Final Submittal

(Blue Paper)

1. Administrative Questions/JPMs
2. In-plant JPMs
3. Control Room JPMs (simulator JPMs)

TURKEY POINT
EXAM 2002-301

50-250, 50-251/2002-301
OCTOBER 7 - 11 & 15, 2002

Admin
Final Submittal

Facility: **Turkey Point** Date of Examination: 10/07/02

Examination Level (circle one): **RO** / SRO Operating Test Number: 1

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	JPM	Verify Axial Flux Difference Compliance with ERDADS Inoperable (*-ONOP-059.4 & *-OSP-201.1 Att 8)
	JPM (Facility Bank)	Perform RCS Leak Rate Calculation Using Manual Method (JPM#R0410362)
A.2	JPM	Write a Boric Acid Pump Discharge Valve Clearance (RO)
A.3	JPM	Calculate Dose During Emergency Operations
A.4	JPM (Modified)	Make Emergency Notification (RO)

Facility: **Turkey Point** Date of Examination: 10/07/02

Examination Level (circle one): RO / **SRO** Operating Test Number: 1

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	JPM	Verify Axial Flux Difference Compliance with ERDADS Inoperable (*-ONOP-059.4 & *-OSP-201.1 Att 8)
	JPM (Facility Bank)	Perform RCS Leak Rate Calculation Using Manual Method (JPM#R0410362)
A.2	JPM	Review a Boric Acid Pump Discharge Valve Clearance
A.3	JPM	Calculate Dose During Emergency Operations
A.4	JPM (Facility Bank)	Classify Event and Make Protective Action Recommendations

Job Classification:	RO
JPM Title:	Write a Boric Acid Pump Discharge Valve Clearance
JPM Number:	A.1.1
JPM Rev. Date:	09/23/02
Time Validation:	40 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE IN THE CLASSROOM

Task Standards:

1. The clearance order is researched.
2. The required clearance information is entered on the ECO form.

Required Materials:

1. 0-ADM-212.1, "Operations In-Plant Equipment Clearance Orders"
2. Plant Operating Drawings
3. Blank ECO form
4. Highlighter/Red Pen

References:

1. 0-ADM-212.1, "Operations In-Plant Equipment Clearance Orders"

Terminating Cues:

The ECO form is completed.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Write a clearance for valve 374, 4B Boric Acid Pump Discharge Valve.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Admin. RCO.

1. Valve 374, BA PMP 4B DISCH TO BA FILTER ISO VLV, has a valve body leak.

2. The Shift Supervisor has directed you to research and write an ECO to repair the valve body leak for valve 374.

3. NOMS Database is not available for clearance research and preparation.

4. All Technical Specification issues associated with the removal from service of equipment associated with valve 374 have already been addressed.

INITIATING CUE:

The Shift Supervisor directs you to write a clearance for valve 374, 4B Boric Acid Pump Discharge Valve, not including restoration steps.

Write Equipment Clearance Order

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is to write a clearance for valve 374, 4B Boric Acid Pump Discharge Valve.

> I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me."

INITIAL CONDITIONS:

You are the Admin. RCO.

1. Valve 374, BA PMP 4B DISCH TO BA FILTER ISO VLV, has a valve body leak.

2. The Shift Supervisor has directed you to research and write an ECO to repair the valve body leak for valve 374.

3. NOMS Database is not available for clearance research and preparation.

4. All Technical Specification issues associated with the removal from service of equipment associated with valve 374 have already been addressed.

INITIATING CUE:

The Shift Supervisor directs you to write a clearance for valve 374, 4B Boric Acid Pump Discharge Valve, not including restoration steps.

WRITE EQUIPMENT CLEARANCE ORDER

ELEMENT 1: Research the ECO.

Time Start: ____

STANDARDS:

_____SAT

1. Obtains 5610-M-3046, Sheet 1.

_____UNSAT

2. Identifies need to isolate and drain the affected equipment.

3. Identifies the ECO boundaries.

4. Recognizes the need to include 4B BA pump breaker as part of the ECO.

CUE: ***When the applicant identifies the need to look up the 4B BA pump breaker number, direct the applicant to the reference books in the room.***

5. Looks up 4B BA Pump breaker number (40696) in the Breaker Book.

6. Marks up 5610-M-3046, Sheet 1, to show the ECO boundary.

COMMENTS:

WRITE EQUIPMENT CLEARANCE ORDER

ELEMENT 2: Enter "See Note" on ECO form.

STANDARDS:

1. Enters **"See Note"** in *Equipment ID* Column.
2. Enters **"Perform Item in Tag Note"** in *Equipment Description* column.
3. Enters **"N/A"** in *Equipment Location* column.
4. Enters **"1"** in *Tag Serial Number* column.
5. Enters **"No Tag"** in *Tag Type* column.
6. Enters **"1"** in *Place Seq.* column.
7. Enters **"Perform"** in *Place Config.* column.
8. Enters **"Verify 4A Boric Acid Pump control switch is in AUTO"** in *Notes* column.

COMMENTS:

NOTE 1: Steps can be done in any order.

NOTE 2: The exact wording shown is not important.

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WRITE EQUIPMENT CLEARANCE ORDER

ELEMENT 3: Enter "4P203B Control Switch" on ECO form.

STANDARDS:

1. Enters **"4P203B Control Switch"** in *Equipment ID* Column.

2. Enters **"4B Boric Acid Pump Control Switch"** in *Equipment Description* column.

3. Enters **"Control Room Console"** in *Equipment Location* column.

4. Enters **"2"** in *Tag Serial Number* column.

5. Enters **"Info. Tag"** in *Tag Type* column.

6. Enters **"2"** in *Place Seq.* column.

7. Enters **"Hang Info Tag"** in *Place Config.* column.

COMMENTS:

NOTE 1: Steps can be done in any order.

NOTE 2: The exact wording shown is not important.

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WRITE EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 4: Enter "40696" on ECO form.

STANDARDS:

1. Enters **"40696"** in *Equipment ID* Column.

2. Enters **"4B Boric Acid Pump"** in *Equipment Description* column.

3. Enters **"4B MCC "** in *Equipment Location* column.

4. Enters **"3"** in *Tag Serial Number* column.

5. Enters **"Danger"** in *Tag Type* column.

6. Enters **"3"** in *Place Seq.* column.

7. Enters **"Place in Off" (or "OPEN")** in *Place Config.* column.

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COMMENTS:

NOTE 1: Standards 2, 3 and 4 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

WRITE EQUIPMENT CLEARANCE ORDER

(C)ELEMENT 5: Enter "393" on ECO form.

STANDARDS:

1. Enters **"393"** in *Equipment ID* Column.

2. Enters **"4B Boric Acid Pump Suction Isol. Valve"** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"4"** in *Tag Serial Number* column.

5. Enters **"Danger"** in *Tag Type* column.

6. Enters **"4"** in *Place Seq.* column.

7. Enters **"Close"** in *Place Config.* column.

COMMENTS:

NOTE 1: Standards 2, 3, 4 and 6 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

NOTE 4: Elements 5 through 11 can be done in any sequence. This will result in variations in "Place Seq." numbers.

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WRITE EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 6: Enter "398D" on ECO form.

STANDARDS:

1 Enters **"398D"** in *Equipment ID* Column.

2. Enters **"Boric Acid Batching Tank to 4B Boric Acid Pump Isol. Valve"** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"5"** in *Tag Serial Number* column.

5. Enters **"Danger"** in *Tag Type* column.

6. Enters **"5"** in *Place Seq.* column.

7. Enters **"Close"** in *Place Config.* column.

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COMMENTS:

NOTE 1: Standards 2, 3, 4 and 6 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

NOTE 4: Elements 5 through 11 can be done in any sequence. This will result in variations in

"Place Seq." numbers.	

WRITE EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 7: Enter "395" on ECO form.

STANDARDS:

1. Enters **"395"** in *Equipment ID* Column.

2. Enters **"Primary Water to 4B Boric Acid Pump Suction 4B Isol. Valve"** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"6"** in *Tag Serial Number* column.

5. Enters **"Danger"** in *Tag Type* column.

6. Enters **"6"** in *Place Seq.* column.

7. Enters **"Close"** in *Place Config.* column.

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COMMENTS:

NOTE 1: Standards 2, 3, 4 and 6 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

NOTE 4: Elements 5 through 11 can be done in any sequence. This will result in variations in

"Place Seq." numbers.	

WRITE EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 8: Enter "399" on ECO form.

STANDARDS:

1. Enters **"399"** in *Equipment ID* Column.

2. Enters **"4B Boric Acid Pump Recirc. to BAST "C" Isol. Valve"** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"7"** in *Tag Serial Number* column.

5. Enters **"Danger"** in *Tag Type* column.

6. Enters **"7"** in *Place Seq.* column.

7. Enters **"Close"** in *Place Config.* column.

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COMMENTS:

NOTE 1: Standards 2, 3, 4 and 6 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

NOTE 4: Elements 5 through 11 can be done in any sequence. This will result in variations in

"Place Seq." numbers.	

WRITE EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 9: Enter "415" on ECO form.

STANDARDS:

1. Enters **"415"** in *Equipment ID* Column.

2. Enters **"4A & 4B Boric Acid Pump Discharge Isol. Valve to Recirc."** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"8"** in *Tag Serial Number* column.

5. Enters **"Danger"** in *Tag Type* column.

6. Enters **"8"** in *Place Seq.* column.

7. Enters **"Wired Closed"** in *Place Config.* column.

COMMENTS:

NOTE 1: Standards 2, 3, 4 and 6 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

NOTE 4: Elements 5 through 11 can be done in any sequence. This will result in variations in "Place Seq." numbers.

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NOTE 5:	Inclusion of the word "Wired" is not critical to Standard 7.	

WRITE EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 10: Enter "376" on ECO form.

STANDARDS:

1. Enters **"376"** in *Equipment ID* Column.

2. Enters **"4A Boric Acid Pump Discharge to Boric Acid Filter Isol. Valve"** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"9"** in *Tag Serial Number* column.

5. Enters **"Danger"** in *Tag Type* column.

6. Enters **"9"** in *Place Seq.* column.

7. Enters **"Close"** in *Place Config.* column.

COMMENTS:

NOTE 1: Standards 2, 3, 4 and 6 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

NOTE 4: Elements 5 through 11 can be done in any sequence. This will result in variations in

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"Place Seq." numbers.	

WRITE EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 11: Enter "4-347" on ECO form.

STANDARDS:

1. Enters **"4-347"** in *Equipment ID* Column.
2. Enters **"Boric Acid Filter Inlet Isol. Valve"** in *Equipment Description* column.
3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.
4. Enters **"10"** in *Tag Serial Number* column.
5. Enters **"Danger"** in *Tag Type* column.
6. Enters **"10"** in *Place Seq.* column.
7. Enters **"Close"** in *Place Config.* column.

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COMMENTS:

NOTE 1: Standards 2, 3, 4 and 6 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

NOTE 4: Elements 5 through 11 can be done in any sequence. This will result in variations in "Place Seq." numbers.

WRITE EQUIPMENT CLEARANCE ORDER

ELEMENT 12: Enter "396D Drain Line" on ECO form.

STANDARDS:

1. Enters **"396D Drain Line"** in *Equipment ID* Column.

2. Enters **"4B Boric Acid Pump Drain"** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"11"** in *Tag Serial Number* column.

5. Enters **"No Tag"** in *Tag Type* column.

6. Enters **"11"** in *Place Seq.* column.

7. Enters **"Drain Line Installed"** in *Place Config.* column.

COMMENTS:

NOTE 1: Standards 2, 3 and 4 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

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WRITE EQUIPMENT CLEARANCE ORDER

ELEMENT 13: Enter "396D Throttle" on ECO form.

STANDARDS:

1. Enters **"396D Throttle"** in *Equipment ID* Column.

2. Enters **"4B Boric Acid Pump Drain"** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"12"** in *Tag Serial Number* column.

5. Enters **"No Tag"** in *Tag Type* column.

6. Enters **"12"** in *Place Seq.* column.

7. Enters **"Throttle"** in *Place Config.* column.

COMMENTS:

NOTE 1: Standards 2, 3 and 4 are not critical to this Element.

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

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WRITE EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 14: Enter "396D" on ECO form.

STANDARDS:

1. Enters **"396D"** in *Equipment ID* Column.

2. Enters **"4B Boric Acid Pump Drain Valve"** in *Equipment Description* column.

3. Enters **"Boric Acid Tank Room"** in *Equipment Location* column.

4. Enters **"13"** in *Tag Serial Number* column.

5. Enters **"Danger"** in *Tag Type* column.

6. Enters **"13"** in *Place Seq.* column.

7. Enters **"Open"** in *Place Config.* column.

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COMMENTS:

NOTE 1: Standards 2, 3, 4 and 5 are not critical to this Element

NOTE 2: Steps can be done in any order.

NOTE 3: The exact wording shown is not important.

END OF JPM

Applicant's Copy

ATTACHMENT 1
(Page 3 of 4)

ECO FORM

Tag Hang List for ECO
Page ___ of ___

Equipment ID	Equipment Description	Equipment Location	Tag Serial	Tag Type	Place Seq.	Place Config	1st	2nd	Notes

ATTACHMENT 1

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Applicant's Copy

ECO FORM

Tag Hang List for ECO

Page ___ of ___

Equipment ID	Equipment Description	Equipment Location	Tag Serial	Tag Type	Place Seq.	Place Config	1st	2nd	Notes

Examiner's Copy - Key

ATTACHMENT 1
(Page 3 of 4)

ECO FORM

Tag Hang List for ECO
Page 1 of 2

Equipment ID	Equipment Description	Equipment Location	Tag Serial	Tag Type	Place Seq.	Place Config	1st	2nd	Notes
See Note	Perform item in Tag Note	N/A	1	No Tag	1	Perform			Verify 4A Boric Acid Pump
4P203B Control	4B Boric Acid Transfer Pump Control Switch	Control Room Console	2	Info. Tag	2	Hang Info. Tag			
40696	4B Boric Acid Pump	4B MCC	3	Danger	3	Place in OFF			
393	4B Boric Acid Pump Suction Isolation Valve	Boric Acid Tank Room	4	Danger	4	Close			
398D	Boric Acid Batching Tank to 4B Boric Acid Pump Isol. Valve	Boric Acid Tank Room	5	Danger	5	Close			
395	Primary Water to 4B Boric Acid Pump Suction 4b Isol Valve	Boric Acid Tank Room	6	Danger	6	Close			
399	4A Boric Acid Pump Recirc to BAST "C" Isol Valve	Boric Acid Tank Room	7	Danger	7	Close			
415	4A & 4B Boric Acid Pump Discharge Isol Valve to Recirc.	Boric Acid Tank Room	8	Danger	8	Wired Close			
376	4A Boric Acid Pump Discharge to boric Acid Filter Isol Valve	Boric Acid Tank Room	9	Danger	9	Close			

4-347	Boric Acid Filter Inlet Isol Valve	Boric Acid Tank Room	10	Dange r	10	Close			

ATTACHMENT 1
(Page 3 of 4)

Examiner's Copy - Key

ECO FORM

Tag Hang List for ECO
Page 2 of 2

Equipment ID	Equipment Description	Equipment Location	Tag Serial	Tag Type	Place Seq.	Place Config	1st	2nd	Notes
396D Drain Line	4B Boric Acid Pump Drain	Boric Acid Tank Room	11	No Tag	11	Drain Line			
396D Throttle	4B Boric Acid Pump Drain	Boric Acid Tank Room	12	No Tag	12	Throttle			
396D	4B Boric Acid Pump Drain Valve	Boric Acid Tank Room	13	Danger	13	Open			

Job Classification:	SRO
JPM Title:	Review a Boric Acid Pump Discharge Valve Clearance
JPM Number:	A.1.1
JPM Rev. Date:	09/23/02
Time Validation:	40 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE IN THE CLASSROOM

Task Standards:

1. The clearance order is reviewed.
2. Errors existing in the clearance ordered are discovered.

Required Materials:

1. 0-ADM-212.1, "Operations In-Plant Equipment Clearance Orders"
2. Plant Operating Drawings
3. Completed ECO form

References:

1. 0-ADM-212.1, "Operations In-Plant Equipment Clearance Orders"

Terminating Cues:

The ECO errors are identified to the examiner.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Review a clearance for valve 374, 4B Boric Acid Pump Discharge Valve.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Shift Supervisor.

1. Valve 374, 4B Boric Acid Pump Discharge to Boric Acid Filter Isol Valve, has a valve body leak.

2. The Admin RCO has prepared the attached ECO and marked up POD for valve 374 and has submitted it for your review.

3. NOMS Database is not available for clearance research and preparation.

4. All Technical Specification issues associated with the removal from service of equipment associated with valve 374 have already been addressed.

INITIATING CUE:

The Shift Manager directs you to review the ECO for valve 374. If the ECO is correct and complete, sign it showing your approval. If the ECO is not correct or complete, revise it to make it correct and complete. Note that restoration steps are not required for this ECO.

Review Equipment Clearance Order

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is to review a clearance for valve 374, 4B Boric Acid Pump Discharge Valve.

> I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me."

INITIAL CONDITIONS:

You are the Shift Supervisor.

1. Valve 374, 4B Boric Acid Pump Discharge to Boric Acid Filter Isol Valve, has a valve body leak.

2. The Admin RCO has prepared the attached ECO and marked up POD for valve 374 and has submitted it for your review.

3. NOMS Database is not available for clearance research and preparation.

4. All Technical Specification issues associated with the removal from service of equipment associated with valve 374 have already been addressed.

INITIATING CUE:

The Shift Manager directs you to review the ECO for valve 374. If the ECO is correct and complete, sign it showing your approval. If the ECO is not correct or complete, revise it to make it correct and complete. Note that restoration steps are not required for this ECO.

REVIEW EQUIPMENT CLEARANCE ORDER

ELEMENT 1: Review the ECO. STANDARDS: ***CUE 1:*** ***Hand the applicant the completed ECO form and the marked up drawing.*** 1. Reviews marked up 5610-M-3046, Sheet 1. 2. Identifies need to isolate and drain the affected equipment. 3. Identifies the ECO boundaries. 4. Recognizes the need to include 4B BA pump breaker as part of the ECO. ***CUE:*** ***When the applicant identifies the need to look up the 4B BA pump breaker number, direct the applicant to the reference books in the room.*** 5. Looks up 4B BA Pump breaker number (40696) in the Breaker Book. COMMENTS:	Time Start: ___ _____SAT _____UNSAT

REVIEW EQUIPMENT CLEARANCE ORDER

(C) ELEMENT 2: Identify errors and omissions on ECO form.

