FACILITY NAME: Turkey Point Section 12

REPORT NUMBER: 2009-302

# FINAL ADMINISTRATIVE JPMS

**CONTENTS:** 

☑ Final ADMIN JPMs

o 'As given' with changes made during administration annotated

**Location of Electronic Files:** 

Submitted By: Lodin Jie & Verified By: Mark Riches

Appendix C			ance Measure (sheet	Form ES-C-1
` Facility:	Turkey Point		Task No:	
<b>T</b> 1 <b>T</b> 11		•		
Task Title: K/A Reference:	60% to 100% 2.1.43 Ability to procedures to effects on reac changes, such coolant system secondary plan depletion, etc.	determine the tivity of plant as reactor temperature, nt, fuel	_ JPM No:	NRC-25-ADMIN-JPM-RA.1.1
Examinee:			NRC Examiner:	
Facility Evaluator:			Date:	
Method of testing:	Classroom			
Simulated Perform	ance		Actual Performance	eYes
Classroom	Yes	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. Unit 4 Cycle: 24
- 2. Reactor Power: 60%
- 3. Rod Height:
- 4. Boron Concentration: 770 ppm
- 5. Core Burnup: 10,000 MWD/MTU
- 6. Unit 4 has been at 60% Power for 96 hours.

D-176

**Desired Conditions after Power Increase:** 

- 1. Reactor Power: 100
- 2. Rod Height: D-228

#### Task Standard:

RO: Calculate Number of Gallons of Primary Water Required to Raise Power from 60%-100%. Final value must fall between 3410 gallons and 5571 gallons.

#### Required Materials:

- 1. Unit 4 Cycle 24 Plant Curve Book
- 2. 0-OP-046, CVCS BORON CONCENTRATION CONTROL, ATTACHMENT 5 REACTIVITY WORKSHEET

#### General References:

- 1. 4-GOP-305, HOT STANDBY TO COLD SHUTDOWN
- 2. Unit 4 Cycle 24 Plant Curve Book
- 3. 0-OP-046, CVCS BORON CONCENTRATION CONTROL

#### Appendix C

#### INITIATING CUE:

You have been directed to calculate the number of gallons of primary water required to raise reactor power from 60 to 100% using 0-OP-046, CVCS – BORON CONCENTRATION CONTROL, ATTACHMENT 5 – REACTIVITY WORKSHEET.

Desired Conditions after Power Increase:

- 1. Reactor Power: 100%
- 2. Rod Height: D-228

Time Critical Task: No

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Validation Time: 20 minutes

### HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

#### SIMULATOR SETUP

## Reset to IC #

N/A

## Load Lesson

N/A

## Ensure Simulator Operator Checklist is complete

N/A

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## Denote critical steps with a check mark( $\checkmark\!\!/$

	Start Time		
STEP 1 :	Identifies and obtains materials and procedures necessary to perform task.	SAT	
		UNSAT	
<u>Standard</u> :	Operator obtains copy of 0-OP-046, Attachment 5 and U4 Cycle 24 Plant Curve Book		
<u>Cue</u>	CUE: Provide a copy of 0-OP-046, Attachment 5 and the U4 Cycle 24 Plant Curve Book		
<u>Comment</u>			
NOTE:	Evaluator may require the candidate to obtain procedure as part of this JPM.		

Appendi	хС	
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<u>STEP 2</u> : √	Operator enters appropriate values for Rod Worth from U4 Cycle 24         Plant Curve Book, Section 2, Figure 5 and performs computation.         1)       Rod Worth (A)         Plant Curve Book, Section 2, Figure 5         Withdrawal rods = plus (+) reactivity         Insert rods = minus (-) reactivity         Calculate change in rod worth as follows:         [pcm]       -         [pcm]       =	SAT UNSAT
<u>Standard</u> :	Present Rod Worth       -       Desired Rod Worth       =       (+/-)       (A)         From U4 Cycle 24 Plant Curve Book, Section 2, Figure 5 for 10,000 MWD/MTU         Determines 60% value (D-176) is 170 pcm for HFP.         Determines 100% value (D-229) is 0 pcm.         Appropriate values entered and answer of +170 pcm obtained.	
Cue	None required.	
Comment		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

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STEP 3 : √	Operator enters appropriate values for Power Defect from U4 Cycle 24         Plant Curve Book, Section 2, Figure 6A and performs computation.         2)       Power Defect (B)         Plant Curve Book, Section 2, Figure 6A         Raise Power = minus (-) reactivity         Lower Power = plus (+) reactivity         Calculate change in power defect as follows:         [pcm]       -         Present Pwr Defect       -         Desired Pwr Defect       (H)	SAT UNSAT
<u>Standard</u> :	From U4 Cycle 24 Plant Curve Book, Section 2, Figure 6A for 10,000 MWD/MTU Determines 60% value (770 ppm) equal to 1204 ± 20 pcm. Determines 100% value (700 ppm-770ppm) equal to 1915 ± 20 pcm. Appropriate values entered and answer of 711 ± 40 pcm obtained.	
Cue	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

A	bb	en	dix	: <b>C</b>

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Form ES-C-1

<u>STEP 4</u> : √	Operator calculates the desired change. 3) <u>Calculate the Desired Change in pcm (C)</u> $[(+/-) \_ pcm] + [(+/-) \_ pcm] = (+/-) \_ pcm$ (A) (C)	SAT UNSAT
<u>Standard</u> :	Determines value based on $\Delta$ rod worth = +170 pcm and $\Delta$ power defect = 711 ± 40 pcm Operator enters the appropriate values from the previous two computations to derive an answer in the range of 541 ± 40 pcm.	
Cue	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

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STEP 5	Operator determines present boron worth from U4 Cycle 24 Plant Curve Book, Section 2, Figure 7A.	SAT
N	4) Integral Boron Worth	UNSAT
	<ul> <li>Plant Curve Book, Section 2. Figure 7A (Do not interpolate between graphs.)</li> <li>Boration = ninus (-) reactivity</li> <li>Dilution = plus (+) reactivity</li> <li>For power changes in Mode 1. use Hot Full Power numbers (equilibrium xenon.)</li> <li>For power changes in Mode 2. use Hot Zero Power numbers (no xenon.)</li> <li>Calculate Desired Boron Concentration (C<sub>B</sub>) as follows:</li> </ul>	
	Check current boron concentration $(C_B) = ppm$	
	$[(-) \_ pcm] - [(+/-) \_ pcm] = (+/-) \_ pcm$ Present boron worth from Sect 2, Fig 7A $(C) = Desired boron worth$	
	Determine desired $C_B$ from Section 2, Figure $7A = $ ppm	
<u>Standard</u> :	Operator correctly determines present boron worth from U4 Cycle 24 Plant Curve Book, Section 2, Figure 7A for 10000 MWD/MTU as	
	7013 pcm.	
Cue	None required.	
Comment		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

## Appendix C

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Form ES-C-1

STEP 6 : √	Operator calculates desired boron worth and concentration.         4) Integral Boron Worth         Plant Curve Book, Section 2, Figure 7A (Do not interpolate between graphs.)         Boration = minus (-) reactivity         Dilution = plus (-) reactivity         For power changes in Mode 1, use Hot Full Power numbers (equilibrium xenon.)         For power changes in Mode 2, use Hot Zero Power numbers (no xenon.)         Calculate Desired Boron Concentration (CB) as follows:         Check current boron concentration (CB) = ppm         [(-)pcm] - [(+/-)pcm] = (+/-)pcm         Present boron worth from Sect 2, Fig 7A         Determine desired CB from Section 2, Figure 7A = ppm	SAT UNSAT
<u>Standard</u> :	Determines value based on subtracting combined rod worth/power defect of -541 ± 40 pcm from integral boron worth of -7013 pcm to yield a desired integral boron worth in the range of - 6432 pcm to – 6512 pcm. Operator correctly calculates (by interpolating U4 Cycle 24 Plant Curve Book, Section 2, Figure 7A for 10,000 MWD/MTU) desired boron concentration. 703-712 ppm	
<u>Cue</u>	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

<u>STEP 7</u> : √	Operator determines if boration or dilution is required.	SAT UNSAT
<u>Standard</u> :	Operator determines that dilution is required.	
Cue	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

<u>STEP 8</u> : √	Operator determines number of gallons required.	SAT UNSAT
<u>Standard</u> :	Determines value based on boron concentration in the range of 703 ppm to 712 ppm. Operator determines number of gallons of primary water required in the range of: 50,790 x ln (770 ppm / 703 ppm) = 4623 gallons and 50,790 x ln (770 ppm / 712 ppm) = 3977 gallons	
Cue	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

Terminating Cue:	The task is complete when the Examinee returns the cue sheet to the examiner.	STOP
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Stop Time \_\_\_\_\_

Appendix C	Page 12 of 12	Form ES-C-1
Verification of Completion		
Job Performance Measure No.	NRC-25-ADMIN-JPM-A1.1	
Examinee's Name:		
Examiner's Name:	· · · · · · · · · · · · · · · · · · ·	
Date Performed:		
Facility Evaluator:		
Number of Attempts:		
Time to Complete:		
Question Documentation:		
Question:		
Response:		

Result: Satisfactory/Unsatisfactory

Examiner's signature and date:

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## JPM BRIEFING SHEET

The examiner 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. Unit 4 Cycle: 24
- 2. Reactor Power: 60 D-176
- 3. Rod Height:
- 4. Boron Concentration: 770 ppm
- 5. Core Burnup: 10,000 MWD/MTU
- 6. Unit 4 has been at 60% Power for 96 hours.

**Desired Conditions after Power Increase:** 

- 3. Reactor Power: 100
- 4. Rod Height: D-228

#### INITIATING CUE:

You have been directed to calculate the number of gallons of primary water required to raise reactor power from 60 to 100% using 0-OP-046, CVCS - BORON CONCENTRATION CONTROL, ATTACHMENT 5 -REACTIVITY WORKSHEET.

Acknowledge to the examiner when you are ready to begin.

## HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

Procedure No.: P	rocedure Title:	Page: 137
0-OP-046	CVCS – Boron Concentration Control	Approval Date: 6/27/0
	ATTACHMENT 5 (Page 1 of 3)	,
	REACTIVITY WORKSHEET	
	Boric Acid Thumb Rules are as follows: 10 pcm = 1 ppm 10 gallons = 1 ppm 1 gallon = 1 pcm	
PART 1: Power Chan	ge Only	
1) <u>Rod Worth (A)</u>		
Plant Curve Boo Withdrawal rods Insert rods = mir	k, Section 2, Figure 5 = plus (+) reactivity nus (-) reactivity	
Calculate change	in rod worth as follows:	
[ <u>//0</u> pcm] Present Rod Worth	$\begin{bmatrix} 0 \\ pcm \end{bmatrix} = (+/-) \frac{70}{(A)} pcm$ Desired Rod Worth = (+/-) (A)	
Performed by	Verified by	
2) <u>Power Defect (B</u>		
Plant Curve Bool Raise Power = m Lower Power = p	<, Section 2, Figure 6A inus (-) reactivity olus (+) reactivity	
Calculate change /204 ± 20 [pcm]	in power defect as follows: $\begin{array}{rcl}  & & & & & & & \\  & & & & & & & \\  & & & &$	
<ul><li>Performed by</li><li>3) Calculate the De</li></ul>	Verified by	
$\frac{(+-)}{(A)} \frac{70}{(A)} \text{ pcm } ] +$	<u>sired Change in pcm (C)</u> $[(+/-)] \frac{71/2}{(B)} pcm ] = (+/-) \frac{5-4/2}{(C)} pcm'$	
Performed by	Verified by	

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Procedure No.:	Procedure Title:	1		Page: <b>138</b>
0-OP-046	CVCS	– Boron Concentration Cont	rol	Approval Date: - <u>-6/27/08</u> -
		ATTACHMENT 5 (Page 2 of 3)		
	REA	ACTIVITY WORKSHEET		
4) Integral Bor	on Worth			
Boration = m Dilution = plu For power ch For power ch Calculate Desired Bo	inus (-) reactivity us (+) reactivity anges in Mode 1, us anges in Mode 2, us ron Concentration	· -/	• • •	
from Sect 2, Fig 7	'A	$\begin{array}{l} 6472 \pm 40 \\ n \end{bmatrix} = (+0) $		
Determine des	sired C <sub>B</sub> from Secti	on 2, Figure 7A = <u>703 - 7</u> /	2 ppm	
		Performed By	Verified By	
		<u></u>		
	e nominal volume of ntration or a nominal	the RCS and the CVCS. BAST	ppm is the mc	ost recent
	ron Concentration quired as follows:	is less than the current Boron	Concentratio	n, <u>THEN</u> calculate
	50,790 x l <i>n</i>	$\begin{tabular}{ c c c c c } \hline Current C_B in ppm \\ \hline \hline Desired C_B in ppm \\ \hline \end{tabular}$		Primary Water
	50,790 x l <i>n</i>	770 ppm 703 - 7/2 ppm	=	- 4623 _ Gallons Primary Water
	on Concentration i quired as follows:	<i>Performed By</i> s higher than the current Boror	<i>Verified By</i> Concentratio	n, <u>THEN</u> calculate
л.]/	50,790 x l <i>n</i>	[BAST ppm] - [Present RCS ppm] [BAST ppm] - [Desired RCS ppm]	— = Gal of B	Boric Acid
10/A	50,790 x l <i>n</i>	$\begin{bmatrix} \sqrt{A} \text{ ppm} \end{bmatrix} - \begin{bmatrix} \sqrt{A} \text{ RCS pp} \\ \hline \\ \\ \hline \\ \\ \hline \\ \\ \hline \\$	- = $V/V$	/ Ballons ric Acid
W2003:TNM/ln/ln/ln		Performed By	Verified By	

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Procedure No.:	<u></u>	Procedure Title:			Page: 139
0-OP-04	46	CVC	CS – Boron Concentration	Control	Approval Date: 6/27/08
			ATTACHMENT 5 (Page 3 of 3)		
		R	EACTIVITY WORKSHE	ET	-
ART 2: Te	mperat	ure Change On	ly		
) <u>Temp</u>	erature	change require	ements		
To rai To lov	se tempe ver temp	erature, refer to I perature, refer to	Plant Curve Book, Section 3 Plant Curve Book, Section	, Figure 2B. 2, Figures 9 and 9A.	
Deterr	nine des	ired temperature	e change: (+/-) <u>//A</u>	°F	
To dil		[ <u>N</u> °F]	x $[\frac{1}{N}$ gal/°F] = Sect 3, Fig.2B	NA gal Water	
To bor	ate:		x $[\underline{///} pcm/°F] = \underline{/}$ Sect 2, Fig 9/9A	VA pcm	
			$x [gal/pcm] = \frac{N/R}{R}$	gal of Boric Acid	
		[pom]	[Bar barr]		
		-	Performed By	Verified By	,

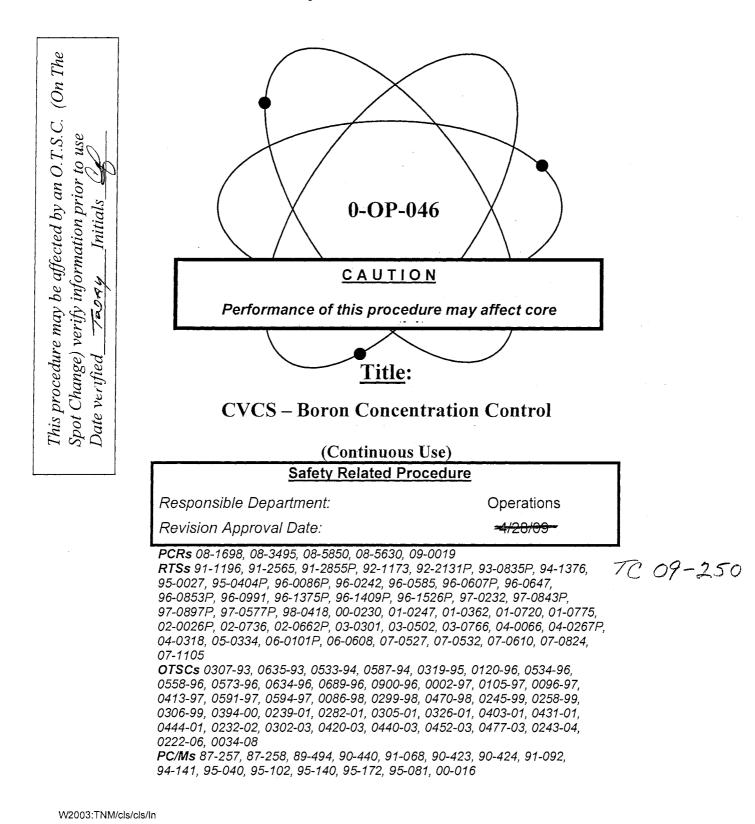
W2003:TNM/In/In/In

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# Florida Power & Light Company

## **Turkey Point Nuclear Plant**



		are Title:					2
0-OP-04	6	CVC	CS – Boron Co	oncentratio	on Control		Approval Date: <u>4/28/09</u> -
······································		I.I	ST OF EFF	ECTIVE	PAGES		
	Revision		Revision		Revision		Revision
Page	Date	Page	Date	Page	Date	Page	Date
1	04/28/09	37	04/28/09	73	06/27/08	109	06/27/08
2	04/28/09	38	06/27/08	74	06/27/08	110	06/27/08
3	06/27/08	39	06/27/08	75	06/27/08	111	06/27/08
4	06/27/08	40	06/27/08	76	12/10/08	112	06/27/08
5	06/27/08	41	06/27/08	77	06/27/08	113	06/27/08
6	06/27/08	42	06/27/08	78	06/27/08	114	06/27/08
7	06/27/08	43	06/27/08	79	06/27/08	115	06/27/08
8	06/27/08	44	06/27/08	80	06/27/08	116	06/27/08
9	06/27/08	45	06/27/08	81	12/10/08	117	06/27/08
10	06/27/08	46	06/27/08	82	06/27/08	118	06/27/08
11	06/27/08	47	06/27/08	83	06/27/08	119	12/29/08
12	06/27/08	48	06/27/08	84	06/27/08	120	06/27/08
13	06/27/08	49	06/27/08	85	06/27/08	121	06/27/08
14	06/27/08	50	06/27/08	86	06/27/08	122	06/27/08
15	06/27/08	51	06/27/08	87	06/27/08	123	06/27/08
16	06/27/08	52	04/28/09	88	12/10/08	124	08/07/08
17	06/27/08	53	06/27/08	89	06/27/08	125	06/27/08
18	06/27/08	54	06/27/08	90	06/27/08	126	06/27/08
19	06/27/08	55	06/27/08	91	06/27/08	127	06/27/08
20	06/27/08	56	06/27/08	92	06/27/08	128	06/27/08
21	12/29/08	57	06/27/08	93	06/27/08	129	06/27/08
22	06/27/08	58	06/27/08	94	06/27/08	130	06/27/08
23	06/27/08	59	06/27/08	95	04/28/09	131	06/27/08
24	06/27/08	60	06/27/08	96	04/28/09	132	06/27/08
25	06/27/08	61	06/27/08	97	04/28/09	133	06/27/08
26	06/27/08	62	06/27/08	98	04/28/09	134	06/27/08
27	12/29/08	63	06/27/08	99	06/27/08	135	12/10/08
28	06/27/08	64	06/27/08	100	06/27/08	136	06/27/08
29	06/27/08	65	06/27/08	101	06/27/08	137	06/27/08
30	06/27/08	66	06/27/08	102	06/27/08	138	-06/27/08
31	06/27/08	67	06/27/08	103	06/27/08	139	06/27/08
32	06/27/08	68	06/27/08	104	06/27/08	140	06/27/08
33	06/27/08	69	06/27/08	105	06/27/08	141	06/27/08
34	06/27/08	70	06/27/08	106	06/27/08	142	06/27/08
35	06/27/08	71	06/27/08	107	06/27/08	—	
36	06/27/08	72	12/10/08	108	06/27/08		

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ocec	ure No.:	Procedure Title:	Page: 137
	0-OP-046	CVCS – Boron Concentration Control	Approval Date: 6/27/08
		ATTACHMENT 5 (Page 1 of 3)	
		REACTIVITY WORKSHEET	
	,	<u></u>	
		Boric Acid Thumb Rules are as follows: 10 pcm = 1 ppm 10 gallons = 1 ppm 1 gallon = 1 pcm	
AR	T 1: Power Ch	ange Only	
)	<u>Rod Worth (</u>	<u>(A)</u>	
	Withdrawal re	Book, Section 2, Figure 5 ods = plus (+) reactivity minus (-) reactivity	
	Calculate cha	nge in rod worth as follows:	
	[ pcm] Present Rod Worth	- $[\_\pcm] = (+/-)\_\pcm$ h - Desired Rod Worth = $(+/-)$ (A)	
	Performed	by Verified by	
)	Power Defect	<u>t (B)</u>	
	Raise Power =	Book, Section 2, Figure 6A = minus (-) reactivity = plus (+) reactivity	
	Calculate char	nge in power defect as follows:	
	[pcm] Present Pwr Defect	- $[\_pcm]$ = $(+/-)\_pcm$ t - Desired Pwr Defect = $(+/-)$ (B)	
	Performed	by Verified by	
	Calculate the	Desired Change in pcm (C)	
	[ (+/-) pcn (A)	m ] + [ (+/-) pcm ] = (+/-) pcm (B) (C)	
	Performed	by Verified by	

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	Procedure Title:		Page: 138
0-OP-046	CVCS -	- Boron Concentration Control	Approval Date: - <b>-6/27/108-</b>
		ATTACHMENT 5 (Page 2 of 3)	
	REA	ACTIVITY WORKSHEET	
4) Integral H	Boron Worth		
Boration = Dilution = For power For power	= minus (-) reactivity	ure 7A (Do not interpolate betweer <i>ZERO</i> We Hot <del>Full</del> Power numbers ( <del>equilib</del> the Hot Zero Power numbers (no xer (C <sub>B</sub> ) as follows:	
Check current bor	on concentration (C <sub>B</sub> )	= ppm	
[ (-) Present boror from Sect 2, 1		= (+/-) pcm Desired boron worth	
Determine	desired C <sub>B</sub> from Section	on 2, Figure 7A =	ppm
	<u> </u>	Performed By	/erified By
50,790 is	s the nominal volume of		is the most recent
BAST co	ncentration or a nominal	the RCS and the CVCS. BAST ppm	
BAST co	ncentration or a nominal	the RCS and the CVCS. BAST ppm value of 5664 ppm. is less than the current Boron Cor Current $C_B$ in ppm	
BAST co	Boron Concentration or a nominal Boron Concentration required as follows:	the RCS and the CVCS. BAST ppm value of 5664 ppm. is less than the current Boron Con $\begin{array}{c} \hline \\ Current C_{B} \text{ in ppm} \\ \hline \\ Desired C_{B} \text{ in ppm} \\ \hline \\ ppm \\ ppm \\ \end{array} = $	ncentration, <u>THEN</u> calculate
<ul> <li>BAST co</li> <li><u>IF</u> desired the dilution</li> </ul>	ncentration or a nominal Boron Concentration n required as follows: 50,790 x ln 50,790 x ln	the RCS and the CVCS. BAST ppm value of 5664 ppm. is less than the current Boron Con $\begin{bmatrix} Current C_B \text{ in ppm} \\ Desired C_B \text{ in ppm} \end{bmatrix} = 1$	Gallons of Primary Water Gallons of Primary Water Gallons of Primary Water
<ul> <li>BAST co</li> <li><u>IF</u> desired the dilution</li> </ul>	ncentration or a nominal Boron Concentration n required as follows: 50,790 x ln 50,790 x ln	the RCS and the CVCS. BAST ppm value of 5664 ppm. is less than the current Boron Con $\begin{bmatrix} Current C_{B} in ppm \\ Desired C_{B} in ppm \\ \end{bmatrix} = \begin{bmatrix} ppm \\ ppm \\ ppm \\ \end{bmatrix} = \begin{bmatrix} Performed By \end{bmatrix}$	Gallons of Primary Water Gallons of Primary Water Gallons of Primary Water
<ul> <li>BAST co</li> <li><u>IF</u> desired the dilution</li> </ul>	ncentration or a nominal Boron Concentration n required as follows: 50,790 x ln 50,790 x ln Boron Concentration i n required as follows:	the RCS and the CVCS. BAST ppm value of 5664 ppm. is less than the current Boron Con $\begin{bmatrix} Current C_B in ppm \\ Desired C_B in ppm \\ \end{bmatrix} = \begin{bmatrix} ppm \\ ppm \\ ppm \\ ppm \\ \end{bmatrix} = \begin{bmatrix} Performed By \\ S higher than the current Boron Constant Cons$	accentration, <u>THEN</u> calculate Gallons of Primary Water Gallons of Primary Water Gallons of Primary Water Gallons of Primary Water Cerified By Incentration, <u>THEN</u> calculate

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Procedure No.:	Procedure Title:	Page: <b>139</b>
0-OP-046	CVCS – Boron Concentration Control	Approval Date: 6/27/08
	ATTACHMENT 5 (Page 3 of 3)	
	<b>REACTIVITY WORKSHEET</b>	
PART 2: Tempera	ture Change Only	
1) <u>Temperatur</u>	e change requirements	
To raise tem To lower tem	perature, refer to Plant Curve Book, Section 3, Figure 2B. aperature, refer to Plant Curve Book, Section 2, Figures 9 an	d 9A.
Determine de	esired temperature change: (+/-) °F	
To dilute:	$[\_ °F] x [\_ gal/°F] = \_ gal V$ Sect 3, Fig 2B	Vater
To borate:	[°F] x [pcm/°F] =pcm Sect 2, Fig 9/9A	
	[ pcm] x [gal/pcm] = gal of Boric	Acid
	Performed By Verifi	ed By
· · ·		

Appendix C		ance Measure sheet	Form ES-C-1
` Facility:	Turkey Point Verify Number of Gallons of Primary Water Required to	_ Task No:	
Task Title:	Raise Power from 60% to 100%	JPM No:	NRC-25-ADMIN-JPM-SA.1.1
K/A Reference:	(2.1.37 Knowledge of procedures, guidelines, or limitations associated with reactivity management. (CFR: 41.1 / 43.6 / 45.6) IMPORTANCE RO 4.3 SRO 4.6	-	
Examinee:		NRC Examiner:	
	<b></b>	• –	
Facility Evaluator:		Date:	
Method of testing:	Classroom		
Simulated Performa	ance	Actual Performance	e Yes
Classroom	Yes 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. Unit 4 Cycle: 24
- 2. Reactor Power: 60% D-176
- 3. Rod Height:
- 4. Boron Concentration: 770 ppm
- 10,000 MWD/MTU 5. Core Burnup:
- 6. Unit 4 has been at 60% Power for 96 hours.

#### Desired Conditions after Power Increase:

- 1. Reactor Power: 100
- 2. Rod Height: D-228

#### Task Standard:

- SRO: verifies that 0-OP-046, CVCS BORON CONCENTRATION CONTROL, ATTACHMENT 5 REACTIVITY WORKSHEET.
- Determines that 0-OP-046. CVCS BORON CONCENTRATION CONTROL, ATTACHMENT 5 REACTIVITY WORKSHEET is not correct.
- 3. Performs corrections to that 0-OP-046, CVCS BORON CONCENTRATION CONTROL, ATTACHMENT 5 REACTIVITY WORKSHEET.

#### Required Materials:

- 1. Unit 4 Cycle 24 Plant Curve Book
- 2. Completed 0-OP-046, CVCS BORON CONCENTRATION CONTROL, ATTACHMENT 5 -REACTIVITY WORKSHEET

#### General References:

- 1. 4-GOP-305, HOT STANDBY TO COLD SHUTDOWN
- 2. Unit 4 Cycle 24 Plant Curve Book
- 3. 0-OP-046, CVCS BORON CONCENTRATION CONTROL

#### Appendix C

#### INITIATING CUE:

- 1. As the SRO: you are to verify that 0-OP-046, CVCS BORON CONCENTRATION CONTROL, ATTACHMENT 5 REACTIVITY WORKSHEET has been completed correctly.
- 2. Identify and correct all errors, if any, by marking them on the worksheet.

Desired Conditions after Power Increase:

- 1. Reactor Power: 100%
- 2. Rod Height: D-228

Time Critical Task: No

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Validation Time: 20 minutes

HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

## SIMULATOR SETUP

### Reset to IC #

N/A

<u>Load Lesson</u>

N/A

## Ensure Simulator Operator Checklist is complete

N/A

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## Denote critical steps with a check $mark(\sqrt{)}$

	Start Tir	ne
STEP 1 :	Identifies and obtains materials and procedures necessary to perform task.	SAT UNSAT
<u>Standard</u> :	SRO is given a completed copy of 0-OP-046, Attachment 5 and U4 Cycle 24 Plant Curve Book	
<u>Cue</u>	CUE:Provide a completed copy of 0-OP-046, Attachment 5 and access to the U4 Cycle 24 Plant Curve Book	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

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## Page 5 of 12

	STEP 2 :	SRO verifies values for Rod Worth from U4 Cycle 24 Plant Curve Book, Section 2, Figure 5.	SAT
i	√	PART 1: Power Change Only	UNSAT
		1) <u>Rod Worth (A)</u>	
		Plant Curve Book, Section 2, Figure 5 Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity	
		Calculate change in rod worth as follows:	
		$[ \_ pcm] - [\_ pcm] = (+/-) \_ pcm$ Present Rod Worth - Desired Rod Worth = (+/-) (A)	
		Performed by Verified by	
(	<u>Standard</u> :	From U4 Cycle 24 Plant Curve Book, Section 2, Figure 5 for 10,000 MWD/MTU (ERROR):RO Determined 60% value (D-176) is 886 pcm for HFP. RO incorrectly used "C" Bank values for HFP instead of "D" Bank. RO Determines 100% value (D-229) is 0 pcm. SRO identifies RO calculated INCORRECT value of +886 pcm. SRO identifies correct value of 170 pcm	
	<u>Cue</u>	None required.	
	<u>Comment</u>		
	NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

<u>STEP 3</u> : √	<ul> <li>SRO verifies appropriate values for Power Defect from U4 Cycle 24 Plant Curve Book, Section 2, Figure 6A and performs computation.</li> <li>2) <u>Power Defect (B)</u> Plant Curve Book, Section 2, Figure 6A Raise Power = minus (-) reactivity Lower Power = plus (+) reactivity</li> <li>Calculate change in power defect as follows:</li> </ul>	SAT UNSAT
	$[\_\pcm] - [\_\pcm] = (+/-) \_\pcm$ Present Pwr Defect - Desired Pwr Defect = (+/-) (B) $\boxed{Performed by} \qquad Verified by$	
<u>Standard</u> :	<ul> <li>From U4 Cycle 24 Plant Curve Book, Section 2, Figure 6A for 10,000 MWD/MTU</li> <li>RO Determines 60% value (770 ppm) equal to 1204 ± 20 pcm.</li> <li>RO Determines 100% value (700 ppm-770ppm) equal to 1915 ± 20 pcm.</li> <li>RO enters answer of +711 pcm.</li> <li>SRO determines that RO has used incorrect sign convention in accordance with instructions found under Step 2. The correct answer should be: -711 pcm.</li> </ul>	
Cue	None required.	
Comment		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

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## Page 7 of 12

Form ES-C-1

STEP 4 :	SRO checks and recalculates the desired change.	SAT
√	3) <u>Calculate the Desired Change in pcm (C)</u>	UNSAT
	$[(+/-)]_{(A)} pcm] + [(+/-)]_{(B)} pcm] = (+/-)_{(C)} pcm$	
	Performed by Verified by	
	SRO does not find an error in this section other than the original errors carried forward.	
	SRO corrects calculation for the following:	
<u>Standard</u> :	Determines value based on $\Delta$ rod worth = +170 pcm and $\Delta$ power defect =	
	711 ± 40 pcm	
	Enters the appropriate values from the previous two computations to derive an answer in the range of	
	$541 \pm 40$ pcm.	
Cue	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

<b>STEP 5</b> :	Operator determines present boron worth from U4 Cycle 24 Plant Curve Book, Section 2, Figure 7A.	SAT
		UNSAT
	SRO finds NO ERRORS	
<u>Standard</u> :	Operator correctly determines present boron worth from U4 Cycle 24 Plant Curve Book, Section 2, Figure 7A for 10000 MWD/MTU as	
	7013 pcm.	
<u>Cue</u>	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

## Appendix C

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Form ES-C-1

<u>STEP 6</u> : √	<ul> <li>Operator calculates desired boron worth and concentration.</li> <li>4) Integral Boron Worth Plant Curve Book, Section 2, Figure 7A (Do not interpolate between graphs.) Boration = minus (-) reactivity Dilution = plus (+) reactivity For power changes in Mode 1, use Hot Full Power numbers (equilibrium xenon.) For power changes in Mode 2, use Hot Zero Power numbers (no xenon.) Calculate Desired Boron Concentration (C<sub>B</sub>) as follows: Check current boron concentration (C<sub>B</sub>) = ppm [(-) pcm] - [(+/-) pcm] = (+/-) pcm Present boron worth from Sect 2, Fig 7A Determine desired C<sub>B</sub> from Section 2, Figure 7A = ppm</li></ul>	SAT UNSAT
<u>Standard</u> :	<ul> <li>SRO determines NO ERROR in this step other than ERROR CARRIED FORWARD.</li> <li>SRO corrects worksheet as follows:</li> <li>Determines value based on subtracting combined rod worth/power defect of -541 ± 40 pcm from integral boron worth of -7013 pcm to yield a desired integral boron worth in the range of</li> <li>- 6432 pcm to – 6512 pcm.</li> <li>Operator correctly calculates (by interpolating U4 Cycle 24 Plant Curve Book, Section 2, Figure 7A for 10,000 MWD/MTU) desired boron concentration.</li> <li>703-712 ppm</li> </ul>	
Cue	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

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STEP 7 :	SRO determines if boration or dilution is required.	SAT UNSAT
<u>Standard</u> :	SRO determines NO ERRORS in this decision. RO determined that dilution is required.	
<u>Cue</u>	None required.	
<u>Comment</u>		
NOTE:	Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	

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SRO deter mines that RO has transposed numbers incorrectly in the calculation.SRO corrects Step 5 as follows:Determines value based on boron concentration in the range of 703 ppm to 712 ppm.Operator determines number of gallons of primary water required in the range of: 50,790 x ln (770 ppm / 703 ppm) = 4623 gallons and 50,790 x ln (770 ppm / 712 ppm) = 3977 gallons	
<u>Cue</u> None required.	
<u>Comment</u>	
<b>NOTE:</b> Candidate may use either Hard Copy or Computer version of U4 Cycle 24 Plant Curve Book.	
Terminating Cue: The task is complete when the Examinee returns the cue sheet to the examiner.	

Stop Time \_\_\_\_\_

Appendix C	Page 12 of 12	Form ES-C-1
Verification of Completion		
Job Performance Measure No.	NRC-25-ADMIN-JPM-SA.1.1	
Examinee's Name:		
Examiner's Name:		
Date Performed:		
Facility Evaluator:		
Number of Attempts:		
Time to Complete:		
Question Documentation:		
Question:		
Response:		
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Result: Satisfactory/Unsatisfactory

Examiner's signature and date:

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## JPM BRIEFING SHEET

The examiner 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. Unit 4 Cycle: 24
- 2. Reactor Power: 60 D-176
- 3. Rod Height:
- 4. Boron Concentration: 770 ppm
- 5. Core Burnup: 10,000 MWD/MTU
- 6. Unit 4 has been at 60% Power for 96 hours.

**Desired Conditions after Power Increase:** 

- 3. Reactor Power: 100
- 4. Rod Height: D-228

#### INITIATING CUE:

- 1. As the SRO: you are to verify that 0-OP-046, CVCS BORON CONCENTRATION CONTROL, ATTACHMENT 5 REACTIVITY WORKSHEET has been completed correctly.
- 2. Identify and correct all errors, if any, by marking them on the worksheet.

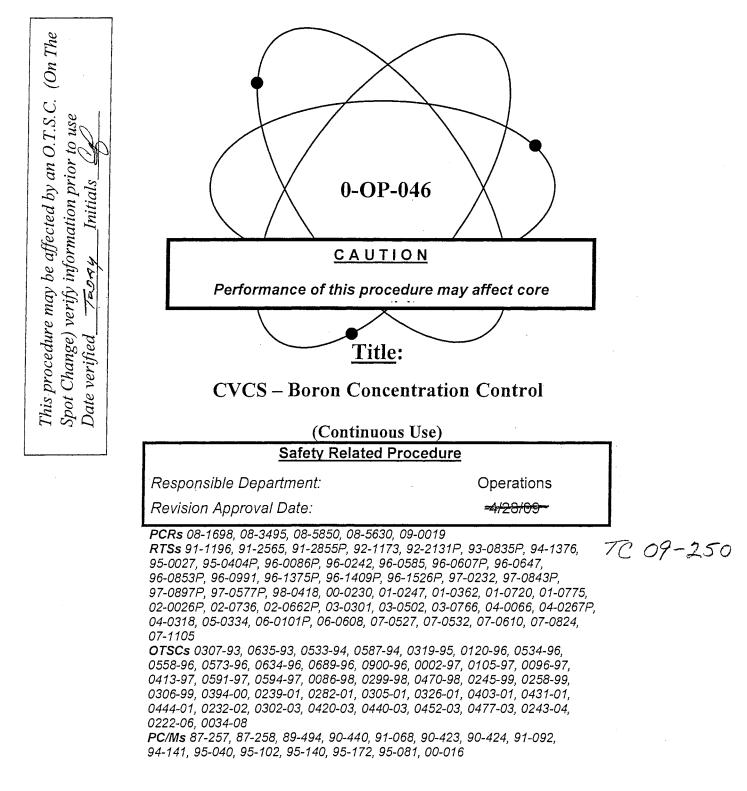
Acknowledge to the examiner when you are ready to begin.

## HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

NRC-25-ABMIN-JPM-SAI.I

# Florida Power & Light Company

**Turkey Point Nuclear Plant** 



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Procedure	No.:	Ргосе	edure Title:					Page: 2
0-	OP-046	5	CVC	CS – Boron Co	oncentrati	on Control		Approval Date: 
			LI	ST OF EFF	ECTIVE	E PAGES		
	Page	Revision Date	Page	Revision Date	Page	Revision Date	Page	Revision Date
	1	04/28/09	37	04/28/09	73	06/27/08	109	06/27/08
	2	04/28/09	38	06/27/08	74	06/27/08	110	06/27/08
	3	06/27/08	39	06/27/08	75	06/27/08	111	06/27/08
	4	06/27/08	40	06/27/08	76	12/10/08	112	06/27/08
	5	06/27/08	41	06/27/08	77	06/27/08	113	06/27/08
	6	06/27/08	42	06/27/08	78	06/27/08	114	06/27/08
	7	06/27/08	43	06/27/08	79	06/27/08	115	06/27/08
	8	06/27/08	44	06/27/08	80	06/27/08	116	06/27/08
	9	06/27/08	45	06/27/08	81	12/10/08	117	06/27/08
	10	06/27/08	46	06/27/08	82	06/27/08	118	06/27/08
	11	06/27/08	47	06/27/08	83	06/27/08	119	12/29/08
	12	06/27/08	48	06/27/08	84	06/27/08	120	06/27/08
	13	06/27/08	49	06/27/08	85	06/27/08	121	06/27/08
	14	06/27/08	50	06/27/08	86	06/27/08	122	06/27/08
	15	06/27/08	51	06/27/08	87	06/27/08	123	06/27/08
	16	06/27/08	52	04/28/09	88	12/10/08	124	08/07/08
	17	06/27/08	53	06/27/08	89	06/27/08	125	06/27/08
	18	06/27/08	54	06/27/08	90	06/27/08	126	06/27/08
	19	06/27/08	55	06/27/08	91	06/27/08	127	06/27/08
	20 (	06/27/08	56	06/27/08	92	06/27/08	128	06/27/08
	21	12/29/08	57	06/27/08	93	06/27/08	129	06/27/08
	22 (	06/27/08	58	06/27/08	94	06/27/08	130	06/27/08
	23 (	06/27/08	59	06/27/08	95	04/28/09	131	06/27/08
	24 (	06/27/08	60	06/27/08	96	04/28/09	132	06/27/08
	25 0	06/27/08	61	06/27/08	97	04/28/09	133	06/27/08
	26 (	06/27/08	62	06/27/08	98	04/28/09	134	06/27/08
	27 1	2/29/08	63	06/27/08	99	06/27/08	135	12/10/08
	28 0	06/27/08	64	06/27/08	100	06/27/08	136	06/27/08
	29 0	)6/27/08	65	06/27/08	101	06/27/08	137	06/27/08
1	30 0	)6/27/08	66	06/27/08	102	06/27/08	138	-06/27/08
1	31 0	)6/27/08	67	06/27/08	103	06/27/08	139	06/27/08
	32 0	)6/27/08	68	06/27/08	104	06/27/08	140	06/27/08
	33 C	6/27/08	69	06/27/08	105	06/27/08	141	06/27/08
	34 0	6/27/08	70	06/27/08	106	06/27/08	142	06/27/08
	35 0	6/27/08	71	06/27/08	107	06/27/08		
	36 0	6/27/08	72	12/10/08	108	06/27/08		

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ATTACHMENT 5 (Page 1 of 3)         REACTIVITY WORKSHEET         NOTE         Boric Acid Thumb Rules are as follows: 10 pcm = 1 ppm 10 gallons = 1 ppm 10 gallons = 1 ppm 1 gallon = 1 ppm         PART 1: Power Change Only         PART 1: Power Change Only         1) Rod Worth (A)         Plant Curve Book, Section 2, Figure 5 Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity         Calculate change in rod worth as follows:         (BBb pcm) - [Desired Rod Worth = (+/-)         Present Rod Worth - Desired Rod Worth = (+/-)         Performed by         Verified by         One reactivity         Desired Rod Worth = (+/-)         Present Box         Verified by         One reactivity         Lower Power = plus (+) reactivity         Calculate change in power defect as follows:         (Image from 1 - [Image from 2] = (H-)         Present Pwr Defect - Desired Pwr Defect = (+/-)         Desired Pwr Defect = (H)         Verified by         3) Calculate the Desired Change in pcm (C)	Procedure No.:	Procedure Title:	Page: 137
(Page 1 of 3) REACTIVITY WORKSHEET NOTE Boric Acid Thumb Rules are as follows: 10 pcm = 1 ppm 10 gallons = 1 ppm 10 gallons = 1 ppm 1 gallon = 1 pcm PART 1: Power Change Only 1) Rod Worth (A) Plant Curve Book, Section 2, Figure 5 Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity Calculate change in rod worth as follows: [BB pcm] - [pcm] = (+) BB6 pcm Present Red Worth - Desired Rod Worth = (++) (A) Performed by 2) Power Defect (B) Plant Curve Book, Section 2, Figure 6A Raise Power = minus (-) reactivity Calculate change in power defect as follows: [J] pcm] - [_J] pcm] = (-) J[] pcm Present Pow Defect - Desired Pwr Defect = (++) (B)	0-OP-046	CVCS – Boron Concentration Control	Approval Date: 6/27/08
REACTIVITY WORKSHEET         NOTE         Boric Acid Thumb Rules are as follows: 10 pcm = 1 ppm 10 galons = 1 ppm 1 galon = 1 pcm         PART 1: Power Change Only         PART 1: Power Change Only         I Rod Worth (A)         Plant Curve Book, Section 2, Figure 5 Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity         Calculate change in rod worth as follows:         [Boric Acid Worth - Desired Rod Worth = (+(-))       (A)         Performed by         Verified by         O Power Defect (B)         Plant Curve Book, Section 2, Figure 6A Raise Power = minus (-) reactivity Lower Power = plus (+) reactivity Lower Power = plus (+) reactivity Lower Power = plus (+) reactivity Calculate change in power defect as follows:         [J] pcm] - [J] pem] = (D_1) <u>711</u> pcm Present Pow Defect       Desired Pwr Defect = (+(-)) (B)         [M] pcm] - [J] pem] / Verified by       [B] Plant Curve Book, Section 2, Figure 6A         O Power Defect (B)         Present Pur Defect         Present Pur Defect         Withdrawal pem         Or pem         Or performed by         Verified by         O Prifect (B)         O Prifect Pur Defect <td></td> <td></td> <td></td>			
NOTE         Boric Acid Thumb Rules are as follows:         10 pcm = 1 ppm         10 gallon = 1 pcm         1 gallon = 1 pcm         PART 1: Power Change Only         1)       Rod Worth (A)         Plant Curve Book, Section 2, Figure 5         Withdrawal rods = plus (+) reactivity         Insert rods = minus (-) reactivity         Insert rods = minus (-) reactivity         Calculate change in rod worth as follows:         [Bb pcm]       - [ pcm] = (+) <u>886</u> pcm         Present Rod Worth       Desired Rod Worth = (+t.)         (A)       Werified by         2)       Power Defect (B)         Plant Curve Book, Section 2, Figure 6A         Raise Power = minus (-) reactivity         Lower Power = plus (+) reactivity         Calculate change in power defect as follows:         [J]pcm]       [J]pcm] = (-) <u>Z//pcm</u> Present Pwr Defect       Desired Pwr Defect = (+/) (B)         Matter pcm]       [J]pcm] = (-) <u>Z//pcm</u> Present Pwr Defect       Desired Pwr Defect = (+/) (B)         Matter pcm]       [Z]pcm] = (-) <u>Z/pcm</u> Preformed by       Verified by         3)       Calculate the Desired Change in pcm (C)			
Boric Acid Thumb Rules are as follows: 10 pcm = 1 ppm 10 gallons = 1 ppm 1 gallon = 1 pcm PART 1: Power Change Only 1) Rod Worth (A) Plant Curve Book, Section 2, Figure 5 Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity Calculate change in rod worth as follows: $\begin{bmatrix} B & B & pcm \end{bmatrix} - \begin{bmatrix} \Box & pcm \end{bmatrix} = \begin{pmatrix} A & A & B & A \\ A & D & Desired Rod Worth = & (+/-) & R & A \\ \hline & D & Desired Rod Worth = & (+/-) & (A) & \hline & M & M & M \\ \hline & Performed by & Verified by & \\ 2) Power Defect (B) Plant Curve Book, Section 2, Figure 6A Raise Power = minus (-) reactivity Calculate change in power defect as follows: \begin{bmatrix} D & P & D & Desired Pwr Defect = & (+/-) & (B) & D & D \\ \hline & D & D & Desired Pwr Defect = & (+/-) & (B) & D & D & D \\ \hline & D & D & D & D & D & D & D & D \\ \hline & M & M & D & D & D & D & D & D & D & D$			,
$10 \text{ pcm} = 1 \text{ ppm}$ $10 \text{ gallons} = 1 \text{ ppm}$ $1 \text{ gallon} = 1 \text{ pcm}$ $1 \text{ gallon} = 1 \text{ pcm}$ PART 1: Power Change Only 1) Rod Worth (A) Plant Curve Book, Section 2, Figure 5 Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity Calculate change in rod worth as follows: $\begin{bmatrix} BB6 \text{ pom} \end{bmatrix} = \begin{bmatrix} -0 \text{ pom} \end{bmatrix} = \begin{pmatrix} +- \\ +- \end{pmatrix} = \begin{pmatrix} BB6 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ $			I I
<ol> <li>Rod Worth (A)         Plant Curve Book, Section 2, Figure 5             Withdrawal rods = plus (+) reactivity             Insert rods = minus (-) reactivity             Calculate change in rod worth as follows:             [BB6 pcm] - [Open] = (+) 886 pcm             Present Rod Worth - Desired Rod Worth = (+/-) (A)             Performed by             Verified by             Performed by             Verified by             Plant Curve Book, Section 2, Figure 6A             Raise Power = minus (-) reactivity             Lower Power = plus (+) reactivity             Lower Power = plus (+) reactivity             Calculate change in power defect as follows:             [Imperformed by             [Imperforme</li></ol>		10 pcm = 1 ppm 10 gallons = 1 ppm	
Plant Curve Book, Section 2, Figure 5 Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity Calculate change in rod worth as follows: $\begin{bmatrix} \underline{S} & $	PART 1: Power	Change Only	
Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity Calculate change in rod worth as follows: $\begin{bmatrix} \underline{B} & \underline{B} &$	1) <u>Rod Wort</u>	<u>h (A)</u>	
$[\underbrace{B} \underbrace{B} \underbrace{B} \underbrace{pem}] - [\underbrace{pem}] = (\underbrace{+}) \underbrace{B} \underbrace{B} \underbrace{B} \underbrace{pem}$ Present Rod Worth - Desired Rod Worth = (+/-) (A) $\underbrace{M} \underbrace{M} \underbrace{M} \underbrace{Performed by} Verified by$ 2) Power Defect (B) Plant Curve Book, Section 2, Figure 6A Raise Power = minus (-) reactivity Lower Power = plus (+) reactivity Calculate change in power defect as follows: $[\underbrace{M} \underbrace{M} \underbrace{pem}] - [\underbrace{M} \underbrace{pem}] = \underbrace{(+)} \underbrace{7//}_{(B)} \underbrace{pem}$ Present Pwr Defect - Desired Pwr Defect = (+/-) (B) $\underbrace{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace{M} \underbrace{Performed by} Verified by}$ 3) Calculate the Desired Change in pcm (C)	Withdrawa	l rods = plus (+) reactivity	
Present Rod Worth - Desired Rod Worth = $(+/-)$ (A)	Calculate c	-	
Plant Curve Book, Section 2, Figure 6A Raise Power = minus (-) reactivity Lower Power = plus (+) reactivity Calculate change in power defect as follows: $\frac{1204}{pcm} \text{pcm} = \frac{145}{pcm} = \frac{1+2}{211} \text{pcm}$ Present Pwr Defect - Desired Pwr Defect = (+/-) (B) $\frac{1204}{Performed by} = \frac{145}{Verified by}$ 3) Calculate the Desired Change in pcm (C)	Present Rod W	orth - Desired Rod Worth = $(+/-)$ (A)	
Raise Power = minus (-) reactivity Lower Power = plus (+) reactivity Calculate change in power defect as follows: $[\underline{/204}_{pcm}] - [\underline{/45}_{pcm}] = (\underline{+}) \underline{711}_{pcm} pcm$ $\underline{/204}_{present Pwr Defect} - Desired Pwr Defect = (\underline{+}) \underline{711}_{(B)} pcm$ $\underline{/204}_{Performed by} \underline{Verified by}$ 3) <u>Calculate the Desired Change in pcm (C)</u>	2) <u>Power Def</u>	ect (B)	
$[\underbrace{\frac{1204}{pcm}}_{Present Pwr Defect} - \underbrace{\frac{1915}{Desired Pwr Defect}}_{Performed by} = \underbrace{\frac{1915}{Pcr}}_{Verified by} pcm$ $\underbrace{\frac{1204}{pcm}}_{Performed by} \underbrace{\frac{1915}{Pcr}}_{Verified by}$ 3) Calculate the Desired Change in pcm (C)	Raise Powe	r = minus (-) reactivity	
3) <u>Calculate the Desired Change in pcm (C)</u>	[ <u>1204</u> pcm]		
	Performe	d by Verified by	
$\frac{[(++-) \times BB_{pcm}] + [(++-) \times BB_{pcm}] = (+-) \times BB_{pcm}}{(B)} pcm = (+-) \times BB_{pcm}$		the Desired Change in pcm (C) pcm ] + $\left[ f(+) - \frac{711}{(B)} \text{ pcm} \right] = f(+) - \frac{1597}{(C)} \text{ pcm}$	
Performed by Verified by	<u>Ris</u> Performe	with	

			Арргоу	138 al Date:
0-OP-046	CVCS – Bor	on Concentration Cont		-6/27/(
		TACHMENT 5 (Page 2 of 3)		
		VITY WORKSHEET		
4) Integral Bo	ron Worth			
Boration = r Dilution = p For power c For power c	Book, Section 2, Figure 7A ninus (-) reactivity lus (+) reactivity hanges in Mode 1, use Hot hanges in Mode 2, use Hot boron Concentration (C <sub>B</sub> ) as	<i>ZERO</i> Full Power numbers ( <del>ec</del> Zero Power numbers (n	NO	
	$m ] - [(+/-)] \frac{15797}{(C)} pcm ] =$	pm (+/-) <u>54//6</u> pcm Desired boron worth		
_	esired C <sub>B</sub> from Section 2, F	Sigure 7A = $588$	ppm	
		< Ai		
	Pe	rformed By	Verified By	-
50,790 is ti		<u>NOTE</u>		- 
BAST conc BAST conc 5) <u>IF</u> desired B	Pe he nominal volume of the RC entration or a nominal value of foron Concentration is less equired as follows:	<b>NOTE</b> CS and the CVCS. BAST of 5664 ppm. than the current Boror	ppm is the most rece	_ I
BAST conc BAST conc 5) <u>IF</u> desired B	he nominal volume of the RC entration or a nominal value of foron Concentration is less	<b>NOTE</b> CS and the CVCS. BAST of 5664 ppm. than the current Boror Current $C_B$ in ppm Desired $C_B$ in ppm	ppm is the most rece	<b>_</b> ] <u>EN</u> cal
<ul> <li>BAST conc</li> <li>BAST conc</li> <li>IF desired B</li> </ul>	he nominal volume of the RC centration or a nominal value of coron Concentration is less equired as follows:	<b>NOTE</b> CS and the CVCS. BAST of 5664 ppm. than the current Boror Current C <sub>B</sub> in ppm	ppm is the most rece Concentration, <u>THI</u>	<b>EN</b> cal Water
<ul> <li>BAST conc</li> <li>BAST conc</li> <li>IF desired B</li> </ul>	the nominal volume of the RC centration or a nominal value of foron Concentration is less equired as follows: $50,790 \times \ln$	<b>NOTE</b> S and the CVCS. BAST of 5664 ppm. than the current Boror Current $C_B$ in ppm Desired $C_B$ in ppm 588 ppm 770 ppm	ppm is the most rece a Concentration, <u>THE</u> = Gallons of Primary = <u>4100</u> Gallor Gallons of Primary	<b>EN</b> cal Water
<ul> <li>BAST conc</li> <li><u>IF</u> desired B the dilution r</li> <li><u>IF</u> desired B</li> </ul>	the nominal volume of the RC centration or a nominal value of foron Concentration is less equired as follows: $50,790 \times \ln$	<b>NOTE</b> S and the CVCS. BAST of 5664 ppm. than the current Boror Current $C_B$ in ppm Desired $C_B$ in ppm 588 ppm 770 ppm 770	ppm is the most rece Concentration, <u>THE</u> = Gallons of Primary = <u>410</u> Gallor Gallons of Primary Verified By	<b><u>E</u>N cal Water ns Water</b>
<ul> <li>BAST conc</li> <li><u>IF</u> desired B the dilution r</li> <li><u>IF</u> desired B</li> </ul>	the nominal volume of the RC contration or a nominal value of toron Concentration is less equired as follows: $50,790 \times \ln$ foron Concentration is high required as follows: $50,790 \times \ln$	<b>NOTE</b> S and the CVCS. BAST of 5664 ppm. than the current Boror Current $C_B$ in ppm Desired $C_B$ in ppm 588 ppm 770 ppm 770	ppm is the most rece Concentration, <u>THI</u> = Gallons of Primary $= \underbrace{4100}_{Gallons of Primary}$ Concentration, <u>THI</u> = Gal of Boric Act	EN cal Water Mater Water
<ul> <li>BAST conc</li> <li><u>IF</u> desired B the dilution r</li> <li><u>IF</u> desired B</li> </ul>	the nominal volume of the RC contration or a nominal value of toron Concentration is less equired as follows: $50,790 \times \ln$ foron Concentration is high required as follows: $50,790 \times \ln$	<b>NOTE</b> S and the CVCS. BAST of 5664 ppm. than the current Boror Current $C_B$ in ppm Desired $C_B$ in ppm 588 ppm 770 ppm 770 ppm 770 ppm 770 ppm 770 ppm 770 ppm 770 ppm 770 ppm 770 ppm	ppm is the most rece Concentration, THI = Gallons of Primary $= \frac{410}{Gallons of Primary}$ Concentration, THI = Gal of Boric Act $= Gallons$	EN cal Water Mater EN cal id

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	Procedure No.:	Procedure Title:	Page: <b>139</b>
(	0-OP-046	Approval Date: 6/27/08	
		ATTACHMENT 5 (Page 3 of 3)	
		REACTIVITY WORKSHEET	
	PART 2: Tempe	ature Change Only	
	1) <u>Temperat</u>	re change requirements	
	To raise ter To lower te	nperature, refer to Plant Curve Book, Section 3, Figure 2B. mperature, refer to Plant Curve Book, Section 2, Figures 9 and 9	9A.
	Determine	desired temperature change: (+/-) °F	
	To dilute:	$[\_\_\_] ^{\circ}F ] x [\_\_] gal/^{\circ}F] = \_\_] gal Wa$ Sect 3, Fig 2B	ter
	To borate:	[°F] x [pcm/°F] =pcm Sect 2, Fig 9/9A	
		[ pcm] x [gal/pcm] = gal of Boric Ad	eid
· · · ·			
· ((		Performed By Verified	By
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5A1.1 Procedure No.: Page: Procedure Title: 137 Approval Date: 0-OP-046 6/27/08 **CVCS** – Boron Concentration Control **ATTACHMENT 5** (Page 1 of 3) **REACTIVITY WORKSHEET** NOTE Boric Acid Thumb Rules are as follows: 10 pcm = 1 ppm 10 gallons = 1 ppm 1 gallon = 1 pcm PART 1: Power Change Only VSING BANK 1) Rod Worth (A) Plant Curve Book, Section 2, Figure 5 Withdrawal rods = plus (+) reactivity Insert rods = minus (-) reactivity Calculate change in rod worth as follows: [<u>886</u> pcm] -Present Rod Worth -<u>886</u> pcm  $[ \_ pcm] = (+)-)$ Desired Rod Worth = (+)-) R. Smith Performed by Verified by 2) Power Defect (B) REOR DIRECTIONS Plant Curve Book, Section 2, Figure 6A READ D WCORRE Raise Power = minus (-) reactivity Lower Power = plus (+) reactivity fCalculate change in power defect as follows: [1204 pcm] $\left[\frac{/7/5}{\text{Desired Pwr Defect}} = (+,-)\right]$ pcm Present Pwr Defect -(B) min Performed by Verified by 3) Calculate the Desired Change in pcm (C)  $\frac{386}{(A)} \text{ pcm} ] + [(+)] - \frac{711}{(B)} \text{ pcm} ] = (+) - 1 - 1$ Performed by Verified by W2003:TNM/cls/cls/ln

Procedure No.:	Procedure Title:	Page: <b>138</b>
0-OP-046	CVCS – Boron Concentration Control	Approval Date: 6/27/08
	ATTACHMENT 5 (Page 2 of 3)	
	<b>REACTIVITY WORKSHEET</b>	
4) Integral Boro	on Worth	
Boration = mi Dilution = plu For power cha For power cha	ook, Section 2, Figure 7A (Do not interpolate between graphs. nus (-) reactivity $ZEHO$ $NO$ nges in Mode 1, use Hot Full Power numbers (equilibrium xer nges in Mode 2, use Hot Zero Power numbers (no xenon.) ron Concentration (C <sub>B</sub> ) as follows:	
Present boron wor from Sect 2, Fig 7.	$ [-[(+-)] \frac{1597}{(C)} \text{ pcm}] = (+-) \frac{547}{6} \text{ pcm} $ $ = \text{Desired boron worth} $ $ 588^{\pm} 60^{\pm} $	
Determine des	$\frac{1}{Performed By} ppm$	Ву
	<u> </u>	· '
	nominal volume of the RCS and the CVCS. BAST ppm is the m ntration or a nominal value of 5664 ppm.	ost recent
the dilution red	ron Concentration is less than the current Boron Concentration guired as follows: $50,790 \times \ln \begin{bmatrix} 58 & \text{Current } C_B \text{ in ppm} \\ \hline 770 & \text{Mater} \end{bmatrix} = \text{Gallons}$ $50,790 \times \ln \begin{bmatrix} \text{Desired } C_B \text{ in ppm} \\ \hline 770 & \text{Mater} \end{bmatrix}$	on, <u>THEN</u> calculate of Primary 🕖
	Performed By Verified I	
	on Concentration is higher than the current Boron Concentrati quired as follows:	ion, <u>THEN</u> calculate
	50,790 x ln $\frac{[BAST ppm] - [Present RCS ppm]}{[BAST ppm] - [Desired RCS ppm]} = Gal$	of Boric Acid
W2003:TNM/cls/cls/ln	$50,790 \times \ln \begin{bmatrix} ppm] - [RCS ppm] \\ NR \end{bmatrix} = \underbrace{\qquad}_{Performed By} Verified I$	Gallons <u>M</u> By

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		REMOVE TIME CRITICALS			
Appendix C	Job Perform Wor	Form ES-C-1			
Facility:	Turkey Point	Task No:			
	Perform Review of 0-OSP- 205, Verification of Administratively Controlled Valves, Locks, and Switches				
Task Title:		_ JPM No:	NRC-25-ADMIN-JPM-SA.1.2		
	2.1.29 Knowledge of how to conduct system lineups, such as valves, breakers, switches, etc. (CFR: 41.10 / 45.1 / 45.12) IMPORTANCE RO 4.1				
K/A Reference:	SRO 4.0				
Examinee:		_ NRC Examiner:			
Facility Evaluator:	v	_ Date:			
Method of testing:					
Simulated Perform	ance	_ Actual Performanc	ce X		
Classroom	X Simulator		Plant		

### Read to the examinee:

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

### INITIAL CONDITIONS:

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Unit 3 is in Mode 1 at 100% Power

0-OSP-205, Verification of Administratively Controlled Valves, Locks and Switches, and 3-OSP-053.4, Containment Integrity Penetration Alignment Verification are in progress.

### Task Standard:

- 1. SRO determines that Containment Integrity is not satisfied on Penetration 16 and directs that it be restored within 1 hour.
- 2. SRO determines that unlocked valve on Penetration 35 must be locked.

### Required Materials:

- O-ADM-205, Administrative Control of Valves, Locks, and Switches
- 3-OSP-053.4, Containment Integrity Penetration Alignment
- Technical Specification: 4.6.1.1.a

### General References:

- O-ADM-205, Administrative Control of Valves, Locks, and Switches
- 3-OSP-053.4, Containment Integrity Penetration Alignment Verification
- Technical Specification: 4.6.1.1.a
- FSAR Chapter 6 Section 6

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Appendix C	Page 2 of 12	Form ES-C-1
ADDONDIX G		

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Initiating Cue:

The NPO provides a completed copy of ATTACHMENT 1 of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification.

1. Determine Acceptance Criteria Results

2. Evaluate Unit Conditions and and determine ALL Administrative and/or Corrective Actions if any.

Time Critical Task: NO

Validation Time: 18 minutes

### HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

# SIMULATOR SETUP

# Reset to IC #

N/A

## Load Lesson

N/A

# Ensure Simulator Operator Checklist is complete

N/A

Appendix C

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# Denote critical steps with a check mark( $\checkmark$ )

	Start Tin	ne
<u>STEP 1</u> : √	Obtain and review marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from.	SAT UNSAT
<u>Standard</u> :	Candidate reviews marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from NPO and marks Attachment 1 of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification UNSAT.	
Cue	Provide marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from NPO	
<u>Comment</u>		
NOTE:		

•Appendix C	Page 5 of 12	Form ES-C-1

<u>STEP 2</u> : √	Determine Pen 16, HV-3-1, Post Accident Containment Vent and Sample System Isol Valve (RR) LOCKED OPEN does not meet the requirements of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification, and 0-ADM-205, Administrative Control of Valves,Locks, and Switches	SAT UNSAT
<u>Standard</u> :	Determines Pen 16, HV-3-1, Post Accident Containment Vent and Sample System Isol Valve (RR) LOCKED OPEN does not meet the requirements of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification, and 0-ADM-205, Administrative Control of Valves,Locks, and Switches	
<u>Cue</u>	Provided by marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from NPO	
<u>Comment</u>		
NOTE:		

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<sup>•</sup> Appendix C

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STEP 3 :	7.4 <b>IF</b> a component is NOT in the position specified in Attachments 1, 2, or 3, <b>THEN</b> list the component under Remarks in the applicable attachment <b>AND</b> notify the Shift Manager or Unit Supervisor.	SAT UNSAT
<u>Standard</u> :	Informs Unit Supervisor/Shift Manager of deviation.	
<u>Cue</u>	Provided by marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from NPO If candidate attempts communication with Unit Supervisor/Shift Manager, confirm communication and as Shift Manager direct Unit Supervisor to take any appropriate action(s) if any are required.	
<u>Comment</u>		
NOTE:		

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STEP 4 :	3-OSP-053.4, Containment Integrity Penetration Alignment Verification Step 7.4.1	SAT
N	The SRO shall evaluate the configuration of the component and penetration to ensure that CONTAINMENT INTEGRITY requirements are satisfied.	UNSAT
<u>Standard</u> :	SRO Candidate determines Containment Integrity is NOT satisfied.	
Cue	Provided by marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from NPO	
<u>Comment</u>		
	Uses any or all of the following to determine Containment Integrity:	
	Technical Specification:	
	3/4.6 CONTAINMENT SYSTEMS	
	3/4.6.1 PRIMARY CONTAINMENT	
	CONTAINMENT INTEGRITY	
	LIMITING CONDITION FOR OPERATION 3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.* APPLICABILITY: MODES 1, 2, 3, and 4	
NOTE:	ACTION: Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.	
	SURVEILLANCE REQUIREMENTS 4.6.1.1 CONTAINMENT INTEGRITY shall be demonstrated:	
	a. At least once per 31 days by verifying that all penetrations** not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their closed positions;	
	FSAR Chapter 6 Section 6 : Manual and remote manual valves which do not receive an automatic actuation signal are administratively	
	controlled to preserve containment integrity.	

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STEP 5 :	3-OSP-053.4, Containment Integrity Penetration Alignment Verification Step 7.4.2	SAT
\	Enter 3-ONOP-053, Loss of Containment Integrity	UNSAT
<u>Standard</u> :	3-ONOP-053, Loss of Containment Integrity entered and action ordered to Lock Closed HV-3-1, Post Accident Containment Vent and Sample System Isol Valve (RR) within 1 hour. -OR- Ordered to Lock Closed HV-3-1, Post Accident Containment Vent and Sample System Isol Valve (RR) within 1 hour based on required Technical Specifications requirement or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.	
Cue	Provided by marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from NPO	
<u>Comment</u>		
NOTE:	3-ONOP-053, Loss of Containment Integrity 4.0 IMMEDIATE ACTIONS 4.1 IF in Modes 1, 2, 3, or 4, THEN restore containment integrity within one hour.	

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<u>STEP 6</u> : √	Determine Pen 35, 3-11-020, Purge Air Supply Line Test Connection, CLOSED and UNLOCKED does not meet the requirements of 3-OSP- 053.4, Containment Integrity Penetration Alignment Verification, and 0- ADM-205, Administrative Control of Valves,Locks, and Switches	SAT UNSAT
<u>Standard</u> :	Candidate determines Pen 35, 3-11-020, Purge Air Supply Line Test Connection, CLOSED and UNLOCKED does not meet the requirements of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification, and 0-ADM-205, Administrative Control of Valves,Locks, and Switches	
<u>Cue</u>	Provided by marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from NPO	
<u>Comment</u>		
NOTE:		

Terminating Cue:	The task is complete when the examinee returns the cue sheet to the examiner.	STOP
NOTE:		
<u>Comment</u>		
<u>Cue</u>	Provided by marked up copy of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification from NPO	
<u>Standard</u> :	SRO notifies US/SM. And directs Pen 35, 3-11-020, Purge Air Supply Line Test Connection, LOCKED in accordance with 3- OSP-053.4, Containment Integrity Penetration Alignment Verification, and 0-ADM-205, Verification of Administratively Controlled Valves, Locks, and Switches.	
	<ul> <li>Switches.</li> <li>O-ADM-205, Administrative Control of Valves,Locks, and Switches</li> <li>5.8.1.4:</li> <li>If an administratively controlled valve, lock, or switch is found in a position other than the preferred position and not under administrative control of a plant procedure, equipment clearance order, or TSA, the Shift Manager shall be notified immediately so that an investigation can begin to determine the reason for the system misalignment.</li> <li>Based on the findings of the investigation, required notifications shall be made and the valve, lock, or switch returned to its preferred position.</li> </ul>	
<u>STEP 7</u> : √	SRO to direct Pen 35, 3-11-020, Purge Air Supply Line Test Connection, LOCKED in accordance with 3-OSP-053.4, Containment Integrity Penetration Alignment Verification, and 0-ADM-205, Verification of Administratively Controlled Valves, Locks, and	SAT UNSAT

Stop Time \_\_\_\_\_

Appendix C	Page 11 of 12	Form ES-C-1
Verification of Completion		
Job Performance Measure No.	NRC-25-ADMIN-JPM-SA.1.2	
Examinee's Name:		
Examiner's Name:		
Date Performed:		
Facility Evaluator:		
Number of Attempts:		
Time to Complete:		
Question Documentation:		
Question:		
	· · · · · · · · · · · · · · · · · · ·	
Response:		
	······································	

Result: Satisfactory/Unsatisfactory

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Examiner's signature and date:

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# JPM BRIEFING SHEET

The examiner 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:

Unit 3 is in Mode 1 at 100% Power

0-OSP-205, Verification of Administratively Controlled Valves, Locks and Switches, and 3-OSP-053.4, Containment Integrity Penetration Alignment Verification are in progress.

### INITIATING CUE:

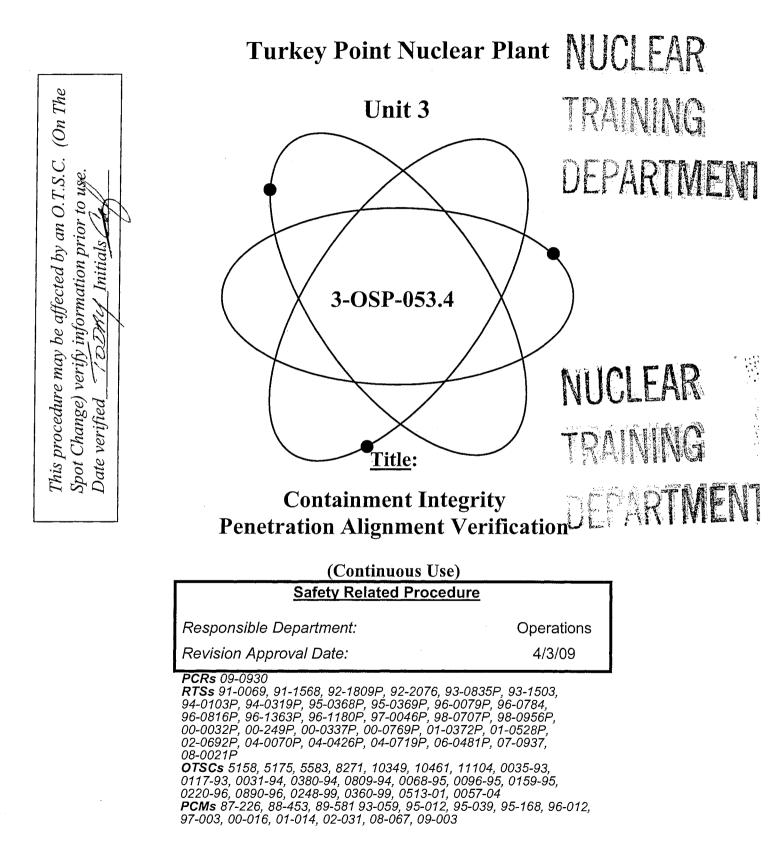
The NPO provides a completed copy of ATTACHMENT 1 of 3-OSP-053.4, Containment Integrity Penetration Alignment Verification.

1. Determine Acceptance Criteria Results

2. Evaluate Unit Conditions and and determine ALL Administrative and/or Corrective Actions if any.

# HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

# Florida Power & Light Company



Procedure No .:

Procedure Title:

3-OSP-053.4

Containment Integrity Penetration Alignment Verification

Page: Approval Date:

4/3/09

2

# **LIST OF EFFECTIVE PAGES**

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1	04/03/09	33	11/09/07	65	08/29/00	97	08/29/00C
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3	06/19/06	35	11/09/07	67	06/19/06	99	08/29/00
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13	08/29/00	45	03/03/03	77	08/29/00	109	06/19/06
14	08/29/00	46	06/19/06	78	08/29/00		
15	08/29/00	47	08/29/00	79	09/21/04		
16	08/29/00	48	06/19/06	80	09/21/04		
17	08/29/00	49	08/29/00	81	09/21/04		
18	08/29/00C	50	08/29/00	82	09/21/04		
19	08/29/00	51	08/29/00	83	09/21/04		
20	08/29/00	52	08/29/00	84	09/21/04		
21	08/29/00	53	08/29/00C	85	08/29/00C		
22	08/29/04C	54	08/29/00	86	08/29/00C		
23	02/24/04C	55	02/24/04	87	08/29/00C		
24	02/24/04	56	04/03/09	88	08/29/00		
25	08/29/00C	57	04/03/09	89	03/03/03		
26	10/23/01C1	58	08/29/00	90	06/19/06		
27	9/11/01C1	59	04/03/09	91	08/29/00		
28	08/29/00	60	04/03/09	92	08/29/00C		
29	08/29/00	61	01/10/08	93	08/29/00C		
30	08/29/00	62	08/29/00C	94	08/29/00C		
31	08/29/00	63	08/29/00	95	08/29/00C		
32	08/29/00	64	08/29/00	96	08/29/00C		

Procedu	ure No.:	Procedure Title:	Page: 3
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Procedure No .:

3-OSP-053.4

### Containment Integrity Penetration Alignment Verification

rage: 4 Approval Date: 6/19/06

### 1.0 **PURPOSE**

1.1 The purpose of this procedure is to provide a containment integrity penetration alignment verification and containment isolation valve position indication channel check. This surveillance satisfies the requirements of References 2.1.2.3, and 2.1.2.4. Performance of this procedure also checks the locked valves listed in 0-OSP-205, Verification of Administratively Controlled Valves, Locks and Switches, Enclosure 1.

