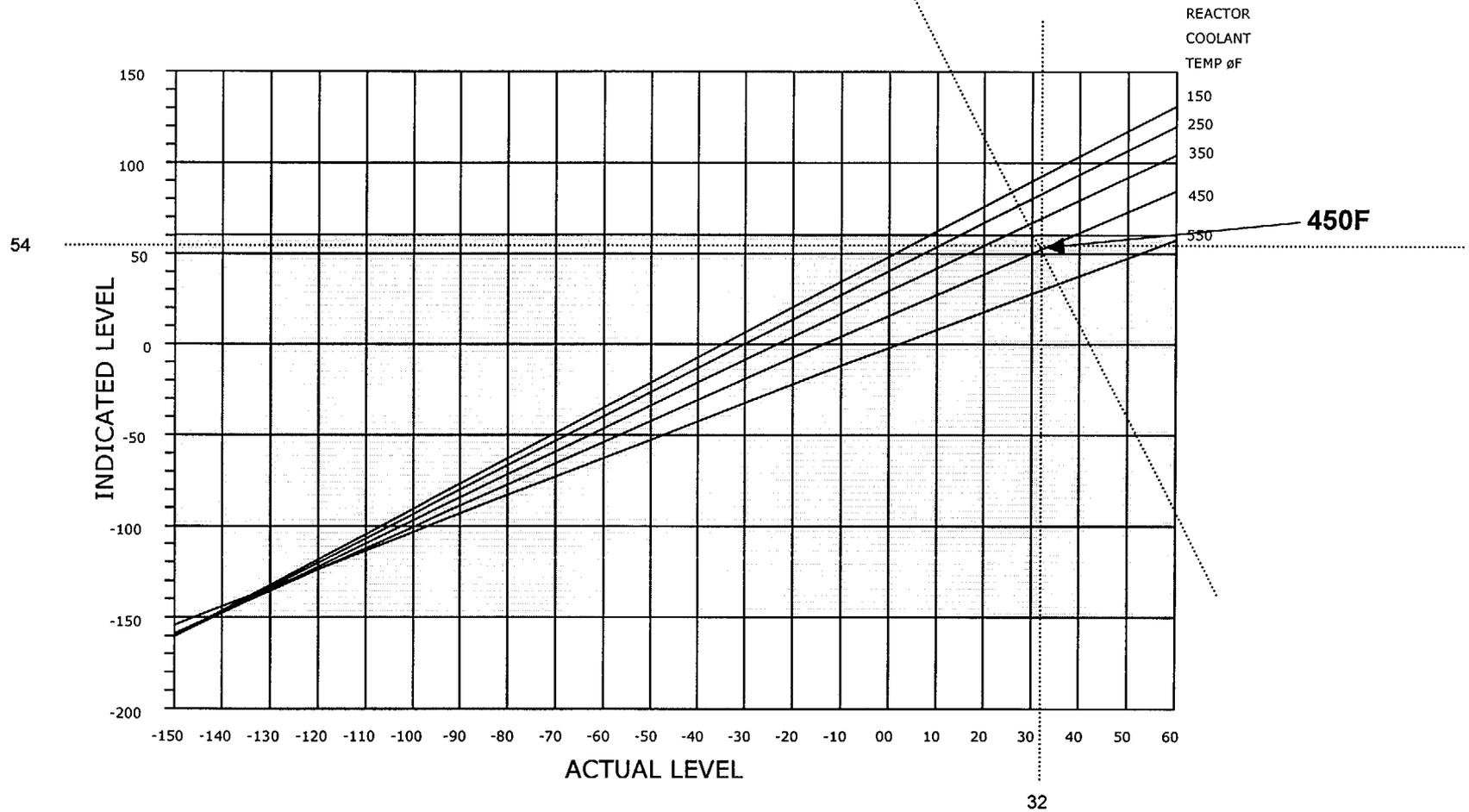
ADMINISTRATIVE TOPICS  
ATTACHMENT 7  
(Page 1 of 4)  
VESSEL LEVEL INSTRUMENTATION TEMPERATURE  
COMPENSATION CURVES