STANDARDS:

1. Discovers 4B BA Transfer Pump has wrong breaker number. Breaker number shown (40725) is for the 4A BA Transfer Pump, not the 4B pump.

2. Discovers Breaker 40696 step is at the end of the ECO after valves are closed. Notes that 40696 should be tagged out before valves are closed.

3. Discovers Valve 395, Primary Water to 4B Boric Acid Pump Suction 4B Isol. Valve, has been omitted.

4. Discovers the valve to be worked, Valve 374 is listed on the ECO form as a valve to be Danger tagged. 374 should not be listed on the ECO at all.

5. Annotates ECO form to reflect the 4 discovered errors.

COMMENTS:

END OF JPM

_____SAT

_____UNSAT

Applicant's Copy

ATTACHMENT 1
(Page 3 of 4)

ECO FORM

Tag Hang List for ECO
Page 1 of 2

Equipment ID	Equipment Description	Equipment Location	Tag Serial	Tag Type	Place Seq.	Place Config	1st	2nd	Notes
See Note	Perform item in Tag Note	N/A	1	No Tag	1	Perform			Verify 4A Boric Acid Pump
4P203B Control	4B Boric Acid Transfer Pump Control Switch	Control Room Console	2	Info. Tag	2	Hang Info. Tag			
393	4B Boric Acid Pump Suction Isolation Valve	Boric Acid Tank Room	3	Danger	3	Close			
398D	Boric Acid Batching Tank to 4B Boric Acid Pump Isol. Valve	Boric Acid Tank Room	4	Danger	4	Close			
399	4A Boric Acid Pump Recirc to BAST "C" Isol Valve	Boric Acid Tank Room	5	Danger	5	Close			
415	4A & 4B Boric Acid Pump Discharge Isol Valve to Recirc.	Boric Acid Tank Room	6	Danger	6	Wired Close			
376	4A Boric Acid Pump Discharge to boric Acid Filter Isol Valve	Boric Acid Tank Room	7	Danger	7	Close			
4-347	Boric Acid Filter Inlet Isol Valve	Boric Acid Tank Room	8	Danger	8	Close			

Applicant's Copy

ATTACHMENT 1
(Page 3 of 4)

ECO FORM

Tag Hang List for ECO
Page 2 of 2

Equipment ID	Equipment Description	Equipment Location	Tag Serial	Tag Type	Place Seq.	Place Config	1st	2nd	Notes
396D Drain	4B Boric Acid Pump Drain	Boric Acid Tank Room	9	No Tag	9	Drain Line			
396D Throttle	4B Boric Acid Pump Drain	Boric Acid Tank Room	10	No Tag	10	Throttle			
374	4B Boric Acid Pump Discharge to Boric Acid Filter Isol Valve	Boric Acid Tank Room	11	Danger	11	Close			
396D	4B Boric Acid Pump Drain Valve	Boric Acid Tank Room	12	Danger	12	Open			
40725	4B Boric Acid Pump	4B MCC	13	Danger	13	Place in OFF			

Examiner's Copy - Key

ATTACHMENT 1
(Page 3 of 4)

ECO FORM

Tag Hang List for ECO
Page 1 of 2

Equipment ID	Equipment Description	Equipment Location	Tag Serial	Tag Type	Place Seq.	Place Config	1st	2nd	Notes
See Note	Perform item in Tag Note	N/A	1	No Tag	1	Perform			Verify 4A Boric Acid Pump
4P203B Control	4B Boric Acid Transfer Pump Control Switch	Control Room Console	2	Info. Tag	2	Hang Info. Tag			
393	4B Boric Acid Pump Suction Isolation Valve	Boric Acid Tank Room	3	Danger	3	Close			
398D	Boric Acid Batching Tank to 4B Boric Acid Pump Isol. Valve	Boric Acid Tank Room	4	Danger	4	Close			
399	4A Boric Acid Pump Recirc to BAST "C" Isol Valve	Boric Acid Tank Room	5	Danger	5	Close			
415	4A & 4B Boric Acid Pump Discharge Isol Valve to Recirc.	Boric Acid Tank Room	6	Danger	6	Wired Close			
376	4A Boric Acid Pump Discharge to boric Acid Filter Isol Valve	Boric Acid Tank Room	7	Danger	7	Close			
4-347	Boric Acid Filter Inlet Isol Valve	Boric Acid Tank Room	8	Danger	8	Close			

Examiner's Copy - Key

ATTACHMENT 1
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ECO FORM

Tag Hang List for ECO
Page 2 of 2

Equipment ID	Equipment Description	Equipment Location	Tag Serial	Tag Type	Place Seq.	Place Config	1st	2nd	Notes
396D Drain Line	4B Boric Acid Pump Drain	Boric Acid Tank Room	9	No Tag	9	Drain Line			
396D Throttle	4B Boric Acid Pump Drain	Boric Acid Tank Room	10	No Tag	10	Throttle			
374	***4B Boric Acid Pump Discharge to Boric Acid Filter Isol Valve***	***Boric Acid Tank Room***	*11*	***Danger***	*11*	***Close***	***Examiner : 374 is the valve to be worked. It must not be tagged.***		
396D	4B Boric Acid Pump Drain Valve	Boric Acid Tank Room	12	Danger	12	Open			
40725	***4B Boric Acid Pump***	***4B MCC***	*13*	***Danger***	*13*	***Place in OFF***	***Examiner: Note the wrong breaker number. Additionally Bkr 40696 must be opened and tagged before any valves are closed closed.***		
395	***Primary Water to 4B Boric Acid Pump Suction 4B Isol Valve***	***Boric Acid Tank Room***	*6*	***Danger***	*6*	***Close***	***Examiner: 395was omitted. It is a necessary clearance boundary valve.***		

Job Classification:	RO
JPM Title:	Perform RCS Leak Rate Calculation using Manual Method
JPM Number:	A.1.2
JPM Rev. Date:	09/23/02
Time Validation:	30 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE IN THE CLASSROOM

Task Standards:

1. RCS leak rate calculated IAW 3-OSP-041.1 standards.

Required Materials:

1. 3-OSP-041.1, "Reactor Coolant System Leak Rate Calculation"
2. Calculator
3. Ruler (Straight Edge)

References:

1. 3-OSP-041.1, "Reactor Coolant System Leak Rated Calculation"

Terminating Cues:

RCS leak rate determined & Shift Manager notified.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Perform a 4 hour RCS Leak Rate Calculation using Manual Method.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 3 RCO on day shift.

1. Unit 3 is at 100% power.
2. All 3-OSP-041.1, "Reactor Coolant System Leak Rate Calculation" prerequisites have been met.
3. ERDADS is not available.

INITIATING CUE:

The Shift Manager directs you to perform a 4 hour Manual Method RCS leak rate calculation using 3-OSP-041.1, "Reactor Coolant System Leak Rate Calculation".

PERFORM A DROPPED ROD RECOVERY

Examiner Instructions:

Hand the Initial Conditions Sheet AND Data Sheet to the Applicant and read the following:

"The task you are to perform is perform a 4 hour RCS Leak Rate Calculation using Manual Method.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me."

INITIAL CONDITIONS:

You are the Unit 3 RCO on day shift.

1. Unit 3 is at 100% power.
2. All 3-OSP-041.1, "Reactor Coolant System Leak Rate Calculation" prerequisites have been met.
3. ERDADS is not available.

INITIATING CUE:

The Shift Manager directs you to perform a 4 hour Manual Method RCS leak rate calculation using 3-OSP-041.1, "Reactor Coolant System Leak Rate Calculation".

PERFORM RCS LEAK RATE CALCULATION

ELEMENT 1: Record Start Data

Time Start: ___

_____SAT

STANDARDS:

1. Records the following data under "Start" column on Attachment 3, Page 3. (Step 7.1.6)

_____UNSAT

	Parameter	Value
1.	Time	1300
2.	VCT level	41%
3.	PZR level	52%
4.	PW Totalizer	0
5.	BA Totalizer	0
6.	PRT level	72%
7.	RCDT level	20%
8.	Cont. Sump level	120 gal.
9.	Tavg	573°F

COMMENTS:

NOTE: Values recorded are from the Data Sheet provided the applicants.

PERFORM RCS LEAK RATE CALCULATION

ELEMENT 2: Record Stop Data

STANDARDS:

1. Records the following data under "Stop" column on Attachment 3, Page 3. (Step 7.1.7)

	Parameter	Value
1.	Time	1700
2.	VCT level	18%
3.	PZR level	54%
4.	PW Totalizer	0
5.	BA Totalizer	0
6.	PRT level	74%
7.	RCDT level	24%
8.	Cont. Sump level	220 gal.
9.	Tavg	574°F

COMMENTS:

NOTE: Values recorded are from the Data Sheet provided the applicants.

_____SAT

_____UNSAT

PERFORM RCS LEAK RATE CALCULATION

(C) ELEMENT 3: Determine RCS leak rate.

STANDARDS:

1. Calculates the following values and enters them in the "(Stop – Start) x CF" column on the DAY SHIFT Table on Att. 3 (Page 3 of 6).

1.	Elapsed time	240 min
2.	VCT level change	- 325.45 gal
3.	PZR level change	+84.2 gal
4.	PW Totalizer change	0 gal
5.	BA Totalizer change	0 gal
6.	PRT level change	+200 gal
7.	RCDT level change	+12.8 gal
8.	Containment Sump level chg.	+100 gal
9.	Average value of Tavg (Start + Stop/2 column)	573.5°F
10.	Δ Gal due to Tavg change	+71.3 gal*

* Obtained by multiplying Tavg Conv. Factor on Encl. 1, Pg. 1 (71.3 gal/°F) times 1 degree Tavg change.

2. Enters values from lines 2 (-325.45), 3 (+84.2) and 9 (+71.3) into spaces provided in Step 10 of Att. 3.

3. Calculates total by adding lines 2, 3 and 9 values. (-325.45 + 84.2 - 71.3 = -312.55) (Att. 3, Step 10)

4. Calculates gross leak rate by dividing total gallons (Line 10 = -312.55) by Δtime (Line 1 = 240 min.). (Att. 3, Step 11) Result is 1.30 gpm.

_____SAT

_____UNSAT

COMMENTS: NOTE: Only Standard 4 is critical to this Element. Acceptable value range is 1.20 to 1.40 gpm. NOTE: Mathematical calculation will result in a negative value which corresponds to a loss of inventory in the RCS. The applicant will change this negative value to a positive number representing leakage.	

PERFORM RCS LEAK RATE CALCULATION

ELEMENT 4: Determine Reference Leakage.

STANDARDS:

1. Enters values from lines 6 (+200), 7 (+12.8), and 1 (240) into spaces provided in Step 12 of Att. 3, Page 3.

2. Calculates Identified Leakage by adding lines 6 and 7 values (212.8) and dividing the result by line 1 value (240) . (Att. 3, Step 12)
Result is +0.89 gpm.

3. Calculates Unidentified Leakage by subtracting line 12 value (+0.89) from line 11 value (1.30). (Attach. 3, Step 13) Result is +0.41 gpm.

COMMENTS:

NOTE: Acceptable value range is 0.31 to 0.51 gpm.

_____SAT

_____UNSAT

PERFORM RCS LEAK RATE CALCULATION

(C) ELEMENT 5: Notify Shift Manager of Excessive RCS leakage.

STANDARD:

1. Notifies the Shift Manager that gross RCS leakage exceeds 1.0 gpm.
(Attach. 3, Step 11, Note 1)

CUE 1: ***As the Shift Manager, acknowledge the report that gross RCS leakage exceeds 1.0 GPM and state you will make the appropriate notifications including the RCS System Engineer.***

COMMENTS:

End of JPM

_____SAT

_____UNSAT

RCS Leakrate Calculation DATA Sheet

(To be Handed to Applicant)

1. Chemistry has been notified to not sample and the sample valves are closed.
2. The SNPO has pumped the RCDT and its initial level is 20%.
3. The initial Containment sump level is 120 gallons.
4. Containment Sump Pump Discharge Valves, CV-3-2821/CV-3-2822 are CLOSED.
5. VCT Level Controller, LC-3-112A is set at 70%.
6. Initial VCT level is 41%.
7. Applicable START and STOP Data as follows:

	START DATA		STOP DATA
Start Time:	1300	Stop Time:	1700
VCT Level:	41%		18%
PZR Level:	52%		54%
Primary Water Totalizer:	0		0
Boric Acid Totalizer:	0		0
PRT Level:	72%		74%
RCDT Level:	20%		24%
Cont. Sump Level:	120 gal.		220 gal.
Tavg:	573°F		574°F

NOTE: The following instructions will only be used if the JPM setting is changed to the Simulator!!!

BOOTH OPERATOR INSTRUCTIONS

1. Reset to IC-1

2. Take simulator to run and verify the RCDT level between 15% and 25%. Touch SYS MAT -> WASTE DISPOSAL ->LIQUID WASTE DISPOSAL -> view RCDT LEVEL.

3. Manually pump down the containment sump to between 100 to 125 gallons. Touch CONTAINMENT SUMP PUMP A -> LOCAL PUSHBUTTON START -> set TCA2J0GA = T and FREEZE when level reaches 12". Then touch CONTAINMENT SUMP PUMP A -> LOCAL PUSHBUTTON STOP ->set TCA2STPA = T.

4. Verify VCT level is between 20% and 70%.

5. Acknowledge any alarms and freeze simulator.

6. Initiate 4 gpm RCS leakage to Containment.
Touch RCS PRESSURE -> COLD LEG BREAK -> RCS COLD LEG LEAKAGE LOOP B -> set TVHHCLB = 0.000005.

7. Place simulator in run and start evaluation.

8. NOTE:Setup is in STATIC IC-52. RCDT level = 18.0%
Containment Sump level = 12" (117 gal)
VCT level = 29.9%

Job Classification:	RCO
JPM Title:	Verify Axial Flux Difference Compliance with ERDADS Inoperable
JPM Number:	A.2
JPM Rev. Date:	09/23/02
Time Validation:	30 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE IN THE CLASSROOM

Task Standards:

1. AFD readings evaluated correctly to determine compliance with Operational Space limits.

Required Materials:

1. 3-OSP-201.1, RCO Daily Logs, Attachment 8
2. Plant Curve Book, Section 7, Fig.1 (dtd. 12 Oct 2001) or Plant Curve Book, Section 5, Fig. 1 (dtd. 16 Oct 2001)
3. Ruler or straight edge
4. Calculator

References:

1. 3-OSP-201.1, RCO Daily Logs, Attachment 8
2. 3-ONOP-059.4, Excessive Axial Flux Difference"
3. Plant Curve Book, Section 7, Fig.1 (dtd. 12 Oct 2001)
4. Plant Curve Book, Section 5, Fig. 1 (dtd. 16 Oct 2001)
5. Tech Specs. 3.2.1

Terminating Cues:

AFD values have been evaluated for compliance with Tech. Spec. requirements.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Demonstrate Axial Flux Difference (AFD) compliance with ERDADS Out of Service.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

1. ERDADS is Out of Service.
2. Unit 3 is at **90% power.**

INITIATING CUE:

The Shift Manager directs you to perform the following tasks:

1) Determine the AFD Tech Specs limits for 90% power.

2) Evaluate the entries on the provided Attachment 8 of 3-OSP-201.1.

After identifying the AFD Tech Spec limits for 90% power, your job is to identify any errors made on Attachment 8 when the boxes were checked or to certify that Attachment 8 is filled out correctly.

Circle any errors discovered.

Demonstrate Axial Flux Difference (AFD) compliance

Examiner Instructions:

Hand the following to the applicant:

1) Initial Conditions Sheet
2) Applicant's copy of Attachment 8
3) Selected plant curves
4) Calculator
5) Ruler

Read the following:

"The task you are to perform is Demonstrate Axial Flux Difference (AFD) requirements compliance with ERDADS Out of Service.

> I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

1. ERDADS is Out of Service.
2. Unit 3 is at **90% power.**

INITIATING CUE:

The Shift Manager directs you to perform the following tasks:

1) Determine the AFD Tech Specs limits for 90% power.

2) Evaluate the entries on the provided Attachment 8 of 3-OSP-201.1.

After identifying the AFD Tech Spec limits for 90% power, your job is to identify any errors made on Attachment 8 when the boxes were checked or to certify that Attachment 8 is filled out correctly.

Circle any errors discovered.

Demonstrate Axial Flux Difference (AFD) compliance

(C) ELEMENT 1: Determine AFD limits for 90% power

Time Start: ___

STANDARDS:

_____SAT

1. Using one of the following methods, determines the RAOC limits at 90% power to be +10.6 and −14.

_____UNSAT

Method 1: Read values directly from PCB Section 5 Figure 1.

Method 2: Calculate values by interpolation.

(.2)(25 – 7) = 3.6 3.6 + 7 = +10.6

(.2)(-30 - -10) = -4 -4 – 10 = -14

Method 3: Use a straight edge to estimate limits of −14 and +10.6.

COMMENTS:

Examiner NOTE: Method 3 allowable tolerance is as follows: Acceptable positive estimates are +10 to +11. Acceptable negative estimates are −13.5 to −14.5.

Demonstrate Axial Flux Difference (AFD) compliance

(C) ELEMENT 2: Evaluate AFD readings

STANDARDS:

1. Identifies and circles 1 error associated with N-43 (12:30), 1 error associated with N-44 (6:00), and 1 error associated with N-41 (6:30) on Attachment 8.

_____SAT

_____UNSAT

CUE: When applicant has completed the task, have the applicant return the materials to you.

COMMENTS:

NOTE: The AFD limits at 90% power are −14 and +10.6. Any value that exceeds these boundaries is "OUT".

End of JPM

Applicant's Copy

ATTACHMENT 8
(Page 1 of 3)

FLUX DIFFERENCE LOG SHEETS

Date:_____

Instructions: **IF** required by 3-ONOP-059.4, EXCESSIVE AXIAL FLUX DIFFERENCE, **THEN** perform the following at the specified frequencies in 3-ONOP-059.4:

1. Record conformance with Flux Difference limit
2. Record the indicated Flux Difference for each operable Power Range Channel.
3. At least once per hour for the first 6 hours following restoration of the alarm to operable **OR** complete the operability check of annunciator using 0-OSP-059.9, COMPUTER AXIAL FLUX VERIFICATION.