### 2.0 REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS

### 2.1 <u>References</u>

- 2.1.1 10CFR Part 50, Appendix A GDC 55, 56, and 57
- 2.1.2 <u>Technical Specifications</u>
  - 1. Section 1.7, Containment Integrity
  - 2. Section 3/4.6.4, Containment Isolation Valves
  - 3. Section 4.6.1.1.a, Primary Containment Integrity Surveillance Requirements
  - 4. Table 4.3-4, Item 22, Containment Isolation Valve Position Indication

### 2.1.3 <u>FSAR</u>

- 1. Section 6.6, Containment Isolation
- 2. Section 14.2.4, Steam Generator Tube Rupture

### 2.1.4 Licensee Event Reports

- 1. LER 251-84-020, Containment Integrity
- 2. LER 251-86-024, Unit Shutdown Due to Missed Post Maintenance Testing of Containment Isolation Valve
- 3. LER 250-87-002, Unit 3 Changed Modes with a Phase A Containment Isolation Valve Out of Service

2.1.6 2.1.7 2.1.8	Containment Integrity Penetration Alignment Verification         Plant Procedures         1. 0-ADM-205, Administrative Control of Valves, Locks and         2. 0-ADM-215, Plant Surveillance Tracking Program         3. 0-OSP-200.1, Schedule of Plant Checks and Surveillances         4. 0-OSP-205, Verification of Administratively Controlled Switches.         Bechtel Job 5177-523, Evaluation of Containment Isolation Value         JPN-PTN-SENS-92-044, Rev 1, Manual Override of MOV-Seal Failure	s Valves, Locks and alve Configurations
2.1.6 2.1.7 2.1.8	<ol> <li>0-ADM-205, Administrative Control of Valves, Locks and</li> <li>0-ADM-215, Plant Surveillance Tracking Program</li> <li>0-OSP-200.1, Schedule of Plant Checks and Surveillances</li> <li>0-OSP-205, Verification of Administratively Controlled Switches.</li> <li>Bechtel Job 5177-523, Evaluation of Containment Isolation Valve</li> <li>JPN-PTN-SENS-92-044, Rev 1, Manual Override of MOV-</li> </ol>	s Valves, Locks and alve Configurations
2.1.6 2.1.7 2.1.8	<ol> <li>0-ADM-215, Plant Surveillance Tracking Program</li> <li>0-OSP-200.1, Schedule of Plant Checks and Surveillances</li> <li>0-OSP-205, Verification of Administratively Controlled Switches.</li> <li>Bechtel Job 5177-523, Evaluation of Containment Isolation Va JPN-PTN-SENS-92-044, Rev 1, Manual Override of MOV-</li> </ol>	s Valves, Locks and alve Configurations
2.1.6 2.1.7 2.1.8	<ol> <li>0-OSP-200.1, Schedule of Plant Checks and Surveillances</li> <li>0-OSP-205, Verification of Administratively Controlled Switches.</li> <li>Bechtel Job 5177-523, Evaluation of Containment Isolation Va JPN-PTN-SENS-92-044, Rev 1, Manual Override of MOV-</li> </ol>	Valves, Locks and alve Configurations
2.1.6 2.1.7 2.1.8	<ol> <li>0-OSP-205, Verification of Administratively Controlled Switches.</li> <li>Bechtel Job 5177-523, Evaluation of Containment Isolation Va JPN-PTN-SENS-92-044, Rev 1, Manual Override of MOV-</li> </ol>	Valves, Locks and alve Configurations
2.1.6 2.1.7 2.1.8	Switches. Bechtel Job 5177-523, Evaluation of Containment Isolation Va JPN-PTN-SENS-92-044, Rev 1, Manual Override of MOV-	alve Configurations
2.1.7	JPN-PTN-SENS-92-044, Rev 1, Manual Override of MOV-	e
2.1.8		
		-*-626 During RCP
	PTN-ENG-SENS-99-066, Secondary Barrier Containment Int Penetrations 27A, 27B, and 27C	tegrity Function for
2.1.9	Miscellaneous Documents (i.e., PC/M, Correspondence)	
	1. PC/M 87-226, Unit 3 - PAHM Valve Installation	
2	2. PC/M 88-453, Drawing Discrepancies	
	3. PC/M 89-581, Containment Isolation Features Design Bas	sis Implementation
	4. PC/M 95-012, Containment Isolation Barrier Test Enhance	ement
:	5. PC/M 95-039, Emergency Hatch Gauge Qualification	
(	6. PC/M 95-168, Remove Time Delay for Blowdown CV-3-6275A, B, C	Isolation Valves
ŕ	7. PC/M 96-012, Unit 3 Boron Injection Tank Bypass Modif.	ication
٤	8. PC/M 97-003, Thermal Overpressurization of Isolated Pipe	ing
9	9. PC/M 01-014, MOV 843 and 869, Equalizing Line and SJ	S Modifications
1	<ol> <li>PC/M 02-031, Abandonment of H<sub>2</sub> Recombiner Exhaust L and Replacement of 3-40-205</li> </ol>	Line to Containment
1	1. PC/M 08-067, GL 2008-01 Vent Valve Installation	
12	2. PC/M 09-003, GL 2008-01 Vent Valve Installation In Unit 3	nside Containment

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, I	NOTE
	ngs are referenced on the penetration sheets. Refer to Attachments 1 and efferences for each penetration.
	!
2.1.10 <u>Op</u>	berating Diagrams
1.	5613-M-3013, Shts 1 and 7, Instrument Air System
2.	5613-M-3020, Sht 2, Primary Make-up Water System
3.	5613-M-3030, Shts 4 and 5, Component Cooling Water System
4.	5613-M-3032,Sht 1, Sample System - Secondary Feedwater
5.	5613-M-3036, Sht 1, Sample System - NSSS
6.	5613-M-3041, Shts 1, 2 and 3, Reactor Coolant System
7.	5613-M-3047, Shts, 1, 2 and 3, CVCS
8.	5613-M-3050, Sht 1, Residual Heat Removal System
9.	5613-M-3053, Sht 1, Containment Purge System and Penetration Cooling System
10.	5613-M-3061, Sht 1, Waste Disposal System
11.	5613-M-3062, Shts 1 and 2, Safety Injection System
12.	5613-M-3064, Sht 1, Safety Injection Accumulator - Inside Cont
13.	5610-M-3065, Sht 1, Nitrogen and Hydrogen System - $N_2$ Supply
14.	5613-M-3068, Sht 1, Containment Spray System
15.	5613-M-3072, Shts 1 and 2, Main Steam System
16.	5613-M-3074, Shts 3 and 4, Feedwater System
17.	5613-M-3075, Shts 1 and 2, Auxiliary Feedwater System
18.	5613-M-3078, Sht 1, Steam Generator Wet Lay-Up System
19.	5613-M-3094, Sht 1, Containment Post Accident Evaluation System
20.	5613-M-3101, Sht 1, Breathing Air System Distribution

3-OSP-053.4 2.2 Records 2.2.1 2.2.2 2.2.2 2.2.3 2.2.4	Containment Integrity Penetration Alignment Verification       Approval Date: 6/19/06         is Required       Sequired         The time and section completed shall be entered in the Unit Narrative Log. Also, problems encountered while performing the procedure should be entered, i.e., malfunctioning equipment, delays due to changes in plant conditions, etc.         Completed copies of the below listed items document compliance with Technical Specification surveillance requirements and shall be transmitted to QA Records for retention in accordance with Quality Assurance Records Program requirements:         1. Attachment 1         2. Attachment 2         3. Attachment 3         4. Attachment 4         A copy of the completed procedure shall be filed and maintained by the Shift Manager until the next performance of the procedure.
2.2.1 2.2.2 2.2.3	<ul> <li>The time and section completed shall be entered in the Unit Narrative Log. Also, problems encountered while performing the procedure should be entered, i.e., malfunctioning equipment, delays due to changes in plant conditions, etc.</li> <li>Completed copies of the below listed items document compliance with Technical Specification surveillance requirements and shall be transmitted to QA Records for retention in accordance with Quality Assurance Records Program requirements:</li> <li>1. Attachment 1</li> <li>2. Attachment 2</li> <li>3. Attachment 3</li> <li>4. Attachment 4</li> <li>A copy of the completed procedure shall be filed and maintained by the Shift</li> </ul>
2.2.2	<ul> <li>problems encountered while performing the procedure should be entered, i.e., malfunctioning equipment, delays due to changes in plant conditions, etc.</li> <li>Completed copies of the below listed items document compliance with Technical Specification surveillance requirements and shall be transmitted to QA Records for retention in accordance with Quality Assurance Records Program requirements:</li> <li>1. Attachment 1</li> <li>2. Attachment 2</li> <li>3. Attachment 3</li> <li>4. Attachment 4</li> <li>A copy of the completed procedure shall be filed and maintained by the Shift</li> </ul>
2.2.3	<ul> <li>Specification surveillance requirements and shall be transmitted to QA Records for retention in accordance with Quality Assurance Records Program requirements:</li> <li>1. Attachment 1</li> <li>2. Attachment 2</li> <li>3. Attachment 3</li> <li>4. Attachment 4</li> <li>A copy of the completed procedure shall be filed and maintained by the Shift</li> </ul>
	<ol> <li>Attachment 2</li> <li>Attachment 3</li> <li>Attachment 4</li> <li>A copy of the completed procedure shall be filed and maintained by the Shift</li> </ol>
	<ul> <li>3. Attachment 3</li> <li>4. Attachment 4</li> <li>A copy of the completed procedure shall be filed and maintained by the Shift</li> </ul>
	<ul><li>4. Attachment 4</li><li>A copy of the completed procedure shall be filed and maintained by the Shift</li></ul>
	A copy of the completed procedure shall be filed and maintained by the Shift
	A copy of the completed procedure shall be filed and maintained by the Shift Manager until the next performance of the procedure.
2.2.4	
	Completed attachments listed below, that have the "TAG" column checked ( $$ ) shall be copied and transmitted to the Labeling Coordinator.
	1. Attachment 1
	2. Attachment 2
	3. Attachment 3
2.3 <u>Commit</u>	tment Documents
2.3.1	LER 251-84-009, Definition of Containment Integrity

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Procedure No.:			Procedure Title:	Page: <b>8</b>		
3-	3-OSP-053.4		Containment Integrity Penetration Alignment Verification	Approval Date: 6/19/06		
3.0	PRI	EREQUIS	SITES			
	3.1	Attachm	nents 1 and 3 - the unit is in any Mode.			
	3.2	Attachm	nent 2 - the unit is in Mode 5, 6, or Defueled.			
	3.3	Operatio	ruments and control devices are in service for the Containment on with no surveillances required and no outstanding PW ary System Alterations that affect system operability as per the	Os, Clearances, or		
		3.3.1 0-ADM-215, Plant Surveillance Tracking Program, and 0-OSP-200.1, Schedul of Plant Checks and Surveillances (No surveillances have exceeded the dat required on the Surveillance Use of Grace Sheet)				
		3.3.2	Temporary System Alteration (TSA) Log			
		3.3.3	Clearance Log			
		3.3.4	Out-of-Service Log			
4.0	<u>PRF</u>	CAUTIC	UTIONS/LIMITATIONS			
	4.1	manipul	ocedure does not authorize the positioning of system v ations shall be performed in accordance with an approved approved plant procedure, and only by qualified plant operator	In-Plant Clearance		
	4.2		stments or repairs to containment isolation valves shall be ac approval of the Shift Manager.	complished without		
	4.3	are not	ions 38, 48, 61A, and 61B are viewed as passive penetrations p subject to single active failures. For this reason, they are as part of this surveillance.	per CR 01-0747 and not required to be		
	4.4	or other	ition of valves or components in the flowpath verification that wise secured in position should be determined using alternat ition, indicating lights, etc., and not manipulated.			
5.0	<u>SPE</u>	CIAL TO	OLS/EQUIPMENT			
	5.1	None				
6.0	<u>ACC</u>	CEPTANCE CRITERIA				
	6.1	Normal evaluated	nponent is in the specified Normal Position. Any component Position shall be documented under Remarks in the applica d. The attachment is Satisfactory provided that a loss of UTY did not result from a component not being in the specified	ble attachment and CONTAINMENT		
	6.2	check is be docum is Satisfa	ponents requiring a position indication channel check, the satisfactorily completed. Any component not satisfactorily channented under Remarks in the applicable attachment and evalua- actory provided that inability to satisfactorily complete the chan failure of the associated Containment Isolation Valve Position I	annel checked shall ted. The attachment nnel check was not		

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	<b>Containment Integrity</b>	Approval Date:
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### 7.0 **PROCEDURE**

- 7.1 Obtain permission from the Shift Manager to perform this surveillance.
- 7.2 For valve Normal Position verification, complete Attachments 1, 2, and 3, as applicable, by performing the following:
  - 7.2.1 Verify the valve positions by visual inspection at the valve location or by control indication at a remote location.
  - 7.2.2 <u>WHEN</u> checking locked components, <u>THEN</u> verify that they are locked in such a manner that prevents inadvertent mispositioning.
  - 7.2.3 Initial the **FUNCTIONALLY LOCKED COLUMN** after checking that the locking device is correctly installed in accordance with Section 4.0 of 0-ADM-205, Administrative Control of Valves, Locks and Switches.
- 7.3 For valve position indication channel check, the containment isolation valve position indications of valves listed in Attachment 1, as applicable, shall be qualitatively assessed by observation. This determination shall include, where possible, comparison of the channel indication or status with other indications or status derived from independent instrument channels evaluating the same parameter. (i.e., ERDADS channels, Phase A and B status lights, local position indication, corresponding pressure, temperature or flow, etc.)
- 7.4 **IF** a component is NOT in the position specified in Attachments 1, 2, or 3, **THEN** list the component under Remarks in the applicable attachment **AND** notify the Shift Manager or Unit Supervisor.
  - 7.4.1 The Shift Manager or Unit Supervisor shall evaluate the configuration of the component and penetration to ensure that CONTAINMENT INTEGRITY requirements are satisfied.
  - 7.4.2 **IF** the position of a component or components constitutes a loss of CONTAINMENT INTEGRITY, **THEN** go to 3-ONOP-053, Loss of Containment Integrity.
  - 7.4.3 Document the results of the evaluation of Step 7.4.1 under Remarks in the applicable attachment.
- 7.5 **IF** the associated valve breaker is open or fuses are removed by procedure, clearance, or due to plant status, **THEN** record under Remarks in the applicable attachment.
- 7.6 Ensure log entries specified in Subsection 2.2 are recorded.

### END OF TEXT

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#### **ENCLOSURE 1** (Page 1 of 1)

### **CLOSED SYSTEM**

Closed systems used as containment isolation barriers shall be administratively controlled to meet the following criteria:

- The closed system shall not communicate with the primary system or containment atmosphere if 1. inside containment or not communicate with the outside atmosphere if outside containment.
- 2. Valves which define the boundary of a closed system barrier shall be administratively controlled.
- 3. Vents, drains, and test connections, while they provide an isolation function, are considered a passive extension of the process pressure boundary.
- 4. WHEN work is in progress on any portion of the closed system boundary which would affect a containment isolation barrier, THEN all clearances used to ensure the closed system boundary shall be recorded in the Remarks Section.

Closed systems are credited as barriers either inside or outside containment for the following penetrations:

Penetration	In/Out	System
3 4 12 13 15 21 22 24 26 27 28 43 44 45 64	CSIC CSIC CSIC CSIC CSOC CSIC CSIC CSIC	Component Cooling Water Component Cooling Water Component Cooling Water CVCS Component Cooling Water CVCS RCP Seal Injection Main Steam Feedwater Steam Generator Blowdown Component Cooling Water Component Cooling Water Component Cooling Water Component Cooling Water S/G Blowdown Sample System
		* *

Procedure No.:	Procedure Title:		Page: 11
3-OSP-053.4		ontainment Integrity tion Alignment Verification	Approval Date: 6/19/06
		ATTACHMENT 1 (Page 1 of 56)	
C	OUTSIDE CONTAIN	MENT INTEGRITY VERIFICATI	ON
Acceptance Criteria:	All components within	n this attachment meet the requirement	s of Section 6.0.
Results:	SAT	UNSAT	
STP Record No. 567	signed off	(Check when complete)	
Check ( $$ ) tag column	n if tag is missing, mis	labeled, illegible, or improperly secure	d.
containt	nent isolation valve po	the Normal Position or which has a osition indication Channel Check and rece, provide clearance number.	
	<u></u>		
<u> </u>			
			1200
Date/Time Started: 7		Date/Time Completed: <u>Fol</u>	7
PERFORMED BY (P	rint) INITIALS	PERFORMED BY (Print)	
WIDERN		$5.5011/V_{R}$	<u>N 3</u>
V.SELLY	$\frac{1}{4}  \frac{1}{5}$		
I have reviewed this p to perform this proced		een satisfactorily performed. Any devi emarks.	ations or OTSCs used
REVIEWED BY:			DATE:
	Shift Mana	ger or Designee	
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dure No.: <b>3-OSP-053.4</b>	Procedure Title: Containment Integrity Penetration Alignment Verification		Page: 12 Approval Date: 8/29/00
	ATTACHMENT 1 (Page 2 of 56) UTSIDE CONTAINMENT INTEGRITY VERIF	ICATION	
<u>Penetration No.:</u> 1	Function: Residual Heat Removal Suction Drawing No.: 5613-M-3050	on Header	<u>Sheet No.</u> 1
<u>L.</u>	Control Room	- <u>-</u>	<u> </u>
Component No.	Component Description	Normal Position	
MOV-3-751	Loop 3C RHR Suction Stop Valve	OPERABLI	EVND
MOV-3-750	Loop 3C RHR Suction Stop Valve	OPERABL	EVWD
<u>Penetration No.:</u> 2	Function: Residual Heat Removal Discha Drawing No.: 5613-M-3064	rge Header	<u>Sheet No.</u> 1
Component No.	Component Description	Normal Position	$\frac{\text{Checked}}{\text{Tag & VIv Pos}}$
MOV-3-744A	RHR Discharge to Cold Leg Isolation	OPERABLE	
	RHR Discharge to Cold Leg Isolation	OPERABLE	

edure No.:	Procedure Title: Containment Integr	rity		Pag Apr	e: 13 proval Date:
3-OSP-053.4	Penetration Alignment Ve	-			8/29/00
	ATTACHMENT (Page 3 of 56)				
(	OUTSIDE CONTAINMENT INTEGR	ITY VERI	FICATIO	N	
Penetration No.: 3	Function: Component Cooling To The RCPs Therma Drawing No.:	g Water Sys al Barriers a	tem Suppl and Oil Co		eet No.
	5613-M-3030			<u> </u>	5
	Control Room				
Component No.	<b>Component Description</b>	Normal Position	$\frac{\text{Check}}{\text{Tag & VI}}$		Channel Check Sat Init
MOV-3-716B	RCP CCW Inlet	OPERABLE	V	10	* ND
	Pipe and Valve Roo	m			
Component No.	Component Description		Norm Positie		$\frac{\text{Checked}}{\text{Tag & Vlv Pos}}$
3-716D	Penetration 3 Test Connection Valve of CCW Line Downstream of MOV-3-7		CLOSEI CAPPE		V 13
	Function:			•	
Penetration No.: 4	RCPs Oil C to the Component <u>Drawing No.:</u>				et No.
	5613-M-3030				5
L	Control Room				
Component No.	Component Description	Normal Position	Check Tag & Viv $(\sqrt{)}$		Channel Check Sat Init
MOV-3-730	RCP Bearing CCW Outlet	OPERABLE		10	* WD
	Pipe and Valve Roo	m		· ć	to 2 million of
Component No.	Component Description		Norm Positic		Checked $\Gamma_{ag} \& Vlv Pos$ () Init
3-730B	Penetration 4 Drain/Test Connection V the CCW Line Upstream of MOV-3-7		CLOSED CAPPE		1 15
<b>TE</b> : Those valves	identified with * are to be channel che	cked in acco	ordance w	ith S	ubsection 7.3

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Proc	edure No.:	Procedure Title:			Pa	ge:	14	
	3-OSP-053.4	Containment Inte Penetration Alignment V			Ap	Approval Date: <b>8/29/00</b>		
	0	ATTACHMENT (Page 4 of 56) OUTSIDE CONTAINMENT INTEGI		FICATI	ON			
	<u>Penetration No.:</u> 5	Function: Pressurizer Relief Drawing No.: 5613-M-3041	Tank to the (	Gas Ana	•	ieet No. 2		
			· · · · · · · · · · ·					
	Component No.	Control Room Component Description	Normal Position	Chec Tag & V $(\sqrt{)}$			hannel eck Sat Init	
	SV-3-6385 CV-3-516	PRZ Relief Tank Gas Anal Isol (Position Indication Only) PRZ Relief Tank Gas Anal Isol	OPERABLE		W	*		
	07-5-510	Pipe and Valve Ro	· · · ·		<u>in/()</u>	1_//	<i>U</i>	
	Component No.	Component Descriptio		Normal Position			e <b>cked</b> Vlv Pos Init	
	3-516A	PRT to Gas Analyzer Line Test Cont Upstream of SV-3-6385		CLOSED & CAPPED		V	13	
	3-516C			CLOS CAPI		/	13	
0	TE: Those valve this procedu	s identified with * are to be channel ch re.	ecked in acc	ordance	with S	Subsec	tion 7.3 o	

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Procedure Title:

3-OSP-053.4

**Containment Integrity** Penetration Alignment Verification

**ATTACHMENT 1** 

(Page 5 of 56)

### **OUTSIDE CONTAINMENT INTEGRITY VERIFICATION**

	Function:		
<u>Penetration No.:</u> 7	P: Drawing No.:	rimary Water Supply to PRT and RCP Sta	andpipes Sheet No.
,	5613-M	-3041	3

### **Control Room**

Component No.	Component Description	Normal Position		<b>cked</b> Vlv Pos	Channel Check Sat
110,		1 USITION	(1)	Init	Init
CV-3-519A	Primary Water Containment Isol Vlv	OPERABLE	Vi	10	* w/0
CV-3-519B	PRT Primary Water Makeup	OPERABLE		110	
CV-3-522A	3A RCP Standpipe Fill	OPERABLE		ula	
CV-3-522B	3B RCP Standpipe Fill	OPERABLE	1/	1/10	
CV-3-522C	3C RCP Standpipe Fill	OPERABLE	·/	WD	

## Pipe and Valve Room

Component No.	Component Description	Normal Position	Chee Tag & $()$	cked Vlv Pos Init
3-10-532	Primary Water Sply Hdr Drain/Test Connection Downstream of CV-3-519A	CLOSED & CAPPED	$\checkmark$	15

NOTE: Those valves identified with \* are to be channel checked in accordance with Subsection 7.3 of this procedure.

Procedure No	o.:	Proced	are Title:			Pa	ge: 16
3-OSP-053.4			Containment Integ Penetration Alignment V		L	Ар	proval Date: <b>8/29/00</b>
	0	UTSI	ATTACHMENT (Page 6 of 56) DE CONTAINMENT INTEGR		IFICAT	ΓΙΟΝ	
	Penetration No.: 8		Function: Pressurizer Stea Drawing No.: 5613-M-3036	m Space S	Sample I		<u>neet No.</u> 1
			Control Room				
Co	Component No.		Component Description Normal Position		m 6	ecked & Vlv Pos	Channel Check Sat Init
CV	7-3-956A	PRZ	Z Steam Sample Isolation OPERABLE		e 🗸	WD	* 11.0
	·		Sample Room				· · · · · · · · · · · · · · · · · · ·
	Compo Ño.	nent	<b>Component Description</b>		ormal osition	Chec Tag & V ()/	
	CV-3-9	951	PRZ Steam Space Sample Line Isolation Valve Inside Containm	ent	ERABLE	$\checkmark$	1/3
			Pipe and Valve Roo	m			
С	omponent No.		<b>Component Description</b>			ormal sition	$\begin{array}{c} \textbf{Checked} \\ \text{Tag & Vlv Pos} \\ (\sqrt{)},  \text{Init} \end{array}$
	3-991		C Steam Sample Line Test Connec ve Upstream of CV-3-956A	tion		DSED & LPPED	1 13
	Those valves this procedur		ified with * are to be channel che	ecked in ac	ecordanc	ce with S	Subsection 7.3 of

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cedure No.:	Procedure Title:	· 4 · ~ · · • 4 · ·		age: 17
3-OSP-053.4	Containment I Penetration Alignmen		A	pproval Date: <b>8/29/00</b>
	ATTACHME (Page 7 of 5			
(	OUTSIDE CONTAINMENT INTE	GRITY VERI	FICATION	
Penetration No.	Function:	<u></u>		
9	Pressuriz	zer Liquid Sampl		heet No.
	5613-M-3036			1
	Control Ro	om		
Component No.	Component Description Normal T		Checked Tag & Vlv Po $(\sqrt{)}$ Init	Channel Check Sat
CV-3-956B	PRZ Liquid Sample Line Isolation	OPERABLE	1/ WE	
	Sample Roo	)m	ł	
Component No.	Component Descrip		Normal Position	Checked Tag & Vlv Pos () / Init
CV-3-953	PRZ Liquid Sample Line Isolation Inside Containment	Valve	OPERABLE	1/15
	Pipe and Valve	Room		
Component No.	Component Descrip	tion	Normal Position	CheckedTag & Vlv Pos $(\sqrt{)}$ Init
3-992	PRZ Liquid Space Line Test Conn Valve Upstream of CV-3-956B	ection	CLOSED & CAPPED	VVS
TE: Those valve this procedu	s identified with * are to be channe re.	l checked in acco	ordance with	Subsection 7.3

3-OSP-053.4		Containment Integrity Penetration Alignment Verification						18 Approval Date: 8/29/00C		
		ATTACHN (Page 8 o		1						
	0	UTSIDE CONTAINMENT IN	ГEGR	ITY VE	RIF	TCAT	ION			
Penetration No.: 10		Function:	Function:							
			Reactor Coolant Drain Tank Vent and Pressurizer Relief Tank Vent to/from Nitrogen Supply and Vent Header <u>Drawing No.:</u> Sheet No.							
		5610-M-3065 5613-M-3061								
		Waste Disposal - Bor	on Rec	ycle Pa	nel					
CV-3-4658A to F CV-3-4658B RC		<b>Component Description</b>		Normal Position		Checked Tag & Vlv Pos				
		RCDT and PRT Vent Header				(√) /	Init		lnit /	
		to Plant Vent Isolation Valve	OPERABLI		3LE	V	13	*	1/5	
		RCDT and PRT Vent Header to Plant Vent Isolation Valve		OPERAL		V	15	* U	VS	
		Pipe and Val	ve Roo	m						
Component No.		<b>Component Description</b>		ormal osition		Ch (√) Tag /	ecked ( Functiona Locked	lly Positioned		
3-4656	$N_2$ S	Sply to Unit 3 RCDT Isol (P-10)		OCKED LOSED		/ /.		5	1/5	
3-4665B		Sply to RCDT Test Connection Isol vnstream of PCV-3-1014	CL	OSED & APPED		V.	N/A			
40-993		Air to PCV 3-1014 Root	L	OCKED XLOSED		1	15		<u>/</u> /5	
PCV-3-1014		ssure Control Valve for Nitrogen ply to RCDT		CLOSED			N/A		15	
3-4666A	$N_2$ S	Sply to RCDT Test Connection ween CV-3-4658A and B		OSED & APPED			N/A		<u>v -</u> V	
3-4639	N <sub>2</sub> S	Supply Valve to RCDT Upstream of 7-3-1014	L	OCKED LOSED		1/	V3		1/5	
3-3449		o RCDT PCV-3-1014 Sense Line Isol	L	OCKED LOSED		V	1/5		,/5	
		alves identified with * are to be is procedure.	chann	el check	ted i	n acco	rdance	with S	ubsecti	
		ed or sealed components, the cen s functioning to prevent reposition						Ų.		

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	Procedure Title:		Page: <b>19</b>
3-OSP-053.4	Containment Integrity Penetration Alignment Verification		Approval Date: <b>8/29/00</b>
(	ATTACHMENT 1 (Page 9 of 56) DUTSIDE CONTAINMENT INTEGRITY VERI	IFICATION	
<u>Penetration No.</u> 11	Alternate Low Head Safety Injection to Drawing No.: 5613-M-3050		Cold Legs <u>Sheet No.</u> 1
Mentan e mai	Control Room		·
Component No.	Component Description	Normal Position	
MOV-3-872	Alt Low Head Safety Inj	CLOSEI	
	Pipe and Valve Room		
Component No.	Component Description	Normal Position	
3-940N	RHR to Alternate SI PI-3-6389 Root Valve	CLOSED & CAPPED	· V/ 15
-	RHR to ALT SI PI-3-6389 Isol	CLOSED	

Procedure No.:	Procedure Title:		Р	age: 20
3-OSP-053.4	Containment Integ Penetration Alignment V		A	pproval Date: <b>8/29/00</b>
(	ATTACHMENT (Page 10 of 56) OUTSIDE CONTAINMENT INTEGF		FICATION	
Penetration No.: 13	<u>Function:</u> Excess Letdown H to the Componen <u>Drawing No.:</u> 5613-M-3030		ater System	Sheet No. 5
	Control Room			
Component No.	<b>Component Description</b>	Normal Position	$\begin{array}{c c} Checked \\ \hline Tag \&/Vlv Pos \\ \hline (\sqrt{)}/ & Init \end{array}$	
CV-3-739	Excess L/D Hx CCW Outlet	OPERABLE	VIND	* W.1)

**NOTE**: Those valves identified with \* are to be channel checked in accordance with Subsection 7.3 of this procedure.

Procedure No.:		Proce	dure Title:		<del></del> .	Pag	e: 21
3-OSP-053	3.4		Containment Inte Penetration Alignment V	<b>v</b> .		App	21 proval Date: 8/29/00
	0	OUTS	ATTACHMENT (Page 11 of 56) IDE CONTAINMENT INTEGI	)	FICATI	ION	
	ation No.: 14		Function: RCS La Chemical and V Drawing No.: 5613-M-3047	etdown to the Volume Contr			<u>tet No.</u>
L			Control Room				<u></u>
Compor No.	ient		Component Description	Normal Position		<b>cked</b> Vlv Pos Init	Channel Check Sat Init
CV-3-20	)0A	45 o	pm L/D Isolation Valve	OPERABLE		1111t	* 1/1
CV-3-20		¥	pm L/D Isolation Valve	OPERABLE	1	WD	* Wn
CV-3-20	00C		pm L/D Isolation Valve	OPERABLE	V	j/ ()	* 11/1
CV-3-2	04		from RHX Isol Valve	OPERABLE	V	WO	* 1/0
			Pipe and Valve Ro	oom			
Compor No.	ient		Component Description	n		rmal sition	$\frac{\text{Checked}}{\text{Tag & Vlv Pos}}$ ( $$ )/ Init
3-201	D	L/D	Isol CV-3-204 Inlet Drn (P-14)			SED & PPED	V V5

**NOTE**: Those values identified with \* are to be channel checked in accordance with Subsection 7.3 of this procedure.

W97:BJS/mrg/mrg/ln

edure No.:	Containment Integrity		22 Approval Date:
3-OSP-053.4	Penetration Alignment Verificatio	n	8/29/00C
1	ATTACHMENT 1 (Page 12 of 56 ) OUTSIDE CONTAINMENT INTEGRITY VE)	RIFICATION	
Penetration No	Exact CVCS Charging Pump D A Cold Leg, C Hot Leg, and P2		ray
15, 24A, 24 &24C	B <u>Drawing No.:</u> 5613-M-3047	<u> </u>	<u>Sheet No.</u>
	SHIFT MANAGER VERIFICATION	<u>.</u>	
been adm maintainin	a aligned using 3-OP-047, CVCS-CHARGING AND inistratively controlled maintaining the closed s g containment integrity.	system operable	e, thus
been adm maintainin The CVC: administra Clearances Section. <u>3-0</u>	inistratively controlled maintaining the closed of g containment integrity. S System forming the Closed System Bound tively controlled to ensure containment integrity s used to ensure Closed System Boundary are <u>P-O</u> <u>FOM</u> RE NUMBER DATE PERFORMED SHIFT MA	system operable ndary is operat y is being main listed in the Re MaurAl	e, thus ble or tained.
been adm maintainin The CVC: administra Clearances Section. <u>3-0</u>	inistratively controlled maintaining the closed s g containment integrity. S System forming the Closed System Boun- tively controlled to ensure containment integrity s used to ensure Closed System Boundary are P-04 Toma S	system operable ndary is operat y is being main listed in the Re MaurAl	e, thus ble or tained. emarks Checked Tag & Vlv Po
been adm maintainin The CVC: administra Clearances Section. <u>3-0</u> PROCEDU	inistratively controlled maintaining the closed s g containment integrity. S System forming the Closed System Bound tively controlled to ensure containment integrity s used to ensure Closed System Boundary are <u>P-O-H</u> <u>TOTA</u> <u>TOTA</u> <u>RE NUMBÉR</u> DATE PERFORMED SHIFT MA Pipe and Valve Room	system operable ndary is operat y is being main listed in the Re <u>Manual</u> NAGER NAGER	e, thus ble or tained. emarks
been adm maintainin The CVC: administra Clearances Section. <u>3-0</u> PROCEDU	inistratively controlled maintaining the closed signal containment integrity.         S System forming the Closed System Boundary tively controlled to ensure containment integrity is used to ensure Closed System Boundary are in the closed System Boundary are integrity.         Pipe and Valve Room         Component Description         CHG Line TO RHX HCV-3-121	system operable odary is operative y is being main listed in the Re <u>Manage</u> NAGER NAGER CLOSED &	e, thus ble or tained. emarks Checked Tag & Vlv Po (V) Init
been adm maintainin The CVC: administra Clearances Section. <u>3-0</u> PROCEDU Component No. 3-120A	inistratively controlled maintaining the closed sign of the closed system forming the Closed System Boundary tively controlled to ensure containment integrity is used to ensure Closed System Boundary are to ensure Closed System Boundary are to ensure Closed System Boundary are to ENUMBER DATE PERFORMED SHIFT MA         Pipe and Valve Room         Component Description         CHG Line TO RHX HCV-3-121         Upstrm Drn         CHG Line to RHX HCV-3-121         Output	system operable adary is operative y is being main listed in the Re <u>MAGER</u> NAGER NAGER CLOSED & CLOSED & CLOSED &	e, thus ble or tained. emarks
been adm maintainin The CVC: administra Clearances Section. <u>J-O</u> PROCEDU Component No. 3-120A 3-120B	inistratively controlled maintaining the closed sig containment integrity.         S System forming the Closed System Boundary tively controlled to ensure containment integrity is used to ensure Closed System Boundary are to ensure Closed System Boundary are to ensure Closed System Boundary are to to ensure Closed System Boundary are to to ensure Closed System Boundary are to the provide the tot to the tot tot to the tot tot tot tot tot tot tot tot to the tot tot tot tot tot tot.         CVCS Seal Injection to RCP A Test Conn	system operable adary is operative y is being main listed in the Re <u>MAGER</u> NAGER NAGER CLOSED & CLOSED & CAPPED CLOSED & CLOSED &	e, thus ble or tained. emarks

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cedure No.:	Proc	edure Title:			Page:	23			
3-OSP-053.4		Containment Penetration Alignm	•••	n		Approval Date: 2/24/04C			
<u>Penetratio</u> 15, 24A, 2 24C	<u>n No.:</u> 24B <b>&amp;</b>	ATTACHM (Page 13 c SIDE CONTAINMENT INT Function: CVCS Makeup to H Drawing No.: 5613-M-3047	of 56) TEGRITY VEI	•	ice Sampling Sheet No				
		5613-M-3036		2 1					
		Charging Pun	np Room						
Component		~	Normal	C	ials)				
No.		Component Description	Position	(√) Tag,	Functionally Locked	Positione Correctly			
3-365A	Blender Di	sch to RWST Stop Vlv	LOCKED CLOSED			1/5			
3-276D	3A CHG P	ump Disch Line Vent	CLOSED	1/1	N/A	;/5			
3-276E	3B CHG P	ump Disch Line Vent	CLOSED	VI	N/A	1/5			
3-276F	3C CHG P	ump Disch Line Vent	CLOSED	V.	N/A	. 173			
3-1315	3A CHG P	ump Recirc Line Isol	CLOSED		N/A	15			
3-1316	3B CHG Pi	ump Recirc Line Isol	CLOSED	/	N/A	1/5			
3-1317	3C CHG Pi	ump Recirc Line Isol	CLOSED	1	N/A	15			
3-294A	Seal WTR	INJ FLTR B VENT	CLOSED	VI	N/A	15			
3-294B	Seal WTR	INJ FLTR A VENT	CLOSED	V	N/A	/\$			
3-294C	Seal WTR 2	INJ FLTR A DRAIN	CLOSED	1/1	N/A	<u> </u>			
3-294D		NJ FLTR B DRAIN	CLOSED	- 1/-	N/A	1/5			
3-283D	3A CHG Pi	ump RV-3-283A INLET TEST CONN	CLOSED		N/A	- 13			
3-283E	3A CHG Pi	ump RV-3-283A INLET TEST CONN	CLOSED & CAPPED	V	N/A	1/3			
3-283F	3B CHG Pu	1mp RV-3-283B INLET TEST CONN	CLOSED		N/A	15			
3-283G	3B CHG Pu	1mp RV-3-283B INLET TEST CONN	CLOSED & CAPPED	V,	N/A	NS.			
3-283H	3C CHG Pu	IMP RV-3-283C INLET TEST CONN	CLOSED	V.	N/A	15.			
3-283J	3C CHG Pu	1mp RV-3-283C INLET TEST CONN	CLOSED & CAPPED	/	N/A	ils			
3-287B	3A CHG Pu	ımp Disch DRN	CLOSED & CAPPED	V,	N/A	1/5			
3-288B	3B CHG PI	JMP DISCH DRN	CLOSED & CAPPED	V	N/A	15			
3-291B	3C CHG Pu	ımp Disch DRN	CLOSED & CAPPED	V	N/A	1/s			
RV-3-283A	Chg PMP A	Disch Relief Vlv	INSTALLED	VI,	N/A	15			
RV-3-283B	Chg PMP B	Disch Relief Vlv	INSTALLED	VI	N/A	,15			
RV-3-283C	Chg PMP C	Disch Relief Vlv	INSTALLED	V	N/A	1/5			

**NOTE**: For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

ocedure No.:	Pro	cedure Title:			Page:	24
3-OSP-053.4		Containment I Penetration Alignme		)n	Approval	Date: 2/24/04
	OUT	ATTACHME (Page 14 of SIDE CONTAINMENT INTH	56)	RIFICAT	<b>`ION</b>	
<u>Penetratio</u> 15, 24A, 2 240	24B &	Function: CVCS Makeup to I Drawing No.:	RWST and VCT	Gas Space	Sampling <u>Sheet No</u>	<u>.</u>
	, ,	5613-M-3047 5613-M-3036		2 1		
		Sample Ro	om			
Component No.		Component Description	Normal Position	CJ (\/) /	necked (Init Functionally	ials) Positioned
				Tag/	Locked	Correctly
3-977	VCT Gas	Space to Sample System	SEALED CLOSED	V	15	13
Penetration 16	<u>1 No.:</u>	Function: Post Accident Con Drawing No.: 5613-M-3094		and Sample	System <u>Sheet No</u> 1	<u>.</u>
		Aux Bldg North	Hallway			
Component No.		Component Description	Normal Position	$\frac{Cl}{(\sqrt{)}}$ Tag/		
HV-3-1		dent Containment Vent le System Isol Valve (RR)	LOCKED CLOSED*	1	$\mathcal{P}$	Correctly
HV-3-2	PAC Vent	and Sample System Downstream of HV-3-1 (RR)	LOCKED CLOSED*	V	C	1
		Pipe and Valve	Room			
Component			Normal	Ch	ecked (Initi	als)
No.		Component Description	Position	(√) Tag ,	Functionally Locked	Positioned Correctly
PAHM-3-011A	PAHM Sa	mple Line Test Connection	CLOSED & CAPPED		N/A	1/5
HV-3-8	Penetratio HV-3-1	n 16 Test Connection Valve Downstream of	LOCKED CLOSED & CAPPED	V	15	13
		reach rod handwheel in the hallway ou d components, the center column is ini	Ŷ			formationsing

prevent repositioning. The right ha nd column is initialed after verifying proper position of the components.

FOUND LOCKED OPEN C. KERLY

rocedure No.:	Proc	edure Title:			Page:	25
3-OSP-053.4		Containment In Penetration Alignmen		on	Approval 8	Date: / <b>29/00C</b>
	OUTS	ATTACHME (Page 15 of 5 SIDE CONTAINMENT INTE	6)	RIFICAT	TION	
Penetration	<u>1 No.:</u>	Function: Safety Drawing No.:	Injection Te	est Line	<u>Sheet No</u>	<u>.</u>
17		5613-M-3062 5613-M-3064			2 1	
		Containment Spray P	ump Room			
Component			Normal	C	necked (Init	ials)
No.	C	Component Description	Position	(√) Tag	Functionally Locked	Positioned Correctly
3-942E	SI Test L	ine Drain Upstream of 3-895V	CLOSED & CAPPED	./,	N/A	P
3-895Y		Line Root Valve for PI-3-6387 eam of 3-942E	CLOSED		N/A	<u>e</u>
3-895V	SI Test L	ine Isolation (Tan*)	LOCKED CLOSED		0	a,

\* This component is part of a safety related system with a special series lock. The key to this color coded lock is the same color and is available only from the Shift Manager.

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the components.