NARROW RANGE LEVEL  
TEMPERATURE COMPENSATION  
GRAY AREA - INDICATED LEVEL RANGE



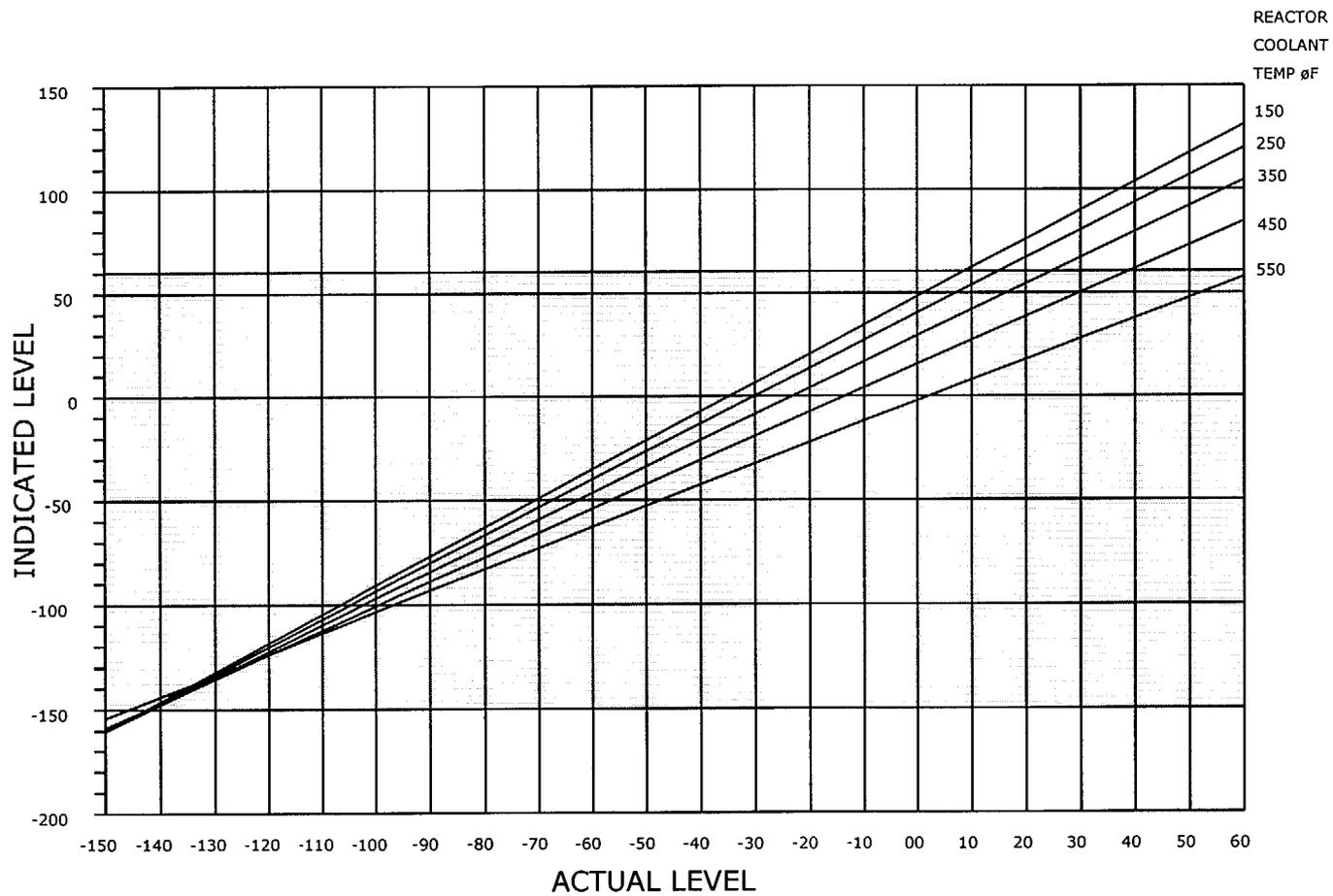
ADMINISTRATIVE TOPICS  
ATTACHMENT 7  
(Page 2 of 4)  
VESSEL LEVEL INSTRUMENTATION TEMPERATURE  
COMPENSATION CURVES