TIME	FLUX DIFFERENCE WITHIN OPERATIONAL SPACE (CHECK FOR EACH OPERABLE POWER RANGE)								NIS POWER RANGES INDICATED FLUX DIFFERENCE			
	N41		N42		N43		N44					
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	N41	N42	N43	N44
12	√		√		√		√		+6.0	+8.0	+9.0	+6.0
12:30	√		√		√		√		+7.0	+8.5	+11.5	+8.0
1:00	√		√			√	√		+8.0	+9.5	+12.0	+9.5
1:30	√			√		√		√	+9.5	+11.5	+12.5	+11.5
2:00	√			√		√		√	+9.5	+12.0	+13.0	+12.0
2:30	√		√			√	√		+8.5	+9.5	+11.5	+9.5
3:00	√		√		√		√		+7.5	+9.0	+9.0	+8.5
3:30	√		√		√		√		+4.5	+6.5	+6.0	+5.5
4:00	√		√		√		√		+1.0	+3.0	+2.0	+2.0
4:30	√		√		√		√		-3.0	0	-1.0	-2.0
5:00	√		√		√		√		-5.5	-3.0	-4.5	-5.5
5:30	√		√		√		√		-8.0	-7.5	-7.5	-9.0
6:00	√		√		√			√	-11.0	-10.5	-10.5	-12.5
6:30	√		√		√			√	-15.0	-12.0	-12.5	-15.0
7:00		√		√		√		√	-16.0	-16.0	-15.0	-17.0
7:30		√		√		√		√	-16.5	-17.0	-17.0	-18.0
8:00												
8:30												
9:00												

9:30												
10:00												
10:30												
11:00												
11:30												

Evaluator's Copy

ATTACHMENT 8
(Page 1 of 3)

FLUX DIFFERENCE LOG SHEETS

Date:_____

Instructions: **IF** required by 3-ONOP-059.4, EXCESSIVE AXIAL FLUX DIFFERENCE, **THEN** perform the following at the specified frequencies in 3-ONOP-059.4:

1. Record conformance with Flux Difference limit
2. Record the indicated Flux Difference for each operable Power Range Channel.
3. At least once per hour for the first 6 hours following restoration of the alarm to operable **OR** complete the operability check of annunciator using 0-OSP-059.9, COMPUTER AXIAL FLUX VERIFICATION.

TIME	FLUX DIFFERENCE WITHIN OPERATIONAL SPACE (CHECK FOR EACH OPERABLE POWER RANGE)								NIS POWER RANGES INDICATED FLUX DIFFERENCE			
	N41		N42		N43		N44					
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	N41	N42	N43	N44
12	√		√		√		√		+6.0	+8.0	+9.0	+6.0
12:30	√		√		X		√		+7.0	+8.5	+11.5	+8.0
1:00	√		√			√	√		+8.0	+9.5	+12.0	+9.5
1:30	√			√		√		√	+9.5	+11.5	+12.5	+11.5
2:00	√			√		√		√	+9.5	+12.0	+13.0	+12.0
2:30	√		√			√	√		+8.5	+9.5	+11.5	+9.5
3:00	√		√		√		√		+7.5	+9.0	+9.0	+8.5
3:30	√		√		√		√		+4.5	+6.5	+6.0	+5.5
4:00	√		√		√		√		+1.0	+3.0	+2.0	+2.0
4:30	√		√		√		√		-3.0	0	-1.0	-2.0
5:00	√		√		√		√		-5.5	-3.0	-4.5	-5.5
5:30	√		√		√		√		-8.0	-7.5	-7.5	-9.0
6:00	√		√		√			X	-11.0	-10.5	-10.5	-12.5
6:30	X		√		√			√	-15.0	-12.0	-12.5	-15.0
7:00		√		√		√		√	-16.0	-16.0	-15.0	-17.0
7:30		√		√		√		√	-16.5	-17.0	-17.0	-18.0
8:00												
8:30												
9:00												

Examiner NOTE:
Grading Basis
AFD RAOC limits at 90% power = -14 and +10.6. Any value that exceeds these boundaries is "OUT".

Job Classification:	RO/SRO
JPM Title:	Calculate Dose During Emergency Operations
JPM Number:	A.3
JPM Rev. Date:	09/23/02
Time Validation:	30 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE IN THE CLASSROOM

Task Standards:

The 3 path options are evaluated for accumulated radiation dose. Determines which option (if any) results in radiation exposure less than the allowable dose.

Required Materials:

1 1. 10 Foot elevation survey map
2 2. Task Data Sheet
3. Calculator

References:

1. None

Terminating Cues:

The applicant determines the best path option and if the option results in exposure less than the allowable dose.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Review 3 path options to reach and open valves.
1) Determine the best alternative and
2) Evaluate against allowable dose limit.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

1. Unit 4 has experienced a valid SI signal.

2. PAHMS has been placed in service per 4-OP-094, Section 7.1, except that valves PAHM-4-002A and PAHM-4-002B cannot be opened due to broken reach rods.

3. Your allowable dose margin limit is 1250 mrem.

4. A survey map is available of the 10 ft. elevation, showing dose rates and one way travel time to reach the valves for each of three possible routes.

5. HP personnel are unavailable to provide assistance.

INITIATING CUE:

The Emergency Coordinator directs you to determine:

1) Which roundtrip path would result in the lowest radiation exposure.

2) If PAHM-4-002A and PAHM-4-002B can be opened locally by you without exceeding your dose margin limit.

BE SURE TO FILL IN THE APPROPRIATE INFORMATION AT THE BOTTOM OF THE TASK DATA SHEET.

Calculate Dose During Emergency Operations

Examiner Instructions:

Hand the following 3 sheets to the Applicant:

1) Initial Conditions Sheet
3 2) 10 Foot elevation survey map
4 3) Task Data Sheet
4). Calculator

Read the following to the Applicant:

"The task you are to perform is calculate dose during emergency operations.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return these materials to me."

BE SURE TO FILL IN THE APPROPRIATE INFORMATION AT THE BOTTOM OF THE TASK DATA SHEET.

INITIAL CONDITIONS:

1. Unit 4 has experienced a valid SI signal.

2. PAHMS has been placed in service per 4-OP-094, Section 7.1, except that valves PAHM-4-002A and PAHM-4-002B cannot be opened due to broken reach rods.

3. Your allowable dose margin limit is 1250 mrem.

4. A survey map is available of the 10 ft. elevation, showing dose rates and one way travel time to reach the valves for each of three possible routes.

5. HP personnel are unavailable to provide assistance.

INITIATING CUE:

The Emergency Coordinator directs you to determine:

1) Which roundtrip path would result in the lowest radiation exposure.

2) If PAHM-4-002A and PAHM-4-002B can be opened locally by you without exceeding your dose margin limit.

Calculate Dose During Emergency Operations

ELEMENT 1: Calculate dose at Valves PAHM-4-002A & PAHM-4-002B.

Time Start: ___

STANDARDS:

_____SAT

1. Performs inverse square law calculation as follows:

_____UNSAT

Dose rate 2 feet from point source = 200 R/hr.

Dose rate 8 feet from point source = ?

$R_1D_1^2 = R_2D_2^2$

$200\ (2)^2 = R_2\ (8)^2$

$R_2 = 800/64$

R_2 = 12.5 R/hr

Dose after 4 minutes at valve location =?

12.5 R/hr = 12,500 mr/hr

(12,500 mr/hr)(1 hr/60 min)(4 min) = 833 mrem

COMMENTS:

NOTE: Applicant's numbers might be slightly different due to rounding off. Acceptable range is between 832 and 834 mrem.

Calculate Dose During Emergency Operations

ELEMENT 2: Calculate Dose on Path 1.

STANDARDS:

1. Calculates dose along Path 1 as follows:

(3R/hr)(1000 mr/1R)(1 hr/60 min)(6 min) = 300 mr

Total Dose per path for entry and exit

2 (300 mr) = 600 mr

Total Dose on Path 1 Including time at valves

600 mr + 833 mr = 1433 mr

COMMENTS:

NOTE: Applicant's numbers might be slightly different due to rounding off. Acceptable range is between 1431 and 1435 mrem.

_____SAT

_____UNSAT

Calculate Dose During Emergency Operations

ELEMENT 3: Calculate Dose on Path 2.

STANDARDS:

1. Calculates dose along Path 2 as follows:

(7R/hr)(1000 mr/1R)(1 hr/60 min)(4 min) = 467 mr

Total Dose per path for entry and exit

2 (467 mr) = 934 mr

Total Dose on Path 1 Including time at valves

934 mr + 833 mr = 1767 mr

COMMENTS:

NOTE: Applicant's numbers might be slightly different due to rounding off. Acceptable range is between 1765 and 1769 mrem.

_____SAT

_____UNSAT

Calculate Dose During Emergency Operations

ELEMENT 4: Calculate Dose on Path 3.

STANDARDS:

1. Calculates dose along Path 3 as follows:

(8R/hr)(1000 mr/1R)(1 hr/60 min)(3 min) = 400 mr

Total Dose per path for entry and exit

2 (400 mr) = 800 mr

Total Dose on Path 1 Including time at valves

800 mr + 833 mr = 1633 mr

COMMENTS:

NOTE: Applicant's numbers might be slightly different due to rounding off. Acceptable range is between 1631 and 1635 mrem.

_____SAT

_____UNSAT

Calculate Dose During Emergency Operations

(C)ELEMENT 5: Determine path with least exposure.

STANDARDS:

1. Compares Path 1, 2, and 3.

   Path 1: 1433 ± 2 mr
   Path 2: 1767 ± 2 mr
   Path 3: 1633 ± 2 mr

2. Chooses Path 1 as path with least exposure.

3. Circles Path 1, From #3 RHR Pit to Valves, on Task Data Sheet

COMMENTS:

Only Standard 2 is critical to this element.

_____SAT

_____UNSAT

Calculate Dose During Emergency Operations

(C) ELEMENT 6: Determine if job can be done without exceeding dose margin.

STANDARDS:

1 Compares Path 1 Dose with Margin limit and determines NO, the job can not be done and stay within limit.

Dose Margin Limit: 1250 mr
Path 1 Dose: 1433 ± 2 mr

2. Circles NO on Task Data Sheet.

COMMENTS:

Only Standard 2 is critical to this element.

END OF JPM

_____SAT

_____UNSAT

Calculate Dose During Emergency Operations

Task Data

1. Valves are located at Survey Map Location "A".

2. Estimated time to open the valves is 4 minutes.

3. A "Hot Spot" radiation point source is 8 feet from the valves.
Survey results reveal that the dose rate 2 feet from the point source is 200 R/hr.
The only radiation dose at the valves is from the hot spot.

4. Dose Rates along the three path options are as follows:

Path Options	One way travel time per Path(Minutes)	Average Dose Rate (R/hr) in each Path
1: From #3 RHR Pit to Valves	6 Minutes	3 R/hr
2: From #4 RHR Pit to Valves	4 Minutes	7 R/hr
3: From West End access to Valves	3 Minutes	8R/hr

RESULTS:

Circle the Lowest Exposure Path:

Path 1: #3 RHR Pit Path 2: #4 RHR Pit
Path 3: West End Access

Can the alignment be completed within your Dose Margin Limit? Circle the correct answer. YES NO

Job Classification:	RO
JPM Title:	Make Emergency Notification
JPM Number:	A.4
JPM Rev. Date:	09/23/02
Time Validation:	10 minutes
Time Critical:	YES (15 minutes)

The applicable method(s) of testing which may be used: PERFORM IN THE SIMULATOR

Task Standards:

1. Complete the Florida Nuclear Plant Emergency Notification Form in accordance with 0-EPIP-20101 requirements.

2. Make Emergency Notifications to the State and Counties in accordance with 0-EPIP-20101 requirements.

Required Materials:

1. Florida Nuclear Plant Emergency Notification Form
(Attachment 1 of 0-EPIP-20101, "Duties of Emergency Coordinator")

References:

1. 0-EPIP-20101, "Duties of Emergency Coordinator"

Terminating Cues:

Completion of notification call to State Warning Point and Counties.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Make Emergency Notification to the State Warning Point and Dade and Monroe Counties.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Communicator.

Unit 3 was initially at 100% power.

A small break LOCA occurred.

RCS leakage exceeds 50 gpm but is within charging pump capacity.

The Emergency Coordinator declares an Alert.

INITIATING CUE:

The Emergency Coordinator directs you to obtain and complete the Florida Nuclear Plant Emergency Notification Form and then notify the State Warning Point/Dade and Monroe Counties.

Meteorological Data is as seen on the MET Tower recorders.

NOTE:This is a time critical task.

Make Emergency Notification

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is make Emergency Notification to the State Warning Point and Dade and Monroe Counties.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me."

INITIAL CONDITIONS:

You are the Communicator.

Unit 3 was initially at 100% power.

A small break LOCA occurred.

RCS leakage exceeds 50 gpm but is within charging pump capacity.

The Emergency Coordinator declares an Alert.

INITIATING CUE:

The Emergency Coordinator directs you to obtain and complete the Florida Nuclear Plant Emergency Notification Form and then notify the State Warning Point/Dade and Monroe Counties.

Meteorological Data is as seen on the MET Tower recorders.

Note: This is a time critical task.

MAKE EMERGENCY NOTIFICATION

Booth Operator Instructions; Select IC 16. Initiate a small break LOCA of approximately 100 gpm by touching RCS PRESSURE → COLD LEG BREAK → RCS COLD LEG LEAKAGE LOOP B → set TVHHCLB = 0.00013. The unit is at 75% power in the process of shutting down. Insert 210° in the 10 meter MET Tower and 240° in the 60 meter MET Tower by touching STYL INST → A1 → MET DATA RECORDERS (811) → OVERRIDE → TEN METER TOWER → WIND DIRECTION → VALUE → set KR:WD10 = 210.0 → RECALL → OVERRIDE → SOUTH DADE TOWER → WIND DIRECTION → VALUE → set KR:WD60 = 240. Freeze the simulator. Note this setup is stored in STATIC IC-52.

ELEMENT 1: Obtain copy of Florida Nuclear Plant Emergency Notification Form from 0-EPIP-20101.

Time Start: ___

STANDARDS:

CUE 1: When the applicant shows where to obtain a copy of the procedure, provide the applicant with a copy of 0-EPIP-20101.

_____SAT

_____UNSAT

1. Obtains a copy of the notification form from 0-EPIP-20101 in the EPIP notebook in the Simulator or prints one from Lotus Notes.

CUE 2: Tell the applicant this is a Drill and the Alert declaration is made at the time 0-EPIP-20101 is handed to the applicant. State the time.

COMMENTS:

NOTE:	The 15-minute clock starts now.	

MAKE EMERGENCY NOTIFICATION

ELEMENT 2: Enter Steps 1 and 2 event information in the Florida Nuclear Plant Emergency Notification Form.

STANDARDS:

1. Checks the *THIS IS A DRILL* box. (Step 1.A)

2. Enters **Applicant's Name/Communicator** in *Reported by* field. (Step 2.B) **(SEE NOTE 1 BELOW)**

3. Enters **1** in *Message Number* field. (Step 2.C)

4. Checks *Control Room* box in the *Reported from*: field. (Step 2.d)

COMMENTS:

NOTE 1: The entries associated with *ONLINE NOTIFICATION* and *Time/Date contact made* will be made the applicant is talking to the State Warning Point.

_____SAT

_____UNSAT

MAKE EMERGENCY NOTIFICATION

(C) ELEMENT 3: Enter Steps 3 through 7 event information in the Florida Nuclear Plant Emergency Notification Form.

STANDARDS:

1. Checks *D. TURKEY POINT UNIT 3* box in the *SITE* field. (Step 3)

2. Checks *B. ALERT* box in the *ACCIDENT CLASSIFICATION* field. (Step 4)

3. Enters **time stated by examiner** in *CURRENT EMERGENCY DECLARATION TIME* field and **Today's Date** in the *DATE* field. (Step 5)

4. Enters **RCS leakage exceeds 50 gpm but is within charging pump capacity.** in *REASON FOR EMERGENCY DECLARATION* field. (Step 6)
(SEE NOTE 2 BELOW)

5. Makes no entry or writes **NONE** or **N/A** in the *ADDITIONALINFORMATION OR UPDATE* field. (Step 7)

COMMENTS:

NOTE 1: Standards 1 through 4 are critical to this Element.

_____SAT

_____UNSAT

NOTE 2: Exact wording not required for credit.	

MAKE EMERGENCY NOTIFICATION

(C) ELEMENT 4: Enter Steps 8 through 10 event information in the Florida Nuclear Plant Emergency Notification Form.

STANDARDS:

1. Checks the *A. No* box **OR** the *A. Unknown* box and the *B. CONTAMINATED No* box **OR** the *B. Unknown* box in the *INJURIES REQUIRING OFFSITE SUPPORT* field. (Step 8)

2. Enters **210** in the *WEATHER DATA: A. Wind direction from ____ degrees.* field. (Step 9)

3. Enters **A, B, C,** in the *B. Downwind Sectors Affected* field. (Step 9)

4. Checks the *A. No Release* box in the *RELEASE STATUS* field. (Step 10)

5. Skips Step 11. Goes to Step 12.

COMMENTS:

NOTE 1: Standards 2 through 4 are critical to this Element.

NOTE 2: Entries associated with Standards 2 and 3 are based on the applicant choosing the 10-meter tower as the source of Wind Direction.

_____SAT

_____UNSAT

MAKE EMERGENCY NOTIFICATION

(C) ELEMENT 5: Enter Steps 12 through 14 event information in the Florida Nuclear Plant Emergency Notification Form.

STANDARDS:

1. Checks the *A. NONE* box in the *UTILITY RECOMMENDED PROTECTIVE ACTIONS* field. (step 12)

2. Checks the *A. NO* box in the *HAS EVENT BEEN TERMINATED?* field. (Step 13)

3. Checks the *A. NO* box in the *SUPPLEMENTAL FORM IS ATTACHED?* field. (Step 14)

4. Identifies the need to get the EC approval signature including time and date. (Step 14)

CUE 1: ***Sign the EC Approval Signature block as the EC. Include the time and date.***

COMMENTS:

NOTE 1: Standards 1, 2, and 4 are critical to this Element.