3-OSP-053.4			ent Integrity nment Verification	L	Pa <sub>4</sub> Ap		
	OUTS	ATTACHMENT SIDE CONTAINMENT I	1 (Page 16 of 56) NTEGRITY VER	IFICAT	ION		
Penetratic 18		Drawing No.: 5613-M-3062	d Safety Injection to Loops A	, and B Hot L	-	neet No. 1	<u> </u>
		5613-M-3064 Contro	Room			1	
Compone No.	nt	Component Des			rmal sition	$\frac{\text{Che}}{\text{Tag \& }}$	<b>cked</b> Vlv Pos Init
MOV-3-869	Safet	ty Inj to Hot Leg Isol		CL	OSED	V.	INA
MOV-3-866A	A Loop	A Hot Leg Safety Injection		CL	OSED	i/.	11/
MOV-3-866E	3 Loop	B Hot Leg Safety Injection		CL	OSED	NI	1.10
CV-3-851A	3A A	ccumulator Make-up		OPE	RABLE	V,	inta
CV-3-851B		.ccumulator Make-up		OPE	RABLE	1/1	1.1D
CV-3-851C	3C A	ccumulator Make-up		OPE	RABLE	1/	- wh
	······	Pipe and V	alve Room				
Componen No.	it	Component Desc	ription		rmal sition	Chec Tag & $\nabla$ ()	
	HHS	I to Loop A and B Hot Legs Drain		CLO	SED &	(0)	
3-894D 3-874F	Dwn	strm of MOV-3-869 6423 Root Valve Downstream of 3-942			PPED		1/3 1/5
_		Function:					
Penetration 19A		Prawing No.: 5613-M-3068 Control	A Containment Spray H	eader	<u>Sh</u>	leet No. 1	
Componen No.	t	Control Component Des			ormal sition	Chec Tag & V	
						()	Init
	A Con						·
MOV-3-880		tmt Spray Isolation		OPE	RABLE		ND
MOV-3-880.	······································		ray Pump Room			1	11D
MOV-3-880. Component No.	••••••••••••••••••••••••••••••••••••••		oray Pump Room Normal Position			(Initials)	11/D ositioned
Component	C	Containment Sp	Normal Position LOCKED CLOSED		Checked Function	(Initials)	11/D ositioned
Component No.	CS Pump CS Pump	Containment Sp Component Description 3A Disch Hdr Drain 3A Disch Bonnett	Normal Position		Checked Function	(Initials) hally Pc	u/D positioned correctly
Component No. 3-942W	CS Pump CS Pump Equalizat	Containment Sp Component Description 3A Disch Hdr Drain	Normal Position LOCKED CLOSED & CAPPED		Checked Function Locke	(Initials) hally Pc sd C	u/D positionec correctly C
Component No. 3-942W 3-6724 3-896C	CS Pump CS Pump Equalizat CS Pump	Containment Sp Component Description 3 A Disch Hdr Drain 3 A Disch Bonnett ion Isol Valve 3 A Disch Hdr Air Test Isol	Normal Position           LOCKED CLOSED & CAPPED           CLOSED           CLOSED & BLIND FLANGE           INSTALLED or TEST CONNECTION           INSTALLED AND CAPPED		Checked Function Locke N/A N/A	(Initials) hally Pc c	w/D positionec correctly C
<b>Component</b> <b>No.</b> 3-942W 3-6724	CS Pump CS Pump Equalizat CS Pump CS Pump	Containment Sp Component Description 3 A Disch Hdr Drain 3 A Disch Bonnett ion Isol Valve 3 A Disch Hdr Air Test Isol 3 A Test Line Isol (**Tan)	Normal Position           LOCKED CLOSED & CAPPED           CLOSED           CLOSED & BLIND FLANGE           INSTALLED or TEST CONNECTION INSTALLED AND	(\) Tag, /	Checked Function Locke	(Initials) hally Pc sd C	WD positionec correctly C
Component No. 3-942W 3-6724 3-896C 3-883M 3-890A This comp same colo	CS Pump CS Pump Equalizat CS Pump CS Pump CTMT Sp conent is pay	Containment Sp Component Description 3 A Disch Hdr Drain 3 A Disch Bonnett ion Isol Valve 3 A Disch Hdr Air Test Isol	Normal PositionLOCKED CLOSED & CAPPEDCLOSED & BLIND FLANGECLOSED & BLIND FLANGEINSTALLED or TEST CONNECTION INSTALLED AND CAPPEDLOCKED CLOSED INSTALLEDINSTALLED th a special series lock. ager.	(\) Tag, / / / / / / / / / / / / / / / /	Checked Function Locke N/A N/A N/A v N/A	(Initials) hally Pc cd C	MD positioned correctly C

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	OUTS	ATTACH (Page 17) SIDE CONTAINMENT D	7 of 56)	RIFICAT	TION		
<u>Penetratio</u> 19E		Function: B C <u>Drawing No.:</u> 5613-M-3068	Containment Spra	y Header	<u>Sheet</u> 1	<u>No.</u>	
		Control	Room				
Component No.		Component Des	cription		ormal T	Checked ag & Vlv Pos $(\sqrt{)}$ Init	
MOV-3-880	)B Cor	ntrol Spray Isolation		OPI	ERABLE	V hD	
		Containment Spray	y Pump Room				
Component No.	Coi	mponent Description	Normal Position	$(\sqrt{)}$ Tag/	Functionally Locked		
3-942V	CS Pun	pp 3B Disch Hdr Drain	LOCKED CLOSED & CAPPED		1/5	V3	
	CS Purr Isol	ıp 3B Disch Hdr Air Test	CLOSED & BLIND FLANGE INSTALLED or TEST CONNECTION INSTALLED AND	1	N/A	13	
3-896D			CAPPED	v			
3-896D 3-6725		np 3B Disch Bonnett ation Isol Valve	CAPPED CLOSED		N/A	V5	
	Equaliz	ation Isol Valve np 3B Test Line Isol			N/A	V5 V5	

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	(	DUTS	SIDE CONTAINMENT INTEG	RITY VERI	FICATI	ON		
	Penetration No. 20	<u>.</u>	Function: Reactor Coolant Hot I	Legs Loop A <sub>.</sub> a	nd B Sa	-	Jine eet No. 1	
	L		5613-M-3036			<u></u>	1	
ſ	Component No.		Control Room Component Description	n Normal Position		Checked fag & Vlv Pos $(\sqrt{)}$ Init		hannel eck Sat Init
┢	SV-3-6428	Loo	p 3A and 3B Sample Isolation	OPERABLE		n/n	*	Init NO
ſ	Component No.		Sample Roon Component Descripti			rmal		<b>iecked</b> & Vlv Pos
┡	SV-3-6427A	Loo	p A Sample Isolation Valve			RABLE	_(√)	/ Init
Ė	SV-3-6427B		p B Sample Isolation Valve			RABLE	V	3
			Pipe and Valve R	00m				
	Component No.		Component Description			rmal ition		ecked & Vlv Pos
	3-993		etration 20 Test Connection Upst V-3-6428	ream		SED & PPED		5
)T	E: Those valve this procedu		ntified with * are to be channel c	hecked in acco	ordance	with S	ubsec	ction 7.3

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3-OSP-053.4	Containment Integ Penetration Alignment V			Арр	29 proval Date: 8/29/00
-051-055.4	T enerration rangiment v				0/2//00
	ATTACHMENT (Page 19 of 56)	1			
C	UTSIDE CONTAINMENT INTEGR	ITY VERI	FICATI	ON	
<u>Penetration No.:</u> 21	Function: Component Cool Normal Containment C Drawing No.:	ling Water S oolers and R	upply to od Driv	re Cool	ers eet No.
	5613-M-3030				5
	Control Room				
Component No.	<b>Component Description</b>	Normal Position		cked Vlv Pos Init	Channel Check Sa Init
MOV-3-1417	CCW to Normal Containment Cooler	OPERABLE		1111 1/17	* <i>INC</i>
				<u>[n] ·]</u>	
Component No.	Pipe and Valve Roc Component Description			rmal sition	Checked Tag & Vlv Po (√), Ini
3-10-871	CCW Line to NCC Test Connection V Downstream of MOV-3-1417	alve		SED & PPED	
Penetration No.: 22	Function: Component Coolin Normal Containment Co Drawing No.:	ng Water Re polers and R	turn fro od Driv	e Coole	ers eet No.
	<u>5613-M-3030</u> Control Room			<u> </u>	5
Component No.	Component Description	Normal Position	Cheo Tag & V	/lv Pos	Channel Check Sa
MOV-3-1418	CCW from Normal Containment Cooler	OPERABLE		Init WD	Init * WO
	Pipe and Valve Roo	m			
Component No.	Component Description			rmal ition	Checked Tag & Vlv Pc () Init
	CCW Line from NCC and CRDMs Per	netration 22		SED & PPED	

W97:BJS/mrg/mrg/In

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Procedure No.:	Procedure Title:			Pag	e: 30
3-OSP-053.4	Containment Inte Penetration Alignment V			Арр	proval Date: <b>8/29/00</b>
(	ATTACHMENT (Page 20 of 56) DUTSIDE CONTAINMENT INTEGI	-	FICAT	ION	
Penetration No. 23	Function: Containment Sump Pu Drawing No.: 5613-M-3061	mp Discharge	e to WD		uid <sub>eet No.</sub> 1
<u>L</u>	Control Room	<u></u>			
Component No.	<b>Component Description</b>	Normal Position	Tag &	eckedChannelVlv PosCheck Sat	
			(1)/	Init	Iniț
CV-3-2821	Contmt Sump Pump Disch	OPERABLE	V.	<u>1/1/2</u>	* WD * UD
CV-3-2822	Contmt Sump Pump Disch	OPERABLE	į/	WJ	* W
	Pipe and Valve Ro	om			
Component No.	Component Descriptio	n		rmal sition	$\frac{\text{Checked}}{\text{Tag & Vlv Pos}}$ $(\sqrt{)} \qquad \text{Init}$
3-4857	Sump Discharge Line Penetration 23 Conn Valve Between CV-3-2821 & 2		-	SED & PPED	13

**NOTE**: Those valves identified with \* are to be channel checked in accordance with Subsection 7.3 of this procedure.

Procedure No.:	Procedure Title:			Pag	ge: <b>31</b>
3-OSP-053.4	Containment Inte Penetration Alignment V			Apj	proval Date: 8/29/00
(	ATTACHMENT (Page 21 of 56) DUTSIDE CONTAINMENT INTEGI	_	FICATI	[ON	
<u>Penetration No.</u> 25	Function: RCP Seal Wate Letdown Heat E Drawing No.: 5613-M-3047			'CS	eet No. 3
<u></u>	Control Room				
Component No.	Component Description			<b>cked</b> Vlv Pos Init	Channel Check Sat Init
MOV-3-381	Excess L/D and RCP Seal Return to VCT	OPERABLE	(\).	NO	* 10
MOV-3-6386	Excess LTDN and RCP Seal Return	OPERABLE		Wn	* 11/0
	Pipe and Valve Ro	om			
Component No.	Component Description	1		rmal sition	CheckedTag & Vlv Pos $()_{\ell}$ Init
3-384A	RCP Seal Wtr Rtn MOV-3-381 Upstru (P-25)	n Drn		SED & PPED	1 5

**NOTE**: Those valves identified with \* are to be channel checked in accordance with Subsection 7.3 of this procedure.

3-OSP-053.4		Containm Penetration Alig			on		App		32 Date: 8/29/00
			<b>HMENT</b> 22 of 56)	1					
	0	OUTSIDE CONTAINMENT	INTEGR	ITY VE	RIF	ICAT	[ON		
Penetratio 26A		Function: Drawing No.: 5613-M-3078	Main St	eam Lin	e "A	11	She	et No	
		5613-M-3075 5613-M-3072						1 1	
			ol Room				····-		
Componer No.	ıt	Component Descripti	on	Norm Positi		Tag &	Checked Tag & Vlv Pos		Channel heck Sat
CV-3-160	5	A S/G Stm Dump to Atmospl	here	OPERAE	BLE	(√) / ∦/	Init	<u>Init</u> /////	
MOV-3-14		3A Main Steam Stop Bypass		OPERAE	BLE	V,	11/17		/////
POV-3-260	)4	3A Main Steam Isolation Val	ve	OPERAE	BLE	V	WIN	*	kD
MOV-3-140	03	3A Stm Supply to Aux Feedv Pumps	vater	OPERAE	BLE	$\checkmark$	WD		/////
		Main Stea	m Platfor	'n					
Component			N	ormal			Checked (In		als)
No.		<b>Component Description</b>	P	osition		(√) Гag /	Functiona Locked	· · ·	Positioned Correctly
SGWL-3-022	PIC	C-3-6219A Sensing Line Root		OCKED LOSED	i		5		5
3-10-124		A MS Line Code Safety Hdr the Connection		OSED & APPED	i		N/A		4
RV-3-1400	Mai VL	in Steam Line A STM Safety V	INS	TALLED		/	N/A		Ş
RV-3-1401	Mai VL	in Steam Line A STM Safety V	INS	TALLED	1.		N/A		2
RV-3-1402	Mai VL	in Steam Line A STM Safety V	INS	TALLED	1		N/A		5
RV-3-1403	Mai VL	in Steam Line A STM Safety V	INS	TALLED	ĺ	/	N/A		5

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

3-OSP-053.4	Containment Inte Penetration Alignment	0		Ap	proval Date	3 : 9/07	
	ATTACHMEN (Page 23 of 56						
(	OUTSIDE CONTAINMENT INTEG	RITY VERI	FICAT	[ON			
Penetration No.	Function: Mair Drawing No.:	Main Steam Line A					
26A (Cont'd)	5613-M-3078 5613-M-3075 5613-M-3072		1 1 1				
L	AFW Stm Sply MOV	Platform					
Component No.	Component Description	on		ormal sition	Cheo Tag & $()$		
3-10-372	S/G A AFW Stm Supply Test Conn	SED &	V	3			
3-10-1093	Upstream Drip Leg Cleanout Valve 1 ST-3-1411	CLO	DSED & PPED	1	5		
	Drain Traps						
3-ST-1J	MS HDR A DRN ISOL			OSED	11	4	
3-ST-1F	MS HDR A DRN			OSED			
<u>3-ST-1C</u> 3-10-1411C	3-ST-1 BYP ST-3-1411 BYPASS			OSED OSED	-1/-	5	
3-10-1411D	ST-3-1411 DRAIN	<u> </u>		OSED		3	
	Mezzanine Sample S	Station	*	· · · · ·	/	Ť	
3-10-1214	S/G 3A Sample Sink Isolation Valve		CL	OSED	V	کــ	
<b></b>	Function:						
Penetration No.: 26B	Main Drawing No.:	Steam Line <b>B</b>	•	<u>Sh</u>	eet No.		
	5613-M-3072 5613-M-3075 5613-M-3078						
	Control Room	1					
Component No.	<b>Component Description</b>	Normal Position		cked Vlv Pos Init	Cha Chec		
CV-3-1607	B S/G Stm Dump to Atmosphere	OPERABLE		-5 -5	///		
MOV-3-1401	3B Main Steam Stop Bypass	OPERABLE	¥/,	5		//	
POV-3-2605	3B Main Steam Isolation Valve	V	3	.* _	- · · ·		
MOV-3-1404							
	Sur Supply to Hart Outwater Fullipe		-	~		· ·	

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cedure No.:	Pro	cedure Title:			Pa	-	34
3-OSP-053.4		Containment In Penetration Alignmen	•••	n	Ap	proval D 1	ate: 1/9/07
		ATTACHME (Page 24 of 5					
	OUT	SIDE CONTAINMENT INTE	GRITY VE	RIFICA	TION		
		Function:	in Steam Lin	D D			
<u>Penetratio</u>	<u>n No.:</u>	Drawing No.:		le <b>D</b>	SI	ieet No.	
26E	3	5613-M-3072				1	
(Cont	'd)	5613-M-3075				1	
(0011	u)	5613-M-3078				1	
		Main Steam Pla	tform				
Component			Normal		Checked		uls)
No.		Component Description	Position	(√) Taati	Function		Positione
	DIG A		LOCKED	Tag/	Lock	-	Correctly
SGWL-3-028		6219B Sensing Line Root	CLOSED	/_/	5		5
RV-3-1405		Steam Line B STM Safety VLV	INSTALLED		<u>N/A</u>		5
RV-3-1406		Steam Line B STM Safety VLV	INSTALLED	/	N/A		5
RV-3-1407		Steam Line B STM Safety VLV	INSTALLED INSTALLED	/	N/A		
RV-3-1408	Main 2	Steam Line B STM Safety VLV		V	N/A		<u> </u>
F		AFW Stm Sply MOV	Platform			Ch	ecked
Componer No.	it [	<b>Component Descript</b>	tion		Normal Position		ecked & Vlv Pos
110.						(1)	Init
3-10-373	S/0	G B AFW Stm Supply Test Conn	L		LOSED & CAPPED		4
0.10.100	Up	stream Drip Leg Cleanout Valve	for		LOSED &	<b>"</b> 7	+
3-10-1094	· · ·	-3-1412			CAPPED	1/	
		Drain Trap	S			/	/
3-ST-2J	MS	S HDR B DRN ISOL		C	LOSED	VI	5
3-ST-2F	MS	S HDR B DRN	, ,	С	LOSED	V	13
3-ST-2C	3-5	ST-2 BYP		C	LOSED	1/1	5
3-10-14120		-3-1412 BYPASS			LOSED	V	15
3-10-1412I	D   ST	-3-1412 DRAIN		C	LOSED	V	4
		Mezzanine Sample	Station			/	/
3-10-1215	Q/C	3 3B Sample Sink Isolation Valv	~	C	LOSED	1	

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

, vou	ire No.:		FIOC	edure Title: Containment I	ntog	rita			Pag		35		
3-	-OSP-053.4			Penetration Alignme	<u> </u>		0 <b>n</b>		Ар	proval D	l/9/07		
		0	OUTS	ATTACHMI (Page 25 of SIDE CONTAINMENT INT)	56)		RIF	ICAT	ION				
	Penetratio			Function:		team Li							
	260	r		Drawing No.:					<u>Sh</u>	eet No.			
	200	,		5613-M-3072 5613-M-3075 5613-M-3078						1 1 1			
L				Control Ro	om								
Γ	Componer No.	nt		<b>Component Description</b>		Norm Positi	al on	Tag &	Checked Tag & Vlv Pos () Init		hannel eck Sat Init		
-	CV-3-1608		CS	G Stm Dump to Atmosphere		OPERA	N E		10		/////		
┝	MOV-3-1402		····			OPERAL	-	1	1 110				
-	POV-3-2606		_	Iain Steam Stop Bypass				_/		*	////,		
	MOV-3-140			fain Steam Isolation Valve tm Supply to Aux Feedwater		OPERAI OPERAI		V	1.10		<u>inD</u> 11111		
				Main Steam Pl	atfor	'n							
С	omponent				N	ormal		Ch	ecked (	Initia	ls)		
Ŭ	omponent No.			component Description	<b>P</b> e	osition	( T	√) `ag	Function Locke		Positione Correctly		
S	GWL-3-046	PIC	2-3-62	19C Sensing Line Root		OCKED LOSED	0		3	<u> </u>	5		
]	RV-3-1410	Mai	in Stea	am Line C STM Safety VLV	INS	TALLED	Ŧ,	//	N/A		5		
]	RV-3-1411	Mai	in Stea	am Line C STM Safety VLV	INS	TALLED		77	N/A		5		
]	RV-3-1412	Mai	in Stea	am Line C STM Safety VLV	INS	TALLED	Ì	77	N/A		5		
]	RV-3-1413	_		am Line C STM Safety VLV	INS	TALLED	t	7	N/A		N/A		~
				AFW Stm Sply MO	V Pla	atform		<u></u>					
	Componen No.	ıt		Component Descrip	otion				ormal sition		<b>ecked</b> 2 Vlv Pos		
L								10	5111011	(√)	/ Init		
	3-10-374		S/G (	C AFW Stm Supply Test Conn					DSED &		$\overline{\langle}$		
┢	3-10-1095		Upst	ream Drip Leg Cleanout Valve for 3-1413				CLC	SED & PPED	1/			
			51-2	Drain Tra	õs			CP	FFED	<u>\$/</u> _			
	3-ST-3J		MS I	IDR C DRN ISOL				CL	OSED	://			
	3-ST-3F			IDR C DRN					OSED	V/			
	3-ST-3C					OSED	. 11	14					
	3-10-1413C			-1413 BYPASS					OSED	1	5		
	3-10-1413D		ST-3	-1413 DRAIN				CL	OSED	1/	5		
				Mezzanine Sampl	e Sta	tion				/	/		
_	3-10-1216			C Sample Sink Isolation Valve				L GT	OSED	1	1 4		

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

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rocedure No.:		Procedure Title:			Pag	ge:	36
3-OSP-053.4		Containment Penetration Alignme	~ .	n	Ap	proval I 8	
		ATTACHM (Page 26 of	56)				
Penetratio 27A	<u>n No.:</u>	UTSIDE CONTAINMENT INT Function: Feedwater S Drawing No.: 5613-M-3075 5613-M-3074 5613-M-3078	EGRITY VER		or A	1000 1000 2 3 1	
		Control Ro	oom				
Compone No.	nt	Component Descrip	tion		rmal sition	1	hecked & Vlv Pos
CV-3-281 CV-3-283		Train 1 AFW Flow to 3A S/G Train 2 AFW Flow to 3A S/G			RABLE	1/	1 <u>11/17</u> 1 11/17
FCV-3-47	8	A S/G FW Control Valve	······································		RABLE	V	1 1.10
FCV-3-47	9	A S/G FW Bypass	di a i a	OPEI	RABLE	1/	11/1
		Main Feedwater	Platform				
Component No.		<b>Component Description</b>	Normal Position	(√) Tag	h <b>ecked</b> Function Locke	ally	ials) Positioned Correctly
3-20-135		5/G FW Chem Injection Line ain Isol	CLOSED		N/A		5
3-20-136		5/G FW Chem Injection Line ain Isol	CLOSED	1	N/A		5
SGWL-3-007	AV	WLU Pump to FW Hdr Isol	LOCKED CLOSED	V,	×		5
3-20-137		osphate Injection to FW to S/G A Vlv	INSTALLED		N/A		5
3-20-706		S/G FW CV-3-2900 Drn	CLOSED		N/A		
3-20-707	A S	S/G FW CV-3-2900 Drn Isol	CLOSED	V	<u>N/A</u>		ک

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

rocedure No.:		Procedure Title:			Pa	ge:	37
3-OSP-053.4		Containment Penetration Alignme	<b>U I</b>	a	Ар	proval D <b>8</b> ,	
<u></u>		ATTACHM (Page 27 of					<u> </u>
	0	UTSIDE CONTAINMENT INT	EGRITY VER	IFICAT	TION		
<u>Penetratio</u> 271		Function: Feedwater S Drawing No.: 5613-M-3075 5613-M-3074 5613-M-3078	Supply to Steam	ı Genera		<u>neet No.</u> 2 3 1	
		Control Ro	oom				
Componen No.	nt	Component Descrip	tion		ormal sition		ecked & Vlv Pos
CV-3-281	7	Train 1 AFW Flow to 3B S/G		OPE	RABLE	7	1 110
CV-3-283		Train 2 AFW Flow to 3B S/G		OPE	RABLE	V	1 WD
FCV-3-48		B S/G FW Control Valve			RABLE		1 110
FCV-3-48	9	B S/G FW Bypass		OPE	RABLE	V	1,1
		Main Feedwater	Platform				
Component			Normal	فسيعت والمتعاد المتعاد المتعا	hecked	(Initi	als)
Ño.		Component Description	Position	(√) Tag ,	Function Locke	· 1	Positioned Correctly
3-20-235	Dra	/G FW Chem Injection Line in Isol	CLOSED	/,	N/A		3
3-20-236		/G FW Chem Injection Line in Isol	CLOSED		N/A		4
SGWL-3-025	ВV	VLU Pump to FW Hdr Isol	LOCKED CLOSED		3		5
3-20-237	Pho Ck	sphate Injection to FW to S/G B Vlv	INSTALLED	//	N/A _		3
3-20-708		/G FW CV-3-2901 Drn	CLOSED	VI	N/A		5
3-20-709	B S	/G FW CV-3-2901 Drn Isol	CLOSED	1/	N/A		- 5

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

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Procedure No.:	Pro	ocedure Title:			Pag		38
3-OSP-053.4	•	Containment D Penetration Alignme		n	App	oroval Da	
	OUT	ATTACHMI (Page 28 of SIDE CONTAINMENT INT)	56)	RIFICAT	TION		
Penetratio 270		Function: Feedwater S Drawing No.: 5613-M-3075 5613-M-3074 5613-M-3078	upply to Stean	n Generat		eet No. 2 3 1	
		Control Ro	oom				
Componen No.	nt	Component Descrip	tion		rmal sition		e <b>cked</b> Vlv Pos Init
CV-3-281	8 Tr	ain 1 AFW Flow to 3C S/G		OPEI	RABLE	11	11/0
CV-3-283	3 Tr	ain 2 AFW Flow to 3C S/G		OPEI	RABLE	11	110
FCV-3-49	_	S/G FW Control Valve			RABLE	_//	<u>in/17</u>
FCV-3-49	9 C :	S/G FW Bypass		OPEI	RABLE	V	IND
		Main Feedwater	Platform				
Component			Normal	C	hecked (	Initia	ls)
No.		Component Description	Position	(√) Tag∕	Functiona Locked		Positioned Correctly
3-20-335	C S/G Drain	FW Chem Injection Line Isol	CLOSED	VI	N/A		3
3-20-336	C S/G Drain 1	FW Chem Injection Line Isol	CLOSED		N/A		5
SGWL-3-042	C WL	U Pump to FW Hdr Isol	LOCKED CLOSED	VI	5		5
3-20-337	Ck Vlv		INSTALLED	V	N/A		5
3-20-710		FW CV-3-2902 Drn	CLOSED	V,	N/A		5
3-20-711	CS/G	FW CV-3-2902 Drn Isol	CLOSED	s/	N/A		5

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

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rocedure No.:	Рго	cedure Title:		-		Page: <b>39</b>					
3-OSP-053.4		Containment Penetration Alignm	0	•	on		Appro	oval Date: 8/29/00			
		ATTACHM (Page 29 c		1			u.				
	OUT	SIDE CONTAINMENT INT	FEGR	ITY VE	RIFIC	AT]	ION				
	Penetration No.:Function:28ASteam Generator A Blowdown Line5613-M-30745613-M-3078							<u>: No.</u> 1			
		Control R	loom								
Componer No.	at	<b>Component Description</b>		Normal Checked Cl			Channel Check Sat Init				
CV-3-6275	A 3A	Blowdown Isol		OPERAE		/		* MD			
		S/G Blowdow	vn Are	a			ç				
Component				Normal		Ch	ecked (I1	nitials)			
Ño.	(	Component Description		sition	(√) Tag	,	Functional Locked	ly Positioned Correctly			
SGB-3-047	S/G A	Bldn Line Test Conn Isol		)SED & PPED	1/	/	N/A	5			
SGWL-3-011	S/G A	Bldn Line to SGWLU Isol	1	CKED OSED	1	/	5	5			
SGB-3-044	S/G A	Bldn Line Test Conn Isol	CLO	OSED & PPED	V		N/A	5			
SGB-3-082A	3A Blo	owdown Bypass Isol		CKED OSED	V		3	ک			
7.3 For devi	of this p locked o ce is fu	es identified with * are to be rocedure. or sealed components, the cen inctioning to prevent reposition oper position of the componen	ter col oning.	umn is i	nitialeo	l aft	er verifyi	ng the lockin			

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	cedure No.:	Proce	edure Title:				Page:	40	
	3-OSP-053.4		Containment Penetration Alignn			on	Approv	al Date: <b>8/29/00</b>	
			ATTACHN (Page 30 d		1				
		OUTS	SIDE CONTAINMENT IN	FEGR	ITY VE	RIFICAT	TION		
	Penetratio	<u>n No.:</u>	Function: Steam G	enerate	or <b>B</b> Blo	wdown Li	ne Sheet N	Jo	
	28E	}	5613-M-3078 5613-M-3074				1		
			Control F	loom					
	Componer No.	ıt	<b>Component Description</b>		Normal PositionChecked Tag & Vlv Pos(\vee)(\vee)			Channel Check Sa Init	
	CV-3-6275	B 3B 3	Blowdown Isol		OPERAB		W *		
_			S/G Blowdov	vn Are	a				
	Component No.	С	omponent Description		ormal sition	Cl (√) Tag∕	Functionally Locked		
ľ	SGB-3-048	S/G B E	Idn Line Test Conn Isol		DSED & PPED	VI	N/A	3	
				TO	CKED	11	2	5	
┟	SGWL-3-031	S/G B E	Idn Line to SGWLU Isol		OSED	$\mathcal{V}/\mathcal{V}$	_ 5	$ \rightarrow $	
	SGWL-3-031 SGB-3-045		Bldn Line to SGWLU Isol Bldn Line Test Conn Isol	CL CLC		$\overline{}$	<u> </u>		

ocedure No.:	Proce	edure Title:	<b>F</b> /	• /			Page		41
3-OSP-053.4		Containment Penetration Alignme			on	·	Appr	oval E 8	Date: 2/29/00
		ATTACHM (Page 31 of		l					
	OUTS	SIDE CONTAINMENT INT	EGR	ITY VE	RIF	ICAT	ION	_	
<u>Penetratio</u>		Function: Steam Ge Drawing No.:	nerato	or C Blo	wdo	wn Lir		et No.	
280		5613-M-3078 5613-M-3074		=		. <u></u>		1 4	
		Control R	oom						
Componer No.	nt	<b>Component Description</b>		Norm Positic		Tag &	<b>cked</b> Vlv Pos		hannel leck Sa
CV-3-6275	C 3C	Blowdown Isol		OPERAB	BLE	_(√)/ √	$\ln t$	*	Init i/ ()
P		S/G Blowdow	n Are	2			i i		
Component	S/G Blowdown		1	ormal		_	Checked (Initials		
Ño.		Component Description		sition		(√) Tag/	Functiona Locked		Position Correct
SGB-3-049	S/G C I	Bldn Line Test Conn Isol	1	DSED & APPED	ł	//	N/A		5
SGWL-3-049	S/G C I	Bldn Line to SGWLU Isol		CKED OSED	V		7	5	5
SGB-3-046	S/G C I	3ldn Line Test Conn Isol		DSED & APPED	γ	/ /	N/A		5
SGB-3-082C	20 D1-	wdown Bypass Isol	LO	CKED	,		<		-

Procedure No.:		Proc	edure Title: Containment					Page: 42 Approval Date: 8/29/00				
3-OSP-053	.4		Penetration Alignme	nt V	erification	1 	<b>I</b>		8/29/00			
			ATTACHMI (Page 32 of		1							
	C	DUTS	SIDE CONTAINMENT INT	EGI	RITY VER	IFICA	TION					
<u>Penetra</u>	tion No.; O		Function: Drawing No.: 5613-M-3101	Bre	eathing Air	hing Air <u>Sheet No.</u> 1						
			S/G Blowdow	n Ar	ea				I			
Componen No.	t	C	Component Description		Normal Position	(√) Tag /	Functio	Functionally Posit Locked Corr				
CV-3-6165	Br	eathi	ng Air Isolation Valve		LOCKED PINNED CLOSED	V	$\sqrt{3}$		4			
BA-3-114	14 Penetrat		ng Air to Containment tion 30 Test Connection Downstream of CV-3-6165		LOSED & CAPPED	V	N/A		5			
Penetrat 3			Function: Reactor Coolar Drawing No.: 5613-M-3061	nt Dr	rain Tank t	o Gas A		heet No. 1				
			Control Ro	om								
Compone No.	ent		Component Description		Normal Position	$\begin{array}{c c} \mathbf{a} \mathbf{i} & \mathbf{f} \mathbf{a} \mathbf{g} & \mathbf{v} \mathbf{i} \mathbf{v} \\ \mathbf{o} \mathbf{n} & \mathbf{P} \mathbf{o} \mathbf{s} \end{array}  \mathbf{C} \mathbf{i} \\ \end{array}$		Channel heck Sat Init				
CV-3-465	9A	RCI	OT to Gas Analyzer Isolation		OPERABL	(√) E	/ Init	*	u/n			
CV-3-465	9B		DT to Gas Analyzer Isolation		OPERABL	ΕV	"in/1)	*	MD			
			Pipe and Valve	Ro	0 <b>m</b>							
Compone No.	ent		Component Descrip	otior	<b>1</b>		ormal osition		hecked & Vlv Pos			
3-46674	A	Con	DT to Gas Analyzer Pen 31 Te nection Valve Between CV-3- CV-3-4659B		9A		.OSED & CAPPED	V	5			
7.3 For dev	of th t lock vice is	is pro ed or s func	identified with * are to be cha ocedure. sealed components, the center ctioning to prevent repositionin per position of the component.	r col ng. [	umn is init	ialed afi	er verify	ving t	he locking			

Proce	edure No.:	Procedure Title:		P	age: 43			
	3-OSP-053.4	grity Verification	A	pproval Date: 2/24/04				
		ATTACHMEN (Page 33 of 56)	)					
	(	DUTSIDE CONTAINMENT INTEG	RITY VERIF	ICATION				
	Penetration No.:	nitor Sample <u>s</u>	e Return Sheet No.					
	32	5613-M-3094			1			
		Control Room	L					
	Component No.	<b>Component Description</b>	Normal Position	Checked Tag & Vlv Pøs	Channel Check Sat			
				() Init				
L	SV-3-2912	Containment Air Monitoring Isol	OPERABLE	~/ k/0	* n/1)			
		"C" CVCS Holdup Ta	nk Room		Checked			
	Component No.	Component Descriptio	n	Normal Position	Tag & Vlv Pos $()$ Init			
	3-11-011	Cntmt Rad Mon R-3-11 & 12 Line Te Connection		CLOSED & CAPPED	13			
	3-11-012	Cntmt Rad Mon R-3-11 & 12 Outlet Test Connection	Ln <sub>.</sub>	CLOSED & CAPPED	1 5			
07	7.3 of th For lock device is	alves identified with * are to be channed his procedure. ted or sealed components, the center co s functioning to prevent repositioning. g proper position of the component.	lumn is initiale	ed after verif	ying the locking			

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rocedure No.:	Procedure Title:	•.		Pag	4	44
3-OSP-053.4	Containment Inte Penetration Alignment			Ap	proval Date 8/2	e: 9/00
C	ATTACHMEN (Page 34 of 56 DUTSIDE CONTAINMENT INTEG	)	ICATI	ON		
Penetration No.: 33	Function: Containment Air Particu Drawing No.: 5613-M-3094	late and Gas M	onitor	*	e Line <sub>eet No.</sub> 1	
	Control Roon	1				
Component No.	<b>Component Description</b>	Normal Position	Checked Tag & Vlv Pos		Channel Check Sa	
			(√)∕	Init		nit
SV-3-2913 SV-3-2911	Containment Air Monitoring Isol Containment Air Monitoring Isol	OPERABLE OPERABLE	1//	170 170		<u>110 </u>
	"C" CVCS Holdup Ta			- h'-		
Component No.	Component Description		Normal Position			<b>cked</b> Vlv Pos Init
3-11-014	Cntmt Rad Mon R-3-11 & 12 Inlet L Test Connection	Cntmt Rad Mon R-3-11 & 12 Inlet Line Test Connection		SED & PPED	V,	3
	Cntmt Rad Mon R-3-11 & 12 Inlet L	n		SED & PPED	./	2

**NOTE**: Those valves identified with \* are to be channel checked in accordance with Subsection 7.3 of this procedure.

cedure No.:	Procedure Title:			Page:	45	
3-OSP-053.4		Approva on Alignment Verification				
<u> </u>	ATTACHMI (Page 35 of	56)				
(	DUTSIDE CONTAINMENT INT	EGRITY VE	RIFICATIO	•N	I	
Penetration No. 34	Eunction: Containment Air Partic Drawing No.: 5610-M-3013	culate and Gas	Monitor Sar	nple Reta Sheet No 1		
	Pipe and Valve	Room				
Component No.	Component Descrij	otion	Norr Posit	ion Tag	Checked g & Vlv Pos	
3-40-366	1	ervice Air Hdr to Containment Pen 34 est Connection Valve Downstream of -40-204				
	Aux Bldg R	oof				
Component No.	<b>Component Description</b>	Normal Position	(√) / Fu	<b>ked (Init</b> inctionally Locked	ials) Positioned Correctly	

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

LOCKED

CLOSED

V

CC

Service Air to Containment Isol

3-40-204

(RR)

rocedure No.: <b>3-OSP-053.4</b>	Proc	cedure Title: Containment I Penetration Alignmen	~		on		Pag App	proval	46 Date: 5/19/06
		ATTACHME (Page 36 of		-		<u>.</u>	<u></u>		
	OUT	SIDE CONTAINMENT INTH		UTY VE	RIF	[CAT]	[ON		
Penetration 35		<u>Function:</u> Conta <u>Drawing No.:</u>	•• •• •	ent Purge				et No.	
		5613-M-3053						1	
		Control Ro	om			~			
Componen No.	t	<b>Component Description</b>		Norm Positi		Tag I	e <b>cked</b> & Vlv Pos		Channel heck Sat
POV-3-2600		ntmt Purge Supply Isol (OC)		OPERA	קוכ	(\)/	Init	*	Init
POV-3-260		ntmt Purge Supply Isol (IC)		OPERA		-//	1/10	*	1/1
L		Aux Bldg R	oof				1/0.17		
Component				lormal		Ch	ecked (	ed (Initials)	
No.		Component Description	P	osition		) Functiona ag Locked			Positioned Correctly
3-11-020	Conne	Air Supply Line Test ection (Outside Cont)		OCKED LOSED	i v		$\left( \overline{1} \right)$	/	
Test Connection	Test C	Connection between 020 and Pen. 35		APPED	i	/	N/A		Ċ
Penetration 36	<u>No.:</u>	Function: Containment 2 Drawing No.: 5613-M-3053	Purg	e Exhau	st to I	Plant V		et No. 1	
L		Control Roc	m						
Component No.		Component Description		Norm Positi		Tag	e <b>cked</b> & Vlv os		Channel heck Sat
						$(\sqrt{)}/$	Init		Injt
POV-3-2602		tainment Purge Supply Isol (O	<u>C)</u>	OPERAL		- <u>v/</u>	IN/D	*	W.
POV-3-2603	Cor	tainment Purge Supply Isol (IC	-	OPERAE	BLE	V	[h][]	*	WD
		Aux Bldg R	100			Ch	ecked (	[	
Component No.	· (	Component Description		ormal osition	(۲ Та	_	Functiona Locked	ılly	Positioned Correctly
3-11-021	Conne	Air Supply Line Test ction (Outside Cont)		OCKED LOSED	V		C		
Test Connection		onnection between 21 and Pen. 36	C	APPED	V	,	N/A		C
Fuses Attach For loc	may be re ment 4 sh cked or se oning to p	entified with * are to be channel chec equired to be installed in Mode 1 throu nould be used if fuses require installin ealed components, the center column prevent repositioning. The right hand	ugh 4 1g (U is ini	to obtain nit in Mod tialed after	desire es 1 th verify	d Phase trough 4 ving the	A status 4). locking	lamp devic	o indication. e is