WIDE RANGE LEVEL  
TEMPERATURE COMPENSATION  
GRAY AREA - INDICATED LEVEL RANGE



ATTACHMENT 7  
(Page 2 of 4)  
VESSEL LEVEL INSTRUMENTATION TEMPERATURE  
COMPENSATION CURVES

WIDE RANGE LEVEL  
TEMPERATURE COMPENSATION  
GRAY AREA - INDICATED LEVEL RANGE

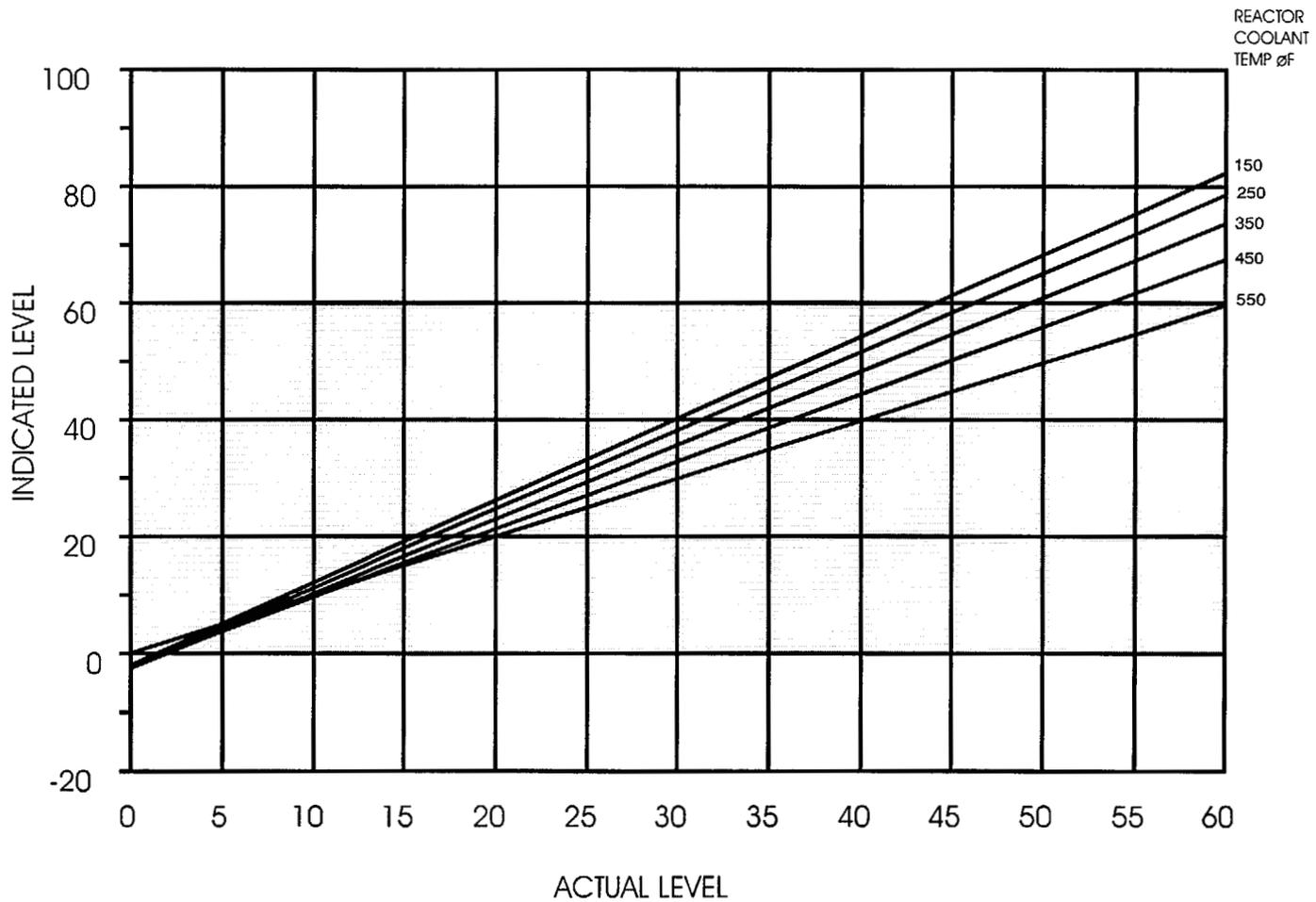


ATTACHMENT 7

(Page 1 of 4)

VESSEL LEVEL INSTRUMENTATION TEMPERATURE  
COMPENSATION CURVES

NARROW RANGE LEVEL  
TEMPERATURE COMPENSATION  
GRAY AREA - INDICATED LEVEL RANGE



## ADMINISTRATIVE TOPICS

Given the following:

- The reactor is shutdown
- Reactor Pressure is 920 psig
- Reactor Water Level is 35 inches
- DFCS Level Control Setpoint is set at 35 inches
- A plant cooldown is required

At what temperature during a cooldown would you expect the HPCI System to receive an RPV Level 8 trip?