_____SAT

_____UNSAT

MAKE EMERGENCY NOTIFICATION

(C) ELEMENT 6: Notify State Warning Point and Dade and Monroe Counties.

STANDARDS:

1. Locates the Hot Ringdown Phone in the Watch Engineer's office, lifts the handset and dials 100.

Booth Operator CUE: Respond as the State Warning Point. State that Dade and Monroe counties are on the line. Take the messages given by the applicant.

2. Identifies self by name and title and states the time and date.

NOTE: The 15-minute clock stops now.

3. When told the State and both counties are on the line, checks all three boxes: *SWP*, *MIAMI-DADE COUNTY* and *MONROE COUNTY*. (Step 1)

4. Enters the **time and date told to the State** in the *Time/Date contact made* field. (Step 2.A)

5. Enters **Applicant's Name/Communicator** in *Reported by* field. (Step 2.B) **(SEE NOTE 1 BELOW)**

COMMENTS:

NOTE 1: Only Standards 1 and 2 are critical to this Element.

_____SAT

_____UNSAT

MAKE EMERGENCY NOTIFICATION

(C) ELEMENT 7: Read Florida Nuclear Plant Emergency Notification Form contents to State and Counties.

STANDARDS:

1. Reads the contents of the Florida Nuclear Plant Emergency Notification Form to the State Warning Point and counties.

2. At Step 15 of the form, asks the State person's name and enters it into the *MESSAGE RECEIVED BY: Name* field.

Booth Operator CUE: When asked, state your name to the applicant.

3. Enters **the time and date the message is complete** in the *Time/Date MESSAGE RECEIVED BY:* field. (Step 15)

COMMENTS:

NOTE 1: Only Standard 1 is critical to this Element.

END OF JPM

_____SAT

_____UNSAT

Job Classification:	SRO
JPM Title:	Classify Event and Make Protective Action Recommendations
JPM Number:	A.4 - SRO
JPM Rev. Date:	09/23/02
Time Validation:	20 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE

Task Standards:

The correct Emergency Classification has been made and the most conservative PAR has been selected for each mile sector (0-2, 2-5, 5-10), based on current plant conditions and/or off-site dose estimates.

Required Materials:

1 1. 0-EPIP-20101, "Duties of Emergency Coordinator"

References:

1. 0-EPIP-20101, "Duties of Emergency Coordinator"

Terminating Cues:

The applicant determines the Emergency Classification and makes Protective Action Recommendations.

Initial Conditions Sheet # 1
(To be given to Applicant)

TASK 1:

Classify an emergency event.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

1. Unit 3 has experienced a LOCA.
2. Containment pressure peaked at 17 psig and is rapidly decreasing.
3. Health Physics reports steam and high radiation activity in the vicinity of the west electrical penetration room.
4. HHSI flow is 600 gpm.

INITIATING CUE:

You are the Emergency Coordinator.

1) Classify this emergency.

Initial Conditions Sheet # 2
(To be given to Applicant)

TASK 2:

Make Protective Action Recommendations.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

1. Unit 3 has experienced a LOCA.
2. A General Emergency has been declared.
3. CET temperatures are 750°F.
4. CHRRM readings are $1.4E^5$ R/hr.
5. Chemistry reports the following offsite dose estimates:

	1 mile	2miles	5 miles	10 miles
Total Dose (TEDE)	6,000 mr	5,500 mr	800 mr	400 mr
Thyroid Dose (CDE)	26,000 mr	10,000 mr	6,000 mr	1,100 mr

INITIATING CUE:

You are the Emergency Coordinator.

1) Determine Protective Action Recommendations (PARs).

Classify Event and Make Protective Action Recommendations

Examiner Instructions #1:

Hand Initial Conditions Sheet #1 to the Applicant and read the following:

"The task you are to perform is classify an emergency event.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me."

INITIAL CONDITIONS:

1. Unit 3 has experienced a LOCA.
2. Containment pressure peaked at 17 psig and is rapidly decreasing.
3. Health Physics reports steam and high radiation activity in the vicinity of the west electrical penetration room.
4. HHSI flow is 600 gpm.

INITIATING CUE:

You are the Emergency Coordinator.

1) Classify this emergency.

Classify Event and Make Protective Action Recommendations

Examiner Instructions #2:

Hand Initial Conditions Sheet #2 to the Applicant and read the following:

"The task you are to perform is make Protective Action Recommendations.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me."

INITIAL CONDITIONS:

1. Unit 3 has experienced a LOCA.
2. A General Emergency has been declared.
3. CET temperatures are 750°F.
4. CHRRM readings are $1.4E^5$ R/hr.
5. Chemistry reports the following offsite dose estimates:

	1 mile	2miles	5 miles	10 miles
Total Dose (TEDE)	6,000 mr	5,500 mr	800 mr	400 mr
Thyroid Dose (CDE)	26,000 mr	10,000 mr	6,000 mr	1,100 mr

INITIATING CUE:

You are the Emergency Coordinator.

1) Determine Protective Action Recommendations (PARs).

Classify Event and Make Protective Action Recommendations

(C) ELEMENT 1: Classify Event. STANDARDS: 1. Obtains 0-EPIP-20101. 2. Reviews Enclosure 1 and classifies the event as a General Emergency. COMMENTS: NOTE: Only Standard 2 is critical to this Element. NOTE: Basis for the classification is a LOCA combined with a loss of Containment integrity. Classified per Category 1 , General Emergency.	Time Start: ___ _____SAT _____UNSAT

Classify Event and Make Protective Action Recommendations

ELEMENT 2: Make Protective Action Recommendations based on Plant Conditions.

STANDARDS:

1. Goes to Attachment 3 and determines PARs based on Plant Conditions based on the existence of a General Emergency.

   a. Determines there is evidence of severe core damage.

   b. Classification based on plant conditions determined: 0-2 miles: E(CR)
   2-5 miles: E(DW)+S(RS)
   5-10 miles: S(CR)

   c. Fills in these PARs in the summary section.

COMMENTS:

_____SAT

_____UNSAT

Classify Event and Make Protective Action Recommendations

ELEMENT 3: Make Protective Action Recommendations based on Total Dose (TEDE)

_____SAT

STANDARDS:

1. Goes to Attachment 3 and determines PARs based on Offsite Dose Projections, TEDE.

_____UNSAT

a. PARs are selected for each sector based on dose value provided by the Chemistry Department.

b. PARs based on Total Dose determined to be:

0-2 miles: E(CR)
2-5 miles: E(CR)
5-10 miles: S(DW)

c Fills in these PARs in the summary section.

COMMENTS:

Classify Event and Make Protective Action Recommendations

ELEMENT 4: Make Protective Action Recommendations based on Thyroid Dose (CDE)

_____SAT

STANDARDS:

1. Goes to Attachment 3 and determines PARs based on Thyroid Dose (CDE).

_____UNSAT

a. PARs are selected for each sector based on dose value provided by the Chemistry Department.

b. PARs based on Thyroid Dose determined to be:

0-2 miles: E(CR)
2-5 miles: E(DW)+S(RS)
5-10 miles: E(DW)+S(RS)

c Fills in these PARs in the summary section.

COMMENTS:

Classify Event and Make Protective Action Recommendations

(C) ELEMENT 5: Make Protective Action Recommendations based on Plant Conditions combined with Offsite Dose Projections.

_____SAT

STANDARDS:

1. Combines previously determined PARs to choose most conservative PARs.

_____UNSAT

2. Most conservative PARs determined to be:

   0-2 miles: E(CR)
   2-5 miles: E(CR)
   5-10 miles: E(DW)+S(RS)

3. Fills in these PARs in the summary section.

COMMENTS:

NOTE: Only Standard 2 is critical to this Element.

END OF JPM

JPMs
Final Submittal

Facility: Turkey Point Date of Examination: 10/07/02
Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test No.: 1

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. ***Sys. 064/JPM, Perform EDG Normal Start Test. (Build from bank R0230060, Perform the Emergency Diesel Generator Operability Test. Includes voltage regulator malfunction at end of JPM.)***	(M) (A) (S)	6
b. ***Sys.015/JPM #R0590030, Adjust High Flux at Shutdown Alarm (N-31)***	(D) (S) (L)	7
c. Sys. 061/JPM #A0750190, Perform the AFW Flow Control Valve Operability Test.	(M) (A) (S) (L)	4S
d. ***Sys. 007/JPM, Drain the Pressurizer Relief Tank. Lift PORV during draining. Fail PORV, block valve yielding auto reactor trip.***	(N) (A) (S)	5
e. APE 068/JPM, Control Room Evacuation as Unit 3 RCO (Fire in Cable Spreading Room). Fire damage causes spurious train A equipment actuation.	(N) (S)	8
f. Sys. 006/JPM, Restore Accumulator Pressure and Level	(M) (S)	3
g. Sys. 003/JPM, Perform a Dropped Rod Recovery. Drop a second control rod thus requiring a reactor trip. (Use R0280160, Recover Misaligned Control Rod as a Guide)	(M) (A) (S)	1

B.2 Facility Walk-Through

a. ***Sys. 068/JPM #S0610390, Pump Waste Holdup Tank Contents to Unit 4 Containment***	(D) (R)	9
b. Sys. 062/JPM #N0030180, Transfer 4P07 Instrument bus from CVT to Inverter (Internal Transfer)	(D)	6
c. ***Sys. 008/JPM #S0300090, Align Emergency Cooling Water to the 4A Charging Pump***	(D) (R)	8

* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA

Note: JPM's in **BOLD** and *Italics* are the five JPM's the SRO(U) applicants receive. RO and SRO(I) applicants receive all ten JPM's.

Job Classification:	RO
JPM Title:	Perform EDG Normal Start Test
JPM Number:	B.1.1
JPM Type:	Alternate Path
JPM Rev. Date:	09/24/02
Time Validation:	25 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: PERFORM

Task Standards:

1. The EDG will be synchronized to the Bus in accordance with 3-OSP-023.1.

2. The EDG will be emergency stopped when voltage regulator amperage exceeds 477 amps.

Required Materials:

1. Two way radio (optional communications device).
2. 3-OSP-023.1, "Diesel Generator Operability Test"

References:

1. 3-OSP-023.1

Terminating Cues:

Emergency Stop of the EDG when EDG amperage exceeds 477 amps (Step 4.1 of 3-OSP-023.1).

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Perform the EDG Normal Start Test (3A EDG).

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. The 3A EDG Normal Start Test is to be performed from the Control Room.
2. 3-OSP-023.1 has been obtained and checked against the OTSC index.
3. All applicable prerequisites have been satisfied. (Step 7.1.1.1)
4. Attach. 5 and Section 1 of Attach. 2 have been completed. (Step 7.1.1.2)
5. The Shift Manager has authorized performance of the EDG test. (Step 7.1.1.3)
6. System has been notified of the intent to parallel an EDG to the grid and changes to grid voltage should be avoided if possible. If grid voltage has to be adjusted, Unit 3 & 4 Control Room will be notified. (Step 7.1.1.4)
7. The reason for testing is Monthly Surveillance. (Step 7.1.1.6)
8. 0-OSP-023.3, "Equipment Operability Verification with an Emergency Diesel Generator Inoperable", has been completed. (Step 7.1.2.1)
9. Communications have been established with the NPO who is performing local EDG pre-start checks. (Step 7.1.2.2)

INITIATING CUE:

You have been notified by the NPO that all pre-start checks and alignments have been satisfactorily completed (Steps 7.1.2.3 through 7.1.2.17).

PERFORM EDG NORMAL START TEST

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is perform the EDG Normal Start Test on the 3A EDG..

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. The 3A EDG Normal Start Test is to be performed from the Control Room.
2. 3-OSP-023.1 has been obtained and checked against the OTSC index.
3. All applicable prerequisites have been satisfied. (Step 7.1.1.1)
4. Attach. 5 and Section 1 of Attach. 2 have been completed. (Step 7.1.1.2)
5. The Shift Manager has authorized performance of the EDG test. (Step 7.1.1.3)
6. System has been notified of the intent to parallel an EDG to the grid and changes to grid voltage should be avoided if possible. If grid voltage has to be adjusted, Unit 3 & 4 Control Room will be notified. (Step 7.1.1.4)
7. The reason for testing is Monthly Surveillance. (Step 7.1.1.6)
8. 0-OSP-023.3, "Equipment Operability Verification with an Emergency Diesel Generator Inoperable", has been completed. (Step 7.1.2.1)
9. Communications have been established with the NPO who is performing local EDG pre-start checks. (Step 7.1.2.2)

INITIATING CUE:

You have been notified by the NPO that all pre-start checks and alignments have been satisfactorily completed (Steps 7.1.2.3 through 7.1.2.17).

PERFORM EDG NORMAL START TEST

ELEMENT 1: Perform Control Room EDG Prestart Verification. STANDARDS: 1. Verifies 3A EDG Lockout is reset by observing blue light is on at VPA. (Step 7.1.2.18) 2. Verifies the following at the console: a. 3A EDG EMERGENCY STOP / EMERGENCY START control switch is in the MID position. (Step 7.1.2.19.a) b. 3A EDG NORMAL STOP/NORMAL START control switch is in the MID position. (Step 7.1.2.19.b) c. 3A EDG Ready to Start red light is on. (Step 7.1.2.19.c) d. 3A EDG Normal Control white light is on. (Step 7.1.2.19.d) e. 3A EDG Engine Idling AMBER light is off. (Step 7.1.2.19.e) f. 3A EDG Speed Changer is in the MID position. (Step 7.1.2.19.f) g. 3A EDG Volt Regulator is in the MID position.. (Step 7.1.2.19.g)	Time Start: ___ _____SAT _____UNSAT

h. EDG A Sync to 3A 4KV Bus 3AA20 Synchroscope control switch is in OFF. (Step 7.1.2.19.h)

i. EDG A to 3A 4KV Bus 3AA20 Breaker GREEN light is on, control switch in the MID position AND the control switch has a green flag. (Step 7.1.2.19.i)

j. 3A Steam Generator Feed Pump is running OR is racked out OR both Steam Generator Feed Pumps are secured. (Step 7.1.2.19.j)

k. 3A Condensate Pump is running OR is racked out OR all condensate pumps are secured. (Step 7.1.2.19.k)

l. 3A Heater Drain Pump is running OR is racked out OR all heater drain pumps are secured. (Step 7.1.2.19.l)

3. Checks EDG annunciators F8/2. F8/3, F8/4, F8/5 to be clear. (Step 7.1.1.20)

4. Determines that 3A Diesel Oil Transfer Pump 3P10A control switch repositioning is not required. (Step 7.1.1.21)

COMMENTS:

NOTE: The applicant will review the NOTES prior to Step 7.1.1.22 and may pre-stage a field operator at the Electric Fuel Priming Pump / Fuel Oil Manifold Pressure Gauge. **(See I/F**

Operator Cue 1 below) ***I/F Operator Cue 1: Respond as field operator if directed to stand by the Electric Fuel Priming Pump or Fuel Oil Manifold Pressure Gauge.***	
PERFORM EDG NORMAL START TEST	
(C) ELEMENT 2: Start the 3A EDG. STANDARDS: 1. Places the 3A EDG NORMAL STOP/NORMAL START switch to NORMAL START. (Step 7.1.2.22) 2. Verifies with the field operator that the Electric Fuel Priming Pump started when the 3A EDG was started. (Step 7.1.2.22.a) **(See I/F Operator Cue 1 below)** 3. Verifies the 3A EDG starts and accelerates to idle speed, 450 RPM (3A EDG Engine Idling Amber light is on). (Step 7.1.2.23) 4. Directs the field operator to perform Steps 7.1.2.24 through 7.1.2.27 **(See I/F Operator Cue 2 below)** COMMENTS: ***I/F Operator Cue 1: When asked, as the field operator, confirm successful start of the Electric Fuel Priming Pump.***	Time Start: ___ _____SAT _____UNSAT

I/F Operator Cue 2: As the field operator, acknowledge the directions to perform Steps 7.1.2.24 through 7.1.2.27. NOTE: Only Standard 1 is critical to this element.	