A LOCK MISSING

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Proced	ure No.:	P	Page: <b>47</b>				
Containment Integrity 3-OSP-053.4 Penetration Alignment Verification						:: 9/00	
	·····						
	C	UTSIDE CONTA	ATTACHMENT 1 (Page 37 of 56) INMENT INTEGRITY VERIFIC	CATION			
	Penetration No.:	Function:	Equipment Hatch		Sheet Me		
	40	Drawing No.: N/A		<u>Sheet No.</u>			
-			Equipment Hatch				
	Component No.	Con	nponent Description	Normal Position	Toge	<b>çked</b> Vlv Pos Init	
	"T"	Equipment Hatch Connection	3/8 inch LLRT Test	CAPPED	$\checkmark$	Ċ	

edure No.: Procedure Title: Pag					8	
3-OSP-053.4	Containment In Penetration Alignment	÷ •	Approval Date: 6/19/			
	ATTACHMEN (Page 38 of 5	6)				
	DUTSIDE CONTAINMENT INTE					
<u>Penetration No.</u> 41	: Perso Drawing No.: N/A	nnel Access Lo	Sh	<u>eet No.</u> N/A		
L	Personnel Access	Hatch			·	
Component No.	Component Descripti	on	Normal Position	Cheo Tag & V	Vlv Pos	
NNA	Personnel Access Inside Door	<u>.</u>	LATCHED	(\)/	Init s	
3-S8A	Airlock to Atmosphere Valve		CLOSED		5	
NNA	Personnel Access Outside Door		LATCHED	V/	5	
3-S8E	Outer Door Test and Vent Connecti	on	CLOSED & CAPPED	1/	5	
3-S8D	Annulus Test Connection	Annulus Test Connection			5	
3-S8C	Annulus Pressurization Valve	Annulus Pressurization Valve				
Penetration No. 42		pply to Accum lapper Purge R	egulator	eet No. 1		
· · · · · · · · · · · · · · · · · · ·	Control Room	m				
Component No.	<b>Component Description</b>	Normal Position	Checked Tag & Vlv Pos () Init	Cha Chec	k Sat	
CV-3-855	$N_2$ to Accum and Flux Mapper	OPERABLE	V WM	* 11./1		
	Pipe and Valve I	Room			_	
Component No.	Component Descripti	Component Description		Chec Tag & V (√) /	/lv Pos	
3-940R	N <sub>2</sub> Supply to Accumulator and Flux Mapper Vent (P-42)		CLOSED & CAPPED		3	
	alves identified with * are to be chann his procedure.	nel checked in a	accordance wit	h Subse	ction	

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		Containment Int	tegrity		App	roval Dat	49 e:
3-OSP-053.4 Penetration Alignment Verification							9/00
		ATTACHMEN (Page 39 of 5)					
		E CONTAINMENT INTEG	GRITY VERI	FICATIO	N		
Penetration No.		netion: Reactor Coolant Pr to the Compon					
43	<u>D</u>	rawing No.:			She	et No.	
		5613-M-3030				5	
Component		Control Roon	Normal	Check	1		annel ck Sa
Ño.		component Description	Position		Init		nit
MOV-3-626	RCP T	hermal Barrier CCW Outlet	OPERABLE		10	*	n/M
		Pipe and Valve F	Room		÷	<b>,</b> ,,	
Component No.		Component Description	Dn	Norm Positi		Che Tag & $()$	<b>cked</b> Vlv Po Ini
3-626A		hermal Barrier to CCW Pen 4 onnection Valve Upstream of 3-626	-	CLOSEI CAPPI			5
Penetration No.: 44A		nction: Component ( to the Emergenc awing No.: 5613-M-3030	Cooling Water y Containment	Supply t Cooler "/		<u>et No.</u> 4	
		Control Roor	n				
Component No.		Component Description	on	Norm Positie		Che Tag & $(\sqrt{)}/$	cked Vlv Po Ini
CV-3-2905	3A Em	erg Contmt Cooler Inlet		OPERAL	BLE	1	W
		Pipe and Valve R	oom				
Component No.		Component Description	Dn	Norm Positio		Che Tag & $(\sqrt{)}$	cked Vlv Po Init
3-10-874		o ECC Line Pen 44A Test Co Downstream of CV-3-2905	nnection	CLOSEI CAPPE		i/	3

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	<b>Containment Integrity</b>	Ar	50 oproval Date:
-OSP-053.4	Penetration Alignment Verificati		8/29/00
	ATTACHMENT 1 (Page 40 of 56)		
(	OUTSIDE CONTAINMENT INTEGRITY VE	RIFICATION	
Penetration No.	component cooring in		
44B	to the Emergency Contain		heet No.
	5613-M-3030		4
	Control Room		
Component No.	<b>Component Description</b>	Normal Position	Checke Tag & Vlv
			(√)/ Ir
CV-3-2903	3B Emerg Contmt Cooler Inlet	OPERABLE	V W
	Pipe and Valve Room		Checke
Component No.	Component Description	Normal Position	Tag & Vlv
110.		T USITION	(v) Ir
3-10-875	CCW to ECC Line Pen 44B Test Connection Valve Downstream of CV-3-2903	CLOSED & CAPPED	/ 3
			<u></u>
Penetration No.:	Function: Component Cooling Wa to the Emergency Contain		
44C	Drawing No.:	Sh	<u>ieet No.</u>
	5613-M-3030 Control Room		4
~			Checked
Component No.	<b>Component Description</b>	Normal Position	Tag & Vlv I ( $$ ) / In
CV-3-2904	3C Emerg Contmt Cooler Inlet	OPERABLE	1/ 1/1
	Pipe and Valve Room		
Component	<b>Component Description</b>	Normal Position	CheckedTag & Vlv H $()$
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dure No.:	Procedure Title:		Page: 51
3-OSP-053.4	Containment Integrity Penetration Alignment Verification		Approval Date: <b>8/29/00</b>
(	ATTACHMENT 1 (Page 41 of 56) PUTSIDE CONTAINMENT INTEGRITY VERIF	ICATION	
Penetration No. 45A	Function: Emergency Cooler A Retu Component Cooling Water Drawing No.: 5613-M-3030	System	<u>Sheet No.</u> 4
	Control Room	1	Checked
Component No.	<b>Component Description</b>	Normal Position	Tag & Vlv F () In
CV-3-2908	3A Emerg Contmt Cooler Outlet	OPERABLI	3 V/ M
CV-3-2814	3A Emerg Contmt Cooler Bypass	OPERABLE	
	Pipe and Valve Room		
Component No.	<b>Component Description</b>	Normal Position	$\begin{array}{c c} Checked \\ Tag & Vlv F \\ \hline (\sqrt{)} & In \end{array}$
3-10-861	CCW Return to CCW Pen 45A Test Connection Valve Upstream of CV-3-2908 and CV-3-2814	CLOSED & CAPPED	15
Penetration No.: 45B	Function: Emergency Cooler <b>B</b> Retu Component Cooling Water Drawing No.: 5613-M-3030	System	Sheet No. 4
I <u></u>	Control Room		
Component No.	Component Description	Normal Position	<b>Checked</b> Tag & Vlv P
			(√)/ İn:
CV-3-2906	3B Emerg Contmt Cooler Outlet	OPERABLE	
CV-3-2810	3B Emerg Contmt Cooler Bypass	OPERABLE	V W
	Pipe and Valve Room		
Component No.	<b>Component Description</b>	Normal Position	$\begin{array}{c} \textbf{Checked} \\ \text{Tag & Vlv P} \\ \hline (\sqrt{)} & \text{Int} \end{array}$
3-10-863	CCW Return to CCW Pen 45B Test Connection Valve Upstream of CV-3-2906 and CV-3-2810	CLOSED & CAPPED	1 7

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rocedure No.:	Procedure Title:		Page: <b>52</b>
3-OSP-053.4	Containment Integrity Penetration Alignment Verification		Approval Date: <b>8/29/00</b>
(	ATTACHMENT 1 (Page 42 of 56) DUTSIDE CONTAINMENT INTEGRITY VERH	FICATION	
Penetration No. 45C	Emergency Cooler C Retu Component Cooling Water Drawing No.: 5613-M-3030		<u>Sheet No.</u> 4
	Control Room		
Component No.	Component Description	Normal Position	
CV-3-2907	3C Emerg Contmt Cooler Outlet	OPERABL	
CV-3-2812	3C Emerg Contmt Cooler Bypass	OPERABL	EV
	Pipe and Valve Room		
Component No.	Component Description	Normal Position	
3-10-865	CCW Return to CCW Pen 45C Test Connection Valve Upstream of CV-3-2907 and CV-3-2812	CLOSED & CAPPED	$\sim$ $$ $\leq$

Procedure Title:	Page:Containment IntegrityPenetration Alignment Verification8/29/00C				
ATTACHMENT 1 (Page 43 of 56) OUTSIDE CONTAINMENT INTEGRITY VE	RIFICATION				
Function: Primary Water To Containment	Service Connection	ons			
47 Drawing No.: Sheet No.					
5613-M-3020		2			
Pipe and Valve Room					
<b>Component Description</b>	Normal Position	Checked Tag & Vlv Pos () Init			
Primary Water to Containment Line Pen 47 Test Connection Valve Downstream of Check Valve 3-10-567	CLOSED & CAPPED	V 3			
CNTMT Iso Check VLV for PW to CNTMT Service Conn	INSTALLED	VS			
Function: Emergency Escape	Hatch				
<u>Drawing No.:</u> N/A	Sh	<u>Sheet No.</u>			
	Containment Integrity Penetration Alignment Verification ATTACHMENT 1 (Page 43 of 56) UTSIDE CONTAINMENT INTEGRITY VE Function: Primary Water To Containment Drawing No.: 5613-M-3020 Pipe and Valve Room Component Description Primary Water to Containment Line Pen 47 Test Connection Valve Downstream of Check Valve 3-10-567 CNTMT Iso Check VLV for PW to CNTMT Service Conn Function: Emergency Escape Drawing No.:	Containment Integrity Penetration Alignment Verification         ATTACHMENT 1 (Page 43 of 56)         OUTSIDE CONTAINMENT INTEGRITY VERIFICATION         Function:       Primary Water To Containment Service Connection         Drawing No::       Sh         5613-M-3020         Pipe and Valve Room         Primary Water to Containment Line Pen 47 Test Connection Valve Downstream of Check Valve 3-10-567       Normal Position         Primary Water to Containment Line Pen 47 Test Connection Valve Downstream of Check Valve 3-10-567       CLOSED & CAPPED         Primary Water to Containment Line Pen 47 Test Connection Valve Downstream of Check Valve 3-10-567       INSTALLED         Punction:       Emergency Escape Hatch       Sh			

Component		Normal	Checked (Initials)				
No.	Component Description	Position	(√) Tag ∕	Functionally Locked	Positioned Correctly		
NNA	Inside Door	LATCHED	1/1	N/A	13		
3-S9A	Airlock to Atmosphere Valve	CLOSED	1//	N/A	13		
NNA	Outside Door	LATCHED	1	N/A	13		
3-S9C	Annulus Pressurization Valve	LOCKED & CLOSED		13	13		
3-89G	PI-3-866 Isol Valve	OPEN with PI-3-866 INSTALLED	V	N/A	B		

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

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cedure No.:	Procedure Title:	edure Title:			Page: <b>54</b>			
3-OSP-053.4	Containment Integrity Penetration Alignment Verification			Approval Date: <b>8/29/00</b>				
	ATTACHMEN (Page 44 of 5 OUTSIDE CONTAINMENT INTEG	6)	FICATI	[ON				
Penetration No. 52		Function: Reactor Coolant Drain Tank Pump Disch						
52	<u>Drawing No.:</u> 5613-M-3061							
	Waste Disposal - Boron I	Recycle Panel						
Component No.	<b>Component Description</b>	Normal Position		cked Vlv Pos Init	Channel Check Sat Init			
CV-3-4668A	Reactor Coolant Drain Tank Pump Discharge Valve	OPERABLE	$\checkmark$	13	* 1/5			
CV-3-4668B	Reactor Coolant Drain Tank Pump Discharge Valve	OPERABLE		13	* 1/5			

## Pipe and Valve Room

Component No.	<b>Component Description</b>	Normal Position	 <b>cked</b> Vlv Pos Init
3-4668C	RCDT Pump Discharge Line Pen 52 Test Connection Valve Between CV-3-4668A and B	CLOSED & CAPPED	V5

**NOTE**: Those valves identified with \* are to be channel checked in accordance with Subsection 7.3 of this procedure.

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3-OSP-053.4		Containment Penetration Alignm	÷ •	on	Approval	55 Date: 2/24/04
	OUTS	ATTACHM (Page 45 c SIDE CONTAINMENT IN	of 56)	RIFICAT	ION	
Penetratio 53	<u>n No.:</u>	Function: Post Accident Co	ontainment Ven	t and Sam	ple System	
		Drawing No.: 5613-M-3094 ux Bldg North Hallway (Ne	or CSP Boom	Entroped	Sheet No 1	<u>.</u>
		ix diug North Hanway (Ne			) 1ecked (Init	ials)
Component No.		Component Description	Normal Position	(√) Tag	Functionally Locked	Positioned Correctly
HV-3-3	Vent ar	ccident Containment Id Sample System n Valve (RR)	LOCKED CLOSED*		3	5
HV-3-4 PAC Isolat		ent and Sample System n Valve Downstream of (RR)	LOCKED CLOSED*		5	5
		Pipe and Valv	ve Room			
Component No.	C	Pipe and Valv Component Description	Normal	Ch (√)	<b>ecked (Init</b> Functionally	<b>ials)</b> Positioned
Component No. PAHM-3-011B		Component Description Sample Line Test				

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

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edure No.:	Procedure Title:		<sup>1ge:</sup> 56	
3-OSP-053.4	Containment Integrity Penetration Alignment Verificatio		Approval Date: 4/3/09	
	ATTACHMENT 1 (Page 46 of 56) OUTSIDE CONTAINMENT INTEGRITY VEH	RIFICATION		
Penetration No. 54A	<u>Function:</u> South Containment Building Sump to	o <b>A</b> RHR Pump	Suction	
	Drawing No.:	<u>S</u>	heet No.	
	5613-M-3050	<u> </u>	1	
	Control Room		اندي ورباعه بمحمد المراكلين	
Component No.	Component Description	Normal Position	$ \begin{array}{c} \text{Checked} \\ \text{Tag & Vlv Po} \\ \hline (\sqrt{)} \\ \end{array} $ Init	
MOV-3-860A	Contmt Recirc Sump Isol	CLOSED	J/ w/n	
MOV-3-861A	Contmt Recirc Sump Isol	CLOSED	1 in	
	<b>RHR Pump Room A</b>		• • •	
Component No.	Component Description	Normal Position	Checked Tag & Vlv Pos () / Init	
3-899C	South Recirc Sump Supply Hdr Downstream Drain	CLOSED & BLIND FLANGE INSTALLED	V S	
	RHR Hx Room	,		
Component No.	Component Description	Normal Position	Checked Tag & Vlv Pos $(\sqrt{)}$ Init	
3-942N	South Recirc Sump Supply Hdr Drain	CLOSED & CAPPED		
3-2052	Cntmt Spray Pump Suction Relief Line Ck Vlv to RHR Recirc (Located near MOV-3-860A)	INSTALLED	1 3	
3-1490	South Recirc Sump Supply Hdr Downstream Vent	CLOSED & CAPPED	VS	
	Containment Spray Pump Room			
Component No.	Component Description	Normal Position	Checked Tag & Vlv Pos ()/ Init	
3-942M	CS Pump Suction Relief Line Drain	CLOSED & CAPPED	15	
RV-3-871	Containment Spray Pump A Suction Relief Valve	INSTALLED	13	

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	ATTACHMENT 1 (Page 47 of 56)		
	OUTSIDE CONTAINMENT INTEGRITY VERIF	ICATION	
Penetration No.:	Function: North Containment Building Sump to <b>B</b>	RHR Pump	Suction
54B	<u>Drawing No.:</u> 5613-M-3050	<u>S</u>	neet No. 1
	Control Room		
Component No.	Component Description	Normal Position	CheckedTag & Vlv Pos $(\sqrt{)}/$
MOV-3-860B	Contmt Recirc Sump Isol	CLOSED	1/W9,
MOV-3-861B	Contmt Recirc Sump Isol	CLOSED	VW
	RHR Pump Room B		
Component No.	<b>Component Description</b>	Normal Position	Checked Tag & VIv Pos $(\sqrt{)}$ Init
3-899E	North Recirc Sump Supply Hdr Downstream Drain	CLOSED & CAPPED	$\sqrt{3}$
	<b>RHR Hx Room</b>		
Component No.	<b>Component Description</b>	Normal Position	Checked Tag & Vlv Pos $(\sqrt{)}$ Init
3-1491	North Recirc Sump Supply Hdr Downstream Vent	CLOSED & CAPPED	V 3

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ſ	Penetration No.		r A, B, and C Sa	mple L	ine		
	55	<u>Drawing No.:</u> 5613-M-3036			Sh	neet No. 1	
		Control Roo	om				
	Component No.	Component Description	Normal Position		<b>cked</b> Vlv Pos Init	Che	annel ck Sat nit
	CV-3-956D	Accumulator Sample Isol	OPERABLE	V	NO		10
Г	~	Sample Roo	om	1		Che	cked
	Component No.	Component Descript	ion		rmal ition	1	Vlv Pos Init
E	CV-3-955C	Accumulator A Sample Isol Valve			ABLE	.//	5
┡	CV-3-955D CV-3-955E	Accumulator B Sample Isol Valve Accumulator C Sample Isol Valve			ABLE	V	5
<b>L</b>				OT LA		<u> </u>	
Г		Pipe and Valve	Room	T		Che	cked
	Component Ño.	Component Descript	ion		mal ition	Tag &	Vlv Pos
┡	3-994	Accum Sample Line Pen 55 Test	-3-956D	CLOS CAF	SED &	(\)/	Init

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dure No.:	Procedure Title:		<sup>ge:</sup> 59
3-OSP-053.4	Containment Integrity Penetration Alignment Verification	Aŗ	oproval Date: 4/3/09
(	ATTACHMENT 1 (Page 49 of 56) DUTSIDE CONTAINMENT INTEGRITY VERIF	ICATION	
Penetration No.	Function: High Head Safety Injection to Reacto	r Coolant Loo	op A
58	Drawing No.:	<u>SI</u>	<u>neet No.</u>
	5613-M-3062		2
	Control Room		
Component No.	Component Description	Normal Position	Checked Tag & Vlv Po ()/ Ini
MOV-3-843A	HHSI Cold Leg Injection	CLOSED	1/1 5/1
MOV-3-843B	HHSI Cold Leg Injection	CLOSED	V all
	Pipe and Valve Room		
Component No.	Component Description	Normal Position	Checked Tag & Vlv Po ()/ Ini
3-941E	HHSI to Loop A Cold Leg Drain Upstrm of Pen 58	CLOSED	
3-1493	SI to Loop A Cold Leg Upstrm Vent Valve	CLOSED & CAPPED	1/3
Test Connection	Test Connection between 3-941E and 3-923	CAPPED	4,5
3-923	HHSI to Loop A Cold Leg Root Vlv for PI-3-6390 Dnstrm of 3-941E	CLOSED	15
Test Connection	Test Connection between 3-923 and PI-3-6390	CAPPED	1/5
	Containment Spray Pump Room - Second Le	evel	
Component No.	<b>Component Description</b>	Normal Position	Checked Tag & Vlv Po
3-836D	Vent Valve on HHSI Pump Disch to Cold Leg Injection	CLOSED & CAPPED	$(\sqrt{)}$ Init
Penetration No.: 59	Function: High Head Safety Injection to Reactor Drawing No.: 5613-M-3062	r Coolant Loc Sh	pp <b>B</b> <u>cet No.</u> & 2
	Control Room		
Component No.	<b>Component Description</b>	Normal Position	CheckedTag & Vlv Po $(\sqrt{)}$ Init
MOV-3-843A	HHSI Cold Leg Injection	CLOSED	V/WJ
MOV-3-843B	HHSI Cold Leg Injection	CLOSED	1 6/0

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-OSP-053.4	Containment Integrity Penetration Alignment Verification		Approval Date: 4/3/09		
	ATTACHMENT 1 (Page 50 of 56) OUTSIDE CONTAINMENT INTEGRITY VERI	IFICATION			
	Pipe and Valve Room				
Component No.	<b>Component Description</b>	Normal Position			
3-941F	HHSI to Loop B Cold Leg Drain	CLOSED & CAPPED	ž V	3	
3-1492	SI to Loop B Cold Leg Upstrm Vent Valve	CLOSED & CAPPED	ž 🗸	3	
	Containment Spray Pump Room - Second	· · · · · · · · · · · · · · · · · · ·			
Component No.	Component Description	Normal Position			
3-836D	Vent Valve on HHSI Pump Disch to Cold Leg Injection	CLOSED & CAPPED	······	3	
Penetration No.	<u>Function:</u> High Head Safety Injection to Reac		oop C		
	High Head Safety Injection to React <u>Drawing No.:</u> 5613-M-3062		*		
-	High Head Safety Injection to Reac		Sheet No. 1 & 2 Chec Tag & V	/lv J	
60 Component	High Head Safety Injection to React Drawing No.: 5613-M-3062 Control Room	Normal	$\frac{Sheet No.}{1 \& 2}$ Chece Tag & V $(\sqrt{)}$		
60 Component No. MOV-3-843A	High Head Safety Injection to React Drawing No.: 5613-M-3062 Control Room Component Description	Normal Position	Sheet No. 1 & 2 Chec Tag & V ()/	/lv] Ir	
60 Component No. MOV-3-843A	High Head Safety Injection to React Drawing No.: 5613-M-3062 Control Room Component Description HHSI Cold Leg Injection	Normal Position CLOSED	Sheet No. 1 & 2 Chec Tag & V ()/	/lv] Ir	
60 Component No. MOV-3-843A	High Head Safety Injection to React Drawing No.: 5613-M-3062 Control Room Component Description HHSI Cold Leg Injection HHSI Cold Leg Injection	Normal Position CLOSED	Sheet No. 1 & 2 Chece Tag & V ()/ i// Chece Tag & V	Vlv J Ir W W : kee /lv J	
60 Component No. MOV-3-843A MOV-3-843B Component	High Head Safety Injection to React Drawing No.: 5613-M-3062 Control Room Component Description HHSI Cold Leg Injection HHSI Cold Leg Injection HHSI Cold Leg Injection	Normal Position CLOSED CLOSED Normal Position	Sheet No. 1 & 2 Chec Tag & V ()/ i// i// Chec Tag & V ()/	Vlv J Ir W W : kee /lv J	
60 Component No. MOV-3-843A MOV-3-843B Component No.	High Head Safety Injection to React Drawing No.: 5613-M-3062 Control Room Component Description HHSI Cold Leg Injection HHSI Cold Leg Injection Pipe and Valve Room Component Description	Normal Position CLOSED CLOSED Normal Position	Sheet No. 1 & 2 Chec Tag & V ()/ i// i// Chec Tag & V ()	Vlv ] Ir W W kee /lv ]	
60 Component No. MOV-3-843A MOV-3-843B Component No. 3-941G	High Head Safety Injection to React Drawing No.: 5613-M-3062 Control Room Component Description HHSI Cold Leg Injection HHSI Cold Leg Injection HHSI Cold Leg Injection HHSI Cold Leg Injection SI to Loop C Cold Leg Drain SI to Loop C Cold Leg Upstrm Vent Valve	Normal Position CLOSED CLOSED Normal Position CLOSED & CAPPED CLOSED & CAPPED	Sheet No. 1 & 2 Chec Tag & V ()/ i// i// Chec Tag & V ()		
60 Component No. MOV-3-843A MOV-3-843B Component No. 3-941G	High Head Safety Injection to React Drawing No.: 5613-M-3062 Control Room Component Description HHSI Cold Leg Injection HHSI Cold Leg Injection HHSI Cold Leg Injection HHSI to Loop C Cold Leg Drain	Normal Position CLOSED CLOSED Normal Position CLOSED & CAPPED CLOSED & CAPPED	Sheet No. 1 & 2 Chec Tag & V ()/ i// i// Chec Tag & V ()		

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4 OCD 974 /		edure Title: Containment I		61 Approval Date: 1/10/08			
3-OSP-053.4		Penetration Alignme	nt Verification	1		1/10/08	
<u></u>	OUTS	ATTACHME (Page 51 of SIDE CONTAINMENT INTI	56)	IFICAT	TON		
		Function:				<u> </u>	
Penetration		Containmer	nt Pressure Inst	rumentat	tion		
62A	1	Drawing No.:			Sheet No	<b>`</b>	
		5613-M-3094			1	<u>1.</u>	
		South Electrical Pene	tration Room		<u>1</u>		
Component No.	(	Component Description	Normal Position	(v)	<b>hecked</b> (Ini Functionally	itials) Positione	
				Tag/	Locked	Correctly	
3-2054	Pressure	tion 62A Containment Instrument Root Valve	LOCKED OPEN	V.	: 5	5	
3-2055	Pressure and PT-	ion 62A Containment Instrument PT-3-6306B 3-6425B Isol Valve	OPEN		N/A	3	
3-2056	Pressure Test Cor	ion 62A Containment Instrument Sense Line nnection Valve	CLOSED & CAPPED	$\checkmark$	N/A	5	
3-2057		ion 62A Containment Instrument PT-3-6425B ve	OPEN		N/A	5	
"T"	PS-3-20		BLIND FLANGE INSTALLED	N/A	N/A	5	
"T"	Test "T" PY-3-64	between 3-2057 and 25B	CAPPED	N/A	N/A	5	
"T"	Test "T"	downstream of PS-3-2057	CAPPED	N/A	N/A	5	
Penetration 62B		<u>Drawing No.:</u> 5613-M-3094	t Pressure Inst	rumentat	ion <u>Sheet No</u> 1	<u> </u>	
		South Electrical Pener	1		hecked (Ini	tials)	
Component No.	C	Component Description	Normal Position	(√) Tag	Functionally Locked	Positioned Correctly	
3-2059	Instrumer Valve	on 62B Containment Pressure at PS-3-2009 and PS-3-2058 Root	LOCKED OPEN	v	5	5	
3-2058		on 62B Containment Pressure at Sense Line Test Connection	CLOSED & CAPPED	1/	N/A	5	

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rocedure No.:	Proc	edure Title:			Page:	62
3-OSP-053.4		Containment In Penetration Alignmen		on	Approval 8	
		ATTACHME (Page 52 of 5				
	OUT	SIDE CONTAINMENT INTE	GRITY VE	RIFICAT	ION	
Penetratio 620		Function: Containmen	t Pressure In	strumentat	ion	
		Drawing No.:			Sheet No	<u> </u>
		5613-M-3094			1	
		South Electrical Penet	ration Roor	n		_
Component			Normal	Cł	ecked (Init	ials)
No.		Component Description	Position	(√) Tag	Functionally Locked	Positioned Correctly
3-2063		ation 62C Containment re Instruments Root Valve	LOCKED OPEN		5	M
3-2061	Pressur	ation 62C Containment re Instrument PT-3-6306A and 425A Isol Valve	OPEN		N/A	5
3-2062	Pressur	tion 62C Containment re Instrument Sense Line Test ction Valve	CLOSED & CAPPED		N/A	5

For locked or sealed components, the center column is initialed after verifying the locking device is functioning to prevent repositioning. The right hand column is initialed after verifying proper position of the component.

OPEN

CAPPED

CAPPED

CAPPED

N/A

N/A

N/A

N/A

N/A

N/A

N/A

5

5

5

5

Penetration 62C Containment

Test "T" between 3-2063 and

Test "T" between 3-2065 and

Test "T" downstream of PS-3-2007

Pressure Instrument PT-3-6425A Isol

3-2065

"T"

"T"

"T"

Valve

PS-3-2056

PT-3-6425A

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lure No.:	Procedure Title:	ntogrity		Pag	63
-OSP-053.4		Containment Integrity Penetration Alignment Verification			proval Date: <b>8/29/00</b>
	ATTACHME (Page 53 of	56)			
······································	DUTSIDE CONTAINMENT INTE	GRITY VERI		ON	
Penetration No		Air Bleed to the I	Plant Sta	lck	
63	Drawing No.:			Sh	eet No.
	5613-M-3053				1
	Control Ro	0m			• <u>•</u>
Component No.	Component Description	Normal Position	Chec Tag & $\nabla$ ()/		Channe Check Sa Init
CV-3-2826	Contmt Instr Air Bleed (OC)	OPERABLE		Wn	* 4/0
CV-3-2819	Contmt Instr Air Bleed (IC)	OPERABLE	V	10	* 110
	Pipe and Valve	Room			
Component No.	Component Descript	tion	Nor Posi		Checked Tag & Vlv F () In
3-11-017	Penetration 63 Instrument Air Ble Connection Valve	ed Line Test	CLOS CAP	ED & PED	1 3
					·····
Penetration No.	Function:				
	Steam Ger	nerator "A" Samj	ple Line		
64A	Drawing No.:			Sh	eet No.
	5613-M-3032				1
	Control Roc	)m			
Component No.	<b>Component Description</b>	Normal Position	Chec Tag & V	lv Pos	Channe Check Sa
MOV 2 1407	2 A Stra Con Linuid Count-	OPERABLE	_ (√) _/	Init W/N	Init $* h/h$
MOV-3-1427	3A Stm Gen Liquid Sample		$\mathcal{V}$	N/1)	* WD
	Pipe and Valve			_ 1	Checked
Component No.	Component Descript	ion	Nor Posi		Tag & Vlv P $(\sqrt{)}/$ In
3-20-308	A S/G Blowdown Sample Line Test Conn Valve Between 3-20-305 and MOV-3-142	CLOS CAP		./ <	

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Procedu	nre No.:	Procedure Title:		Page: <b>64</b>			
3-	-OSP-053.4	Containment Int Penetration Alignment		Approval Date: 8/29/00			
	C	ATTACHMEN (Page 54 of 56 OUTSIDE CONTAINMENT INTEG	5)	FICATION	N		
	Penetration No.: 64B		erator <b>B</b> Samp	le Line	<u>Sheet No.</u> 1		
		Control Roon	n				
	Component No.	<b>Component Description</b>	Normal Position	CheckeTag & $\mathcal{V}$ Iv $(\sqrt{)}/$			
	MOV-3-1426	3B Stm Gen Liquid Sample	OPERABLE	VW	) * WD		
	•	Pipe and Valve R	loom				
Γ	Component No.	Component Descriptio		Norma Positio			
	3-20-311	B S/G Blowdown Sample Line Test Valve Between 3-20-306 and MOV-		CLOSED CAPPEI			
	Penetration No.: 64C	Function: Steam Gene Drawing No.: 5613-M-3032	erator C Samp	le Line	Sheet No.		
L		Control Roon	<del>n</del>		_		
Γ	Component No.	Component Description	Normal Position	Checke Tag & Vlv $(\sqrt{)}$ In			
1	MOV-3-1425	3C Stm Gen Liquid Sample	OPERABLE	V W.	$0 * \mu/\eta$		
		Pipe and Valve R	oom		Your File of the second		
	Component No.	Component Descriptio		Norma Positio			
	3-20-314C S/G Blowdown Sample Line Test Connection Valve Between 3-20-307 and MOV-3-1425CLOSE CAPPH				& / /		

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				ATTACHME (Page 55 of :					
OUTSIDE CONTAINMENT INTEGRITY VERIFICATION									
Penetration No.: 65A				Drawing No.:	eak Rate Tes	t Penetra		eet No.	
				5613-M-3053				1	
ſ	Componer No.	nt	2	<u>S/G Blowdown</u> Component Descript			ormal sition		hecked & Vlv Pos
ŀ	3-2014		ILR	T Line Test Connection Valve	(Pen 65A)		DSED &	1	5
Į	NNA		Pen	etration 65A Blind Flange			ALLED	// N/A	15
	Penetration 65B			Function: Integrated L Drawing No.: 5613-M-3053	eak Rate Test	t Penetra		eet No. 1	
				S/G Blowdown	Area				-
(	Component No.		C	component Description	Normal Position	(√) Tag,	Function Locke	ally	als) Positioned Correctly
	3-2015		RT L n 65	ine Test Connection Valve B)	CLOSED & CAPPED	N	N/A		5
	3-2025	ILI	RT L	ine Isolation Valve (Pen 65B)	LOCKED CLOSED	$\checkmark$	5		5
h								<u>ł</u> _	

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Procedure No.:	Procedure Title:		Page: <b>66</b>	
3-OSP-053.4		Containment Integrity Penetration Alignment Verification		
	ATTACHM (Page 56 o OUTSIDE CONTAINMENT INT	f 56)	RIFICATION	
Penetration No 65C		Leak Rate Tes	t Penetration	
	<u>Drawing No.:</u> 5613-M-3053		<u>Sheet No.</u> 1	
	S/G Blowdow	n Area		
Component No.	<b>Component Description</b>	Normal Position		

110.			Tag /	Locked	Correctly
3-2016	ILRT Line Test Connection Valve (Pen 65C)	CLOSED & CAPPED		N/A	5
3-2026	ILRT Line Isolation Valve (Pen 65C)	LOCKED CLOSED	$\checkmark$	3	5

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Appendix C	Job Perform Wor	Form ES-C-1	
Facility:	Turkey Point	Task No:	
Took Title	SRO/RO:Perform A QPTR Calculation. SRO:Determine		
Task Title:	Corrective Actions 2.2.12 Knowledge of surveillance procedures.	JPM No:	NRC-25-ADMIN-JPM-A.2
K/A Reference:	3.7 / 4.1	_	
Examinee:		NRC Examiner:	
Facility Evaluator:		_ Date:	
Method of testing:		· · · · · · · · · · · · · · · · · · ·	
Simulated Performa	ance	_ Actual Performance	e
Classroom	Simulator		Plant

### Read to the examinee:

I will explain the initial conditions and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

### Initial Conditions:

Unit 3 is in Mode 1 operating at 100% power.

#### Detector currents for all in service power range nuclear instrumentation channels are as follows:

N-41 Top:	179.8	N-41 Bottom:	153.0
N-42 Top:	142.0	N-42 Bottom:	142.2
N-43 Top:	151.3	N-43 Bottom:	127.1
N-44 Top:	183.1	N-44 Bottom:	160.6

## Task Standard:

### **RO Candidate:**

Performs 3-OSP-059.10, DETERMINATION OF QUADRANT POWER TILT RATIO Attachment 1 Steps 1 through 6.

## SRO Candidate:

- 1. Performs 3-OSP-059.10, DETERMINATION OF QUADRANT POWER TILT RATIO
- 2. Determines QPTR is outside of acceptable range.
- 3. Applies Tech Spec 3.2.4

#### **Required Materials:**

- 1. Calculator
- 2. 3-OSP-059.10, DETERMINATION OF QUADRANT POWER TILT RATIO
- 3. Technical Specifications Section 3.2.4
- 4. Unit 3 Cycle 24 Plant Curve Book

### General References:

- 1. 3-OSP-059.10, DETERMINATION OF QUADRANT POWER TILT RATIO
- 2. Technical Specifications Section 3.2.4
- 3. Unit 3 Cycle 24 Plant Curve Book

Initiating Cue:

## RO:

- 1. Perform 3-OSP-059.10, DETERMINATION OF NIS QPTR USING EXCORE DETECTOR CURRENTS
- 2. Calculate NIS QPTR using excore detector currents. Using ATTACHMENT 1 of 3-OSP-059.10, DETERMINATION OF NIS QPTR USING EXCORE DETECTOR CURRENTS Steps 1 through 6.

## SRO:

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- 1. Perform 3-OSP-059.10, DETERMINATION OF NIS QPTR USING EXCORE DETECTOR CURRENTS
- 2. Determine Acceptance Criteria.
- 3. Determine ALL necessary Technical Specification actions, IF ANY, that must be completed.

Time Critical Task: No

Validation Time: ROs: 15 minutes SROs: 20 minutes

## HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

# SIMULATOR SETUP

# Reset to IC #

N/A

## <u>Load Lesson</u>

N/A

## Ensure Simulator Operator Checklist is complete

N/A

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# Denote critical steps with a check $mark(\checkmark)$

	Start Tir	Start Time		
STEP 1 :	Obtain copy of procedure.	SAT UNSAT		
<u>Standard</u> :	Obtains copy of 3-OSP-059.10.			
Cue	<ol> <li>Provide copy/access 3-OSP-059.10, DETERMINATION OF QUADRANT POWER TILT RATIO</li> <li>Provide copy/access to Technical Specifications</li> <li>Provide copy/access to Unit 3 Cycle 24 Plant Curve Book</li> </ol>			
<u>Comment</u>				
NOTE:	Evaluator may require the candidate to obtain the procedure.			

Appendix C	Page 5 of 18	Form ES-C-1

STEP 2 :	Record date, time and initials on page 1 of Attachment 1.	SAT UNSAT
<u>Standard</u> :	Records date and time and initials.	
Cue	Provided by Initial Conditions.	
Comment		
NOTE:		

Appendix C

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STEP 3 :	7.1.1 Read and record on Attachment 1 the top and bottom detector current for all in service power range nuclear instrumentation channels (meter face).	SAT UNSAT
	Records detector currents for all in service power range nuclear instrumentation channels:	
	N-41 Top: 179.8 N-41 Bottom: 153.0	
<u>Standard</u> :	N-42 Top: 142.0 N-42 Bottom: 142.2	
	N-43 Top: 151.3 N-43 Bottom: 127.1	
	N-44 Top: 183.1 N-44 Bottom: 160.6	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:	7.0 <b>PROCEDURE</b> NOTE Attachments 1, 2, and 3 may be performed without interim rounding. For example, when using a calculator that has storage capabilities, after performance of a calculation and the stored results are added, the final result may not be the same as if each individual calculated value is rounded and then added [CR 99-0993].	