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

STATION: HOPE CREEK  
SYSTEM: Administrative Duties/Shift Supervision  
TASK: Ensure The Operating Shift Is Adequately Manned  
TASK NUMBER: 2990750302  
JPM NUMBER: SROA.1-2

ALTERNATE PATH:

K/A NUMBER: 2.1.5  
IMPORTANCE FACTOR: 

RO	SRO
	3.4

APPLICABILITY: EO  RO  STA  SRO  LSRO

EVALUATION SETTING/METHOD: Control Room(Simulator)/Perform

REFERENCES: NC.NA-AP.ZZ-0005(Q), Rev 12

TOOLS AND EQUIPMENT: None

VALIDATED JPM COMPLETION TIME: 10 Minutes

TIME PERIOD IDENTIFIED FOR TIME CRITICAL STEPS: N/A

**CAUTION:** No plant equipment shall be operated during the performance of a JPM without the following:  
1. Permission from the OS or Unit CRS;  
2. Direct oversight by a qualified individual (determined by the individual granting permission based on plant conditions).  
3. Verification of the "as left" condition by a qualified individual.

ACTUAL JPM COMPLETION TIME: \_\_\_\_\_ Minutes  
ACTUAL TIME CRITICAL COMPLETION: \_\_\_\_\_ N/A  
JPM PERFORMED \_\_\_\_\_ GRADE:  SAT  UNSAT  
REASON, IF UNSATISFACTORY: \_\_\_\_\_  
EVALUATOR'S SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** Administrative Duties/Shift Supervision

**TASK:** Ensure The Operating Shift Is Adequately Manned

**TASK NUMBER:** 2990750302

**INITIAL CONDITIONS:**

The following Hope Creek Generating Station working hour history is given for an on-coming crew. The hours worked are in the Main Control Room during Operational Condition 1.

Date	CRS	RO	PO
1/28	12 hours-Days	12 hours-Days	12 hours-Days
1/29	12 hours-Days	OFF	OFF
1/30	12 hours-Days	OFF	OFF
1/31	OFF	12 hours-Days	OFF
2/1	12 hours-Days	12 hours-Days	OFF
2/2	12 hours-Days	12 hours-Days	12 hours-Days
2/3	12 hours-Days	12 hours-Days	12 hours-Days
2/4	12 hours-Days	12 hours-Days	12 hours-Days
2/5	12 hours-Days	12 hours-Days	12 hours-Days

The crew is scheduled to work Dayshift today, 2/6.

**INITIATING CUE:**

Evaluate the working hour history for the personnel above and determine whether each individual can work a full dayshift of 12 hours.

**Successful Completion Criteria:**

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Shift Supervision  
TASK: Ensure The Operating Shift Is Adequately Manned

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains procedure NC.NA-AP.ZZ-0005	Operator determines the correct procedure.		
	5.10	<b><u>Working Hour Guidelines</u></b>  START TIME: _____	Operator determines correct beginning step to be 5.10.4.  <b>Examiner Note:</b> The operator may read 5.10.1-5.10.3.		
*	5.10.4	In the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major unit modifications, on a temporary basis the following guidelines shall be followed by - Licensed Senior Reactor Operators, Licensed Reactor Operators, Radiation Protection Technicians, Equipment Operators, Chemistry Technicians, and Key Maintenance Personnel (See Definition 7.3)  Reference: Technical Specification 6.2.2	Determines limitations applicable to CRS, RO, and PO.		

OPERATOR TRAINING PROGRAM  
 JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Shift Supervision  
 TASK: Ensure The Operating Shift Is Adequately Manned

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		<ul style="list-style-type: none"> <li>An individual should not be permitted to work more than 16 hours straight (excluding shift turnover time).</li> </ul>	Verifies individual has not worked more than 16 hours straight.		
*		<ul style="list-style-type: none"> <li>An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any seven day period (all excluding shift turnover time).</li> </ul>	Operator assesses the hours worked and to be worked, and concludes the following: <ul style="list-style-type: none"> <li>*The <b>CRS and PO may work</b> the entire 12-hour Dayshift of 2/6.</li> <li>*<b>The RO may not work</b> the shift because the next hour worked will result in the RPO exceeding 72 hours in any 7-day period.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>*<b>All may work provided a Working Hour Deviation/Authorization Form is processed and approved for the RO before the overtime.</b></li> </ul> <p><b>Examiner Cue: If asked if another RO is available, state that another RO is not available.</b></p> <p><b>Examiner Cue: Take the required actions to allow the identified individual(s) to work.</b></p>		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Shift Supervision  
TASK: Ensure The Operating Shift Is Adequately Manned