PERFORM EDG NORMAL START TEST

ELEMENT 3: Record After-Start (No Load) Data. (Step 7.1.2.28) STANDARDS: 1. Performs when the 3A EDG reaches 900 RPM. 2. Notifies Field Operator to perform Attachment 2, Section 3. **(See I/F Operator Cue 1 below)** 3. Records the applicable parameters on the After-Start Section of Attachment 1, Section 2: a. Time the 3A EDG reaches 900 RPM. b. 3A EDG Volts c. 3A EDG Hertz COMMENTS: ***I/F Operator Cue 1: Acknowledge applicant's direction to perform Attachment 2, Section 3.*** NOTE: The applicant will review the CAUTIONS prior to Step 7.1.2.29.	Time Start: ___ _____SAT _____UNSAT

PERFORM EDG NORMAL START TEST

(C) ELEMENT 4: Synchronize 3A EDG to 3A 4KV Bus. STANDARDS: 1. Performs the following actions to match EDG output parameters to the system grid: (Steps 7.1.2.29 a through g.) a. Places the EDG A Sync to 3A 4KV Bus 3AA20 switch to ON. (Step 7.1.2.29.a) b. Checks the WHITE synchronizing lights to be cycling ON. (Step 7.1.2.29.b) c. Using the A EDG Volt Regulator, adjusts Incoming to match Running indicated voltage. (Step 7.1.2.29.c) d. Using the A EDG Speed Changer, adjusts engine speed so that synch scope is rotating slowly in FAST direction. (Step 7.1.2.29.d) e. Using the A EDG Volt Regulator, adjusts Incoming voltage slightly higher than Running voltage. (Step 7.1.2.29.e) f. Using the A EDG kilovolt indicator and 3A 4KV Bus Voltmeter, verifies voltages are approximately equal on all 3 phases. (Step 7.1.2.29.f) g. Verifies 3A EDG frequency is between 58.8	Time Start: ___ _____SAT _____UNSAT

and 61.2 Hz on the A Diesel Hertz indicator. (Step 7.1.2.29.g) 2. When the synch scope indicator is pointing to 12 o'clock, closes the 3A EDG Output breaker, 3AA20. (Step 7.1.2.29.h) 3. Verifies the 3A EDG Output breaker is closed (GREEN light off, RED light on). (Step 7.1.2.29.h.1) 4. Places the EDG breaker 3AA20 Synch Switch to OFF. (Step 7.1.2.29.i) 5. Turns the A Diesel Gen Speed Changer in the RAISE direction and slowly increases load to approximately 1.0 MW (1000 KW). (Step 7.1.2.29.j) 6. Adjusts 3A EDG Voltage as required to place the EDG reactive load in the Lag. (Step 7.1.2.29.k) a. While monitoring 3A EDG amps indicator momentarily goes to RAISE on voltage regulator. (Step 7.1.2.29.k.1) b. IF amps increase, THEN slowly lowers the voltage until the amps stop decreasing and start to increase (lead). Then slowly raises the voltage until amps increase (lag). (Step 7.1.2.29.k.2.a) c. IF amps decrease, THEN slowly raises the voltage until amps increase (lag). (Step 7.1.2.29.h) 7. Directs the field operator to inspect the EDG for leaks or abnormalities. (Step 7.1.2.30)	

(See I/F Operator Cues 1 & 2 below) COMMENTS: NOTE: The following Standards are critical to this Element: 1.a, 2, 5. ***I/F Operator Cue 1: Acknowledge the RCO's direction to inspect the 3A EDG. Report normal conditions.*** ***I/F Operator Cue 2: In preparation for Element 5, touch ELECTRICAL GENERATION → 3A 4KV BUS → EMERG DIESEL BKR 3AA20 → EMERGENCY DIESEL GENERATOR 3A → VOLTAGE CONTROL SWITCH 3A → COND TAQ5GGAV = 0/IMQ5DAVR → VOLTAGE CONTROL SWITCH 3A → COND TAQ5GGAV = 1/Q5:DGAKA GE 0.41.***	

PERFORM EDG NORMAL START TEST		
(C) ELEMENT 5: STANDARD:	Attempt to increase EDG load to between 2300 and 2500 KW and adjust reactive load to be slightly in the LAG. (Step 7.1.2.31)	Time Start: ___ _____SAT _____UNSAT

1. Turns the A EDG Speed Changer to RAISE and increases EDG load until it is between 2.3 and 2.5 MW. (Step 7.1.2.31.a) 2. While monitoring 3A EDG amps, momentarily positions the 3A EDG voltage regulator to RAISE. (Step 7.1.2.31.b) COMMENTS: ***I/F Operator Note: When the 3A EDG voltage regulator is taken to RAISE, this initiates a continuous increase in voltage regulator setting up to the point where increasing oscillations in voltage / load begin. The operator should emergency stop the 3A EDG either in response to the loss of voltage regulator control or in response to the voltage / load oscillations.***	

PERFORM EDG NORMAL START TEST

(C) ELEMENT 6: Emergency Stop the 3A EDG. STANDARD: 1. Attempts to lower 3A EDG excitation by going to LOWER on the 3A EDG voltage regulator control switch. 2. Emergency stops the 3A EDG OR opens the EDG output breaker, 3AA20, when the voltage regulator proves to be unresponsive to manual control. COMMENTS: NOTE: Only Standard 2 is critical to this Element. **END OF JPM**	Time Start: ___ _____SAT _____UNSAT

BOOTH OPERATOR INSTRUCTIONS

1. Reset to IC-1.

2. Touch ELECTRICAL GENERATION → 3A 4KV BUS → EMERG DIESEL BKR 3AA20 → EMERGENCY DIESEL GENERATOR 3A LOCKOUT 186 → FAIL TO ACTUATE → set TFQ5GAF = T and conditional TFQ5GAF = F / IMQ53RSA. (This fails the 3A EDG lockout until the emergency stop switch is operated in response to loss of 3A EDG voltage control).

3. Leave simulator frozen until ready to begin.

4. Provide a copy to the evaluator of 3-OSP-023.1, Section 7.1, with Steps 7.1.1.1 through 7.1.2.17 signed off (Pages 1 - 44 & 154 - 172 & 176 -188).

Job Classification:	RO
JPM Title:	Adjust High Flux at Shutdown Alarm (N-31)
JPM Number:	B.1.2
JPM Type:	Normal Path
JPM Rev. Date:	09/24/02
Time Validation:	20 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: PERFORM

Task Standard:

1. N-31 High Flux at Shutdown Alarm is set approximately one half decade above the existing count rate.

Required Materials:

1. 3-OSP-059.6, "High Flux at Shutdown"

References:

1. 3-OSP-059.6, "High Flux at Shutdown"

Terminating Cues:

The High Flux at Shutdown Alarm setpoint is verified correct for the shutdown source range count rate.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Adjust the High Flux at Shutdown Alarm (N-31)

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. The Unit is in Mode 3.
2. NIS Source Ranges are operational.
3. All procedure prerequisites are met.

INITIATING CUE:

The Shift Manager has directed that the High Flux at Shutdown alarm be adjusted using 3-OSP-059.6 for NIS Source Range Channel N-31.

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is adjust the High Flux at Shutdown alarm for N-31.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. The Unit is in Mode 3.
2. NIS Source Ranges are operational.
3. All procedure prerequisites are met.

INITIATING CUE:

The Shift Manager has directed that the High Flux at Shutdown alarm be adjusted using 3-OSP-059.6 for NIS Source Range Channel N-31.

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

ELEMENT 1: Obtain 3-OSP-059.6. STANDARDS: 1. Obtains 3-OSP-059.6. **(See Examiner Cue 1 below)** 2. Verifies 3-OSP-059.6 against OTSC Index. COMMENTS: ***Examiner Cue 1: Provide procedure when applicant identifies how to obtain it in the Control Room.***	Time Start: ___ _____SAT _____UNSAT
ELEMENT 2: Record N-31 meter reading. (Step 7.1.1) STANDARD: 1. Records NIS Channel N-31 CPS neutron level reading on QA record page. COMMENTS: NOTE: Initial reading will be approximately 70 - 80 cps.	Time Start: ___ _____SAT _____UNSAT

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

(C) ELEMENT 3: Position Selector Switches. (Steps 7.1.2 through 7.1.5)

Time Start: ___

STANDARDS:

_____SAT

1. Places AUDIO COUNT RATE CHANNEL, CHANNEL SELECTOR switch on NIS Panel N-31 to "SR-N-32". (Step 7.1.2)

_____UNSAT

2. Places LEVEL TRIP switch on NIS Panel N-31 to "BYPASS". (Step 7.1.3)

3. Places HIGH FLUX AT SHUTDOWN switch on NIS Panel N-31 to "BLOCK". (Step 7.1.4)

4. Places OPERATIONS SELECTOR switch on NIS Panel N-31 to "LEVEL ADJ". (Step 7.1.5)

COMMENTS:

NOTE 1: Standards 2 and 4 are critical to this Element.

NOTE 2: Performance of Steps 2, 3, and 4 will cause NIS related annunicators to alarm. These are expected alarms and can be acknowledged without further action.

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

(C) ELEMENT 4: Calculate High Flux at Shutdown Alarm setpoint. (Step 7.1.6) STANDARDS: 1. Calculates alarm setpoint at 1/2 decade above the source range count rate from Step 7.1.1. 2. Records alarm setpoint on QA Record Page. COMMENTS: NOTE 1: 3.16 X (70 to 80) = 221 to 253 (2.21 to 2.53 X 10^2) NOTE 2: Standard 2 is not critical to this element.	Time Start: ___ _____SAT _____UNSAT

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

(C) ELEMENT 5: Adjust N-31 indicated CPS to the calculated setpoint. (Step 7.1.7) STANDARD: 1. Adjusts LEVEL ADJ potentiometer on NIS Panel N-31 so that CPS meter indicates the calculated alarm setpoint. COMMENTS: NOTE: The applicant will adjust the potentiometer on N-31 drawer until meter reading is approximately 2.2 to 2.5 X 10^2 cps.	Time Start: ___ _____SAT _____UNSAT

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

(C) ELEMENT 6: Adjust the High Flux at Shutdown bistable trip setpoint. (Step 7.1.8)

Time Start: ___

STANDARDS:

_____SAT

1. Opens NIS Panel N-31 drawer. (Step 7.1.8.1)

_____UNSAT

2. Adjusts TRIP potentiometer on card NC103 (inside drawer) fully clockwise. (Step 7.1.8.2)

3. Adjusts TRIP potentiometer on card NC103 counter clockwise until the HIGH FLUX AT SHUTDOWN status light on the front of the drawer turns on. (Step 7.1.8.3)

4. Closes NIS Panel N-31 drawer. (Step 7.1.8.4)

COMMENTS:

NOTE: Standard 4 is not critical to this element.

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

(C) ELEMENT 7: Verify High Flux at Shutdown bistable setpoints. (Step 7.1.9)	Time Start: ___
STANDARDS:	_____SAT
1. Adjusts LEVEL ADJ potentiometer (N-31 drawer front) counter clockwise until HIGH FLUX AT SHUTDOWN status light turns off. (Step 7.1.9.1)	_____UNSAT
2. Records SOURCE RANGE CPS NEUTRON LEVEL (NIS Panel N-31) for High Flux at Shutdown alarm reset on QA Record Page. (Step 7.1.9.2)	
3. Adjusts LEVEL ADJ potentiometer (N-31 drawer front) clockwise until HIGH FLUX AT SHUTDOWN status light turns on. (Step 7.1.9.3)	
4. Records SOURCE RANGE CPS NEUTRON LEVEL (NIS Panel N-31) for High Flux at Shutdown alarm trip on QA Record Page. (Step 7.1.9.4)	
5. Verifies the alarm and reset CPS are within acceptance criteria range indicated on Enclosure 1 and records results on QA Record Page. (Step 7.1.9.5)	

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

COMMENTS:

NOTE 1: Standards 2 and 4 are not critical to this element.

NOTE 2: For Standard 5, the comparison is accomplished by plotting the alarm setpoint on the "Alarm Value" line. A vertical line is traced from the point of intersection. The intersections of this traced vertical line with the other diagonal lines on Enclosure 1 will determine the acceptable values of the alarm value and reset value.

For example, if the alarm value was set at 240 cps, the acceptance criteria for the alarm value will be between approximately 200 cps and 320 cps. The reset value will be between approximately 100 cps and 150 cps.

NOTE 3: If alarm and/or reset values are outside the acceptance criteria range of Enclosure 1, the operator may be allowed one attempt to re-perform the task beginning at element 4 in order to obtain satisfactory results

NOTE 4: A marked up version of 3-OSP-059.6 Enclosure 1 showing the acceptable range of results is attached.

ADJUST HIGH FLUX AT SHUTDOWN ALARM (N-31)

(C) ELEMENT 8: Return Source Range Drawer to Normal.
(Steps 7.1.10 through 7.1.13)

Time Start: ___

_____SAT

STANDARDS:

1. Adjusts LEVEL ADJ potentiometer on NIS panel N-31 fully counterclockwise. (Step 7.1.10)

_____UNSAT

2. Places OPERATION SELECTOR switch on NIS panel N-31 to NORMAL. (Step 7.1.11)

3. Places LEVEL TRIP switch on NIS panel N-31 to NORMAL. (Step 7.1.12)

4. Places HIGH FLUX AT SHUTDOWN switch on NIS panel N-31 to NORMAL. (Step 7.1.13)

COMMENTS:

NOTE: Standards 1 through 3 are critical to this element.

End of JPM

BOOTH OPERATOR INSTRUCTIONS

1. Reset to IC-3

2. Unfreeze simulator

3. Trip reactor

4. Acknowledge alarms

5. Stabilize plant

6. Freeze simulator until exam begins.

NOTE: Setup is stored in STATIC IC-47

7. Provide a copy of 3-OSP-059.6, Section 7.1 (Pages 1 through 7 and 10 and 11) to the evaluator.

Job Classification:	RO
JPM Title:	Perform AFW Flow Control Valve Operability Test
JPM Number:	B.1.3
JPM Type:	Normal Path
JPM Rev. Date:	09/24/02
Time Validation:	15 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: PERFORM

Task Standards:

1. AFW flow control valves will be cycled in accordance with 3-OSP-075.10.

2. Corrective action will be initiated upon discovery of AFW system malfunction.

Required Materials:

1. 3-OSP-075.10, "AFW Flow Control Valve Operability Test"
2. 2 Way Radios

References:

1. 3-OSP-075.10
2. Tech Spec 3.7.1.2
3. 5613-M-3075, Sheet 1
4. 5613-M-3075, Sheet 2

Terminating Cues:

The AFW flow control valve operability test is complete for train 1and satisfactory results reported to the ANPS.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Perform the AFW Flow Control Valve Operability Test on Unit 3.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Unit 3 is in Mode 2 at 2% power.
2. The AFW system is aligned for normal standby service.
3. All procedural prerequisites are satisfied.
4. Maintenance has been performed on train 1 AFW FCVs.
5. The Shift Manager has authorized performance of this test.

INITIATING CUE:

The Shift Manager directs you to perform the AFW Flow Control Valve Operability Test for train 1 AFW on Unit 3 using MOV-3-1405.

Perform AFW Flow Control Valve Operability Test

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is the AFW Flow Control Valve Operability Test on Unit 3.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Unit 3 is in Mode 2 at 2% power.
2. The AFW system is aligned for normal standby service.
3. All procedural prerequisites are satisfied.
4. Maintenance has been performed on train 1 AFW FCVs.
5. The Shift Manager has authorized performance of this test.

INITIATING CUE:

The Shift Manager directs you to perform the AFW Flow Control Valve Operability Test for train 1 AFW on Unit 3 using MOV-3-1405.

Perform AFW Flow Control Valve Operability Test

ELEMENT 1: Obtain 3-OSP-075.10. STANDARDS: 1. Obtains 3-OSP-075.10. 2. Using Lotus Notes, verifies the revision date is correct and any outstanding OTSCs are included. 3. Dates and initials the OTSC stamp on the cover page of the procedure. COMMENTS: NOTE: The applicant is expected to use the procedure in the notebook in the simulator control room.	Time Start: ___ _____SAT _____UNSAT

Perform AFW Flow Control Valve Operability Test	
ELEMENT 2: Review Precautions and Limitations (Section 4.0). STANDARDS: 1. Notes that Tech Spec 3.7.1.2 shall be referred to and actions taken if an AFW Train is declared inoperable due to this test. (Step 4.1) 2. Notes that the hand indicting controllers shall be energized and in AUTO and set at 130 gpm except when changes are directed by this test. (Step 4.2) 3. Notes that only one train of AFW FCVs shall be tested at one time. (Step 4.3) 4. Notes that the Shift Manager shall be notified if any thing abnormal occurs. (Step 4.4) COMMENTS: NOTE: Actions taken per Tech Spec 3.7.1.2 are the responsibility of the Shift Manager. The RCO's responsibility is to recognize and report any condition related to system operability to the Shift Manager.	Time Start: ___ _____SAT _____UNSAT

Perform AFW Flow Control Valve Operability Test	
ELEMENT 3: Review NOTES prior to Step 7.1.1 STANDARDS: 1. Notes that Train 1 AFW shall be declared inoperable when Train 1 controllers are placed in MANUAL. 2. Notes that Train 1 may be declared operable after Train 1 controllers are restored to AUTO using Attachment 1. COMMENTS:	Time Start: ___ _____SAT _____UNSAT

Perform AFW Flow Control Valve Operability Test	
(C) ELEMENT 4: Isolate Train 1 AFW Steam Supply STANDARDS: 1. Verifies Shift Manager permission to perform test. (Step 7.1.1) **(See Examiner Cue 1 below)** 2. Notes options regarding which AFW steam supply MOV to use. Requests direction from Shift Manager. 3. Directs the field operator to unlock and close	Time Start: ___ _____SAT _____UNSAT

valve 3-10-319. (Step 7.1.4.1) **(See I/F Operator Cue 2 below)** 4. When 3-10-319 is closed, opens MOV-3-1405 at the console. (Step 7.1.4.2) COMMENTS: NOTE: Only Standards 3 and 4 are critical to this element. ***Examiner Cue 1: As the Shift Manager grant permission to perform AFW Control Valve Operability test.*** ***I/F Operator Cue 2: Respond as the NPO . Acknowledge direction to locally unlock and close 3-10-319. After 1 to 2 minutes, touch STEAM PRESSURE → AUX F/W STEAM PROC ♦ → 3-319 → VALVE PORT AREA → set TAFFV319 = 0.0. Then call back and state that 3-10-319 has been unlocked and closed.***	

Perform AFW Flow Control Valve Operability Test

ELEMENT 5: Verify AFW Control Valves Open. STANDARD: 1. Direct the field operator to locally verify all 3 Unit 3, Train 1 AFW FCVs are 80% to 90% open. (Step 7.1.5) **(See I/F Operator Cue 1 below)** COMMENTS:	Time Start: ____ _____SAT _____UNSAT

I/F Operator Cue 1: Respond as the NPO. Acknowledge direction to locally verify AFW FCVs are 80% to 90% open. After 1 to 2 minutes, call back and state that all train 1 AFW FCVs on Unit 3 are between 80% and 90% open.	
ELEMENT 6: Inform Shift Manager of Train 1 Inoperability STANDARD: 1. Notifies Shift Manager of requirement to declare Train 1 AFW inoperable & enter 72 hour Action Statement. (Step 7.1.6) **(See Examiner Cue 1 below)** COMMENTS: ***Examiner Cue 1: As the Shift Manager, acknowledge the notification.***	Time Start: ___ _____SAT _____UNSAT

Perform AFW Flow Control Valve Operability Test

(C) ELEMENT 7: Verify Operability of Train 1 AFW Control Valves. STANDARDS: 1. At the console, places the 3 Train 1 AFW Flow Controllers in MAN. (Step 7.1.7) 2. At the console, cycles the 3 AFW FCVs one at a time, using the controller slide bars while communicating with the NPO. (Step 7.1.8) **(See I/F Operator Cue 1 below)** COMMENTS: ***I/F Operator Cue 1: As the NPO, when directed by the RCO, report that the 3 Train 1 AFW FCVs are opening / closing under the RCO's manipulations.***	Time Start: ___ _____SAT _____UNSAT

Perform AFW Flow Control Valve Operability Test

(C) ELEMENT 8: Restore Train 1 AFW to Its Normal Configuration. STANDARD: 1. At the console, places the 3 Train 1 AFW controllers to AUTO and using the thumb wheels, restores auto setpoints to 130 gpm each. (Step 7.1.9) 2. Requests IV for train 1 AFW flow controllers per Attachment 1. (Step 7.1.10) **(See Examiner Cue 1 below)** 3. Reads and determines that steps 7.1.11 through 7.1.15 are N/A. COMMENTS: NOTE: Only Standard 1 is critical to this element. ***Examiner Cue 1: State that IV has been performed by another operator.***	Time Start: ___ _____SAT _____UNSAT

Perform AFW Flow Control Valve Operability Test

(C) ELEMENT 9: Restore AFW Steam Supply Alignment. STANDARDS: 1. At the console, closes MOV-3-1405. (Step 7.1.16) 2. Directs the field operator to open and lock valve 3-10-319. (Step 7.1.16.2) **(See I/F Operator Cue 1 below)** 3. Directs the field operator to locally verify all 3 train 1 AFW FCVs are closed. (Step 7.1.17) **(See I/F Operator Cue 2 below)** 4. Determines steps 7.1.18 & 7.1.19 are N/A. 5. Notifies the Shift Manager that the AFW train 1 FCV Test is complete. (Step 7.1.20) **(See Examiner Cue 3 below)**	Time Start: ___ _____SAT _____UNSAT

Perform AFW Flow Control Valve Operability Test

COMMENTS:

NOTE: Standards 3, 4 and 5 are not critical to this Element.