<u>STEP 4</u> : √	Sec. 5 Figure	E 5 PCB) on At imentation det EXCORE NIS CAL	tachment 1 for	POWER RAN NORMALIZATION I	ower range	SAT UNSAT
<u>Standard</u> :				n: 142.4 n: 135.6	1	
Cue	Provided by I	nitial Conditior	ns.			
<u>Comment</u>						
NOTE:						

Appendix C

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STEP 5 : √	<ul><li>7.1.3 Complete calculations of Attachment 1.</li><li>1. Determination normalized detector currents.</li></ul>	SAT UNSAT
	Evaluator may use provided KEY to evaluate this STEP.	
	1. Calculates normalized detector currents.	
	N-41 Top: 179.8/189.8 = <b>0.94 to 0.95</b>	
	N-42 Top: 142.0/140.6 = <b>1.00 to 1.01</b>	
	N-43 Top: 151.3/156.4 = <b>0.96 to 0.97</b>	
<u>Standard</u> :	N-44 Top: 183.1/180.3 = <b>1.01 to1.02</b>	
<u>otandara</u> .	Upper Section Normalized Current Total = <b>3.91 to 3.95</b>	
	N-41 Bottom: 153.0/162.3 = <b>0.94 to 0.94</b>	-
	N-42 Bottom: 142.2/142.4 = 0.99 to1.00	- - - 
	N-43 Bottom: 127.1/135.6 = 0.93 to 0.94	
	N-44 Bottom: 160.6/159.6 = <b>1.00 to 1.01</b>	
	Lower Section Normalized Current Total = <b>3.86 to 3.89</b>	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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<u>STEP 6</u> : √	<ul><li>7.1.3 Complete calculations of Attachment 1.</li><li>2. Determination average normalized power.</li></ul>	SAT UNSAT
<u>Standard</u> :	<ul> <li>Evaluator may use provided KEY to evaluate this STEP.</li> <li>2. Calculates average normalized power.</li> <li>Average Upper Section Normalized Power = (3.91/4) to (3.95/4) =</li> <li>0.97 to 0.99</li> <li>Average Lower Section Normalized Power = (3.86/4) to (3.89/4) =</li> <li>0.96 to 0.98</li> </ul>	
Cue	Provided by Initial Conditions.	
Comment		
NOTE:		

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<u>STEP 7</u> : √	<ul><li>7.1.3 Complete calculations of Attachment 1.</li><li>3. Determine QPTR</li></ul>	SAT UNSAT
<u>Standard</u> :	<ul> <li>Evaluator may use provided KEY to evaluate this STEP.</li> <li>3. Calculates QPTR.</li> <li>Upper Section Tilt Ratio = (1.02/0.97) to (1.02/.99) = 1.03 to 1.05</li> <li>Lower Section Tilt Ratio = (1.01/0.96) to (1.01/0.98)= 1.03 to 1.05</li> </ul>	
<u>Cue</u>	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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Form ES-C-1

STEP 8 : √	<ul><li>7.1.3 Complete calculations of Attachment 1.</li><li>4. Determine NIS QPTR.</li></ul>	SAT UNSAT
<u>Standard</u> :	<ul> <li>Evaluator may use provided KEY to evaluate this STEP.</li> <li>4. Determines NIS QPTR.</li> <li>NIS QPTR = Highest Section Tilt Ratio = 1.03-1.05</li> </ul>	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

Appendix C

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Terminating Cue:	The task is complete for RO candidates when Attachment 1 has been completed.	STOP
NOTE:	<b>Precautions and Limitations</b> 4.2.3 With QPTR greater than 1.02 (2.0 percent), QPTR determination is required at least once per hour (Tech Spec 3/4.2.4).	
Comment		
Cue	Provided by Initial Conditions.	
<u>Standard</u> :	Evaluator may use provided KEY to evaluate this STEP. Candidate: Tilt ratio = Acceptable range: 1.03 to 1.05) Determines QPTR is > 1.02 Circles NO on Step 6 of ATT. 1	
<u>STEP 9</u> : √	<ul> <li>7.1.3 Complete calculations of Attachment 1.</li> <li>5. Determine if NIS QPTR is &lt; or = 1.02 (2.0%).</li> <li>6. If QPTR is less than or equal to 1.02 (2.0 percent) [T.S. 3.2.4] (Circle one): No YES</li> </ul>	SAT UNSAT

Stop Time \_\_\_\_\_

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Appendix C	Page 13 of 18	Form ES-C-1

STEP 10 :	<ul> <li>7.1.4 <u>IF</u> QPTR is greater than 1.02 (2.0 percent) <u>OR</u> Attachment 1 yields suspect QPTR results, <u>THEN</u> perform Subsection 7.2.</li> <li>7.2.5 IF QPTR is greater than 1.02 (2.0 percent), THEN refer to Subsection 7.4 for additional actions while continuing with this section of the procedure.</li> </ul>	SAT UNSAT
<u>Standard</u> :	Candidate reads step and determines that Step 7.2 must be completed by I&C.	
Cue	If necessary inform applicant that Instrument and Control personnel will perform Step 7.2.	
<u>Comment</u>		
NOTE:		

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STEP 11 :	7.3 Determine QPTR using at least one of the following five methods: Performed by RX Engineering	SAT UNSAT
<u>Standard</u> :	Candidate reads step and determines that Step 7.3 must be completed by RX Engineering.	
Cue	If Candidate requests RX Engineering assistance tell candidate that RX Engineering will perform Step 7.3.	
<u>Comment</u>		
NOTE:		

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<u>STEP 7</u> : √	FOR SROs: Determines that TS 3.2.4 applies.	SAT UNSAT
<u>Standard</u> :	<ol> <li>Calculate the QUADRANT POWER TILT RATIO at least once per hour</li> <li>Determines QUADRANT POWER TILT RATIO must be calculated at least once per hour until either:         <ul> <li>a) The QUADRANT POWER TILT RATIO is reduced to within its limit, or</li> <li>b) THERMAL POWER is reduced to less than 50% of RATED THERMAL POWER.</li> </ul> </li> <li>Power Reduced to: 91%for QPTR=1.03 or 85% for QPTR=1.05</li> <li>High Flux Trip Setpoint Reduced to: 99% for QPTR=1.03 or 93%for QPTR=1.05 STOP</li> </ol>	
Cue	None required	
Comment		
NOTE:	<ul> <li>7.4 IF the actual QPTR is greater than 1.02 (2.0 percent) OR Subsection 7.3 can NOT be performed within 12 hours, THEN go to 3- ONOP-059.9, EXCESSIVE QUADRANT POWER TILT RATIO, AND notify Rx Engineering.</li> <li>Per TS 3.2.4, applicant identifies the following requirements: ACTION: <ul> <li>a. With the QUADRANT POWER TILT RATIO determined to exceed</li> <li>1.02 but less than or equal to 1.09:</li> </ul> </li> <li>1. Calculate the QUADRANT POWER TILT RATIO at least once per hour until either: <ul> <li>a) The QUADRANT POWER TILT RATIO is reduced to within its limit, or</li> <li>b) THERMAL POWER is reduced to less than 50% of RATED THERMAL POWER.</li> </ul> </li> <li>2. Within 2 hours either: <ul> <li>a) Reduce the QUADRANT POWER TILT RATIO to within its limit, or</li> <li>b) Reduce THERMAL POWER at least 3% from RATED THERMAL POWER for each 1% of indicated QUADRANT POWER TILT RATIO in excess of 1 and similarly reduce the Power Range Neutron Flux- High Trip Setpoints within the next 4 hours.</li> </ul> </li> </ul>	

· Appendix C	Page 16 of 18	Form ES-C-1	
Terminating Cue:	The task is complete when the Examinee returns the cue sheet to the examiner.	STOP	

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Appendix C	Page 17 of 18	Form ES-C-1
Verification of Completion		
Job Performance Measure No.	NRC-25-ADMIN-JPM-A.2	
Examinee's Name:		
Examiner's Name:		
Date Performed:		
Facility Evaluator:		
Number of Attempts:		
Time to Complete:		
Question Documentation:		
Question:		
Response:		

Result: Satisfactory/Unsatisfactory

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Examiner's signature and date:

# JPM BRIEFING SHEET

The examiner will explain the initial conditions and provide initiating cues. When you complete the task successfully, the objective for this job performance measure will be satisfied.

## INITIAL CONDITIONS:

The plant is operating at 100% power.

## Detector currents for all in service power range nuclear instrumentation channels are as follows:

N-41 Top:	179.8	N-41 Bottom:	153.0
N-42 Top:	142.0	N-42 Bottom:	142.2
N-43 Top:	151.3	N-43 Bottom:	127.1
N-44 Top:	183.1	N-44 Bottom:	160.6

## Initiating Cue:

RO:

- Perform 3-OSP-059.10, DETERMINATION OF NIS QPTR USING EXCORE DETECTOR CURRENTS
- Calculate NIS QPTR using excore detector currents. Using ATTACHMENT 1 of 3-OSP-059.10, DETERMINATION OF NIS QPTR USING EXCORE DETECTOR CURRENTS Steps 1 through 6.

## SRO:

- Perform 3-OSP-059.10, DETERMINATION OF NIS QPTR USING EXCORE DETECTOR CURRENTS
- Determine Acceptance Criteria.
- Determine ALL necessary Technical Specification actions, IF ANY, that must be completed.

## TERMINATION CUE:

WHEN YOU HAVE COMPLETED THE ASSIGNED TASK, HAND YOUR JPM BRIEFING SHEET BACK TO EVALUATOR.

## Acknowledge to the examiner when you are ready to begin.

# HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

ocedure No.: <b>3-OSP-059.10</b>	Procedure Title: Determination	of Quadrant	/ Power Tilt Ratio		Page: 11 Approval Date: 8/30/05
	AT	<b>TACHMEN</b> (Page 1 of 2			· · · · · · · · · · · · · · · · · · ·
DETERMI	NATION OF NIS QPT			TOR CU	RRENTS
Date: Toz	DAU Time	XXXX	Initials:		
. Determination	n normalized detector cu		$\neg$	)	
	Upper Section	Normalized [	Detector Current	ts	
N41 Top C 100 Perce	Current = nt Top Current	_179,8 189,8	<u>micro amps</u> micro amps	= 09	94-095
<u>N42 Top C</u> 100 Perce	current = nt Top Current	<u> </u>	<u>micro amps</u> micro amps	= /.x	7-1.01
<u>N43 Top C</u> 100 Perce	eurrent == nt Top Current	_ <u>151.3</u> 	micro amps micro amps	= 0,9	6-0,97
<u>N44 Top C</u> 100 Percer	nt Top Current		<u>micro amps</u> micro amps	= /, 0	1-1,02
	Upper Section N	Normalized C	urrent Total	= 3,9	1-3,95
	Lower Section	Normalized E	Detector Current	s	
N41 Bottor 100 Percer	<u>n Current</u> = nt Bottom Current	153,0 162.3	micro amps micro amps	= 0,9	14-0,94
N42 Bottor 100 Percer	n Current = nt Bottom Current	142.7_ 142.4	micro amps micro amps	= 0,9	19-1,00
<u>N43 Bottor</u> 100 Percer	<u>n Current</u> = nt Bottom Current	127,1 135,6	micro amps micro amps	= 0,9	93-0,94
<u>N44 Bottor</u> 100 Percer	n Current = nt Bottom Current	<u> 160,6</u> 159,6	micro amps micro amps	= /.00	0-1.01
	Lower Section N	Normalized C	urrent Total	= 3,8	6-3.89

10.00

Procedure No.:	Procedure Title:	Page: 12				
3-OSP-059.10	Determination of Quadrant Power Tilt Ratio	Approval Date: 8/30/05				
	ATTACHMENT 1 (Page 2 of 2)					
DETERMINATION OF NIS QPTR USING EXCORE DETECTOR CURRENTS						
3. Determination average normalized power:						
Average Upper Section Normalized Power						
Current To	tal = $2,77$ $3,77$	- =0,97-0,99				
	Average Lower Section Normalized Power					
Current To	tal = 5.86 - 5.87	- = 0,96-0,98				
4. Determine QP	TR:					
	Upper Section Tilt Ratio					
Normalized Average U	Detector Current = //02	=/.05-1.03				
Lower Section Tilt Ratio						
Normalized Average Lo	$\frac{ \text{Detector Current} }{ \text{ower Section} } = \frac{1.01}{0.02}$	=/,051,03				
5. NIS QPTR = $h$	lighest Section QPTR = <u>1.03 - 1.05</u>					
6. NIS QPTR is l	ess than or equal to 1.02 (2.0 percent) [TS 3.2.4] (Circle one):	NO YES				
7. <u><b>IF</b></u> QPTR res Subsection 7.2	ults are suspect or the above step is circled NO, <u>THEN</u> for additional guidance.	return to procedure				
Performed by:	Date: Time	:				
Reviewed by:	D	ate:				
Approved by:	D	ate:				
	3-OSP-059.10 DETERMIN 3. Determination Upper Sec Current To Upper deter Lower Sec Current To Upper deter 4. Determine QP Largest Up Normalized Average Up Normalized Average Up Normalized Average Low Normalized 5. NIS QPTR = h 6. NIS QPTR is I 7. IF QPTR rest Subsection 7.2 Performed by: Reviewed by:	Interact Process P				

W97:/JBS/ld/mrg/mrg

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Appendix C	ndix C Job Performance Measure Worksheet		Form ES-C-1
Facility:	Turkey Point Determine Allowable Stay	Task No:	
Task Title:	Time & Determine Radiological Requirements 2.3.7 Ability to comply with radiation work permit requirements during normal o	JPM No: r	NRC-25-ADMIN-JPM-A.3
K/A Reference:	abnormal conditions. 3.5/3.6		
Examinee:		NRC Examiner:	
Facility Evaluator:		Date:	
Method of testing:			
Simulated Perform	ance X	Actual Performan	ce
Classroom	X Simulator		Plant

#### Read to the examinee:

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

#### Initial Conditions:

- Unit 4 RHR is being placed in Operation for Cooldown.
- Fail safe test of HCV-4-758 is required to be performed
- The surveillance involved will require valve manipulations in the vicinity of HCV-4-758
- The SNPO has received a whole body dose of 380 mrem TEDE for the current year.
- You are the the Field Supervisor (Admin RO)or Unit Supervisor and are holding a pre-job brief with the SNPO.
- You are discussing RWP requirements and ALARA concerns prior to commencing the task.

#### Task Standard:

ALL questions from the Initiating Cue are answered correctly.

#### **Required Materials:**

- Radiation Work Permit 09-001, Routine Operations and Surveillances Tasks 1-4
- PTN Unit 4, Residual Heat Removal "A" Pump Room Monthly Survey Map
- PTN Unit 4, Residual Heat Removal "B" Pump Room Monthly Survey Map
- PTN Unit 4, Residual Heat Removal Heat Exchangers Room Monthly Survey Map
- PTN Unit 4, 10 foot Elevation (Access to RHR Pits) Room Monthly Survey Map
- Radiation Controlled Area Valve Locator Zones 102,103,104, and 105

- General References:
- 1. 0-HPS-025.1, "General Posting Requirements for Radiological Hazards"
- 2. 0-ADM-600, "Radiation Protection Manual"
- 3. 0-ADM-604, "Radiological Protection Guidelines and Practices"
- 4. 0-HPS-020, "Radiation Surveys"
- 5. 0-HPS-021, "Surface Contamination Surveys"
- 6. 4-OP-050, Residual Heat Removal System

Appendix C	Page 3 of 13	Form ES-C-1

Initiating Cue:

Using the initial conditions and required references determine the following:

- 1. What is the maximum stay time based on the radiological conditions in the room without exceeding any RWP dose limits?
- 2. What is the minimum required dosimetry required for entry into the room?
- 3. Where is the lowest dose location in the Contaminated Area where the operator should stand in the event that he/she is required to wait there?

Time Critical Task: No

Validation Time: 15 minutes

## HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

# SIMULATOR SETUP

# Reset to IC #

N/A

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## Denote critical steps with a check mark(!)

	Start Tin	ne
STEP 1 :	Obtain a copy of Radiation Work Permit 09-001, Routine Operations and Surveillances and PTN Unit 4 Room Monthly RHR Survey Maps	SAT UNSAT
<u>Standard</u> :	Copy of the RWP and Survey Maps are obtained.	
<u>Cue</u>	<ul> <li>Provide a copy of the following:</li> <li>Radiation Work Permit 09-001, Routine Operations and Surveillances</li> <li>PTN Unit 4, Residual Heat Removal "A" Pump Room Monthly Survey Map</li> <li>PTN Unit 4, Residual Heat Removal "B" Pump Room Monthly Survey Map</li> <li>PTN Unit 4, Residual Heat Removal Heat Exchangers Room Monthly Survey Map</li> <li>PTN Unit 4, 10 foot Elevation (Access to RHR Pits) Room Monthly Survey Map</li> <li>Radiation Controlled Area Valve Locator Zones 102,103,104, and 105</li> </ul>	
Comment		
EXAMINER NOTE:	The examinee needs to differentiate between the Survey Maps and Valve Locator Zones to get the correct results. ALL correct answers are provided on the JPM ANSWER KEY	

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STEP 2 :	Use Radiation Controlled Area Valve Locator to determine location of HCV-4-758	SAT UNSAT
<u>Standard</u> :	Determined Zone 105 location #30 is the location of HCV-4-758.	
Cue		
Comment		
NOTE:	Candidate needs to determine correct Zone and Location from Zones 102-105 provided.	

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STEP 3 : √	What is the maximum stay time based on the radiological conditions in the room without exceeding any dose limits?	SAT UNSAT
<u>Standard</u> :	The examinee determines the maximum stay time is 1.0 hour by interpreting the RWP 25 mrem requirements and the PTN Unit 4, 10 foot Elevation (Access to RHR Pits) Room Monthly Survey Map data.	
<u>Comment</u>		
EXAMINER NOTE:	The maximum stay time allowed under this RWP based on PTN Unit 4, 10 foot Elevation (Access to RHR Pits) Room highest general area dose rates is 1.0 hour. 25 mrem is the maximum dose allowed by RWP 09-0001 25 mrem/hr (from the highest general area dose rate in the Unit Room 25 mrem divided by 25 mrem per hour = 1.0 hr.	

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STEP 5 : √	What is the minimum required dosimetry required for entry into the area?	SAT UNSAT
<u>Standard</u> :	The examinee determines the following dosimetry is required by interpreting the RWP 09-0001 and the PTN Unit 4, 10 foot Elevation (Access to RHR Pits) Room <b>TLD and Electronic Dosimeter</b> <b>AND</b> <b>PAM or Telemetric Dosimeter for working in a High Noise Area</b>	
<u>Comment</u>		
EXAMINER NOTE:	RWP 09-001 specifies that Operators are required to wear a PAM or Telemetric Dosimeter for working in a High Noise Area.	

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STEP 7 : √	Where is the lowest dose location in the area where the operator should stand in the event that he/she is required to wait there?	SAT UNSAT
<u>Standard</u> :	The examinee determines the lowest dose area in the PTN Unit 4, 10 foot Elevation (Access to RHR Pits) Room is near the Stairways Area near swipe 13 by interpreting the PTN Unit 4, 10 foot Elevation (Access to RHR Pits) Room survey map data.	
<u>Comment</u>		

	Terminating Cue:	The task is complete when the Examinee returns the cue sheet to the examiner.	STOP
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Stop Time \_\_\_\_\_

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Appendix C	Page 11 of 13	Form ES-C-1
Verification of Completion		
Job Performance Measure No.	NRC-25-ADMIN-JPM-A.3	
Examinee's Name:		
Examiner's Name:		
Date Performed:		
Facility Evaluator:		
Number of Attempts:		
Time to Complete:		
Question Documentation:		
Question:		
Response:		
		· · · · · · · · · · · · · · · · · · ·

Result: Satisfactory/Unsatisfactory

Examiner's signature and date:

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### JPM BRIEFING SHEET

The examiner 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:

- Unit 4 RHR is being placed in Operation for Cooldown.
- Fail safe test of HCV-4-758 is required to be performed
- The surveillance involved will require valve manipulations in the vicinity of HCV-4-758
- The SNPO has received a whole body dose of 380 mrem TEDE for the current year.
- You are the the Field Supervisor (Admin RO)or Unit Supervisor and are holding a pre-job brief with the SNPO.
- You are discussing RWP requirements and ALARA concerns prior to commencing the task.

### INITIATING CUE:

Using the initial conditions and required references determine the following:

1. What is the maximum stay time based on the radiological conditions in the room without exceeding any RWP dose limits?

2. What is the minimum required dosimetry required for entry into the room?

3. Where is the lowest dose location in the Contaminated Area where the operator should stand in the event that he/she is required to wait there?

Acknowledge to the examiner when you are ready to begin.

### HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY ANSWERED ALL THE QUESTIONS.

### JPM ANSWER KEY

1. WHAT IS THE MAXIMUM STAY TIME BASED ON THE HIGHEST GENERAL AREA RADIATION IN THE ROOM?

ANSWER: The maximum stay time allowed under this RWP based on Unit 4 10' Elevation Access to RHR Pits highest general area dose rates near HVC-4-758 is 60 min (1 hour)

BASES: 25 mrem is the maximum dose allowed by RWP 09-0001.

25 mrem / 25 mrem/hr (from the highest general area dose rate in the Unit \_\_\_\_\_\_ Room

25 mrem divided by 25 mrem per hour = 1 hr.

2. WHAT IS THE MINIMUM REQUIRED DOSIMETRY REQUIRED FOR ENTRY INTO THE AREA?

**ANSWER:** The following dosimetry is required:

TLD

AND

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- PAM or PEA
- 3. WHERE IS THE LOWEST DOSE LOCATION IN THE CONTAMINATED AREA WHERE THE OPERATOR SHOULD STAND IN THE EVENT THAT HE/SHE IS REQUIRED TO WAIT THERE?

**ANSWER:** THE EXAMINEE DETERMINES THE LOWEST DOSE AREA IN THE PTN UNIT 4, 10 FOOT ELEVATION (ACCESS TO RHR PITS) ROOM IS NEAR THE STAIRWAYS AREA NEAR SWIPE # 13 BY INTERPRETING THE PTN UNIT 4, 10 FOOT ELEVATION (ACCESS TO RHR PITS) ROOM SURVEY MAP DATA..

RWP Title: Ro				<b>WORK P</b>	ERI		=PL luclear Division
RWP Title: Ro							COPY
	utine Opera	tions and Su	rveillances			RWP Number:	
09-0001  Rev.  03							
RWP Type: JOI	3 SPECIFIC			RWP Status		Begin Date:	Close on Date:
ALARA ID:	······	r		ACTIV	Ľ	1/16/2009	<u></u>
Estimated Dose:	2755 mram	Estimated H	ours: 79000	Actual Dose	•	Actual	Hours
instituted Dose.	2755 men	<u>155trateu II</u>	<u>ours:</u> 77000	Actual Dose	•	Actual	110013.
		l Sala karalar		cations	RINA R	l National Anna anna anna anna anna anna anna a	
	Buildings	A David Staff of David Staff of August	the second second	levations	NAME OF STREET	Roon	ns
Auxiliary Buildir			ALL	General Area			
Radwaste Buildin			ALL		General Area		
RCA Yard - Com			ALL	General Area			
			Radiologi	cal Conditions	al struggler o Struggler o	行动。在中国大学的	
Description				Value		- in initia and in the initia of a local in	Unit
Auxiliary Buildir	ng G/A Gamm	a		<1 -80			mrem/hr
Auxiliary Buildir	ng G/A Contar	nination		<1000			dpm/100cm2
Auxiliary Buildir		ne		<.30			DAC
RWB G/A Gamn	าย			<1 - 70			mrem/hr
RWB G/A Conta	mination			<1000		dpm/100cm2	
RWB G/A Airbo				<.30		DAC	
RCA Yard/DSW/				<1 - 10			mrem/hr
之中的主要				Casks	<u> S</u> S		en e
<u> Task</u>	Description	the second se					Status
1		rotection Routi					Active
2				Active			
3	Chemistry Department Routine Activities			Active			
4 Firewatch Personnel Routine Activities Active							
General Instruct A TLD and Election A PAM or Telem Review current su Notify the work a	t <u>ions</u> : ronic Dosimet etric Dosimeto irvey data pric	er are required er is required fo or to entering th	to enter the RC or working in a e work area,	CA. high noise area.			

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	Approvals	
Approver Title	Name	Date
SUPERVISOR	CARBERRY, BRIAN J	1/16/2009

**RADIATION WORK PERMIT** 

f					
<u>Task Number:</u> l			RWP Num 09	<u>ber:</u> 9-0001 Rev. 03	
Task Description: Radiation	ties	Task Status	s: Active		
ALARA ID:					
Estimate Dose: 900 mrem	Estimate Hours: 32	2000			
Locked High-Rad: NO	High-Rad: Yes	High-Contaminatio	n: Yes   <u>H</u>	ot-Particle: Yes	
	Alarm	Settings		a kana sa	
	High Gamma Dose	<u>High Gamm</u>	a Rate		
	25 mrem	350 mrei	m/hr		
<u>(1995年1997年1997年1997年19</u> 7日)	Requir	ements and the second	S-alteration		
Requirement Groups		Requirement Descr	<u>iptions</u>		
Authorized Access	<ul> <li>Neutron Area access is authoriz</li> <li>Airborne Radioactivity Area ac</li> </ul>				
Briefings Required	- A shiftly High Radiation Area	briefing is required for	HRA access		
Contamination Control	- To work in a High Contaminati	on Area one or more o	of the followin	ig may be required: A)	
	Decontaminate area/equipment to				
	as directed by RP), B) Use HEPA		, C) Keep area	a/equipment wet during	
	repairs, D) Cover or contain area				
Dosimetry	- PAM or Telemetric Dosimeter Radiation Area	is required for working	g in a high noi	ise area and/or a High	
Protective Clothing	- Shoe covers and gloves are the minimum protective clothing required for entry into a				
	Contaminated Area. (A lab coat i				
	- A full set of protective clothing				
	- Extra protective clothing is required to work with Highly Contaminated materials. The				
	minimum dress requirement is a full set of protective clothing, extra gloves and/or shoe cove				
	A face shield may be required - In a Hot Particle Area, the minimum dress requirement is a full set of protective clothing,				
	disposable outer coveralls, extra gloves, extra shoe covers and a face shield				
	- Water resistant outer protective clothing is required to work in a wet Contamination Area				
Respiratory Protection - Respirator requirements to be determined on a case by case basis. A TEDE ALARA					
evaluation is required prior to respirator use					
	Additional I	nstructions			

#### General Instructions:

#### Worker Instructions:

#### **<u>RP Instructions</u>:**

HRA Briefing is not required for RPT's when a survey meter is used for entry into a High Rad Area.

Comply with Hot Particle Controls as specified in 0-HPS-027.1.

CRF/Issues Warehouse RAM packages with dose rates >2.0 mrem/hr shall be transferred by the RP Tech to the RCA. Notify RPSS if any loose surface activity is found. All personnel shall wear TLD's when handling RAM with dose rate >2.0 mrem/hr and when entering an area of >0.5 mrem/hr. RP shall post all areas where TLD's are required.

Instruments shall be surveyed for loose contamination prior to disassembly.

Eye protection is required for personnel performing instrument checks with source wheel. Transporting of source wheel shall be performed by RP personnel only and shall remain in control of RP Personnel at all times when not inside the designated locked area.

Nuclear Division

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**RADIATION WORK PERMIT** 



Task Number: 2				<u>RWP Number:</u> 09-0001 Rev. 03		
Task Description: Operat	tions Department Routine Act	tivities	Task Stati			
ALARA ID:	Stay Time Alarm (					
Estimate Dose: 1800 mren						
Locked High-Rad: NO	High-Rad: Yes	High-Contaminatio	n: Yes H	Hot-Particle: Yes		
	Alarm					
	High Gamma Dose	High Gamm	a Rate			
	25 mrem	350 mrei	m/hr			
	Requir	'ements				
Requirement Groups		Requirement Descr	iptions			
Authorized Access	<ul> <li>Neutron Area access is not auth</li> <li>Airborne Radioactivity Area ac</li> </ul>		posted due	to Noble Gas		
Briefings Required	- A shiftly High Radiation Area l					
Contamination Control	<ul> <li>To work in a High Contaminati Decontaminate area/equipment to as directed by RP), B) Use HEPA repairs, D) Cover or contain area</li> <li>Notify RP prior to start of work</li> <li>Poly bags with absorbent mater systems</li> </ul>	o <100,000 dpm/100cr A ventilation / vacuum, /equipment t with Highly Contamin	n2 (Deconta , C) Keep arc nated materic	mination shall be performed ea/equipment wet during als		
Dosimetry	- PAM or Telemetric Dosimeter i Radiation Area	is required for working	; in a high no	vise area and/or a High		
Exposure Control	- Notify ALARA if temporary sh - Use the Valve Locator Book to					
Job Coverage						
<ul> <li>Protective Clothing</li> <li>Shoe covers and gloves are the minimum protective clothing required for entry into a Contaminated Area. (A lab coat is required in tight areas)</li> <li>Extra protective clothing is required to work with Highly Contaminated materials. The minimum dress requirement is a full set of protective clothing, extra gloves and/or shoe covers. A face shield may be required</li> <li>In a Hot Particle Area, the minimum dress requirement is a full set of protective clothing, disposable outer coveralls, extra gloves, extra shoe covers and a face shield</li> <li>Water resistant outer protective clothing is required to work in a wet Contamination Area</li> <li>The minimum Protective clothing required for opening resin loading system and or venting/opening any radioactive system is a lab coat and gloves</li> <li>When operating valves across contaminated boundaries, Operators shall remove gloves and discard them into the trash receptacle located in the area and proceed directly to a frisking station and perform a frisk. A full set of protective clothing is required for kneeling or crawling in a Contaminated Area</li> </ul>						
General Instructions:	Additional In	nstructions				
Worker Instructions:			******			
RP Instructions:			mi ( 646 - 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1			

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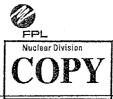
## **RADIATION WORK PERMIT**



Task Number: 3			RWP Number:			
			09	9-0001 Rev. 03		
Task Description: Chemi	stry Department Routine Acti	ivities	Task Status	s: Active		
ALARA ID:	Stay Time Alarm (	<u>тнн:мм)</u> : 18:00				
Estimate Dose: 40 mrem	Estimate Hours: 1	7000				
Locked High-Rad: NO	High-Rad: Yes	High-Contaminatio	<u>m</u> : Yes   <u>H</u>	<u>lot-Particle</u> : NO		
		Settings				
	<u>High Gamma Dose</u>	<u>High Gamm</u>	<u>a Rate</u>			
	20 <b>mrem</b>	200 mrei	m/hr			
	Requir	rements				
Requirement Groups		Requirement Descr	iptions			
Authorized Access	- Neutron Area access is not auth					
	- Airbome Radioactivity Area ac			o Noble Gas		
	- High Contamination Area acces					
Briefings Required	- A shiftly High Radiation Area t	**				
Dosimetry	- PAM or Telemetric Dosimeter	is required for working	g in a high noi	ise area and/or a High		
Dente di un Clattica	Radiation Area			All and a short from a short		
Protective Clothing	- A lab coat, shoe covers, and glo into a Contaminated Area. A full					
	in a Contaminated Area	. set or protective orota.	mg is required	T for Alleeting of Grawing		
	- Water resistant outer protective	clothing is required to	work in a we	t Contamination Area		
	- The minimum protective clothin					
	is a lab coat and gloves		,			
	Additional I	Instructions				
General Instructions:			teritorial and the second s	Ziehimyd <sup>er</sup> de Ziehim an de skaleder ster blitter stehe in geregen an		
No resin processing activities						
Chemistry Techs may transfer samples and sampling equipment between contaminated areas without the assistance of RP.						
	Worker Instructions:					
Notify RP prior to venting VCT's or Gas Decay Tanks.						
Notify RP prior to sampling radioactive systems. After sampling radioactive systems rinse sample sink with clean water to reduce contamination levels.						
Atter sampling radioacuve sy	7stems tinse sample sink with clear	) water to reduce conta	mination leve	HS.		
RP Instructions:						

Prior to sampling U3 VCT: restrict access to the Aux Bldg 4' elev. and Hot Chem Lab to preclude exposure where Noble gases are known to be present and post these areas in accordance with station procedures. Upon completion of U3 VCT sampling, de-post these areas appropriately.

**RADIATION WORK PERMIT** 



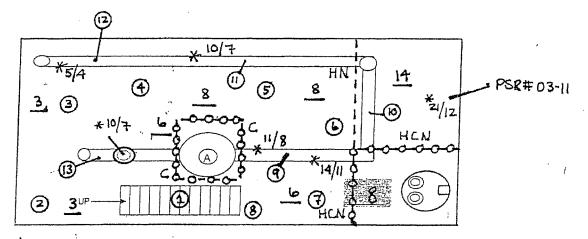
Task Number: 4				RWP N				
Task Description: Firewatch Personnel Routine Activities					09-0001 Rev. 03			
the cost of the first statement of the second statement of	ch Personn			Task Status: Active				
ALARA ID:		Stay Time Alarm						
Estimate Dose: 15 mrem	l	Estimate Hours: 1	T	L				
Locked High-Rad: NO	High-Rac		High-Contaminatio	on: Yes	Hot	-Particle: Yes		
			Settings					
	High G:	amma Dose	High Gamm	a Rate				
	5 n	nrém	80 mren	n/hr				
		Requir	ements					
Requirement Groups			Requirement Descr					
Authorized Access		Radioactivity Area ac ent Building access i	ccess is limited to areas s not authorized	s posted di	ie to l	Noble Gas		
Briefings Required	- A shiftly I	ligh Radiation Area	briefing is required for	HRA acc	ess			
Contamination Control Dosimetry	Decontaminate area/equipment to <100,000 dpm/100cm2 (Decontamination shall be performed as directed by RP), B) Use HEPA ventilation / vacuum, C) Keep area/equipment wet during repairs, D) Cover or contain area/equipment - Notify RP prior to start of work with Highly Contaminated materials							
	Radiation A	rea	is required for working			~		
Protective Clothing		minated Area. A full	oves are the minimum set of protective cloth			ing required for entry or kneeling or crawling		
	minimum dr A face shiel	ess requirement is a d may be required		lothing, ex	tra glo	oves and/or shoe covers.		
	disposable o	uter coveralls, extra	mum dress requiremen gloves, extra shoe cov	ers and a f	ace sh	iield		
	- Water resistant outer protective clothing is required to work in a wet Contamination Area							
		Additional )	Instructions					
General Instructions:								
Worker Instructions:		y a tan na n						
RP Instructions:		ад ад ад ал бал бал ал бал ал бал ал бал ад ал бал ад ал бал да ад	in a d'anna an ann ann ann agus ann ann ann agus ann ann ann ann ann ann ann ann ann an					

ł	REV. 5/14/07	FLORIDA POWER & LIGHT - PTN	HP-44:30A
Γ	LOCATION: UNIT 4	RESIDUAL HEAT REMOVAL "A" Pump Room	LOG# 09-0361
er 4. 4	DATE: <u>1-28-09</u> TIME: <u>1320</u> TECH.: <u>Daniels</u> PID#: <u>209</u>	(A) AIRBORNE AREA       (L) LOCKED HIGH RAD AREA         (B) RESPIRATORY PROTECTION       (M) RADIOACTIVE MATERIAL         (C) CONTAMINATED AREA       (M) RADIOACTIVE MATERIAL         (C) CONTAMINATED AREA       (N) NOTIFY HP PRIOR TO ENTRY         (D) HIGHLY CONTAMINATED AREA       (R) RADIATION AREA         (E) EXCLUSION AREA       (S) SURVEY METER REQUIRED         (F) HOT PARTICLE AREA       (T) H.P. COVEPAGE REQUIRED         (H) HIGH RADIATION AREA       ()         (K) KEEP OUT       ()         REFER TO LUCAL AREA POSTIMOSTIC         ADDITIONAL INFORMATION	EM/HR UNLESS OTHERWISE NOTED = GENERAL AREA DOSE RATE = CONTACT DOSE RATE = SMEAR LOCATION = NEUTRON DOSE RATE = BETA DOSE RATE = CONTAMINATED BOUNDARY = RAD BOUNDARY
		SMEARS       dpm/100cm² (COUNT AT LEAST ONE SMEAR ≥ 50,000 DPM FOR ALPHA)         1 ≤ MDA       6       2077       11 ≤ MDA       16       N A       21       N/A         2       7       7       MDA       12       17       22       22         3       8       13       MDA       18       23       23         4       9       14       N/A       19       24         5       MDA       15       N/A       20       N/A       25       N/A         REVIEWED BY:         PRINT:       SIGN:	26         N A         SMEAR NO.:           27         N A         BETA/GAMMA:           28         ALPHA:         ALPHA:           30         N A         N A

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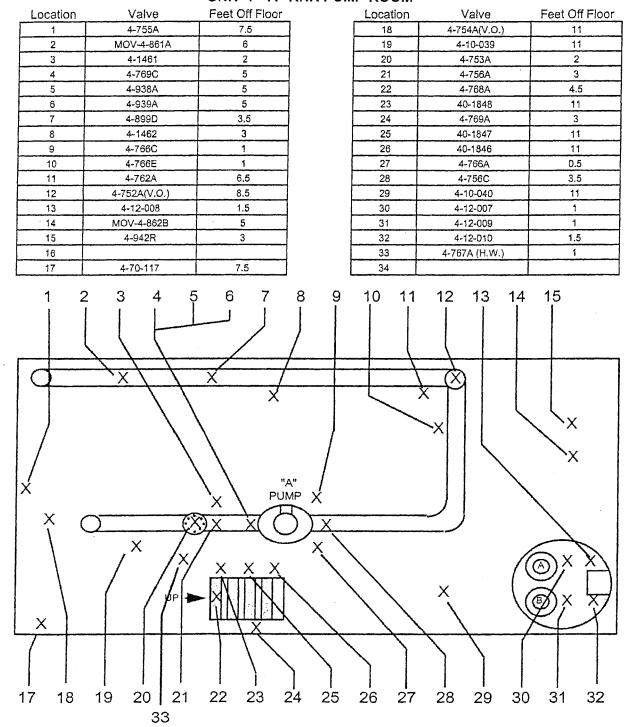
= SURVEY POINTS



LARGE AREA SMEARS All < 1000 dpm/grass-wipe, beta-gam

### **ZONE 102**

### UNIT-4 "A" RHR PUMP ROOM



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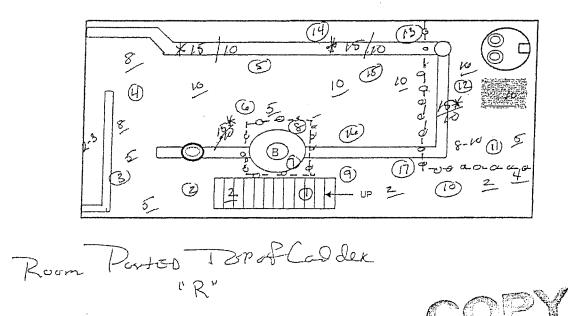
(V.O.) = Location of the valve NOT the hand wheel (H.W.) = Location of the hand wheel Not the valve

REV. 5/14/07		FLORID	A POWER & I	LIGHT - F	νTN		HP-44:30E
LOCATION:	UNIT 4 RE	SIDUAL HEAT RE	EMOVAL "B"	Pump Re			-038
	$ \begin{array}{c}  6:50\\ \hline 0\\ \hline $	RESFIRATORY PROTECTION CONTAMINATED AREA HIGHLY CONTAMINATED AREA EXCLUSION AREA HOT PARTICLE AREA HIGH RADIATION AREA	(I) LOCKED HIGH R (M) RADIOACTIVE M (N) NOTIFY HP PRIOI (R) RADIATION AREA (S) SURVEY METER I (T) H.P. COVERAGE I	ATENIAL R TO ENTRY A REQUIRED		EMIHR UNLESS OTH = GENERAL ARE, = SMEAR LOCATI = NEUTRON DOS = BETA DOSE RA = CONTAMINATE( = RAD BOUNDAR	A DOSE RATE DON E RATE TE D BOUNDARY
SIGNATURE:	aner aby (K)	KEEP OUT REFER TO LOCAL A ADDITIONAL I SMEARS dpm/100cm* (COUN	NFORMATION TAT LEAST ONE SME	२	Remarks: PUCC r M FOR ALPHA)	1 /	SMEAR NO.
	1225 1201 1247 4 54	LMA 6 LAVA LMA 7 48 LMA 8 315 LAA 9 LMA MA 10 LMA	12 <u>503</u> 1 13 <u>LADA</u> 1 14 <u>LMDA</u> 1	9 N/A	21 22 23 24 25	26 27 28 29 30	BETA GAMMA MA ALPHA:
<u>β MDA= 2.</u> α MDA= 17	2 45 / dpm REVIE • 4 / dpm PRIN	wed by: T:	SIGN:			DATE:	
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## **ZONE 103**