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		<ul style="list-style-type: none"> <li>• A break of at least eight hours should be allowed between work periods (including shift turnover time).</li> </ul>	Operator determines that at least eight hours has lapsed between work periods.		
		<ul style="list-style-type: none"> <li>• Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on shift.</li> </ul>	Operator considers each overtime condition on an individual basis.		
	5.10.3	<p>PRIOR TO performance of overtime in excess of the guidelines listed in step 5.10.4, authorization shall be obtained from the Department Manager and the Director - Operations (In the event that the Director - Operations is unavailable to provide this approval the "Director - Operations" approval should only be delegated upward to a VP level position.</p>	<p><b>Examiner Cue: If the operator asks if a Working Hour Guideline Deviation/Authorization FORM - 1 has already been approved, state that none has been approved.</b></p> <p>Operator determines FORM-1 is required.</p> <p><b>Examiner Note:</b> Once operator determines FORM-1 is required, provide blank copy of FORM-1 to operator.</p> <p><b>Examiner Cue: If operator asks when the next scheduled day off is, state 2/7.</b></p> <p><b>EXAMINER CUE: Your examiner will provide any approvals required.</b></p>		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Shift Supervision  
TASK: Ensure The Operating Shift Is Adequately Manned

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*		<p>Authorization shall be documented on Form - 1, Working Hour Guideline Deviation / Authorization. Approvals may be obtained by telecon as follows:</p> <ul style="list-style-type: none"> <li>• Sign for the approval authority Document the statement "per telecon"</li> <li>• Record the name of the individual granting approval.</li> <li>• Record the time and date the approval was received.</li> <li>• Completed forms should be retained by the initiating department (Time Administrator) and made available for NRC</li> </ul>	<p>* Operator completes FORM – 1. <b>EXAMINER NOTE:</b> See attached FORM – 1 Key. Critical data marked with an * (Asterisk) <b>Examiner Note:</b> Role play as the Department Manager and the Director – Operations.</p>		
		STOP TIME: _____			

**Terminating Cue:** Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete".

**TRAINING ONLY  
EXAMINER'S COPY**

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NC.NA-AP.ZZ-0005(Q)**

**FORM - 1  
WORKING HOUR GUIDELINE DEVIATION / AUTHORIZATION  
(Page 1 of 1)**

**Working Hour Guideline Deviation / Authorization Code Table**

<b>Guideline Code</b>	<b>Description</b>
1	More than 16 hours in a work period
2	More than 16 hours in a 24 hour period
3	More than 24 hours in a 48 hour period
4	More than 72 hours in any seven day period
5	Less than 8 hours off between work periods

<b>NAME</b>	<b>Code</b>	<b>Justification</b>	<b>Last Scheduled Day Off</b>	<b>Next Scheduled Day Off</b>
<b>*RO</b>	<b>*4</b>	<b>Meet minimum Main Control Room manning requirements for Operation Condition 1</b>	<b>*1/30</b>	<b>2/7</b>

<b>Candidate's Signature</b>	<b>2/6</b>	<b>Candidate's Printed Name</b>
_____ Requesting Supervisor (sign)	_____ Date	_____ Requesting Supervisor (print).
_____ Department Manager (sign)	_____ Date	_____ Department Manager (print)
_____ Director - Operations (sign)	_____ Date	_____ Director - Operations (print)

**NOTE** In the event that the Director - Operations is unavailable to provide this approval the "Director - Operations" approval should only be delegated upward to a VP level position.

**TRAINING ONLY  
EXAMINEE'S COPY**

**OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE**

**NC.NA-AP.ZZ-0005(Q)**

**FORM - 1  
WORKING HOUR GUIDELINE DEVIATION / AUTHORIZATION  
(Page 1 of 1)**

**Working Hour Guideline Deviation / Authorization Code Table**

<b>Guideline Code</b>	<b>Description</b>
1	More than 16 hours in a work period
2	More than 16 hours in a 24 hour period
3	More than 24 hours in a 48 hour period
4	More than 72 hours in any seven day period
5	Less than 8 hours off between work periods

<b>NAME</b>	<b>Code</b>	<b>Justification</b>	<b>Last Scheduled Day Off</b>	<b>Next Scheduled Day Off</b>

Requesting Supervisor (sign)	Date	Requesting Supervisor (print)
Department Manager (sign)	Date	Department Manager (print)
Director - Operations (sign)	Date	Director - Operations (print)

**NOTE** In the event that the Director - Operations is unavailable to provide this approval the "Director - Operations" approval should only be delegated upward to a VP level position.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

**INITIAL CONDITIONS:**

The following Hope Creek Generating Station working hour history is given for an on-coming crew. The hours worked are in the Main Control Room during Operational Condition 1.