I/F Operator CUE 1: As the NPO, acknowledge the order to open and lock 3-10-319. After 1 to 2 minutes, touch AFW STEAM ♦ → 3-319 → VALVE PORT AREA → set TAFFV319 = 1.0. Then report that 3-10-319 is open and locked.

I/F Operator CUE 2: As the NPO, acknowledge the order to verify AFW FCV positions. After 1 to 2 minutes, report back that all Unit 3 AFW train 1 FCVs are closed.

Examiner Cue 3: Acknowledge report as the Shift Manager.

END OF JPM

BOOTH OPERATOR INSTRUCTIONS

1. Provide a copy of 3-OSP-075.10 (all pages) to the evaluator.

2. Reset to IC-5 (2% Power).

3. Leave simulator frozen until ready to begin.

Job Classification:	RO
JPM Title:	Drain the Pressurizer Relief Tank
JPM Number:	B.1.4
JPM Type:	Alternate Path
JPM Rev. Date:	09/24/02
Time Validation:	10 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: PERFORM

Task Standards:

1. PRT drain down will be initiated IAW 3-OP-041.3, "Pressurizer Relief Tank", Section 7.1.

2. Applicant will respond to PORV malfunction IAW 3-ONOP-041.5, "Pressurizer Pressure Control Malfunction" and 3-EOP-E-0, "Reactor Trip or Safety Injection". The reactor must be manually tripped since an automatic reactor trip will not occur.

Required Materials:

1. 3-OP-041.3, "Pressurizer Relief Tank"
2. 3-ONOP-041.5, "Pressurizer Pressure Control Malfunction"
3. 3-EOP-E-0, "Reactor Trip or Safety Injection"
4. 2 Way Radios

References:

1. 3-OP-041.3, "Pressurizer Relief Tank"
2. 3-ONOP-041.5, "Pressurizer Pressure Control Malfunction"
3. 3-EOP-E-0, "Reactor Trip or Safety Injection"

Terminating Cues:

The Immediate Actions of 3-EOP-E-0 have been completed.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Drain the Unit 3 Pressurizer Relief Tank (PRT) to 70%.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Unit 3 is at 100% power.
2. The PRT level is 85% and PRT pressure is 30 psig due to a previous spurious pressurizer PORV actuation.
3. All procedural prerequisites for draining the PRT are satisfied.
4. The Shift Manager has authorized performance of this procedure.

INITIATING CUE:

The Shift Manager directs you to drain the PRT to 70% in accordance with the applicable plant procedure.

DRAIN THE PRESSURIZER RELIEF TANK

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is drain the Unit 3 Pressurizer Relief Tank (PRT) to 70%.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Unit 3 is at 100% power.
2. The PRT level is 85% and PRT pressure is 30 psig due to a previous spurious pressurizer PORV actuation.
3. All procedural prerequisites for draining the PRT are satisfied.
4. The Shift Manager has authorized performance of this procedure.

INITIATING CUE:

The Shift Manager directs you to drain the PRT to 70% in accordance with the applicable plant procedure.

DRAIN THE PRESSURIZER RELIEF TANK

ELEMENT 1: Obtain 3-OP-041.3 STANDARDS: 1. Obtains 3-OP-041.3. 2. Using Lotus Notes, verifies the revision date is correct and any outstanding OTSCs are included. 3. Dates and initials the OTSC stamp on the cover page of the procedure. COMMENTS: NOTE: The applicant is expected to use the procedure in the notebook in the simulator control room.	Time Start: ___ _____SAT _____UNSAT

DRAIN THE PRESSURIZER RELIEF TANK

ELEMENT 2: Review Precautions and Limitations (Section 4.0). STANDARDS: 1. Notes that PRT water temperature is below 120°F and should remain there. (Step 4.1) 2. Notes that PRT pressure is 30 psig and should decrease while draining. (Step 4.2) 3. Notes PRT O_2 concentration should remain below 2%. (Step 4.3) 4. Notes that PRT water level should be maintained between 68% and 83%. (Step 4.4) 5. Notes that any work in the RCA shall be IAW and RWP and ALARA program. (Step 4.5) 6. Notes that H2 concentration shall be less than 4% prior to opening PRT. (Step 4.6) COMMENTS: NOTE: The applicant may review the P&Ls without comment. After review, the applicant will proceed to Section 7.1.	Time Start: ___ _____SAT _____UNSAT

DRAIN THE PRESSURIZER RELIEF TANK

(C) ELEMENT 3: Drain the PRT

Time Start: ___

STANDARDS:

_____SAT

1. Notes that the CAUTION prior to Step 7.1.2 is Not Applicable for this condition.

2. Directs the field operator to close LCV-3-1003A at the Waste Disposal/Boron Recycle (WB) panel. (Step 7.1.2.1) **(See I/F Operator Cue 1 below)**

_____UNSAT

3. Opens CV-3-523 at the console. (Step 7.1.2.2)

4. Directs the field operator to start either 3A or 3B RCDT pump at the WB panel. (Step 7.1.2.3) **(See I/F Operator Cue 2 below)**

5. Records which RCDT pump was started. (Step 7.1.2.3) **(See I/F Operator Cue 3 below)**

COMMENTS:

NOTE: Standards 2 and 5 are not critical to this Element.

I/F Operator Cue 1: As the SNPO, respond to the order to close LCV-3-1003A. After approx. 1 to 2 minutes, touch SYS MAT → WASTE DISPOSAL → LIQUID WASTE DISPOSAL → LCV 1003A → LOCAL HANDSWITCH → set TAA21003 = 0. Then report back that LCV-3-1003A is closed.

DRAIN THE PRESSURIZER RELIEF TANK	
I/F Operator Cue 2: As the SNPO, respond to the order to start a RCDT pump. Touch RCDT PUMP A → LOCAL HANDSWITCH → set TAA2PTA = 2. Then report back that a RCDT pump is running. *I/F Operator Cue 3: As the PRT is draining actuate PT-445 failure high to lift pressurizer PORV and fail PORV and block valve open. Press MAST FAIL to actuate.*	

DRAIN THE PRESSURIZER RELIEF TANK

(C) ELEMENT 4: Respond to Pressurizer Pressure Malfunction (IAW 3-ONOP-041.5).

Time Start: ___

STANDARDS:

_____SAT

1. Attempts to close PCV-3-456 from the console. (Step 1.b.RNO)

_____UNSAT

2. Attempts to close MOV-3-535 from the console. (Step 1.b.RNO)

3. Manually trips the reactor at the console.

COMMENTS:

NOTE: Applicant will attempt to trip the reactor before pressure drops below 2000 psig. (Ref. ONOP-041.5, FO Item #1) Due to rapid nature of the depressurization, automatic reactor trip demand may occur first, but the reactor trip breakers are failed as is. The operator must manually trip the reactor.

DRAIN THE PRESSURIZER RELIEF TANK

(C) ELEMENT 5: Respond to Reactor Trip and Safety Injection Signals.

Time Start: ___

STANDARD:

_____SAT

1. Manually initiates SI at VPB. (See Note Below)

2. Manually initiates Phase A Isolation at VPB. (See Note Below)

_____UNSAT

3. Performs the Immediate Operator Actions of 3-EOP-E-0

   a. Verify REACTOR TRIP
      1. Rod Bottom Lights ON
      2. Reactor Trip Breakers OPEN
      3. RPIs AT ZERO
      4. Neutron Flux DECREASING

   b. Verify TURBINE TRIP
      1. All Turbine Stop Valves CLOSED
      2. MSRs Isolated
      3. Closes MSR Main Steam Supply MOVs.
      4. Mid and East GCBs OPEN

   c. Verify POWER TO EMERGENCY 4KV BUSES.
      1. A and B Bus ENERGIZED
      2. D Bus ALIGNED TO B BUS
      3. A, B , C, D, H Load Centers ENERGIZED

   d. Check if SI IS ACTUATED
      1. Any SI Annunciators ON
      2. Safeguards equipment AUTO STARTED

DRAIN THE PRESSURIZER RELIEF TANK	
COMMENTS: NOTE: Applicant will attempt to manually initiate SI and Phase A before automatic SI occurs. Due to rapid nature of the depressurization, automatic SI and Phase A may occur first. Automatic SI and Phase A actuation occurring is acceptable. **End of JPM**	

BOOTH OPERATOR INSTRUCTIONS

1. Provide 3-OP-041.3 Pages 1 through 7 and 10 (Section 7.1) to the evaluator.

2. Reset to IC-1 (100% Power)

3. Touch PRESSURIZER LEVEL → MOV-535 → FAIL AS IS → arm TFHV535F = T → RECALL → PORV 456 → FAIL OPEN → arm TFHV456O = T → RECALL → P-445 → PT-445 → TRANSMITTER FAIL HIGH → arm TFH1TU45 = T.

4. Unfreeze Simulator.

5. Fill PRT to 85% using 3-OP-041.3, Steps 7.2.2.1 & 7.2.2.2.

6. Secure Standby Primary Water pump by touching SYS MAT → COMMON SERVICES → WATER TREATMENT PLANT → 3P16B → LOCAL HANDSWITCH → set TABZ1P38 = 3 (OFF) then set = 2 (AUTO).

7. Acknowledge/Silence any annunciators. Stabilize plant as needed, then freeze simulator.

8. Enter ATWS by touching SIM CTRL → SPECIAL CONTROLS → ATWS - AMSAC FAILS TO ACTUATE →

NOTE: Setup including all above items is stored in STATIC IC 48. PRT = 85% level. The remaining item below must be re-entered after each IC reset.

9. Enter ATWS clearing when console reactor trip switch operated by touching REACTOR POWER → ROD CONTROL ROD POSITION → ROD SPEED TO LOGIC CABINET → RXA

(RXB) → BREAKER FAILS AS IS → set conditional TFLXASE (TFLXBSE) = F / IML2CRXT

Job Classification:	RO
JPM Title:	Control Room Evacuation as Unit 3 RCO (Fire in the Cable Spreading Room)
JPM Number:	B.1.5
JPM Type:	Normal Path
JPM Rev. Date:	09/24/02
Time Validation:	5 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: PERFORM

Task Standards:

1. 0-ONOP-105, Attachment 3, Steps 1 and 2 will be performed from memory.

Required Materials:

1. Set of Plant Operating Drawings
2. 2 Way Radio

References:

1. 0-ONOP-105, Control Room Evacuation, Attachment 3, Steps 1 and 2

Terminating Cues:

The operator leaves the Control Room surveillance area.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Respond to Plant Conditions.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Unit 3 is at 100% power.

INITIATING CUE:

Respond to plant conditions.

CONTROL ROOM EVACUATION AS UNIT 3 RCO
(FIRE IN THE CABLE SPREADING ROOM)

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is respond to plant conditions.

> I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Unit 3 is at 100% power.

INITIATING CUE:

Respond to plant conditions.

CONTROL ROOM EVACUATION AS UNIT 3 RCO (FIRE IN THE CABLE SPREADING ROOM)

I/F Operator Cue 1: Place simulator in run and actuate alarm points 6 & 40 by pressing MAST FAIL key.

I/F Operator Cue 2: Sequentially enter the following malfunctions:

a. *3A HHSI pump start:*
   Touch ELECTRICAL GENERATION → 3A 4KV BUS →bkr 13 → FAIL CLOSE → set TFMZD3AC = T

b. *Control Group PZR heaters trip:*
   LOAD CENTER XFMR 3C ♦ → bkr 30307 → FAIL OPEN → set TFH2FT03 = T

c. *3A Charging pump start:*
   4.16 KV BUS 3A → LOAD CENTER XFMR 3A ♦ → bkr 30105 → FAIL CLOSE → set TFB1CL = T

d. *MOV-1405 open (Train "A" AFW start):*
   Touch STEAM PRESSURE → AUX F/W STEAM PROC → MOV 1405 → FAIL OPEN → set TFFXO05 = T

e. *PZR BU Group 3A heater lockout:*
   Touch PRESSURIZER LEVEL → P444 → 386 PH → SPURIOUS OPERATION → set TFHZ386S = T

f. *CV-3-310A closure:*
   RECALL → RCS HYDRAULICS → CVCS LETDOWN → BORON MKUP & CHARGING → CV310A → FAIL CLOSE → set TFBLCZ3 = T

Examiner Cue 3: Respond as the Shift Manager when notified of malfunctions. Direct Control Room Evacuation either when the applicant recommends it or after all 6 equipment malfunctions are entered, whichever comes first.

I/F Operator Cue 4: Respond, if asked, as NWE/NPO to investigate Cable Spreading Room fire alarm. After 1-2 min., report smoke coming out from

CONTROL ROOM EVACUATION AS UNIT 3 RCO (FIRE IN THE CABLE SPREADING ROOM)	
(C) ELEMENT 1: Trip the Reactor STANDARD: 1. Operates the reactor trip switch at the console. (Step 1) COMMENTS: NOTE: This action must be performed from memory.	Time Start: ___ _____SAT _____UNSAT

CONTROL ROOM EVACUATION AS UNIT 3 RCO (FIRE IN THE CABLE SPREADING ROOM)

(C) ELEMENT 2: Perform Manual Actions in the Control Room.

Time Start: ___

STANDARDS:

_____SAT

1. Verifies turbine trip at VPA by observing green light indication on turbine stop valves. (Step 2.a) **(See Note 3 below)**

_____UNSAT

2. Closes MSIVs: POV-3-2604, POV-3-2605 and POV-3-2606 at the console or VPB. (Step 2.b) **(See Note 4 below)**

3. Trips 3A & 3B Main Feedwater pumps at the console. (Step 2.c)

4. Verifies 3A Standby S/G FD PUMP "A" OFF at the console by observing green light indication. (Step 2.d) **(See Note 5 below)**

5. Trips 3B Charging pump at the console. (Step 2.e)

6. Closes pressurizer PORV block valves, MOV-3-535 and MOV-3-536 at the console. (Step 2.f)

7. Trips Unit 3 Reactor Coolant pumps (3) at VPA. (Step 2.g)

8. Obtains a set of Plant Operating Drawings. (Step 2.h)

9. Obtains a 2 way radio. (Step 2.h)

CONTROL ROOM EVACUATION AS UNIT 3 RCO (FIRE IN THE CABLE SPREADING ROOM)	
COMMENTS: NOTE 1: These actions must be performed from memory. NOTE 2: Standards 2, 3, 5, 6, and 7 are critical to this Element. NOTE 3: The turbine will have automatically tripped as a result of the reactor trip. The applicant may operate the turbine trip switch at the console but it is not required. NOTE 4: Step 2.b has the operator trip close the MSIVs and the MSIV Bypass valves. The Bypass valves are already closed with power removed. The applicant will observe the status of the Bypass valves (no lights) and continue on. NOTE 5: The Standby Feed pump will not be running. The applicant will observe the green light and continue on.	

CONTROL ROOM EVACUATION AS UNIT 3 RCO (FIRE IN THE CABLE SPREADING ROOM)	
ELEMENT 3: Evacuate Control Room STANDARD: 1. Leaves the surveillance area to proceed to the Turbine Deck work station. COMMENTS: **End of JPM**	Time Start: ___ _____SAT _____UNSAT

BOOTH OPERATOR INSTRUCTIONS

1. Reset to IC-1

2. Take the simulator to run. Stop the running charging pump and start the 3B charging pump.

3. Arm fire panel alarm points 6 and 40 by touching SYS MAT → COMMON SERVICES → SERVICE & FIRE → PANEL ALARMS → ALRM PT 6 → arm TCK6AL06 = T → ALRM PT 40 → arm TCK6AL40 = T.

4. Acknowledge any alarms and freeze simulator until ready to begin JPM.

NOTE: Setup is stored in STATIC IC-49.

Job Classification:	RO
JPM Title:	Restore Accumulator Pressure and Level
JPM Number:	B.1.6
JPM Type:	Alternate Path
JPM Rev. Date:	09/24/02
Time Validation:	10 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: PERFORM

Task Standards:

1. 3B Accumulator pressure will be in the normal operating band.

2. 3B Accumulator level will be in the normal operating band.

Required Materials:

1. 3-OP-064, "Safety Injection Accumulators"

References:

1. 3-OP-064

Terminating Cues:

3B accumulator level increase terminated by CV-3-851B closure or stop of the running HHSI pump following identification of MOV-3-869 failure to close.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Restore 3B Accumulator pressure and level to normal operating bands.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Unit 3 is at 100% power.
2. 3B Accumulator pressure is 660 psig and its level is 6550 gallons.
3. All applicable procedural prerequisites are satisfied.
4. All Normal Containment Coolers are in service.
5. No personnel are in Containment.

INITIATING CUE:

The Shift Manager directs you to return 3B Accumulator pressure and level to normal operating bands.

RESTORE ACCUMULATOR PRESSURE AND LEVEL

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is restore 3B accumulator pressure and level to normal operating bands.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Unit 3 is at 100% power.
2. 3B Accumulator pressure is 660 psig and its level is 6550 gallons.
3. All applicable procedural prerequisites are satisfied.
4. All Normal Containment Coolers are in service.
5. No personnel are in Containment.

INITIATING CUE:

The Shift Manager directs you to return 3B Accumulator pressure and level to normal operating bands.