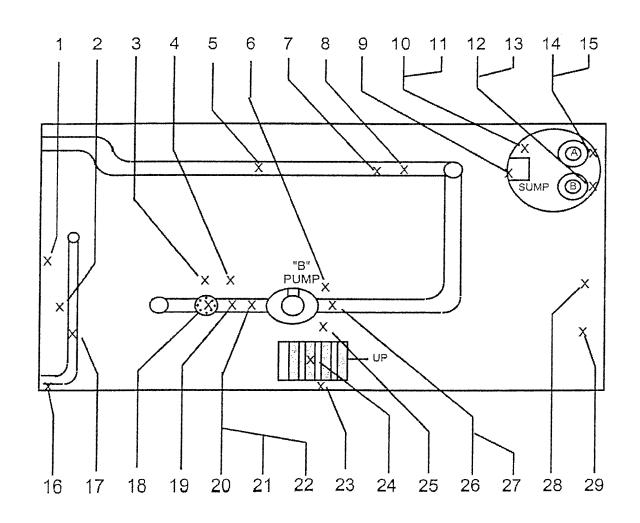
REV. 11/30/06

UNIT-4 "B" RHR PUMP ROOM

Location	Valve	Feet Off Floor
1	4-755B	7
2	4-754B(V.O.)	11
3	4-767B(V.O.)	0.5
4	4-1463	2
5	MOV-4-861B	5
6	4-766D	1
7	4-899F	3.5
8	4-1464	3
9	4-766F	1
10	4-752B(V.O.)	8
11	4-762B	6.5
12	4-12-014	2
13	4-12-013	1
14	4-12-011	1
15	4-12-012	2

Location	Valve	Feet Off Floor
16	4-70-117B	7
17	4-887	2
18	4-753B	2 ·
19	4-756B	3
20	4-939B	5
21	4-938B	5
22	4-769D	5
23	4-769B	3
24	4-768B	4
25	4-766B	1
26	4-756D	3
27	4-1091	3.5
28	MOV-4-862A	8
29	4-942P	6
30		

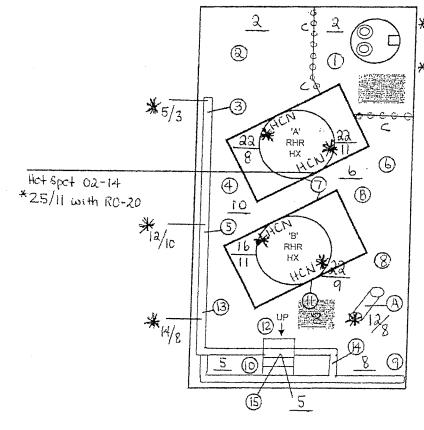
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(V.O.) = Location of the valve NOT the hand wheel (H.W.) = Location of the hand wheel Not the valve

e.	REV. 5/14/07	7		FLORIDA	A POWER	& LIC	GHT -	PTN				HP-44:30Hx
	LOCATION	: UNIT 4	RESIDUAL	HEAT RE	MOVAL H	eat E	xchar			1		-0388
(	DATE : TIME :	01-30-09 0950	(A) AIRBORNE A (B) RESPIRATOR (C) CONTAMINAT (D) HIGHLY CONT	Y PROTECTION ED AREA	(L) LOCKED HIG (M) RADIOACTIN (N) NOTIFY HP I (R) RADIATION	E MATER	RIAL	DOSE		= GENE = CONT = SMEA		ION
	TECH.: PID#:	Daniels 209	(E) EXCLUSION A (F) HOT PARTICL (H) HIGH RADIATI	EAREA	(S) SURVEY ME (T) H.P. COVER ( ) <u>IN</u>					= CONT	DOSE RA AMINATE BOUNDAR	D BOUNDARY
MER <b>TAN</b>	RWP # :	<u>terrorally + </u>		R TGEOCAL AF ADDITIONAL II m/100cm* (COUN	NFORMATION			1	<b></b>	-ai	Tarte	SMEAR NO.:
	Instrument RO-20 RM-25 LD2200 LD2200	HPI# 1247 1193 1195	1 <u><mda< u=""> 2<u><mda< u=""> 3<u><mda< u=""> 4<u><mda< u=""> 5<u>343</u></mda<></u></mda<></u></mda<></u></mda<></u>	6 <u><mpa< u=""> 7 8 9 10 <mpa< td=""><td>11<u><mda< u=""> 12<u><mda< u=""> 13<u>243</u> 14<u><mda< u=""> 15<u><mda< u=""></mda<></u></mda<></u></mda<></u></mda<></u></td><td>16 17 18 19 20</td><td>NIA</td><td>21 22 23 24 25</td><td></td><td>26 <u>N</u> 27 28 29 30</td><td></td><td>N/A BETA/GAMMA: ALPHA:</td></mpa<></mpa<></u>	11 <u><mda< u=""> 12<u><mda< u=""> 13<u>243</u> 14<u><mda< u=""> 15<u><mda< u=""></mda<></u></mda<></u></mda<></u></mda<></u>	16 17 18 19 20	NIA	21 22 23 24 25		26 <u>N</u> 27 28 29 30		N/A BETA/GAMMA: ALPHA:
	β MDA= α MDA=		REVIEWED BY: PRINT:		SIGN	•				DA	.TE:	- -

= SURVEY POINTS



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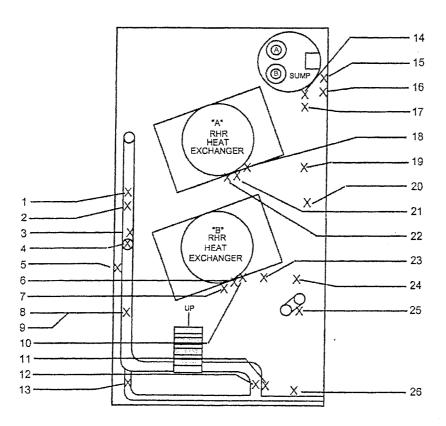
\*LARGE AREA SMEARS (A\$B): <1000 apm/gross-wipe, beta-gamma \* ROOM POSTED: R' @18'

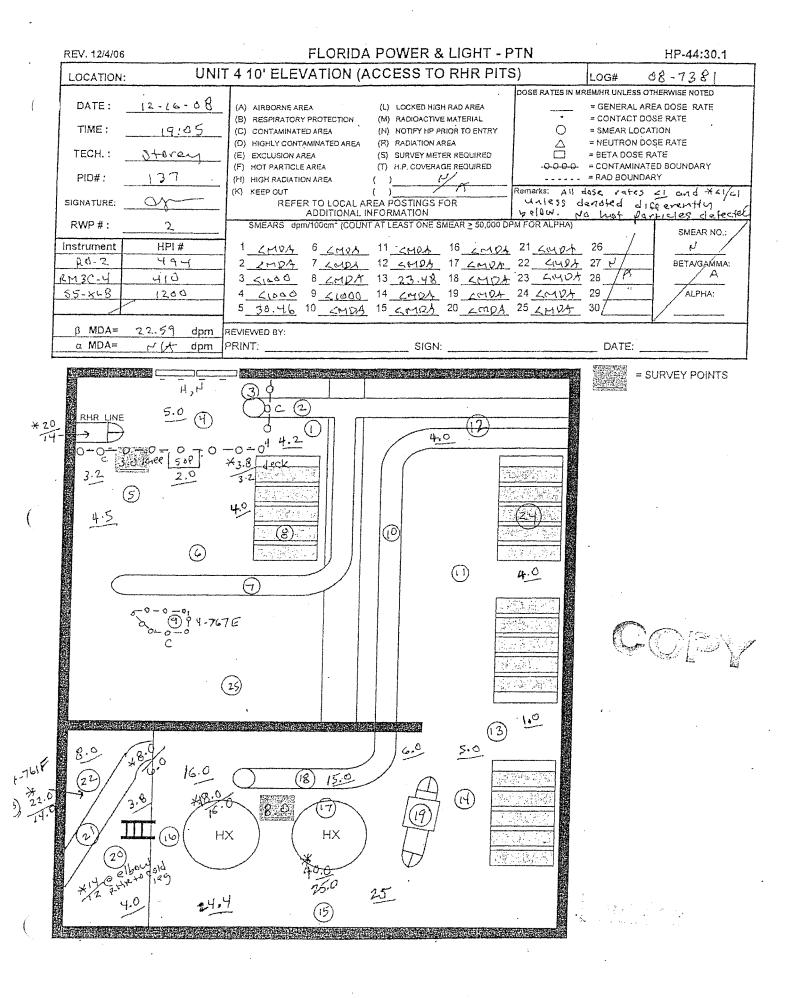
## **ZONE 104**

### UNIT-4 RHR HX ROOM

Location	Valve	Feet Off Floor
1	4-771E	6
2	4-759A(V.O.)	6
3	4-771F	9
4	4-759B(V.O.)	8
5	4-760A	3
6	4-771D	5.5
7	4-771C	5.5
8	4-842	1
9	4-943V	4
10	4-746D	10.5
11	4-943W	1
12	MOV-4-863B	2
13	MOV-4-863A	2
14	4-12-017	2
15	4-12-016	2

Location	Valve	Feet Off Floor
16	4-12-015	2
17	4-12-018	2
18	4-746C	10.5
19	4-757A(V.O.)	10
20	4-757D(V.O.)	10
21	4-771B	5.5
22	4-771A	5.5
23	4-757B(V.O.)	9
24	4-757C(V.O.)	10
25	4-757F	1
26	4 <b>-</b> 942T	1
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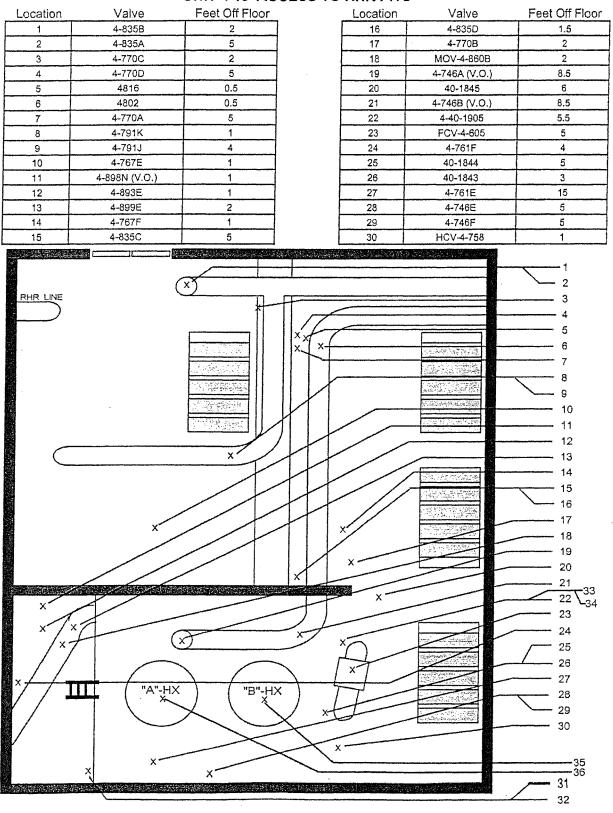


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## **ZONE 105**

REV. 11/30/06





(V.O.) = Location of the valve NOT the hand wheel (H.W.) = Location of the hand wheel Not the valve

## **ZONE 105**

REV. 11/30/06

### UNIT-4 10' ACCESS TO RHR PITS

Location	Valve	Feet Off Floor
31	4-761B	14
32	4-761A	14
33	4-40-1898	5
34	4-40-1896	6
35	4-765B	21
36		21
30	4-7005	+
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Location	Valve	Feet Off Floor
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(V.O.) = Location of the valve NOT the hand wheel (H.W.) = Location of the hand wheel Not the valve

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Appendix C		Job Performance Measure Worksheet				
Facility:	Turkey Point	Task No:				
	Perform 3-EOP-F-0, Evaluate Critical Safety Function Status					
Task Title:	Trees	JPM No:	NRC-25-ADMIN-JPM-RA.4			
	2.4.22 Knowledge of the bases					
	for prioritizing safety functions					
K/A Reference:	during abnormal/emergency operations					
Examinee:		NRC Examiner:				
Facility Evaluator:		Date:				
Method of testing:						
Simulated Performance		Actual Performan	ice			
Classroom	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:

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• An accident is in progress. The crew has previously left E-0, Reactor Trip or Safety Injection You have been directed to monitor 3-EOP-F-0, Critical Safety Function Status Trees.

Current Unit Conditions:

- TE-3-6700 = 272 °
- TE-3-6701 = 272 °
- TE-3-6702 = 272 °
- N-3-41= 0%
- N-3-42= 0%
- N-3-43= 0%
- N-3-44= 0%
- N-3-35= 1x 10E -11
- N-3-36= 1x 10E -11
- N-3-35 SUR= -0.3 DPM and lowering
- N-3-36 SUR= -0.3 DPM and lowering
- N-3-31= 4000 cps
- N-3-32= 4000 cps
- N-3-31 SUR= -0.3 DPM and lowering
- N-3-32 SUR= -0.3 DPM and lowering
- Gamma-Metrics NI-3-6649A= 1000cps and 10E-5 % PWR and lowering
- Gamma-Metrics NI-3-6649B= 1000cps and 10E-5 % PWR and lowering

- All Unit 3 CETS = 715 °
- Unit 3 CET Subcooling = 5° Superheat
- Auxiliary Feedwater Flow Train 1 = 0 gpm
- Auxiliary Feedwater Flow Train 2 = 0 gpm
- A S/G NR = 7%
- B S/G NR = 8%
- C S/G NR = 8%
- A S/G Press = 0 psig
- B S/G Press = 400 psig
- C S/G Press = 400 psig
- Cold Leg Decrease in the last 60 min = 0 °
- Lowest Cold Leg Temperature = 503 °
- Current Cold Leg Temperature = 710 °
- Containment Pressure = 15.7 psig
- Containment Recirculation Sump = 404 inches
- Containment Radiation = 5.92 x E-2 R
- Pressurizer Level = 0%
- RVLMS Indicates Voids

### Task Standard:

- Operator 3-EOP-F-0, Critical Safety Function Status Trees and determines the status of Enclosures 1-6.
- •

### Required Materials:

• 3-EOP-F-0, Critical Safety Function Status Trees

### General References:

• 3-EOP-F-0, Critical Safety Function Status Trees

Appendix C	Page 3 of 12	Form ES-C-1

Initiating Cue:

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- An accident is in progress. The crew has previously left E-0, Reactor Trip or Safety Injection
- You have been directed to perform 3-EOP-F-0, Critical Safety Function Status Trees.
- Provide Unit Supervisor with a marked up copy of 3-EOP-F-0, Critical Safety Function Status Trees..

Time Critical Task: No

Validation Time: 17 minutes

### HAND JPM BRIEFING SHEET TO EXAMINEE AT THIS TIME!

### SIMULATOR SETUP

### Reset to IC #

N/A

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### <u>Load Lesson</u>

N/A

### Ensure Simulator Operator Checklist is complete

N/A

NUREG 1021 Rev 9 Appendix C

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Form ES-C-1

## Denote critical steps with a check $mark(\checkmark)$

	Start Tin	ne
<u>STEP 1</u> : √	<ul> <li>1 Determine Containment Conditions <ul> <li>a. Check containment temperature</li> <li>TE-3-6700</li> <li>TE-3-6701</li> <li>TE-3-6702</li> </ul> </li> <li>a. Use adverse containment <ul> <li>LESS THAN 180°F setpoints AND go to Step 2.</li> </ul> </li> </ul>	SAT UNSAT
<u>Standard</u> :	<ul> <li>From Initial Conditions Operator observes Containment Temperature to be 272 °</li> <li>Operator concludes Containment atmosphere is adverse and proceeds to Step 2.</li> </ul>	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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STEP 2 :	2 Monitor Critical Safety Functions Using Rules Of Usage Provided In ATTACHMENT 1	SAT UNSAT
<u>Standard</u> :	Operator proceeds to Attachment 1 of 3-EOP-F-0, Critical Safety Function Status Trees.	
<u>Cue</u>	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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<u>STEP 3</u> : √	Monitor Subcriticality using Enclosure 1	SAT UNSAT
<u>Standard</u> :	<ul> <li>Subcriticality monitored using Enclosure 1</li> <li>N-3-41= 0%</li> <li>N-3-42= 0%</li> <li>N-3-43= 0%</li> <li>N-3-44= 0%</li> <li>N-3-35= 1x 10E -11</li> <li>N-3-36 = 1x 10E -11</li> <li>N-3-35 SUR= -0.3 DPM and lowering</li> <li>N-3-36 SUR= -0.3 DPM and lowering</li> <li>N-3-31 = 4000 cps</li> <li>N-3-31 = 4000 cps</li> <li>N-3-32 = 4000 cps</li> <li>N-3-32 SUR= -0.3 DPM and lowering</li> <li>Gamma-Metrics NI-3-6649A= 1000cps and 10E-5 % PWR and lowering</li> <li>Gamma-Metrics NI-3-6649B= 1000cps and 10E-5 % PWR and lowering</li> <li>Gamma-Metrics NI-3-6649B= 1000cps and 10E-5 % PWR and lowering</li> <li>Using current Unit conditions determined CSF for Subcriticality to be (SAT) Green</li> </ul>	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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STEP 4 : √	Monitor Core Cooling using Enclosure 2	SAT UNSAT
<u>Standard</u> :	<ul> <li>Monitored Core Cooling using Enclosure 2:</li> <li>Unit 3 CET Subcooling = 5° Superheat</li> <li>All Unit 3 CETS = 715 °</li> <li>Used current Unit conditions determined CSF for Core Cooling to be ORANGE</li> <li>Candidate continues through F-0</li> </ul>	
<u>Cue</u>	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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## Page 9 of 12

<u>STEP 5</u> : √	Monitor Heat Sink using Enclosure 3	SAT UNSAT
<u>Standard</u> :	<ul> <li>Heat Sink monitored using Enclosure 3:</li> <li>Operator Evaluates the following: <ul> <li>Auxiliary Feedwater Flow Train 1 = 0 gpm</li> <li>Auxiliary Feedwater Flow Train 2 = 0 gpm</li> <li>A S/G NR = 7%</li> <li>B S/G NR = 8%</li> <li>C S/G NR = 8%</li> </ul> </li> <li>Using Current Unit conditions determined a RED path on Heat Sink CSF.</li> <li>Candidate continues through F-0</li> </ul>	
<u>Cue</u>	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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## Page 10 of 12

<u>STEP 6</u> : √	Monitor ENCLOSURE 4 CSF F-0.4 INTEGRITY	SAT UNSAT
<u>Standard</u> :	<ul> <li>Candidate Monitors Enclosure 4</li> <li>Cold Leg Decrease in the last 60 min = 0 °</li> <li>Lowest Cold Leg Temperature = 503 °</li> <li>Current Cold Leg Temperature = 710 °</li> <li>Candidate determines Enclosure 4 Integrity is Green/SAT</li> <li>Candidate continues through F-0</li> </ul>	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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## Page 11 of 12

<u>STEP 7</u> : √	Monitor ENCLOSURE 5 CSF F-0.5 CONTAINMENT	SAT UNSAT
<u>Standard</u> :	<ul> <li>Candidate Monitors ENCLOSURE 5</li> <li>Containment Pressure = 15.7 psig</li> <li>Containment Recirculation Sump = 404 inches</li> <li>Containment Radiation = 5.92 x E-2 R</li> </ul> Candidate determines Enclosure 5 Containment is Green/SAT <ul> <li>Candidate continues through F-0</li> </ul>	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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STEP 8 : √	Monitor ENCLOSURE 6 CSF F-0.6 INVENTORY (WITH RVLMS)	SAT UNSAT
<u>Standard</u> :	<ul> <li>Candidate Monitors ENCLOSURE 6</li> <li>Pressurizer Level = 0%</li> <li>RVLMS Indicates Voids</li> <li>Candidate determines Enclosure 6 Containment is Yellow</li> <li>Candidate continues through F-0</li> </ul>	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
NOTE:		

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STEP 9 :	Monitor ENCLOSURE 7	SAT
	CSF F-0.7 INVENTORY (WITHOUT RVLMS)	UNSAT
<u>Standard</u> :	Candidate is not required to monitor Enclosure 7 due to the availability of RVLMS.	
Cue	Provided by Initial Conditions.	
<u>Comment</u>		
Terminating Cue:	The task is complete when the Examinee returns the cue sheet to the examiner.	STOP

Stop Time \_\_\_\_\_

Appendix C	Page 14 of 12	Form ES-C-1
Verification of Completion		
Job Performance Measure No.	NRC-25-ADMIN-JPM-A.4	
Examinee's Name:		
Examiner's Name:		
Date Performed:		
Facility Evaluator:		
Number of Attempts:		
Time to Complete:		
Question Documentation:		
Question:		
	·····	
Response:		
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Result: Satisfactory/Unsatisfactory

Examiner's signature and date:

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## JPM BRIEFING SHEET

The examiner 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:

• An accident is in progress. The crew has previously left E-0, Reactor Trip or Safety Injection You have been directed to monitor 3-EOP-F-0, Critical Safety Function Status Trees.

Current Unit Conditions:

- TE-3-6700 = 272 °
- TE-3-6701 = 272 °
- TE-3-6702 = 272 °
- N-3-41= 0%
- N-3-42= 0%
- N-3-43= 0%
- N-3-44= 0%
- N-3-35= 1x 10E -11
- N-3-36= 1x 10E -11
- N-3-35 SUR= -0.3 DPM and lowering
- N-3-36 SUR= -0.3 DPM and lowering
- N-3-31= 4000 cps
- N-3-32= 4000 cps
- N-3-31 SUR= -0.3 DPM and lowering
- N-3-32 SUR= -0.3 DPM and lowering
- Gamma-Metrics NI-3-6649A= 1000cps and 10E-5 % PWR and lowering
- Gamma-Metrics NI-3-6649B= 1000cps and 10E-5 % PWR and lowering
- All Unit 3 CETS = 715 °
- Unit 3 CET Subcooling = 5° Superheat
- Auxiliary Feedwater Flow Train 1 = 0 gpm
- Auxiliary Feedwater Flow Train 2 = 0 gpm
- A S/G NR = 7%
- B S/G NR = 8%
- C S/G NR = 8%
- A S/G Press = 0 psig
- B S/G Press = 400 psig
- C S/G Press = 400 psig
- Cold Leg Decrease in the last 60 min = 0 °
- Lowest Cold Leg Temperature = 503 °
- Current Cold Leg Temperature = 710 °

- Containment Pressure = 15.7 psig
- Containment Recirculation Sump = 404 inches
- Containment Radiation = 5.92 x E-2 R
- Pressurizer Level = 0%
- RVLMS Indicates Voids
- Containment Recirculation Sump = 404 inches
- Containment Radiation = 5.92 x E-2 R
- Pressurizer Level = 0%
- RVLMS Indicates Voids

Appendix C	Page 17 of 12	Form ES-C-1

Initiating Cue:

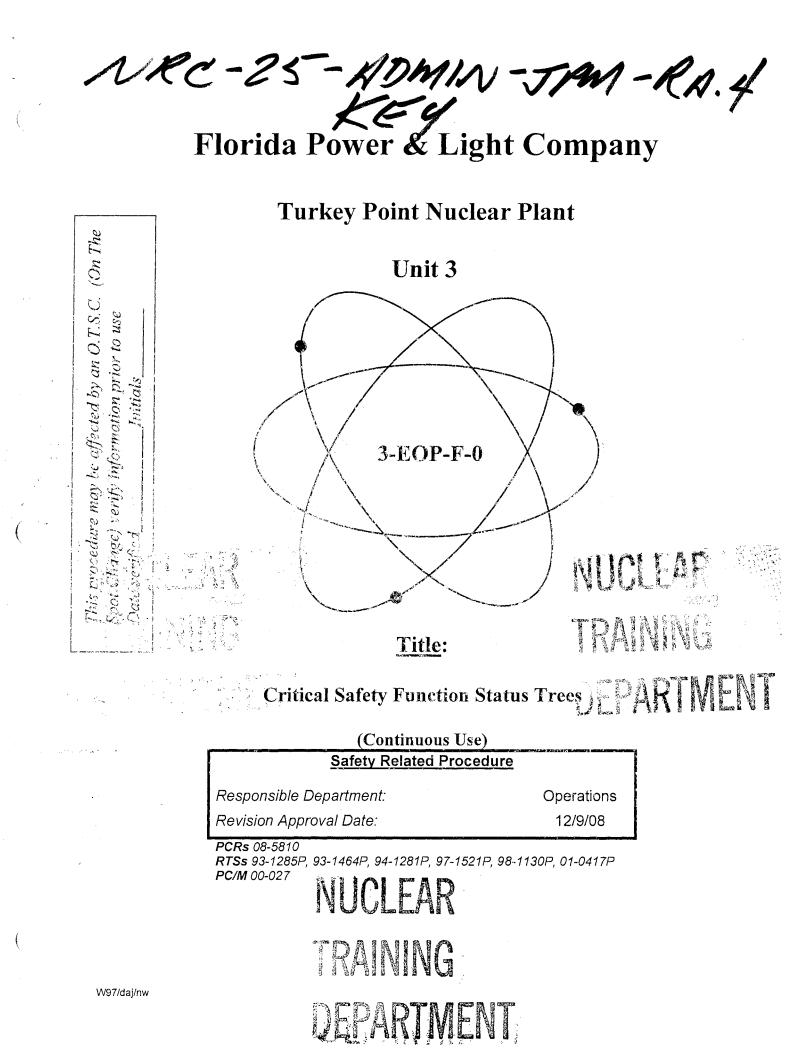
Initiating Cue:

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- An accident is in progress. The crew has previously left E-0, Reactor Trip or Safety Injection
- You have been directed to perform 3-EOP-F-0, Critical Safety Function Status Trees.
- Provide Unit Supervisor with a marked up copy of 3-EOP-F-0, Critical Safety Function Status Trees..

Acknowledge to the examiner when you are ready to begin.

## HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.



Procedure	No.:
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Procedure Title:

Page:

3-EOP-F-0

Approval Date: 12/9/08

LIST	OF	<b>EFFECTIVE PAGE</b>	S
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Procedure Title:

3-EOP-F-0

#### 1.0 PURPOSE

- 1.1 The Critical Safety Function Status Tree provides direction to evaluate the status of critical safety functions independent of he event scenario.
- 1.2 This procedure is applicable when directed by EOP entry conditions.

#### 2.0 SYMPTOMS OR ENTRY CONDITIONS

- 2.1 This procedure is entered from:
  - 2.1.1 E-0, REACTOR TRIP OR SAFETY INJECTION, Steps 1, 4, 8, 11, 13, 14, and 15 when the symptoms of the emergency transient result in a transition from E-0.
  - 2.1.2 E-0, REACTOR TRIP OR SAFETY INJECTION, Step 17 when the initiating event cannot be easily identified.
  - 2.1.3 Any foldout page when a Red Path Summary condition is satisfied.

#### 3.0 <u>REFERENCES/RECORDS REQUIRED/COMMITMENT DOCUMENTS</u>

3.1 <u>References</u>

W97/daj/nw

- 3.1.1 Technical Specifications for Turkey Point Unit 3 and Unit 4
- 3.1.2 Turkey Point Unit 3 and Unit 4 Final Safety Analysis Report
- 3.1.3 As-built plant drawings
- 3.1.4 <u>Procedures</u>
  - 1. None
- 3.1.5 Plant Change/Modifications
  - 1. PC/M 00-027, Cold Overpressure Mitigation System (COMs) Setpoint Change

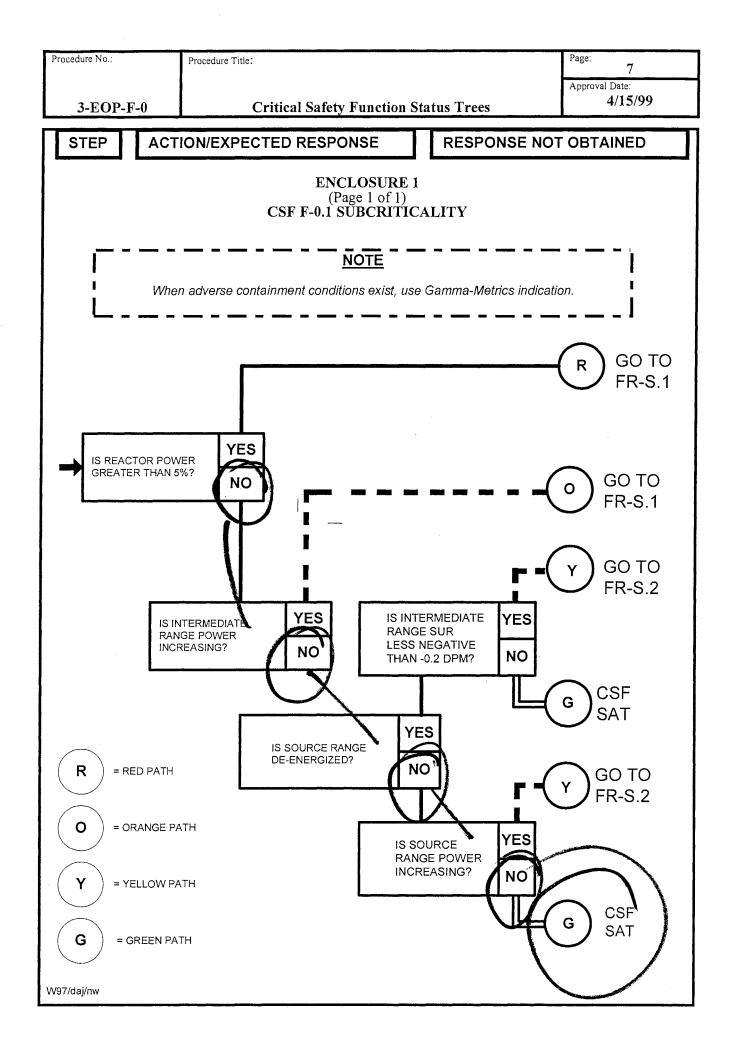
Procedure No.:		Proc	cedure Ti	tle:	Page:				
3-ЕОР	-F-0			Critical Safety Function Status Trees	Approval Date: 4/15/9	99			
	3.1.6	Mi	scella	neous Documents					
		1.		eric Technical Guidelines developed by the Westinghouse Owner DG). This consists of the following documents:					
			a.	Low pressure version of the WOG Optimal Rec Status Trees, and Functional Restoration Guide		,			
			b.	Background documents for each low pressure v Recovery Guidelines, Status Trees, and Functio Guidelines	ersion Optimal onal Restoration				
			c.	WOG Emergency Response Guidelines Execut	ive Volume				
			d.	WOG Emergency Response Guidelines Mainte Summary	nance Program				
		2.	PTN	-ENG-BFSI-98-003, AFW Flow Uncertainty De	termination				
3.2	Records	Rec	quired						
	3.2.1	No	ne			·			
3.3	<u>Commit</u>	men	t Doci	uments					
	3.3.1	No	ne						

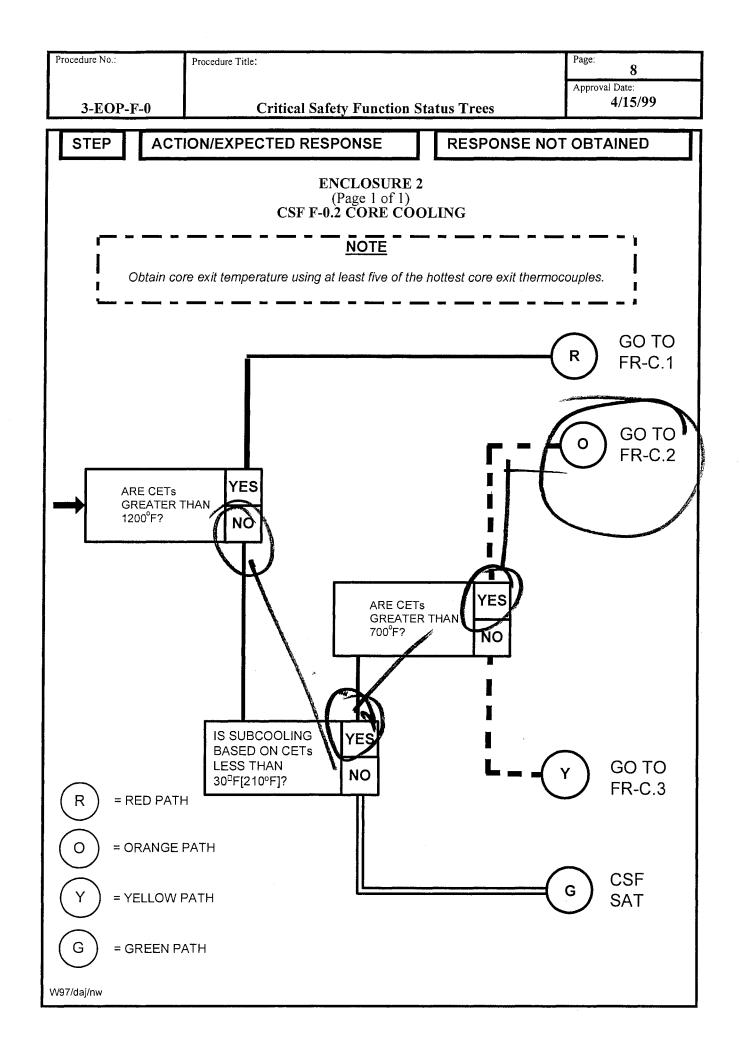
<ul> <li>Critical Safety Function Status Trees are normally mon Advisor. Performance of this procedure may be assigne with Nuclear Plant Supervisor approval.</li> <li>A form similar to ATTACHMENT 2 may be used to report and 2.</li> <li>Determine Containment Conditions <ul> <li>Check containment temperature - LESS THAN 180°F</li> <li>TE-3-6700</li> <li>TE-3-6702</li> </ul> </li> <li>Check containment radiation - HAS REMAINED LESS THAN 1.3x10<sup>5</sup> Brite</li> </ul>	ESPONSE NOT	Technical personnel of Steps 1
<ul> <li>NOTES</li> <li>Critical Safety Function Status Trees are normally mon Advisor. Performance of this procedure may be assigne with Nuclear Plant Supervisor approval.</li> <li>A form similar to ATTACHMENT 2 may be used to report and 2.</li> <li>Determine Containment Conditions <ul> <li>a. Check containment temperature - LESS THAN 180°F</li> <li>TE-3-6700</li> <li>TE-3-6702</li> </ul> </li> <li>b. Check containment radiation - HAS REMAINED LESS THAN 1.3x10<sup>5</sup> BHR</li> </ul>	itored by the Shift d to other qualified each performance of	Technical personnel of Steps 1
<ul> <li>Critical Safety Function Status Trees are normally mon Advisor. Performance of this procedure may be assigne with Nuclear Plant Supervisor approval.</li> <li>A form similar to ATTACHMENT 2 may be used to report and 2.</li> <li>Determine Containment Conditions <ul> <li>a. Check containment temperature - LESS</li> <li>TE-3-6700</li> <li>TE-3-6701</li> <li>TE-3-6702</li> </ul> </li> <li>b. Check containment radiation - HAS REMAINED LESS THAN 1.3x10<sup>5</sup> RHR</li> </ul>	d to other qualified each performance d	personnel of Steps 1
<ul> <li>Critical Safety Function Status Trees are normally mon Advisor. Performance of this procedure may be assigne with Nuclear Plant Supervisor approval.</li> <li>A form similar to ATTACHMENT 2 may be used to report and 2.</li> <li>Determine Containment Conditions <ul> <li>a. Check containment temperature - LESS</li> <li>TE-3-6700</li> <li>TE-3-6702</li> </ul> </li> <li>b. Check containment radiation - HAS REMAINED LESS THAN 1.3x10<sup>5</sup> BMR</li> </ul>	d to other qualified each performance d	personnel
<ul> <li>with Nuclear Plant Supervisor approval.</li> <li>A form similar to ATTACHMENT 2 may be used to report and 2.</li> <li>Determine Containment Conditions <ul> <li>a. Check containment temperature - LESS</li> <li>THAN 180°F</li> <li>TE-3-6700</li> <li>TE-3-6701</li> <li>TE-3-6702</li> </ul> </li> <li>b. Check containment radiation - HAS REMAINED LESS THAN 1.3x10<sup>5</sup> FAR</li> </ul>	each performance o	of Steps 1
and 2. <b>Determine Containment Conditions</b> a. Check containment temperature - LESS THAN 180°F • TE-3-6700 • TE-3-6701 • TE-3-6702 b. Check containment radiation - HAS REMAINED LESS THAN 1.3x10 <sup>5</sup> RHR b. 1	Use adverse contair	
<ul> <li>a. Check containment temperature - LESS a. THAN 180°F</li> <li>TE-3-6700</li> <li>TE-3-6701</li> <li>TE-3-6702</li> <li>b. Check containment radiation - HAS REMAINED LESS THAN 1.3x10<sup>5</sup> RHR</li> <li>b. REMAINED LESS THAN 1.3x10<sup>5</sup> RHR</li> </ul>	Jse adverse contair jó to Step 2.	nment setpoint
<ul> <li>a. Check containment temperature - LESS a. THAN 180°F</li> <li>TE-3-6700</li> <li>TE-3-6701</li> <li>TE-3-6702</li> <li>b. Check containment radiation - HAS REMAINED LESS THAN 1.3x10<sup>5</sup> RHR</li> <li>b. REMAINED LESS THAN 1.3x10<sup>5</sup> RHR</li> </ul>	Use adverse contain 30 to Step 2.	nment setpoint
THAN 180°F • TE-3-6700 • TE-3-6702 b. Check containment radiation - HAS b. REMAINED LESS THAN 1.3x10 <sup>5</sup> RHR	Use adverse contail Jo to Step 2.	nment setpoint
<ul> <li>TE-3-6701</li> <li>TE-3-6702</li> <li>b. Check containment radiation - HAS b. REMAINED LESS THAN 1.3x10<sup>5</sup> RHR</li> </ul>		
TE-3-6702 b. Check containment radiation - HAS b. REMAINED LESS THAN 1.3x10 <sup>5</sup> RHR		
REMAINED LESS THAN 1.3x10 <sup>5</sup> RHR		
	Perform the followin	g:
	<ol> <li><u>IF</u> containment i greater than or R/hr, <u>THEN</u> use containment set Step 2.</li> </ol>	equal to 1.3x10 adverse
	<ol> <li>Consult with TS integrated dose</li> </ol>	
c. Use normal containment setpoints	<ol> <li><u>IF</u> integrated do equal to 10<sup>6</sup> Rad dose is <u>NOT</u> knd adverse contain go to Step 2.</li> </ol>	ds OR integrat own, <u>THEN</u> us
Monitor Critical Safety Functions Using		
Rules Of Usage Provided In ATTACHMENT 1		
3 Report Results To Control Room Operators AND TSC Staff		