Date	CRS	RO	PO
1/28	12 hours-Days	12 hours-Days	12 hours-Days
1/29	12 hours-Days	OFF	OFF
1/30	12 hours-Days	OFF	OFF
1/31	OFF	12 hours-Days	OFF
2/1	12 hours-Days	12 hours-Days	OFF
2/2	12 hours-Days	12 hours-Days	12 hours-Days
2/3	12 hours-Days	12 hours-Days	12 hours-Days
2/4	12 hours-Days	12 hours-Days	12 hours-Days
2/5	12 hours-Days	12 hours-Days	12 hours-Days

The crew is scheduled to work Dayshift today, 2/6.

**INITIATING CUE:**

Evaluate the working hour history for the personnel above and determine whether each individual can work a full dayshift of 12 hours.



OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** Administrative Duties/Work Control

**TASK:** Review Operations Department Tests for Completeness and Compliance with Acceptance Criteria

**TASK NUMBER:** 2990060302

**INITIAL CONDITIONS:**

1. HC.OP-IS.BC-0003, BP202, B Residual Heat Removal Pump In-Service Test, has just been completed.

**INITIATING CUE:**

Perform the CRS review of the completed HC.OP-IS.BC-0003.

**Successful Completion Criteria:**

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Work Control

TASK: Review Operations Department Tests for Completeness and Compliance with Acceptance Criteria

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
	5.41	<b>SUBMIT</b> the procedure to the OS/CRS for review <u>AND</u> completion of Attachment 1.	Submit the procedure for review and completion of Attachment 1.		
		Operator determines beginning step of the procedure.	Operator determines correct beginning step to be 2.0.		
		START TIME: _____			
	2.1	The data acquired during the performance of this test has been reviewed for completeness and compliance with Technical Specification 4.0.5, 4.5.1.b.2, 4.6.2.3.b, 4.6.2.2.b, and 4.3.7.4 and the test is considered:	Operator reviews the data entered for completeness and compliance with Technical Specifications.  The operator determines: that the following conditions are abnormal, and the required actions for the abnormalities.		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Work Control

TASK: Review Operations Department Tests for Completeness and Compliance with Acceptance Criteria

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*			<p>Operator determines that the Delta Pressure recorded on Attachment 3, Steps 5.21.4.B and C, for the pump is incorrect:</p> <ul style="list-style-type: none"> <li>• A math error was made</li> <li>• Determines that the pressure is outside the Acceptance Range</li> </ul> <p><b>EXAMINER CUE: Make the necessary corrections and continue with the review.</b></p> <ul style="list-style-type: none"> <li>• Corrects the error</li> <li>• Changes the SAT to UNSAT</li> </ul>		
	2.1.2	<p>UNSATISFACTORY AND as necessary, the T/S ACTION statement has been implemented. <b>TAKE</b> action IAW NC.NA-AP.ZZ-0070(Q), In-Service Testing Programs</p>	<p>Operator completes the review. Notes that NOT all data was SAT and/or ALERT and signs in Step 2.1.2, and determines that actions must be taken in accordance with NC.NA-AP.ZZ-0070.</p>		

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Work Control

TASK: Review Operations Department Tests for Completeness and Compliance with Acceptance Criteria

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		NC.NA-AP.ZZ-0070(Q)			
*	5.6 5.6.1  5.6.2	<p>Test Results – Required Action Limit</p> <p>Components shall be declared inoperable and the associated action statement applied whenever the Required Action Range is exceeded as specified in the applicable surveillance test procedure. For pumps, if the obvious cause of the test results exceeding the Required Action Range is a faulty instrument, the pump may be considered operable. The faulty instrument shall be repaired/replaced and the pump promptly retested <b>[CD-973F]</b></p> <p>The OS/CRS shall document the inoperable component in accordance with WMAP-0.</p>	<p>Operator determines that:</p> <ul style="list-style-type: none"> <li>• BP202 RHR Pump must be declared INOPERABLE</li> <li>• A NOTF must be initiated.</li> </ul> <p><b>Examiner Cue: A Notification has been written.</b></p> <p><b>Examiner Note:</b> It is critical that the pump be declared INOPERABLE.</p>		
		STOP TIME: _____			

**Terminating Cue:** Repeat back message from the operator on the status of the JPM, and then state "This JPM is complete".