RESTORE ACCUMULATOR PRESSURE AND LEVEL

ELEMENT 1: Obtain 3-OP-064. STANDARDS: 1. Obtains 3-OP-064. 2. Using Lotus Notes, verifies the revision date is correct and any outstanding OTSCs are included. 3. Dates and initials the OTSC stamp on the cover page of the procedure. COMMENTS: NOTE: The applicant is expected to use the procedure in the notebook in the simulator control room.	Time Start: ___ _____SAT _____UNSAT

RESTORE ACCUMULATOR PRESSURE AND LEVEL

ELEMENT 2: Review Precautions and Limitations (Section 4.0).	Time Start: ___
STANDARDS:	_____SAT
1. Notes that 3B Accumulator level is lower than the administrative Tech Spec limit of 6552 gallons. (NOTE prior to Step 4.5.1)	_____UNSAT
2. Notes that no more than one accumulator makeup valve, vent valve, or drain valve shall be opened at one time. (Step 4.9)	
3. Notes that one percent accumulator tank volume equals 85 gallons. (Step 4.10)	
COMMENTS:	
NOTE: The applicant may review the P&Ls without comment. After review, the applicant will proceed to Section 7.5.	

RESTORE ACCUMULATOR PRESSURE AND LEVEL

(C) ELEMENT 3: Prepare to Vent the 3B Accumulator. STANDARDS: 1. Verifies accumulator vent valves CV-3-853A, CV-3-853B and CV-3-853C are closed on VPB. (Step 7.5.2.1) 2. Reviews CAUTIONS prior to Step 7.5.2.2. Notes that 3B Accumulator pressure must remain above 600 psig to comply with Tech Specs. Also notes that no more than one vent valve may be opened at one time. 3. Opens 3B Accumulator Vent valve, CV-3-853B. (Step 7.5.2.2) 4. Notes that no one is inside Containment and no announcement is required. (Step 7.5.2.3) COMMENTS: NOTE: Only Standard 3 is critical to this element.	Time Start: ___ _____SAT _____UNSAT

RESTORE ACCUMULATOR PRESSURE AND LEVEL

(C) ELEMENT 4: Vent 3B Accumulator to Containment. STANDARDS: **(See Examiner Cue 1 below)** 1. Slowly opens Accumulator Vent valve, HIC-3-936 on VPB. (Step 7.5.2.4) 2. When 3B Accumulator pressure drops to approximately 640 psig, closes HIC-3-936 on VPB. (Step 7.5.2.5) 3. Closes CV-3-853B on VPB. (Step 7.5.2.6) 4. Notes that no other accumulators need to be vented. Completes required documentation. (Steps 7.5.2.7 - 10) 5. Transitions to Section 7.1 to raise 3B Accumulator level. COMMENTS: NOTE: Standards 1 and 2 are critical to this Element. ***Examiner Cue 1: As the Shift Manager, tell the applicant to reduce 3B Accumulator to 640 psig.***	Time Start: ___ _____SAT _____UNSAT

RESTORE ACCUMULATOR PRESSURE AND LEVEL

ELEMENT 5: Prepare to Raise 3B Accumulator Level.

Time Start: ___

STANDARDS:

_____SAT

1. Signs off initial conditions after noting MOV-3-869 has green light indication on VPB (indicates breaker 30737 is closed). (Steps 7.1.1.1 – 7.1.1.5)

_____UNSAT

2. Reviews CAUTIONS and NOTE prior to Step 7.1.2.1.:
   a. Informs Shift Manager that System Engineer may need to be notified. **(See Examiner Cue 1 below)**
   b. Notes that a SI pump should be run for less than 5 minutes.
   c. Notes required operating bands for accumulator level and pressure.
   d. Notes that 3B Accumulator pressure will need to be maintained below the 700 psig relief setpoint during filling.
   e. Notes that no more than one makeup valve may be opened at one time.
   f. Reviews NOTE and determines it is N/A.
3. Records initial level (6550 gallons) on QA Record page (Page 31) (Step 7.1.2.1) **(See Examiner Cue 2 below)**

RESTORE ACCUMULATOR PRESSURE AND LEVEL	
COMMENTS: NOTE 1: The applicant may review the P&Ls without comment. ***Examiner Cue 1: As the Shift Manager, state that you will notify the System Engineer.*** ***Examiner Cue 2: As the Shift Manager, direct the applicant to fill the 3B Accumulator to between 6600 and 6650 gallons.***	

RESTORE ACCUMULATOR PRESSURE AND LEVEL

(C) ELEMENT 6: Raise 3B Accumulator Level. STANDARDS: 1. Opens valve CV-3-851B on VPB. (Step 7.1.2.2.b) 2. Starts a HHSI pump and documents on QA Record page. (Step 7.1.2.3) 3. While coordinating with the BOP who is monitoring 3B Accumulator level, opens MOV-3-869 on VPB. (Step 7.1.2.4) **(See Examiner Cue 1 below)** COMMENTS: ***Examiner Cue 1: Direct the BOP to assist by monitoring 3B Accumulator level and reporting when level reaches 6600 gallons.***	Time Start: ___ _____SAT _____UNSAT

RESTORE ACCUMULATOR PRESSURE AND LEVEL

(C) ELEMENT 7: Secure 3B Accumulator Fill.

Time Start: ___

STANDARDS:

1. When 3B Accumulator level increases to between 6560 and 6780 gallons, attempts MOV-3-869 closure at VPB. Recognizes MOV-3-869 deenergized before closure and performs either Standards 2 or 3 below to stop flow to the 3B Accumulator (Step 7.1.2.5) **(See Examiner Cue 1 below)**

2. Stops the running HHSI pump on VPB and verifies its control switch is in the mid position. (Step 7.1.2.6)

3. Closes CV-3-851B on VPB. (Step 7.1.2.7.b)

4. Reports MOV-3-869 failure to ANPS.

_____SAT

_____UNSAT

COMMENTS:

NOTE: Standards 1, 2 and 3 are critical to this Element.

Examiner Cue 1: Raising 3B Accumulator level will cause pressure to increase. If pressure increases to the alarm setpoint, the applicant will identify the need to repeat Section 7.5. If this occurs, tell the applicant that Section 7.5 will be reperformed by another operator.

End of JPM

BOOTH OPERATOR INSTRUCTIONS

1. Reset to IC-1

2. Take simulator to run and stabilize power.

3. Drain 3B Accumulator until low level alarm annunciates using 3-OP-064, Section 7.3 for guidance.

4. Increase 3B Accumulator pressure to 660 psig using 3-OP-064, Section 7.2 for guidance.

5. Acknowledge any alarms and freeze simulator.

NOTE: Setup with all steps above is stored in STATIC IC-50. The following step is not saved and must be re-entered following each IC reset.

6. Enter MOV-3-869 thermal overload trip by touching SYS MAT → SAFETY SYSTEM → SAFETY INJECTION PROC → MOV 869 → THERMAL OVERLOAD → set conditional TFM2Z07L = T / IMM2S07C

7. Provide a copy of 3-OP-064 Sections 7.1 & 7.5 (pages 1-9, 27-31 and 43-45) to the Evaluator.

Job Classification:	RO
JPM Title:	Perform a Dropped Rod Recovery
JPM Number:	B.1.7
JPM Type:	Alternate Path
JPM Rev. Date:	09/24/02
Time Validation:	20 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: PERFORM

Task Standards:

1. The Rod Control System will be operated to attempt retrieval of the affected RCC.

2. The unit will be manually tripped when the second rod drops.

Required Materials:

1. The key to the Rod Disconnect Switch Cabinet.
2. 3-ONOP-028.3, "Dropped RCC"

References:

1. 3-ONOP-028.3

Terminating Cues:

The reactor is tripped and EOP-E-0 Immediate Operator Actions are complete.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Perform a Dropped Rod Recovery.

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Four hours ago while at 100% power, control rod L-5 dropped fully into the reactor.
2. Load has been reduced to 50% power per 3-ONOP-028.3.
3. The reason for the dropped rod has been identified and corrected.
4. 3- ONOP-028.3 has been completed up through Step 17.

INITIATING CUE:

In accordance with Step 18 of 3-ONOP-028.3, the Shift Manager directs you to retrieve the dropped rod using Attachment 1 of 3-ONOP-028.3.

PERFORM A DROPPED ROD RECOVERY

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is a dropped rod recovery.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 3 RCO.

1. Four hours ago while at 100% power, control rod L-5 dropped fully into the reactor.
2. Load has been reduced to 50% power per 3-ONOP-028.3.
3. The reason for the dropped rod has been identified and corrected.
4. 3- ONOP-028.3 has been completed up through Step 17.

INITIATING CUE:

In accordance with Step 18 of 3-ONOP-028.3, the Shift Manager directs you to retrieve the dropped rod using Attachment 1 of 3-ONOP-028.3."

PERFORM A DROPPED ROD RECOVERY

ELEMENT 1: Obtain 3-ONOP-028.3 with Attach. 1. STANDARD: 1. Obtains 3-ONOP-028.3. Refers to Step 18 to confirm need to perform Attachment 1. 2. Proceeds to Attachment 1, Page 1. **(See I/F Operator Cue 1 below)** COMMENTS: ***I/F Operator Cue 1: Delete control rod L5 stationary gripper failure to allow dropped rod recovery by touching MENU → FAILURE SUMMARY → DELETE LI -SB3 BLOWN FUSE STATIONARY COIL SB3 (L5)***	Time Start: ___ _____SAT _____UNSAT

PERFORM A DROPPED ROD RECOVERY	
ELEMENT 2: Review CAUTIONS before Step 1. STANDARDS: 1. For First CAUTION, asks the evaluator if the Dropped RCC has been dropped and retrieved in the previous 24 hours. **(See Examiner Cue 1 below)** Based on negative response, determines PGM permission is not required. 2. Notes the second CAUTION regarding power operation with a dropped RCC. 3. For the third CAUTION, checks PRMS-20 to identify if it shows an unexpected increase due to the dropped RCC. Determines R-20 reading is normal. COMMENTS: NOTE: The applicant may review the CAUTIONS without comment. ***Examiner Cue 1: If asked, inform the operator that this RCC has <u>not</u> been dropped and retrieved in the previous 24 hours.***	Time Start: ___ _____SAT _____UNSAT

PERFORM A DROPPED ROD RECOVERY

(C) ELEMENT 3: Position Rod Motion Control Selector Switch to SD Bank "B" (Step 1) STANDARD: 1. Positions the Rod Motion Control Selector Switch to SD Bank "B". COMMENTS:	Time Start: ___ _____SAT _____UNSAT
(C) ELEMENT 4: Align RCC Lift Coil Disconnect Switches for the Affected Rod Bank. (Step 2) STANDARDS: 1. Obtains Lift Coil Disconnect key (Key # 1) and uses it to open the Lift Coil Disconnect box. 2. Places the Lift Coil Disconnect switches to the "DISCONNECT" position (toggle switch down) on all SD Bank "B" RCCs, except for L-5. 3. Verifies Lift Coil Disconnect switch for L-5 is in the "CONNECT" position (toggle switch up). COMMENTS: NOTE: Standard 3 is NOT critical unless the operator moves the toggle switch from the "DISCONNECT" position. This is a	Time Start: ___ _____SAT _____UNSAT

recoverable error.	

PERFORM A DROPPED ROD RECOVERY

ELEMENT 5: Record applicable pre-retrieval RCC information. (Step 3) STANDARD: 1. Records the following information associated with RCC L-5 in the RCO Operator Log. A. Bank SDB B. Group 1 C. Position 230 COMMENTS: NOTE: The operator will be unable to record the information in the RCO Log because the laptop PC on which the log is kept is unavailable in the simulator. The operator will record the information on a piece of paper or in the procedure.	Time Start: ___ _____SAT _____UNSAT

PERFORM A DROPPED ROD RECOVERY

(C) ELEMENT 6: Reset the applicable Group Demand Step Counter to zero. (Step 4) STANDARD: 1. Manually sets the Group Demand Step Counter for SDB "B" Group 1 to zero on the console. COMMENTS:	Time Start: ___ _____SAT _____UNSAT
ELEMENT 7: Evaluate if the Dropped Rod is in a Control Bank and, if so, Reset the Pulse Analog Converter. (Step 5). STANDARD: 1. Determines that Bank "B" is a SD Bank and that the Pulse Analog Converter must NOT be reset. COMMENTS:	Time Start: ___ _____SAT _____UNSAT

PERFORM A DROPPED ROD RECOVERY

ELEMENT 8: Observe the four CAUTIONS before Step 6.

Time Start: ___

STANDARDS:

_____SAT

1. Notes that the first two CAUTIONS concern allowable rate of rod withdrawal. Recalls from initial conditions that 4 hours have elapsed since the RCC was Dropped. **(See Examiner Cue 1 below)** Notes that the withdrawal rate may not exceed 10 steps per minute.

_____UNSAT

2. Notes that the actual withdrawal rate must be approved by the Reactor Supervisor. Identifies need to notify the Reactor Supervisor to request approved withdrawal rate. **(See Examiner Cue 2 below)**

3. Notes 4th CAUTION regarding a transient requiring rod motion during RCC retrieval.

COMMENTS:

NOTE: The applicant may review the CAUTIONS without comment.

Examiner Cue 1: If asked, tell the applicant that the rod drop occurred 4 hours ago.

Examiner Cue 2: The Reactor Supervisor approves RCC withdrawal at a rate up to 10 steps/minute.

PERFORM A DROPPED ROD RECOVERY

ELEMENT 9: Reviews the NOTES before Step 6. STANDARDS: 1. Notes the conversion factor for boration flow rate to reactivity change. 2. Notes that Annunciator "B 9/4" and the RCC power cabinet "URGENT FAILURE" alarm will alarm for SDB Group 2. 3. Notes that boration may be required to maintain Tavg equal to Tref. **(See Examiner Cue 1 below)** COMMENTS: NOTE: The applicant may review the NOTES without comment. ***Examiner Cue 1: Reactor Engineering reports that based on current Tavg and the rod to be recovered, no boration should be required.***	Time Start: ___ _____SAT _____UNSAT

PERFORM A DROPPED ROD RECOVERY

(C) ELEMENT 10: Attempt to Withdraw the dropped RCC. (Step 6)

Time Start: ___

STANDARDS:

_____SAT

1. Places the Rod Control IN-HOLD-OUT switch in the rods out position. **(See I/F Operator Cue 1 below)**

_____UNSAT

2. Withdraws the dropped RCC no more than 10 steps/min.

3. Initiates boration as necessary to maintain Tavg within 3°F of Tref. **(See Note 2 below)**

4. Adjusts turbine load as necessary to maintain reactor power < 50%.**(See Note 2 below)**

COMMENTS:

I/F Operator Cue 1 : When L-5 rod bottom light goes out, drop rod P-10 on examiner CUE by touching MAST FAIL key.

NOTE 1: Standards 1 and 2 are critical to this Element.

NOTE 2: The applicant may not borate (Tavg is currently below Tref) and may not adjust turbine load (Power is currently below 50%).

PERFORM A DROPPED ROD RECOVERY

(C) ELEMENT 11: Respond to Second Dropped RCC

Time Start: ___

STANDARDS:

_____SAT

1. Determines second dropped rod is in a different rod bank group from rod being recovered.

_____UNSAT

2. Manually trips the reactor **(Critical)** and turbine (Not Critical).

3. Performs the Immediate Operator Actions of 3-EOP-E-0.
   a. Verify REACTOR TRIP
      1. Rod Bottom Lights ON
      2. Reactor Trip Breakers OPEN
      3. RPIs AT ZERO
      4. Neutron Flux DECREASING

   b. Verify TURBINE TRIP
      1. All Turbine Stop Valves CLOSED
      2. MSRs Isolated
      3. Closes MSR Main Steam Supply MOVs.
      4. Mid and East GCBs OPEN

   c. Verify POWER TO EMERGENCY 4KV BUSES.
      1. A and B Bus ENERGIZED
      2. D Bus ALIGNED TO B BUS
      3. A, B , C, D, H Load Centers ENERGIZED

   d. Check if SI IS ACTUATED
      1. Any SI Annunciators ON
      2. Safeguards equipment AUTO STARTED
      3. Any SI Actuation setpoint EXCEEDED
      4. RCS CET Subcooling <30°F

5. Pressurizer Level <12%	
PERFORM A DROPPED ROD RECOVERY	
COMMENTS: NOTE: Only Standard 2 is critical to this Element. Other Standards may be performed without comment. **End of JPM**	

BOOTH OPERATOR INSTRUCTIONS

1. Reset to IC-16

2. REACTOR POWER → ROD CONTROL ROD POSITION → RODS FAILURE → SB3 40 → BLOWN FUSE TO STATIONALRY GRIPPER COIL → set TFLISB31 = T → B8 16 → DROPPED ROD TO SELECTED HEIGHT → arm TVLIB86 = 0.0.

3. Take simulator to run and stabilize power <50% with Tavg 0.5 to 1.0 degree below Tref.

4. Acknowledge any alarms and freeze simulator.

NOTE: Setup is stored in STATIC IC-51.

Job Classification:	SNPO
JPM Title:	Pump Waste Holdup Tank Contents to Unit 4 Containment
JPM Number:	B.2.1
JPM Type:	Normal Path
JPM Rev. Date:	09/23/02
Time Validation:	30 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE

Task Standards:

1. Waste Holdup Tank contents pumped to Containment

Required Materials:

1. 0-OP-061.12, "Waste Disposal System – "Waste Monitor Tanks and Demineralizer Operation" Attachment 1
2. 2 Way Radios
3. "A" Key

References:

1. 0-OP-061.12

Terminating Cues:

Waste Holdup Tank has been pumped down to approximately 10% level.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Pump Waste Holdup Tank Contents Back to Unit 4 Containment (Post LOCA)

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 4 SNPO.

1. Unit 4 is in recirculation SI mode following a Loss of Coolant Accident (LOCA).
2. Applicable procedural prerequisites for the procedure to be performed are satisfied.
3. The source of inleakage to the Waste Holdup Tank has been identified and isolated.

INITIATING CUE:

The Shift Manager directs you to perform (SIMULATE) the applicable operating procedure to pump back the contents of the WHT to Unit 4 Containment (post-LOCA).

Pump WHT Contents to Unit 4 Containment

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is pump the Waste Holdup Tank Contents Back to Unit 4 Containment (Post LOCA)."

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 4 SNPO.