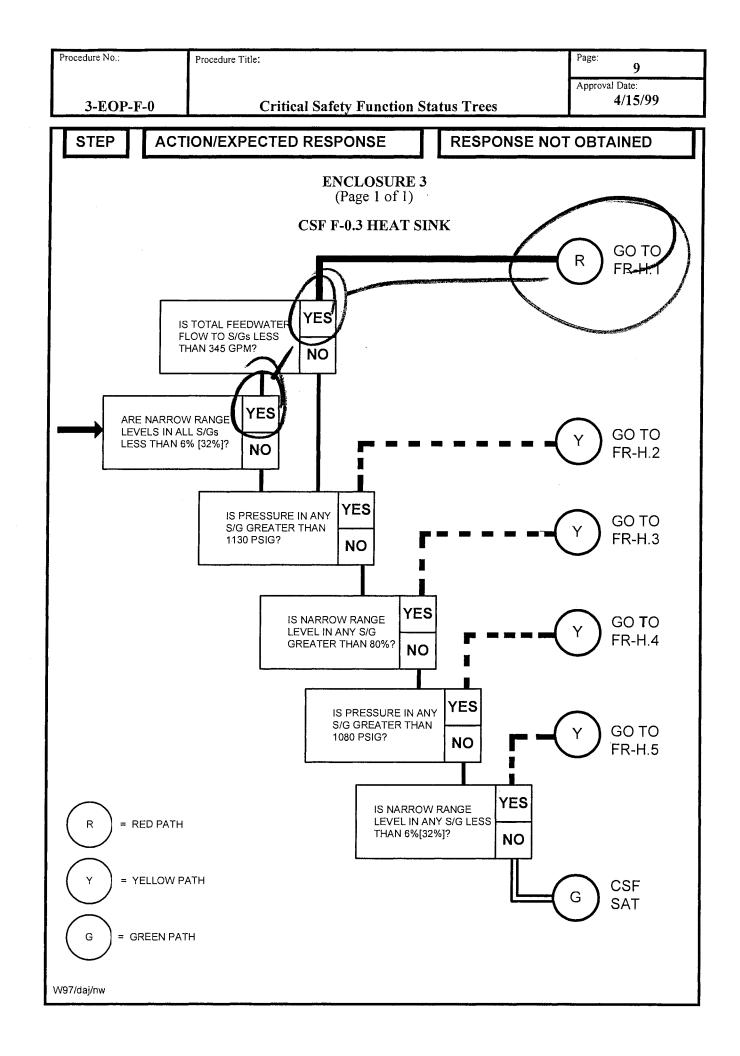
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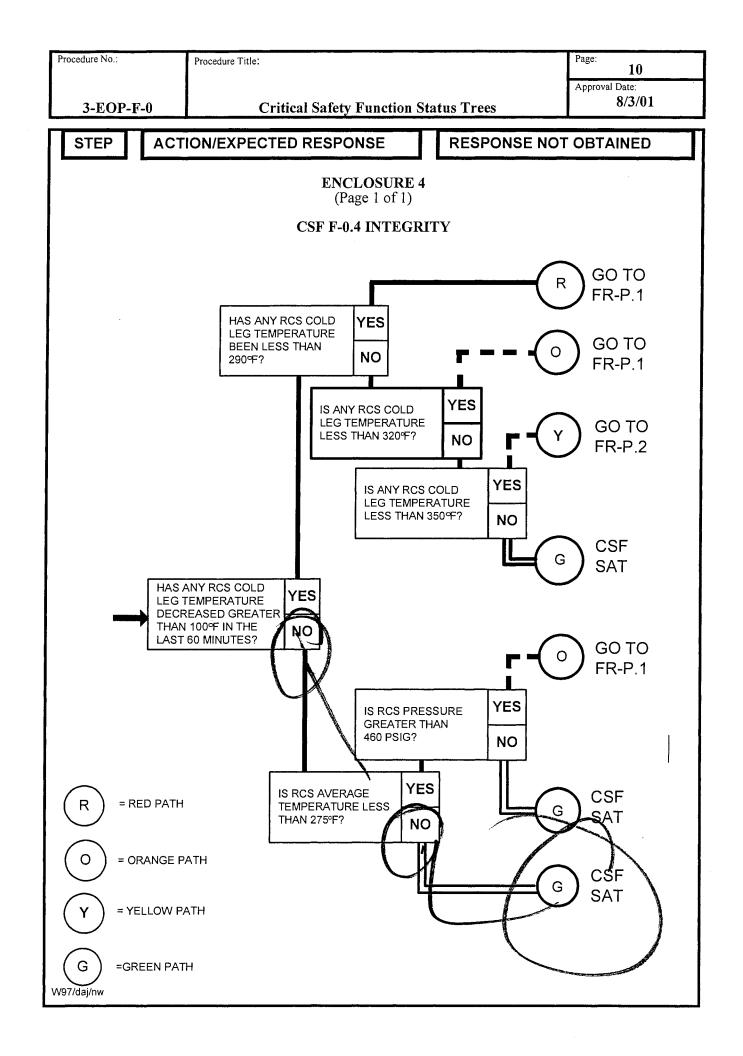
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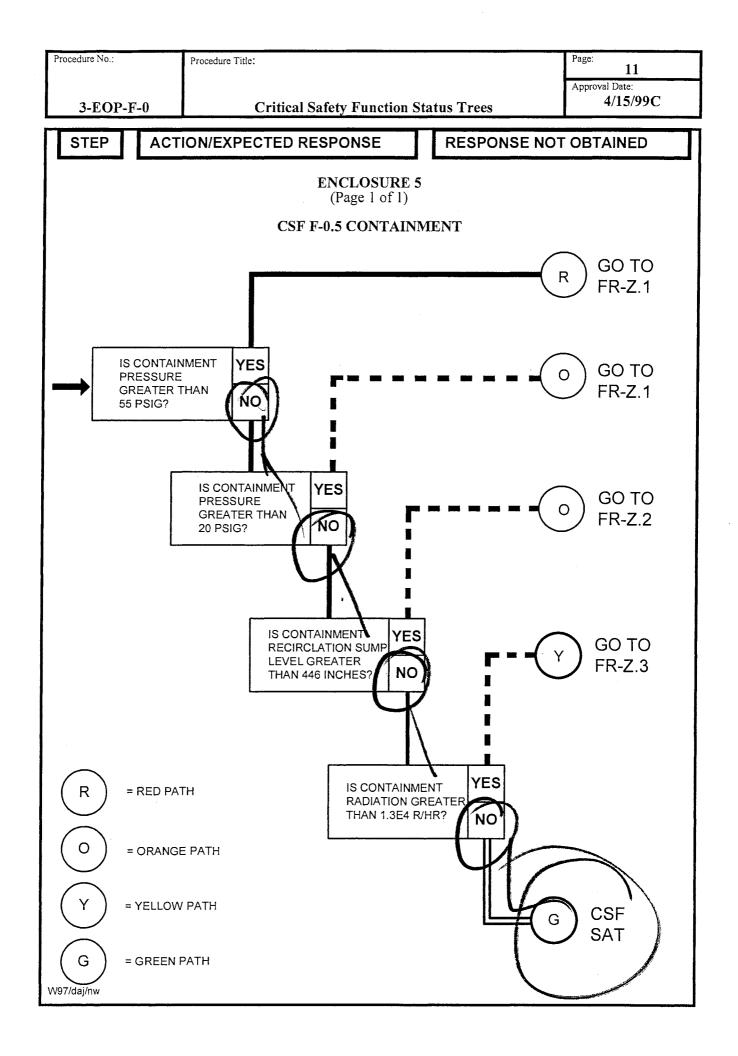
Procedure No.:		Procedure Title:			Page: 6
3-EOP-F-	-0	Critical Safety Function	Sta	atus Trees	Approval Date: 4/15/99
STEP	ACT	ON/EXPECTED RESPONSE	T	RESPONSE NOT	OBTAINED
4	Monito * The cor app	nine If Critical Safety Function oring Can Be Stopped e emergency condition has been rected <u>AND</u> a transition to the oropriate plant procedure has been formed		<u>WHEN</u> additional Critica monitoring is required b <u>THEN</u> observe NOTES return to Step 1. Contir <u>AND</u> step in effect.	y ATTACHMENT 1, prior to Step 1 <u>AND</u>
		OR			
		e plant is stable in Cold Shutdown with R cooling established			
		OR			
	Saf	C staff has determined that Critical ety Function monitoring is no longer uired			
5	-	To Procedure <u>AND</u> Step In Effect			
		END OF TEXT	-		
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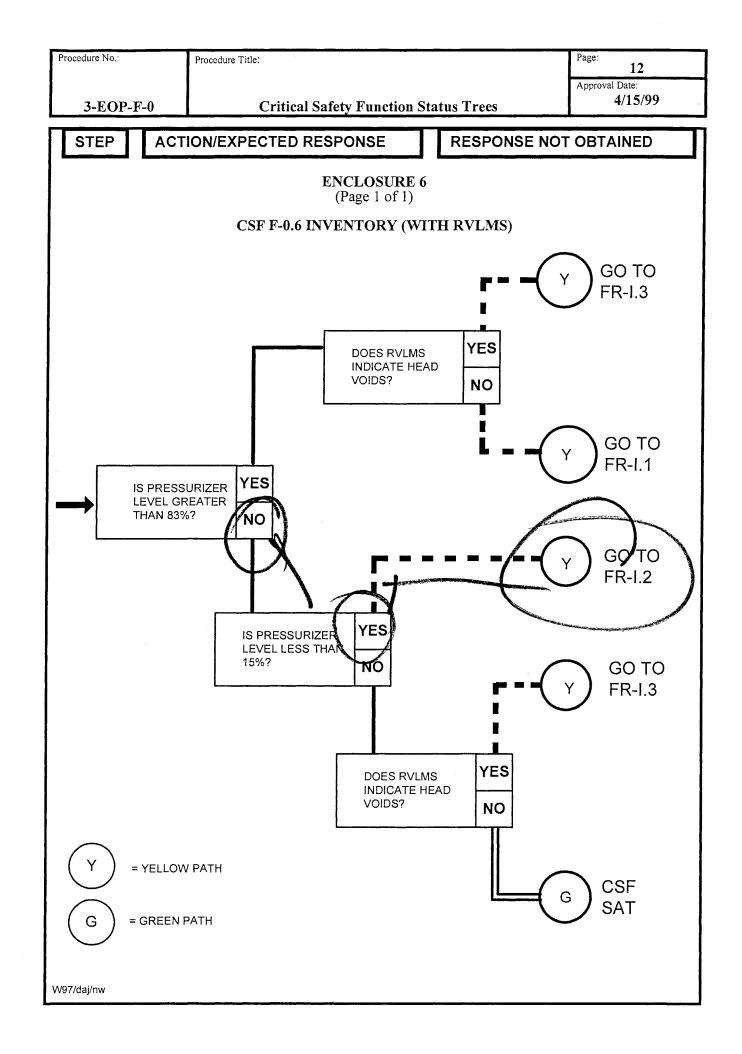


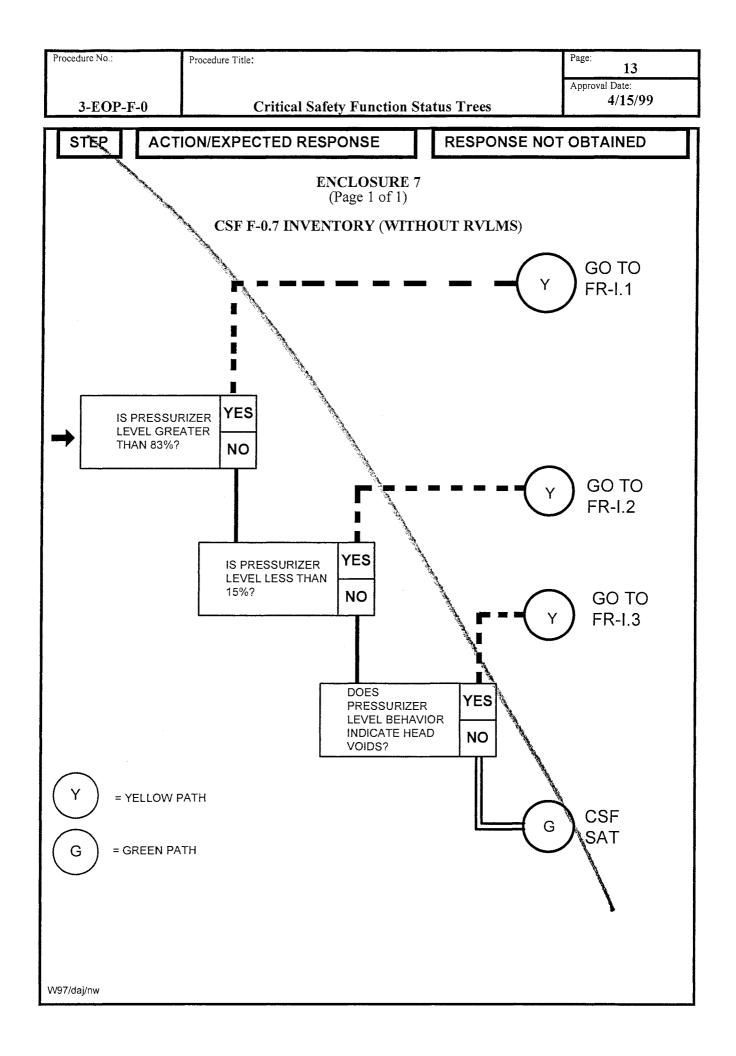












Proce	dure No.:		Procedure Title:		Page: 14
	3-EOI	)_F_N	Critical Safety Function	Status Trees	Approval Date: <b>4/15/99</b>
		1			
	STEP	ACT	ION/EXPECTED RESPONSE	RESPONSE NOT	OBTAINED
			ATTACHMEN (Page 1 of 2)	[1	
	]	RULES O	F USAGE FOR CRITICAL SAFET	Y FUNCTION STATU	S TREES
1.	Crit	tical Safety	y Function Status Trees shall be monito	ored in the following ord	er of priority:
	a.	Subcriti	icality using Enclosure 1		
	b.	Core Co	ooling using Enclosure 2		
	c.	Heat Sir	nk using Enclosure 3		
	d.	Integrity	y using Enclosure 4		
	e.	Contain	ment using Enclosure 5		
	f.	Inventor	ry:		
		1)	IF RVLMS in service, THEN use En	closure 6.	
		2)	IF RVLMS NOT in service, THEN	ise Enclosure 7.	
	<u> </u>		<u>— - — - — - — </u>		!
			utions within EOPs which prohibit the use ecedence over the following rules.	of functional restoration p	rocedures
2.	proc	edure in e	challenge (RED PATH) is diagnosed, effect <u>AND</u> initiate functional restoration challenge.	<u>THEN</u> the operator shalon to restore the critical s	ll immediately stop afety function
3.	cheo TH	ck the statu EN the ope	allenge (ORANGE PATH) is diagnose us of all remaining critical safety functi erator shall stop procedure in effect <u>AN</u> ority critical safety function under seve	ons. IF no extreme chal	lenges exist.
4.	cont chal	inue to ch lenges exi	sfied condition (YELLOW PATH) is of eck the status of all remaining critical s st, <u>THEN</u> it is the operator's option to ctional restoration of the affected critica	safety functions. IF no e continue optimal recover	extreme or severe ry procedures <u>OR</u>

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<ul> <li>affected critical safety functions and the operator shall continue to check the status of all remaining critical safety functions.</li> <li>If during function restoration to address a critical safety function challenge, a higher priority challenge is diagnosed, <u>THEP</u> in operator should terminate the ongoing response <u>AND</u> initiate function restoration to address the higher priority critical safety function challenge.</li> <li>If an extreme challenge (RED PATH) exists <u>OR</u> a severe challenge (ORANGE PATH) exists <u>OR</u> plant conditions are changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored continuously.</li> <li>If an extreme challenge (RED PATH) does <u>NOT</u> exist <u>AND</u> a severe challenge (ORANGE PATH) does <u>NOT</u> exist <u>AND</u> plant conditions are <u>NOT</u> changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored every 10 to 20 minutes.</li> </ul>	Procedure No.:	Procee	dure Title:				Page: 15
<section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header>	<u>3-EOP-F</u> -	-0	Critical	Safety Function	ı Sta	tus Trees	
<ul> <li>(Page 2 of 2)</li> <li><b>DILES OF USAGE FOR CRITICAL SAFETY FUNCTION STATUS TREES</b></li> <li>If a satisfied condition (GREEN PATH) is diagnosed, <u>THEN</u> no challenge exists for the affected critical safety function and the operator shall continue to check the status of all emaining critical safety function to address a critical safety function challenge, a higher priority challenge is diagnosed, <u>THEN</u> the operator should terminate the ongoing response <u>ADD</u> initiate function restoration to address the higher priority critical safety function challenge.</li> <li>If an extreme challenge (RED PATH) exists <u>OR</u> a severe challenge (ORANGE PATH) exists <u>OR</u> plant conditions are changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored every 10 to 20 minutes.</li> </ul>	STEP	ACTION/	EXPECTED R	ESPONSE		RESPONSE NO	T OBTAINED
<ul> <li><b>RULES OF USAGE FOR CRITICAL SAFETY FUNCTION STATUS TREES</b></li> <li>If a satisfied condition (GREEN PATH) is diagnosed, <u>THEN</u> no challenge exists for the affected critical safety functions.</li> <li>If during function restoration to address a critical safety function challenge, a higher priority thallenge is diagnosed, <u>THEN</u> the operator should terminate the ongoing response <u>AND</u> initiate function restoration to address the higher priority critical safety function challenge.</li> <li>If an extreme challenge (RED PATH) exists <u>OR</u> a severe challenge (ORANGE PATH) exists <u>OR</u> plant conditions are changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored continuously.</li> <li>If an extreme challenge (RED PATH) does <u>NOT</u> exist <u>AND</u> a severe challenge (ORANGE PATH) exists <u>AND</u> plant conditions are <u>NOT</u> changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored every 10 to 20 minutes.</li> </ul>							
<ul> <li>affected critical safety functions and the operator shall continue to check the status of all remaining critical safety functions.</li> <li>If during function restoration to address a critical safety function challenge, a higher priority challenge is diagnosed, <u>THEP</u> in operator should terminate the ongoing response <u>AND</u> initiate function restoration to address the higher priority critical safety function challenge.</li> <li>If an extreme challenge (RED PATH) exists <u>OR</u> a severe challenge (ORANGE PATH) exists <u>OR</u> plant conditions are changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored continuously.</li> <li>If an extreme challenge (RED PATH) does <u>NOT</u> exist <u>AND</u> a severe challenge (ORANGE PATH) does <u>NOT</u> exist <u>AND</u> plant conditions are <u>NOT</u> changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored every 10 to 20 minutes.</li> </ul>	RUI	LES OF US	AGE FOR CR		•	JUNCTION STAT	US TREES
<ul> <li>Grallenge is diagnosed, <u>THEN</u> the operator should terminate the ongoing response <u>AND</u> initiate function restoration to address the higher priority critical safety function challenge.</li> <li>IF an extreme challenge (RED PATH) exists <u>OR</u> a severe challenge (ORANGE PATH) exists <u>OR</u> plant conditions are changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored continuously.</li> <li>IF an extreme challenge (RED PATH) does <u>NOT</u> exist <u>AND</u> a severe challenge (ORANGE PATH) does <u>NOT</u> exist <u>AND</u> and evere challenge (ORANGE PATH) does <u>NOT</u> exist <u>AND</u> plant conditions are <u>NOT</u> changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored every 10 to 20 minutes.</li> </ul>	affecte	d critical safe	ety function and	the operator sh	sed, <u>'</u> all co	THEN no challenge ontinue to check the	exists for the status of all
OR plant conditions are changing rapidly, <u><b>THEN</b></u> critical safety function status trees shall be monitored continuously. IF an extreme challenge (RED PATH) does <u>NOT</u> exist <u>AND</u> a severe challenge (ORANGE PATH) does <u>NOT</u> exist <u>AND</u> plant conditions are <u>NOT</u> changing rapidly, <u><b>THEN</b></u> critical safety function status trees shall be monitored every 10 to 20 minutes.	challen	ge is diagno:	sed, THEN the	operator should	term	inate the ongoing re	sponse AND initiate
PATH) does <u>NOT</u> exist <u>AND</u> plant conditions are <u>NOT</u> changing rapidly, <u>THEN</u> critical safety function status trees shall be monitored every 10 to 20 minutes.	<u>OR</u> pla	int condition	s are changing r	TH) exists <u>OR</u> a rapidly, <u>THEN</u>	seve critic	ere challenge (ORA) al safety function sta	NGE PATH) exists itus trees shall be
	PATH)	does NOT	exist AND plan	t conditions are	NOT	changing rapidly, T	enge (ORANGE <u>THEN</u> critical safety
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EP	ACTI	ON/EXPECT	ED RESPON	ISE RI	ESPONSE I	
				CHMENT 2 e 1 of 1)		
		CRITI	CAL SAFETY	FUNCTION R	EVIEW	
Toda	ay's Date:				Ν	MM_DD_YY / /
Time	e Monitori	ng Started:				am pm
Cont	tainment C	conditions: (C	Circle current st	atus)		NORMAL ADVERSE
Cuiti	aal Cafatu	Eurotion Sum	monu (Cinala	ourmont status)	L	
Criti	CR SA	Function Sum ITICAL AFETY NCTION	nmary: (Circle	current status) ORANGE	YELLOV	
S	CR SA	RITICAL AFETY NCTION	RED FR-S.1	ORANGE FR-S.1	FR-S.2	W GREEN SAT
	CR SA FUI	RITICAL AFETY NCTION icality	RED	ORANGE	FR-S.2 FR-C.3	V GREEN
S	CR SA FUI Subcriti	RITICAL AFETY NCTION icality ooling	RED FR-S.1	ORANGE FR-S.1	FR-S.2	W GREEN SAT
S C	CR SA FUI Subcrit	RITICAL AFETY NCTION icality ooling nk	RED FR-S.1 FR-C.1	ORANGE FR-S.1	FR-S.2 FR-C.3 FR-H.2 FR-H.3 FR-H.4	V GREEN SAT SAT
S C H	CR SA FUI Subcriti Core Co Heat Si	RITICAL AFETY NCTION icality ooling nk	RED FR-S.1 FR-C.1 FR-H.1	ORANGE FR-S.1 FR-C.2	FR-S.2 FR-C.3 FR-H.2 FR-H.3 FR-H.4 FR-H.5	V GREEN SAT SAT SAT

## FINAL PAGE

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Appendix C	Job Perform Wor	Form ES-C-1	
Facility:	Turkey Point Classify Plant Event and	_ Task No: Job Performance	
Task Title:	Determine Notifications	Measure No:	NRC-25-ADMIN-JPM-A.4
	2.4.41 Knowledge of the emergency action level thresholds and classifications. 2.9/4.6	_	
K/A Reference:		_	
Examinee:		_ NRC Examiner:	
Facility Evaluator:		_ Date:	
Method of testing:	Perform		
Simulated Perform	ance Yes	Actual Performance	ce

#### 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.

Plant

#### INITIAL CONDITIONS FOR CLASSIFICATION:

0659: Both units are at 100% power.

- 0700: A fire starts in the Cable Spreading Room.
- 0705: The Shift Manager orders Control Room Evacuation and proceeds to the TSC.

Classroom Yes Simulator

- 0710: The fire is quickly extinguished by the Fire Team.
- 0723: The Unit ROs have not yet established control of shutdown systems on either unit.

## ADDITIONAL INITIAL CONDITIONS FOR FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM COMPLETION:

Wind direction is from 168°. Wind speed is 5 mph. MET Tower  $\Delta T = -1.0$ MET Tower Sigma Theta = 7.0 TSC ERDADS data implies normal post shutdown core parameters being maintained. Process and Area Radiation monitors are reading normal post shutdown values.

Task Standard:

- 1. The current level of classification is made.
- 2. The Florida Nuclear Plant Emergency Notification Form is completed with the current classification in accordance with standards set in 0-EPIP-20101, "Duties of Emergency Coordinator."

Required Materials:

- 1. 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR, Enclosure 1
- 2. 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR, Attachment 1

General References:

1. 0-EPIP-20101, DUTIES OF EMERGENCY COORDINATOR

Initiating Cue:

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You are the Emergency Coordinator. It is now 0723. Identify the current emergency classification that applies.

Following the classification, complete the Florida Nuclear Plant Emergency Notification Form.

# Raise your hand when Classification Complete and then when SNF is Complete.

Time Critical Task: Yes

Validation Time: 15 minutes for Classification 15 minutes for Notification Form

## INSTRUCTIONS TO OPERATOR

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE INITIATING CUES. I WILL DESCRIBE THE GENERAL CONDITIONS UNDER WHICH THIS TASK IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS TASK. BEFORE STARTING, 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.

### HAND JPM BRIEFING SHEET, PROCEDURE, AND NOTIFICATION FORM FOR CLASSIFICATION TO OPERATOR AT THIS TIME!

INITIAL CONDITIONS FOR CLASSIFICATION:

0659: Both units are at 100% power.

0700: A fire starts in the Cable Spreading Room.

0705: The Shift Manager orders Control Room Evacuation and proceeds to the TSC.

0710: The fire is quickly extinguished by the Fire Team.

0723: The Unit ROs have not yet established control of shutdown systems on either unit.

## ADDITIONAL INITIAL CONDITIONS FOR FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM COMPLETION:

Wind direction is from 168°. Wind speed is 5 mph. MET Tower  $\Delta T = -1.0$ MET Tower Sigma Theta = 9.0 TSC ERDADS data implies normal post shutdown core parameters being maintained. Process and Area Radiation monitors are reading normal post shutdown values

#### INITIATING CUE:

You are the Emergency Coordinator. It is now 0720. Identify the emergency classification that applies.

Following classification, complete the Florida Nuclear Plant Emergency Notification Form.

# Raise your hand when Classification Complete and then when SNF is Complete.

NOTE: This is a Time Critical Task.

TERMINATION CUE:

WHEN YOU FEEL THAT YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK, HAND YOUR JPM BRIEFING SHEET BACK TO ME.

DO YOU HAVE ANY QUESTIONS?

YOU MAY BEGIN.

## Denote critical steps with a check mark

	Start Tin	ne
STEP 1 :	Obtain 0-EPIP-20101.	SAT UNSAT
<u>STANDARD</u> :	0-EPIP-20101 obtained in a timely manner. Candidates may use authorized computers to access procedures	
<u>Cue</u>	CUE: Provide procedure when correctly identified, or have candidate obtain procedure.	
<u>Comment</u>		
<u>NOTE:</u>	Candidates may use authorized computers to access procedures.	

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## Page 5 of 13

Form ES-C-1

STEP 2 :	Review 0-EPIP-20101.	SAT
		UNSAT
	1. Reviews 0-EPIP-20101, Enclosure 1, for the event in progress.	
STANDARD:	2. Reviews each classification in Enclosure 1 in sequence.	
	3. Reviews Enclosure 1 in its entirety.	
<u>Cue</u>	Provided by Initial Conditions.	
<u>Comment</u>		
<u>NOTE:</u>		

Appendix C

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STEP 3_: √	1. Identify appropriate emergency classification. *	SAT UNSAT
<u>STANDARD</u> :	<ul> <li>Classifies event as a Site Area Emergency in accordance with 0-EPIP-20101, Enclosure 1, Category 15C :</li> <li>Control Room has been evacuated AND</li> <li>Local control of shutdown systems has NOT been established from local stations within 15 minutes.</li> <li>The examinee classifies the event by interpreting the information given in the initial conditions within 15 minutes of starting the JPM.</li> </ul>	
Cue	Once candidate completes classification portion of the JPM, then direct candidate to fill out State of Florida Notification form.	
Comment		
<u>NOTE:</u>	Annotate the stop time for the event classification.	

Annotate the stop time for the event classification here.

Stop Time \_\_\_\_\_

Appendix C	Page 7 of 13	Form ES-C-1

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STEP 4	Obtain 0-EPIP-20101, Attachment 1, "Florida Nuclear Plant Emergency Notification Form."	SAT
		UNSAT
<u>STANDARD</u>	Correctly identified/obtained 0-EPIP-20101, Attachment 1, "Florida Nuclear Plant Emergency Notification Form."	
<u>Cue</u>	CUE: Provide Attachment 1 when correctly identified, or allow candidate to access authorized computer. Record time that candidate accesses the State of Florida Notification Form Start time:	
Comment		
<u>NOTE:</u>		

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## Page 8 of 13

## Form ES-C-1

STEP 5	5	Completes Attachment 1 IAW with standards set in 0-EPIP-20101, "Duties of Emergency Coordinator."	SAT
			UNSAT
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	Checks STATE and/or MDC and/or Monroe County
	1A. Checks "This is a Drill"
	2A. Enters today's DATE
	2B. Does not enter CONTACT TIME until contact made with State Warning Point
	2C. Enters applicant's NAME
	2D. Enters Message Number 1
	2E. Checks Reported from TSC (NOTE: Control Room evacuated.)
	3. Checks "D. TP UNIT 3" & "E. TP UNIT 4" *
	4. Checks SITE AREA EMERGENCY *
	5. Checks box "A. EMERGENCY DECLARATION"* and enters Date and Time of declaration *
	6. Checks "A. EAL Number" and enters 15.C <u>OR</u> checks "B. Description" and enter info related to fire in Control Room and Control Room Evacuation. *
<u>STANDARD</u>	<ol> <li>Checks "A. None" <u>OR</u> if 6A checked above may check "B." and enter info related to fire in Control Room and Control Room Evacuation.</li> </ol>
	8A. Enters 168 *
	8B. Enters Q, R, A, B *
	9A. Checks "A. None (Go to Item 11)" *
	10. Makes no entries since release not occurring.
	11A. Checks "A. No recommended actions at this time." *
	11B. No entry
	12A/B/C. Checks "YES" for each
	12D. Checks "Stable"
	13A. Enters 5 mph
	13B. Enters "D" based on $\Delta T$ =-1.0 & $\Sigma \Theta$ =9.0
	14. Makes no entries since release not occurring.
	15. Enters MESSAGE RECEIVED BY information
	Submits form for EC Approval.
	NOTE: Standards marked with an * are critical to this Step.
<u>Cue</u>	
Comment	

Appendix C	Page 10 of 13	Form ES-C-1
NOTE:	Standards marked with an * are critical to this Step.	

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STEP :	STOP Stop time: (15 minutes acceptance criteria, from classification completion)	SAT UNSAT
<u>STANDARD</u> :	0-EPIP-20101: 5.1.6 Emergency notification to State and Local Counties is required within15 minutes of declaring an emergency.	
<u>Comment</u>		
<u>NOTE:</u>		
<u>Terminating</u> <u>Cue:</u>	The task is complete when the Examinee returns the cue sheet to the examiner.	STOP

Stop Time \_\_\_\_\_

Appendix C	Page 12 of 13	Form ES-C-1
Verification of Completion		
Job Performance Measure No.	NRC-25-ADMIN-JPM-A.4	
Examinee's Name:		
Examiner's Name:		
Date Performed:		
Facility Evaluator:		
Number of Attempts:		
Time to Complete:		
Question Documentation:		
Question:		
Response:		

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Result: Satisfactory/Unsatisfactory

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Examiner's signature and date:

## JPM BRIEFING SHEET

#### INITIAL CONDITIONS FOR CLASSIFICATION:

0659: Both units are at 100% power.

0700: A fire starts in the Cable Spreading Room.

0705: The Shift Manager orders Control Room Evacuation and proceeds to the TSC.

0710: The fire is quickly extinguished by the Fire Team.

0723: The Unit ROs have not yet established control of shutdown systems on either unit.

# ADDITIONAL INITIAL CONDITIONS FOR FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM COMPLETION:

Wind direction is from 168°.

Wind speed is 5 mph.

MET Tower  $\Delta T = -1.0$ 

MET Tower Sigma Theta = 9.0

TSC ERDADS data implies normal post shutdown core parameters being maintained.

Process and Area Radiation monitors are reading normal post shutdown values

#### INITIATING CUE:

You are the Emergency Coordinator. It is now 0723. Identify the current emergency classification that applies.

## Raise your hand to identify that you are done with CLASSIFICATION.

Following the classification, complete the Florida Nuclear Plant Emergency Notification Form.

## Raise your hand to identify that you are done COMPLETING SNF.

NOTE: This is a Time Critical Task.

## HAND THIS PAPER BACK TO YOUR EVALUATOR WHEN YOU FEEL THAT YOU HAVE SATISFACTORILY COMPLETED THE ASSIGNED TASK.

## FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

Online Verification: [	] STATE	MIAMI-DADE COUNTY		ECOUNTY		
1. A. 🗹 This Is A Drill B. 🗌 This Is An Actual Event						
2. A. Date <u>NODAY</u> *B. Contact Time: C. Reported by: NameNAME						
D. Message Number:						
*3. <u>SITE</u> A. Crystal Riv		3. 🗌 St. Lucie UNIT 1		St. Lucie UNIT 2		
D. 📝 Turkey Po	int UNIT 3 E	E. 🗹 Turkey Point UNI	IT 4			
*4. EMERGENCY CLASSIFICATI	ON: A. 🗌 ,No	otification Of Unusual Even	nt B. 🗌 Alert			
		te Area Emergency		al Emergency		
l						
*5. A. D EMERGENCY DECLA	RATION: B.	EMERGENCY TERMINATI	ION Date:	/ / Time:		
	······			1		
*6. REASON FOR EMERGENCY		-				
CONTROL RO	OM AND	CONTROL K	COM EVI	1CUATION		
7. ADDITIONAL INFORMATION	OR UPDATE: A.	🕞 None OR B. 🗌 Desci	ription			
		168 degrees. B. Dov		OPRO		
*8. <u>WEATHER DATA:</u> A. Wind *9. <u>RELEASE STATUS:</u> A.	None (Go to It	degrees. B. Dov em 11) B. 🗌 In Progress	C. T Has occi	urred, but stopped		
10. RELEASE SIGNIFICANCE CA	-			, <b></b>		
A. Under evaluation		B. 🗌 Release within I	Normal Operating	Limits (Tech Specs)		
	action of PAG P	ange)D. 🗌 PAG Range (Pro		· · ·		
E. 🗌 Liquid release (no a			Sective Actions re	,quileu)		
		· · · · · · · · · · · · · · · · · · ·				
*11. UTILITY RECOMMENDED PR						
A. Mo recommended actions a				ing protective actions:		
EVACUATE ZONES: <u>NOT APPLIC</u>	ABLE OR	Miles Evacuate Sectors	Shelter Sect	tors <u>No Action Sectors</u>		
SHELTER ZONES:NOT APPLICAL	BLE	0 - 2				
	:	2 - 5	-			
	:	5 - 10				
AND consider issuance of potassium iodide (KI)						
If form is completed in the Co	ontrol Room. ao 1	to item 15. If completed in	the TSC or EOF. c	continue with item 12.		
12. PLANT CONDITIONS:	/			/		
A. Reactor Shutdown?	YES	D NO B. Core	e Adequately Cool	led? 🗹 YES 📋 NO		
C. Containment Intact? IVYES INO D. Core Condition: IV Stable I Degrading						
13. <u>WEATHER DATA:</u> A. Wind Speed <u>5</u> mph B. Stability Class $\mathcal{D}$						
14. ADDITIONAL RELEASE INFORMATION: A. 🗌 Not applicable (Go to Item 15)						
Distance		roid Dose (CDE) for 1 Hour	•	al Dose (TEDE) for 1 Hour		
1 Mile (Site Boundary)	В.		C			
2 Miles	D	mrem	Ε.			
5 Miles						
JIVINES	F	mrem	G	mrem		
10 Miles	F H		G I			
	Н	mrem	l			
10 Miles	н	mrem	IDat	mrem		
10 Miles or RM Approval Signature	H me fion is known t	mrem	IDat Dat Dat	mrem te/_/Time te/_/Time		

\* ITEMS ARE EVALUATED FOR NRC PERFORMANCE INDICATORS (PIs)

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### FLORIDA NUCLEAR PLANT EMERGENCY NOTIFICATION FORM

#### METEOROLOGICAL WORKSHEET

#### SECTOR REFERENCE:

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The chart below can be used to determine sectors affected by a radiological release, through comparison with wind direction from the meteorological recorders in the Control Room.

If the wind direction is directly on the edge of two sectors (e.g.,  $11^{\circ}$ ,  $33^{\circ}$ ,  $56^{\circ}$ , etc.), an additional sector should be added to the protective action recommendations. For example, if the wind direction is from 78°, then the affected sectors for PARs should be L, M, N and P.

#### **SECTOR INFORMATION:**

WIND SECTOR	WIND FROM	DEGREES	WIND TOWARD	SECTORS AFFECTED
[A]	Ν	348-11	S	HJK
[B]	NNE	11-33	SSW	JKL
[C]	NE	33-56	SW	KLM
[D]	ENE	56-78	WSW	LMN
[E]	E	78-101	W	MNP
$[\mathbf{F}]$	ESE	101-123	WNW	NPQ
[G]	SE	123-146	NW	PQR
[H]	SSE	146-168	NNW	QRA
[J]	S	168-191	N	RAB
[K]	SSW	191-213	NNE	ABC
[L]	SW	213-236	NE	BCD
[M]	WSW	236-258	ENE	CDE
[N]	W	258-281	E	DEF
[P]	WNW	281-303	ESE	EFG
[Q]	NW	303-326	SE	FGH
[R]	NNW	326-348	SSE	GHJ

#### STABILITY CLASSIFICATION REFERENCE:

Either ERDADS or the below chart can be used to determine atmospheric stability classification for notification to the State of Florida. Primary method is from  $\Delta T$  via the South Dade (60 meter) tower. Backup method is from Sigma Theta via the Ten Meter Tower. If neither meteorological tower is available, Stability Classification shall be determined using data from National Weather Service (See 0-EPIP-20126, Off-site Dose Calculations).

#### CLASSIFICATION OF ATMOSPHERIC STABILITY:

Stability <u>Classification</u>	Pasquill <u>Categories</u>	Primary Delta T (°F)	Backup Sigma Theta <u>Range (Degrees)</u>
Extremely unstable Moderately unstable Slightly unstable Neutral Slightly stable Moderately stable Extremely stable	A B C D E F	$\begin{array}{l} \Delta T \leq -1.7 \\ -1.7 < \Delta T \leq -1.5 \\ -1.5 < \Delta T \leq -1.4 \\ -1.4 < \Delta T \leq -0.5 \\ -0.5 < \Delta T \leq +1.4 \\ +1.4 < \Delta T \leq +3.6 \end{array}$	$\begin{array}{c} {\rm ST} \geq 22.5 \\ 22.5 > {\rm ST} \geq 17.5 \\ 17.5 > {\rm ST} \geq 12.5 \\ 12.5 > {\rm ST} \geq 7.5 \\ 7.5 > {\rm ST} \geq 3.8 \\ 3.8 > {\rm ST} \geq 2.1 \end{array}$

Meteorological information needed to fill out the Florida Nuclear Plant Emergency Notification Form is available from the Dose Calculation Worksheet (0-EPIP-20126). The Worksheet shall be filled out by Chemistry and given to the Emergency Coordinator.