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

**INITIAL CONDITIONS:**

1. **HC.OP-IS.BC-0003, BP202, B Residual Heat Removal Pump In-Service Test, has just been completed.**

**INITIATING CUE:**

**Perform the CRS review of the completed HC.OP-IS.BC-0003.**

Facility: HOPE CREEK Date of Examination: 6/16/03  
 Examination Level:  RO  SRO Operating Test Number: \_\_\_\_\_

TOPIC: A.3-1 QUESTION: 1

Subject Description: Plant Parameter Verification

K/A: 2.3.4 Knowledge of radiation exposure limits and contamination control, including permissible levels in excess of those authorized. (3.0)

DESCRIPTION: Given an emergency condition, determine allowable stay times. (Bank)

**QUESTION:**

An Unusual Event has been declared due to a Seismic Event that was felt by personnel within the Protected Area. Actions are being taken in accordance with HC.OP-AB.MISC-0001 and the Emergency Plan. The Reactor Building Equipment Operator (EO) is to be sent into the RWCU Pipe Chase to determine the conditions of the piping within this area. The EO's current year exposure is 1980 mrem, TEDE. The evolution is projected to take 30 minutes, in an area where the general area dose rate is 250 mrem/hr.

Can you send the EO to perform the task without the operator exceeding any administrative dose limit, and what is the basis for your decision?

**ANSWER:**

No. The expected dose received would cause the operator to exceed the administrative limit of 2000 mrem TEDE per year. The EO's expected yearly dose would be:

$$1980 + 30/60(250) = 2105 \text{ mrem}$$

[To exceed the 2000 mrem/yr limit the Radiation Protection Supervisor's permission is required. (NOT required for answer.)]

[Note: ERO personnel are automatically extended to 4500 mrem at an ALERT or higher. (NOT required for answer.)]

Reference: NC.NA-AP.ZZ-0024, Radiation Protection Program

**QUESTION:**

**An Unusual Event has been declared due to a Seismic Event that was felt by personnel within the Protected Area. Actions are being taken in accordance with HC.OP-AB.MISC-0001 and the Emergency Plan. The Reactor Building Equipment Operator (EO) is to be sent into the RWCU Pipe Chase to determine the conditions of the piping within this area. The EO's current year exposure is 1980 mrem, TEDE. The evolution is projected to take 30 minutes, in an area where the general area dose rate is 250 mrem/hr.**

**Can you send the EO to perform the task without the operator exceeding any administrative dose limit, and what is the basis for your decision?**

Facility: <u>HOPE CREEK</u>	Date of Examination: <u>6/16/03</u>
Examination Level: <input type="checkbox"/> RO <input checked="" type="checkbox"/> SRO	Operating Test Number: _____
TOPIC: <u>A.3-1</u>	QUESTION: <u>2</u>
Subject Description: Plant Parameter Verification	
K/A: 2.3.1 Knowledge of 10CFR20 and related facility radiation control requirements. (3.0)	
DESCRIPTION: Apply the NBU radiation exposure limits for a Declared Pregnant Worker with existing exposure. (Bank)	
<b>QUESTION:</b>	
An Equipment Operator, qualified to stand the Reactor Building watch, has just formally declared her pregnancy in writing. She is at the end of the 2 <sup>nd</sup> month of her pregnancy. Her dose for the last two months is 25 mrem TEDE and 0 mrem CEDE.	
What are her exposure limitations (TEDE and CEDE) for the rest of her pregnancy?	
<b>ANSWER:</b>	
TEDE limit is 500 mrem for the entire period of pregnancy and that the dose be delivered at a uniform rate. (Section 5.5.2.)	
Administrative limits are 50 mrem/month or less, and 450 mrem for the entire period. Can be exceeded with Radiation Protection Manager's approval (Attachment 1)	
[(450-25=425 mrem for the remainder of the pregnancy but must maintain less than 50 mrem/month. 7x50=350mrem for remainder of pregnancy.) (NOT required for answer.)]	
CEDE limit is 50 mrem/year.	
Reference: NC.NA-AP.ZZ-0024, Radiation Protection Program, Section 5.5.2, 5.5.3, and Attachment 1.	

**QUESTION:**

**An Equipment Operator, qualified to stand the Reactor Building watch, has just formally declared her pregnancy in writing. She is at the end of the 2<sup>nd</sup> month of her pregnancy. Her dose for the last two months is 25 mrem TEDE and 0 mrem CEDE.**

**What are her exposure limitations (TEDE and CEDE) for the rest of her pregnancy?**



OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

**SYSTEM:** Administrative Duties/Reporting Requirements

**TASK:** Utilize The ECG To Determine The Emergency Classification And/Or  
Reportability Of An Event And/Or Plant Condition

**TASK NUMBER:** 2000500302

**INITIAL CONDITIONS:**

1. The Reactor is shutdown.
2. RHR B is in Shutdown Cooling and maintaining RPV temperature at 185F.
3. Preparations for Drywell head removal are in progress.
4. Hope Creek experiences an earthquake which indicates a magnitude of  $> 0.1g$ .
5. Control Room Annunciator C6-C4 is in.
6. ON Panel 10C673:
  - The SMA-3 Event Indicator is White
  - The Strong Motion Accelerograph Tape Machines have advanced but are not currently running
  - The AMBER alarm light on the Seismic Switch Power Supply Drawer is lit
7. Numerous amber lights and 3 red lights are lit on the response spectrum analyzer.
8. A LOCA results. RPV level dropped to  $-250''$ , then stabilizes between  $-225''$  and  $-205''$ , being maintained using all available ECCS.
9. The current 33 ft. elevation wind direction is from  $275^\circ$  at 7 mph.