1. Unit 4 is in recirculation SI mode following a Loss of Coolant Accident (LOCA).
2. Applicable procedural prerequisites for the procedure to be performed are satisfied.
3. The source of inleakage to the Waste Holdup Tank has been identified and isolated

INITIATING CUE:

The Shift Manager directs you to perform (SIMULATE) the applicable operating procedure to pump back the contents of the WHT to Unit 4 Containment (post-LOCA).

PUMP WHT CONTENTS TO UNIT 4 CONTAINMENT

ELEMENT 1: Obtain 0-OP-061.12 STANDARDS: 1. Obtains 0-OP-061.12. 2. Using Lotus Notes, verifies the revision date is correct and any outstanding OTSCs are included. 3. Dates and initials the OTSC stamp on the cover page of the procedure. Comments: NOTE: When the applicant identifies the correct procedure and where to obtain it, give 0-OP-061.12 to the applicant.	Time Start: ___ _____SAT _____UNSAT

PUMP WHT CONTENTS TO UNIT 4 CONTAINMENT

ELEMENT 2: Review Precautions and Limitations (Section 4.0).	
STANDARDS:	_____SAT
1. Reviews the P&Ls applicable to this evolution.	
2. Proceed to Procedure Section 7.2.	_____UNSAT
COMMENTS:	
NOTE: Note the P&Ls listed are either N/A for this evolution or are informational in nature. The applicant may read them without comment.	

PUMP WHT CONTENTS TO UNIT 4 CONTAINMENT

ELEMENT 3: Verify MPAS valves' positions

STANDARD:

1. Verifies the following valves are in the required positions by requesting valve status from Unit 4 RCO:

NOTE 1: MPAS-001/MPAS-4-005/MPAS-4-004 were previously placed in the desired positions by earlier performance of 4-OP-094, Steps 7.1.5 & 7.1.6 when placing PAHMs in service.

CUE 1: ***As the Unit 4 RCO, confirm the valves are in the desired positions.***

a.	MPAS-001	CLOSED
b.	MPAS-4-005	CLOSED
c.	MPAS-4-004	Unlocked and OPEN

(Step 7.2.2.2)

COMMENTS:

_____SAT

_____UNSAT

PUMP WHT CONTENTS TO UNIT 4 CONTAINMENT

(C) ELEMENT 4: Align System for pumping WHT to Containment

STANDARDS:

1. Obtains floor valve T-Tool from rack on North wall at the East end of East/West hall way. ("A" Key Required)

CUE 1: ***When the applicant demonstrates how and where to get the T-Tool, tell the applicant to leave T-Tool on the storage rack.***

2. In North/South hall way near the #3 Boric Acid Evaporator room, removes protective cover (Insert T-Tool, rotate counterclockwise) from MPAS-4-003 reach rod access.

CUE 2: ***When the applicant correctly describes how to remove the cover, state that the cover has been removed.***

3. Opens MPAS-4-003 (Insert T-Tool, rotate counterclockwise).
(Step 7.2.2.2)

CUE 3: ***State that MPAS-4-003 is fully counter clockwise.***

_____SAT

_____UNSAT

4. Verifies the following valves are in the required positions by requesting valve status from Unit 4 RCO: ***CUE 4:*** ***As the RCO, respond to the applicant that CV-4-2819 and CV-4-2826 are OPEN.*** a. CV-4-2819 b. CV-4-2826 (Step 7.2.2.3) <u>COMMENTS:</u> NOTE: Standards 1 through 3 are critical to this Element.	

PUMP WHT CONTENTS TO UNIT 4 CONTAINMENT

(C) ELEMENT 5: Commence pumping WHT to Containment

STANDARDS:

1. Proceeds to Panel C-46 in the Radwaste building. Using pump P229C control switch, starts the Waste Transfer pump. (Step 4)

CUE 1: ***When pump P229C is started, confirm red light on, green light off. Tell the applicant no additional flow is required.***

2. Verifies WHT level decreasing by observing LI-1001C at Radwaste building OR by observing LI-1001A at the WB panel in the Aux Building. (Step 6)

CUE 2: ***Tell the applicant WHT level is 65% and lowering.***

COMMENTS:

NOTE: Standard 1 is critical to this Element.

_____SAT

_____UNSAT

PUMP WHT CONTENTS TO UNIT 4 CONTAINMENT

(C) ELEMENT 6: Terminate WHT pumpdown at 10% level.

STANDARDS:

1. Reads Step regarding source of inleakage to WHT.
   (Step 8)

CUE 1: ***If asked, refer the applicant to the Initial Conditions (there is no evidence of in-leakage to the Waste Holdup Tank.***

2. Continues to monitor WHT level indicator.
   (Step 9)

CUE 2: ***Inform applicant WHT level is now 10%.***

3. Stops Waste Transfer Pump, P229C, at Panel C-46 in the Radwaste building. and places control switch in Pull-To-Lock.
   (Step 10)

CUE 3: ***Confirm pump P229C is stopped (Green light on, Red light off) and in Pull-To-Lock.***

4. In the Aux building North/South hallway, closes MPAS-4-003 using the T-Tool.
   (Step 11)

_____SAT

_____UNSAT

CUE 4: ***MPAS-4-003 is fully clockwise.*** 5. Informs Shift Manager that WHT has been pumped to Unit 4 Containment. (Step 12) ***CUE 5:*** ***Acknowledge notification as the Shift Manager.*** <u>COMMENTS:</u> NOTE: Standard 3 (except placing switch in PTL) and Standard 4 are critical to this Element. **End of JPM**	

Job Classification:	NPO
JPM Title:	Transfer 4P07 Instrument Bus from CVT to Inverter (Internal Transfer)
JPM Number:	B.2.2
JPM Type:	Normal Path
JPM Rev. Date:	09/23/02
Time Validation:	20 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE

Task Standards:

1. The 4A normal inverter will be carrying the respective instrument bus.

2. CVT 4Y01A will be returned to Standby.

Required Materials:

1. 0-OP-003.3, "120V Vital Instrument AC System"
2. 2 Way Radios

References:

1. 0-OP-003.3

Terminating Cues:

4A Inverter is in service to 4P07.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Transfer 4P07 Bus Load from CVT 4Y01A to Inverter 4A (Internal Transfer).

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 4 NPO.

1. Unit 4 is in Mode 1 at 100% power.
2. The 4Y01A CVT is carrying vital instrument bus 4P07.
3. The associated 4A Inverter is in Standby and ready for loading.
4. Applicable procedural prerequisites are satisfied.

INITIATING CUE:

The Shift Manager directs you to perform (SIMULATE) an internal transfer of 4P07 Bus Load from CVT 4Y01A to Inverter 4A.

Transfer 4P07 from CVT to 4A Inverter (Internal Transfer)

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is Transfer 4P07 Bus Load from CVT 4Y01A to Inverter 4A (Internal Transfer).

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 4 NPO.

1. Unit 4 is in Mode 1 at 100% power.
2. The 4Y01A CVT is carrying vital instrument bus 4P07.
3. The associated 4A Inverter is in Standby and ready for loading.
4. Applicable procedural prerequisites are satisfied.

INITIATING CUE:

The Shift Manager directs you to perform (SIMULATE) an internal transfer of 4P07 Bus Load from CVT 4Y01A to Inverter 4A.

Transfer 4P07 from CVT to 4A Inverter (Internal Transfer)

ELEMENT 1: Obtain 0-OP-003.3. STANDARDS: 1. Obtains 0-OP-003.3. 2. Using Lotus Notes, verifies the revision date is correct and any outstanding OTSCs are included. 3. Dates and initials the OTSC stamp on the cover page of the procedure. Comments: NOTE: When the applicant identifies the correct procedure and where to obtain it, give 0-OP-003.3 to the applicant.	Time Start: ___ _____SAT _____UNSAT

Transfer 4P07 from CVT to 4A Inverter (Internal Transfer)

ELEMENT 2: Review Precautions and Limitations (Section 4.0).	
STANDARDS:	_____SAT
1. Reviews the P&Ls applicable to this evolution.	
2. Proceed to Procedure Section 7.4.	_____UNSAT
COMMENTS:	
NOTE: Note the P&Ls listed are either N/A for this evolution or are informational in nature. The applicant may read them without comment.	

Transfer 4P07 from CVT to 4A Inverter (Internal Transfer)

ELEMENT 3: Prepare to transfer 4P07 Bus load. STANDARDS: 1. Enters "4A' Inverter and Date/Time (Step 7.4) 2. Determines that NOTES prior to Step 7.4.1 are N/A for this evolution. 3. Recalls that all prerequisites are satisfied. (Step 7.4.1.1) 4. Reviews NOTE before Step 7.4.1.2 regarding use of Enclosure 1. 5. Notes that the 4A Inverter is in Standby and transfer from the CVT is desired. (Step 7.4.1.2) COMMENTS: NOTE: During performance of this SIMULATE JPM the 4A Inverter will actually be in service for the entire duration of the JPM. This means the indications seen will differ from the indications described	_____SAT _____UNSAT
(C) ELEMENT 4: Verify Switch Alignment at 4A Inverter. STANDARDS: 1. Reviews NOTE prior to Step 7.4.2.1.	_____SAT

2. Verifies the following switch alignment at 4A Inverter: (Step 7.4.2.1. a – e) ***CUE 1:*** ***When the applicant correctly identifies each switch and position (a –e), acknowledge the correct position.*** a. Auto Retransfer switch: OFF b. DC Input Breaker, CB1: ON c. Inv. Output Breaker, CB2: ON d. Alternate Source AC Input to Static Switch Breaker, CB4: ON e. Synch Reference Selector Switch, SW-2: **DOWN*** *NOTE 1: The Synch Reference Selector Switch, SW-2, is located inside the cabinet. Opening the cabinet presents some risk to the operation of the Unit and/or electrical shock from components inside the cabinet. NOTE: Ensure you have gotten prior Shift Manager approval before providing the following cue. ***CUE 2:*** ***Tell the applicant to <u>not</u> open the 4A Inverter cabinet. Have the applicant visually verify the AS spare inverter next to 4A Inverter is in Standby and carefully open the AS Inverter and point to the SW-2 switch*** (Back of cabinet door). 3. Questions if the Manual Bypass switch is in NORMAL or ALTERNATE SOURCE TO LOAD position. (Step 7.4.2.1.f/g)	_____UNSAT

CUE 3: ***Tell the applicant, the Manual Bypass switch is in the NORMAL position.*** 4. Verifies the IN SYNC light is ON. (Step 7.4.2.2) ***CUE 4:*** ***Tell the applicant, the IN SYNCH light is ON.*** <u>COMMENTS:</u> NOTE: Only Standards 2.a and 2.e are critical to this Element.	

Transfer 4P07 from CVT to 4A Inverter (Internal Transfer)

(C) ELEMENT 5: Swap power to 4P07 from CVT to 4A Inverter.

STANDARD:

CUE 1: ***When the applicant correctly identifies the condition of each Standard, acknowledge the correct action/indication.***

1. Depresses the Inverter to Load pushbutton at 4A Inverter.
   (Step 7.4.2.3)

2. Verifies the INVERTER SUPPLYING LOAD light comes on.
   (Step 7.4.2.3.a)

3. Verifies the ALTERNATE SOURCE SUPPLYING LOAD light goes off.
   (Step 7.4.2.3.b)

4. Places the Auto-Retransfer switch at 4A Inverter to ON.
   (Step 7.4.2.5)

COMMENTS:

NOTE: Standards 1 and 4 are critical to this Element.

End of JPM

_____SAT

_____UNSAT

Job Classification:	SNPO
JPM Title:	Align Emergency Cooling Water to the 4A Charging Pump
JPM Number:	B.2.3
JPM Type:	Normal Path
JPM Rev. Date:	09/23/02
Time Validation:	20 minutes
Time Critical:	NO

The applicable method(s) of testing which may be used: SIMULATE

Task Standards:

1. Emergency Cooling Water being supplied to 4A Charging Pump

Required Materials:

1. 4-ONOP-030, "Component Cooling Water Malfunction", Attachment 1
2. Emergency cooling water supply and outlet hoses.
2. 2 Way Radios

References:

1. 4-ONOP-030

Terminating Cues:

Emergency cooling water established to 4A Charging Pump.

Initial Conditions Sheet
(To be given to Applicant)

TASK:

Align Emergency Cooling Water to 4A Charging Pump

DIRECTIONS:

The evaluator will explain the initial conditions of the task to be performed and will provide the initiating cue. Ensure you indicate to the evaluator when you understand your assigned task. To indicate that you have completed your assigned task return this "Initial Conditions Sheet" to the evaluator.

INITIAL CONDITIONS:

You are the Unit 4 SNPO.

1. Unit 4 is in Mode 3 following a manual reactor trip.
2. Unit 4 CCW Surge Tank Level is empty.
3. 4-ONOP-030, "Component Cooling Water Malfunction" directs performance of Attachment 1.
4. The 4A Charging pump is in standby.

INITIATING CUE:

The Shift Manager directs you to perform (SIMULATE) 4-ONOP-030, Attachment 1, "Control of Emergency Cooling Water to Charging Pump" to align emergency cooling to the 4A Charging pump.

Align Emergency Cooling Water to 4A Charging Pump

Examiner Instructions:

Hand the Initial Conditions Sheet to the Applicant and read the following:

"The task you are to perform is align emergency cooling water to 4A Charging pump.

I will explain the initial conditions of the task and will provide the initiating cue. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the "Initial Conditions Sheet" to me.

INITIAL CONDITIONS:

You are the Unit 4 SNPO.

1. Unit 4 is in Mode 3 following a manual reactor trip.
2. Unit 4 CCW Surge Tank level is empty.
3. 4-ONOP-030, "Component Cooling Water Malfunction" directs performance of Attachment 1.
4. The 4A Charging pump is in standby.

INITIATING CUE:

The Shift Manager directs you to perform (SIMULATE) 4-ONOP-030, Attachment 1, "Control of Emergency Cooling Water to Charging Pump" to align emergency cooling to the 4A Charging pump.

Align Emergency Cooling Water to 4A Charging Pump

ELEMENT 1: Obtain 4-ONOP-030, Attachment 1. STANDARDS: 1. Obtains 4-ONOP-030, Attachment 1. Comments: NOTE: In an emergency, the SNPO would probably go to the Control Room and be given the procedure. Give Attachment 1 of 4-ONOP-030 to the applicant.	Time Start: ___ _____SAT _____UNSAT
(C) ELEMENT 2: Obtain hoses. STANDARDS: 1. Obtains Hoses from box. ***CUE 1:*** ***Tell the applicant to leave the hoses in the box.*** Comments: NOTE: Hoses are located in a metal box in the south west corner of the Unit 4 Charging Pump room	_____SAT _____UNSAT

Align Emergency Cooling Water to 4A Charging Pump	
(C) ELEMENT 3: Connect Emergency Cooling Water Supply Hose to 4A Charging Pump. STANDARDS: 1. Reviews the NOTES prior to Step 1 and continues. ***CUE 1:*** ***If asked if a Loss of Offsite Power has occurred, respond "No".*** 2. Connects cam lock fitting end of supply hose to Service water connection (4-70-118B) outside Unit 4 Charging Pump room. (Step 1) ***CUE 2:*** ***Confirm the supply hose cam lock fitting is connected to 4-70-118B.*** 3. Calls RCO to verify 4A Charging pump. (Step 2) ***CUE 3:*** ***If asked, tell the applicant "See Initial Conditions".*** 4. Verifies 4A Charging pump stopped or running at maximum speed. (Step 3) ***CUE 4:*** ***Tell the applicant 4A Charging pump is stopped.*** 5. Connects quick disconnect fitting end of supply hose to 4A Charging pump Oil Cooler, 4-10-291. (Step 4) ***CUE 5:*** ***Confirm the supply hose quick disconnect fitting is connected to 4-10-291.*** COMMENTS: NOTE: Standards 2 and 5 are critical to this	_____SAT _____UNSAT

element.	

Align Emergency Cooling Water to 4A Charging Pump

(C) ELEMENT 4: Connect Emergency Cooling Water Outlet Hose to 4A Charging Pump.

STANDARDS:

1. Reviews NOTE prior to Step 5 and continues.

2. Connects quick disconnect fitting of outlet hose to 4A Charging pump Oil Cooler, 4-10-290. (Step 5)

CUE 1: ***Confirm the outlet hose quick disconnect fitting is connected to 4-10-290.***

3. Removes cover from floor drain in Charging Pump room. (Step 6)

CUE 2: ***Confirm drain cover removed.***

4. Routes open end of outlet hose to floor drain. (Step 7)

CUE 3: ***Confirm drain hose routed to drain.***

COMMENTS:

NOTE: Only Standard 2 is critical to this Element.

_____SAT

_____UNSAT

Align Emergency Cooling Water to 4A Charging Pump

(C) ELEMENT 5: Isolate CCW to/from 4A Charging Pump

STANDARDS:

1. Closes 4A Charging pump Oil Cooler Inlet, 4-825A. (Step 8)

CUE 1: ***Confirm 4-825A fully clockwise with handwheel down.***

2. Closes 4A Charging pump Oil Cooler Outlet, 4-825B. (Step 9)

CUE 2: ***Confirm 4-825B fully clockwise with handwheel down.***

COMMENTS:

_____SAT

_____UNSAT

Align Emergency Cooling Water to 4A Charging Pump

(C) ELEMENT 6: Establish Service Water to 4A Charging Pump

STANDARDS:

1. Opens service water connection, 4-70-118B, outside Unit 4 Charging Pump room. (Step 10.a)
CUE 1: Confirm 4-70-118B handle in line with pipe.

2. Opens service isol. valve, 4-70-118, outside Unit 4 Charging Pump room. (Step 10.b)
CUE 2: Confirm 4-70-118 handle in line with pipe.

3. Opens service water to 4A Charging pump, 4-10-291. (Step 11.a)
CUE 3: Confirm 4-10-291 fully counter clockwise with hand wheel up.

4. Adjusts service water to provide maximum flow using 4-10-290. (Step 12)
CUE 4: Confirm maximum flow into the drain.

5. Determines Step 13 is N/A.

6. Notifies Unit 4 RCO of 4A Charging pump status. (Step 14)
Cue 5: Acknowledge notification as RCO.

COMMENTS:

NOTE: Standards 1 through 4 are critical to this Element.

_____SAT

_____UNSAT

End of JPM	