**INITIATING CUE:**

Based on this information, classify this event and complete Step I. A. of ECG Attachment 1, 2, 3, OR 4 as appropriate. This is a Time Critical Task.

**Successful Completion Criteria:**

1. All critical steps completed.
2. All sequential steps completed in order.
3. All time-critical steps completed within allotted time.
4. JPM completed within validated time. Completion time may exceed the validated time if satisfactory progress is being made.

OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Reporting Requirements

TASK: Utilize The ECG To Determine The Emergency Classification And/Or Reportability Of An Event And/Or Plant Condition

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
		Operator obtains procedure HECG.	Operator obtains the correct procedure.		
		START TIME: _____	Start time should be logged after the operator has reviewed the initial conditions and repeated the task back.  <b>Examiner Note:</b> It is not critical to initial the procedure steps.  The operator then initials the appropriate procedure step.		
	ECG Section i.IV.C	Classification: To use this ECG volume, follow this sequence:  1. Assess the event and/or plant conditions and DETERMINE which ECG section(s) is most appropriate.	Operator assesses the initial conditions, and determines that Sections 8, Radiological Releases/Occurrences, and Section 9, Hazards-Internal/External are the appropriate ECG sections.		
	ECG Section i.IV.C	2. REFER to Section EAL/RAL Flowchart diagram(s), and identify the Initiating Conditions that are related to the event/condition that has occurred or is ongoing.	Operator reviews the EALs and determines that 8.1.3.a, and 9.5.2 apply.		

OPERATOR TRAINING PROGRAM  
 JOB PERFORMANCE MEASURE

NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

SYSTEM: Administrative Duties/Reporting Requirements

TASK: Utilize The ECG To Determine The Emergency Classification And/Or Reportability Of An Event And/Or Plant Condition

# *	STEP NO.	STEP (*Denotes a Critical Step) (#Denotes a Sequential Step)	STANDARD	EVAL S/U	COMMENTS (Required for UNSAT evaluation)
*	ECG Section i.IV.C	<p>3. REVIEW the associated EALs or RALs as compared to the event and SELECT the highest appropriate Emergency or Reportable Action Level. If identification of an EAL is questionable, refer to paragraph IV.A above.</p> <p>If there is any doubt with regard to assessment of a particular EAL or RAL, the ECG Technical Basis Document should be reviewed. Words in an EAL or RAL that are bold face are either threshold values associated with that action level or are words that are defined for that specific EAL/RAL.</p>	<p>Operator reviews the EALs and determines that EAL #8.1.3.a is the highest emergency action level met or exceeded (Site Area Emergency).</p> <p><b>Examiner Note:</b> Classification in Section 9.5.2 would result an Alert Classification.</p>		
	ECG Section i.IV.C	<p>4. IDENTIFY and IMPLEMENT the referenced Attachment under Action Required.</p>	<p>Operator identifies and implements ECG Attachment 3.</p>		



OPERATOR TRAINING PROGRAM  
JOB PERFORMANCE MEASURE

**INITIAL CONDITIONS:**

1. The Reactor is shutdown.
2. RHR B is in Shutdown Cooling and maintaining RPV temperature at 185F.
3. Preparations for Drywell head removal are in progress.
4. Hope Creek experiences an earthquake which indicates a magnitude of  $> 0.1g$ .
5. Control Room Annunciator C6-C4 is in.
6. ON Panel 10C673:
  - The SMA-3 Event Indicator is White
  - The Strong Motion Accelerograph Tape Machines have advanced but are not currently running
  - The AMBER alarm light on the Seismic Switch Power Supply Drawer is lit
7. Numerous amber lights and 3 red lights are lit on the response spectrum analyzer.
8. A LOCA results. RPV level dropped to  $-250''$ , then stabilizes between  $-225''$  and  $-205''$ , being maintained using all available ECCS.
9. The current 33 ft. elevation wind direction is from  $275^\circ$  at 7 mph.

**INITIATING CUE:**

Based on this information, classify this event and complete Step I. A. of ECG Attachment 1, 2, 3, OR 4 as appropriate. This is a Time Critical Task.