

Job Performance Measure**Verify Flow Control Line**JPM Number: JPM552Revision Number: 01Date: 8/14/2020Developed By: Bill Kiser / 8/14/20
Instructor: Print / Sign DateReviewed By: Scott Labunski / 3/01/21
SME or Instructor: Print / Sign DateReviewed By: Tim Windingland / 3/11/21
Operations Representative: Print / Sign DateApproved By: Matthew Beeler / 3/11/21
Training Department: Print / Sign Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. _____
2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

Procedure: <u>CPS 4008.01</u>	Revision: <u>20e</u>
Procedure: _____	Revision: _____
Procedure: _____	Revision: _____
Procedure: _____	Revision: _____
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

Revision #	Summary
00	11/2/17 – New JPM.
01	8/14/20 – Updated references.

SETUP INSTRUCTIONS

1. No setup is required for this JPM.

INITIAL CONDITIONS

A plant transient has resulted in entry into CPS 4008.01 Abnormal Reactor Coolant Flow. All immediate operator actions have been completed.

Reactor power is currently 39%.

INITIATING CUE

The Control Room Supervisor (CRS) has directed you to determine if plant operation is within the limits of CPS 4008.01 Abnormal Reactor Coolant Flow Figure 1, CPS Stability Control & Power/Flow Operating Map and determine required actions (if any) that need to be taken.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM.

Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

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JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

The examinee will determine plant operation is not within normal operating limits of CPS 4008.01 Abnormal Reactor Coolant Flow Figure 1 CPS Stability Control & Power/Flow Operating Map and recommend a prompt exit of the Controlled Entry Region via a power decrease using control rod insertion (reverse rod sequence or CRAM RODS).

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
CUE	Provide the examinee with a copy of: <ul style="list-style-type: none"> • Initiating Cue (last page of JPM) • PPC Graphic (Attachment 1 of the JPM) • CPS 4008.01 Abnormal Reactor Coolant Flow 				
NOTE: JPM steps 1 and 2 can be performed in any order.					
*01	Examinee determines core flow using Attachment 1 and CPS 4008.01.	a. Examinee determines that the Reactor Recirculation (RR) system is operating in single loop (RR Pump A is secured on RR PPC graphic).	<input type="checkbox"/>	<input type="checkbox"/>	—
		b. Examinee observes that the “Core Flow From Core Plate Diff Press” computer point reads 0.0, indicating “white data” (low confidence / bad data) on the RR PPC graphic and cannot be used.	<input type="checkbox"/>	<input type="checkbox"/>	—
		c. Examinee obtains the value for “Core Plate Diff Press” from the RR PPC graphic (1.6 psid).	<input type="checkbox"/>	<input type="checkbox"/>	—
		d. Examinee uses CPS 4008.01 Figure 2: Cycle-12 Core Plate dp vs Total Core Flow to determine that Total Core Flow is ~ 31 Mlb/hr (intersection of 1.6 psid and the curve).	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
CUE	If asked, remind the examinee that Reactor Power is 39% per the initiating cue.				
02	Examinee determines reactor power.	Examinee determines Reactor Power is 39% from the initiating cue or from the evaluator cue.	<input type="checkbox"/>	<input type="checkbox"/>	—
*03	Examinee determines the reactor is operating in the Controlled Entry Region of Power/Flow Operating Map.	Examinee plots the point on CPS 4008.01 Figure 1 corresponding to core flow and reactor power and determines the reactor is operating in the controlled entry region of the Power/Flow Operating Map.	<input type="checkbox"/>	<input type="checkbox"/>	—
*04	Examinee determines required corrective actions.	The examinee will determine plant operation is <u>not</u> within normal operating limits of CPS 4008.01 Abnormal Reactor Coolant Flow Figure 1 CPS Stability Control & Power/Flow Operating Map and recommend a prompt exit of the Controlled Entry Region via a power decrease using control rod insertion (reverse rod sequence or CRAM RODS).	<input type="checkbox"/>	<input type="checkbox"/>	—
CUE	JPM is complete.				

JPM Stop Time: _____



JPM SUMMARY
Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

 JPM Title: Verify Flow Control Line

 JPM Number: JPM552

 Revision Number: 01

 Task Number and Title: 3302.01.99 Monitor the Reactor Recirculation System Operation in all Modes during Normal and Off-Normal Conditions

 Task Standard: The examinee will determine plant operation is not within normal operating limits of CPS 4008.01 Abnormal Reactor Coolant Flow Figure 1 CPS Stability Control & Power/Flow Operating Map and recommend a prompt exit of the Controlled Entry Region via a power decrease using control rod insertion (reverse rod sequence or CRAM RODS).

K/A Number and Importance:

K/A System	K/A Number	Importance (RO/SRO)	
Generic	2.1.37	4.3	4.6

 Suggested Testing Environment: Classroom

 Alternate Path: Yes No SRO Only: Yes No Time Critical: Yes No

Reference(s):

 Procedure: CPS 4008.01 Revision: 20e
Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

 Were all the Critical Elements performed satisfactorily? Yes No

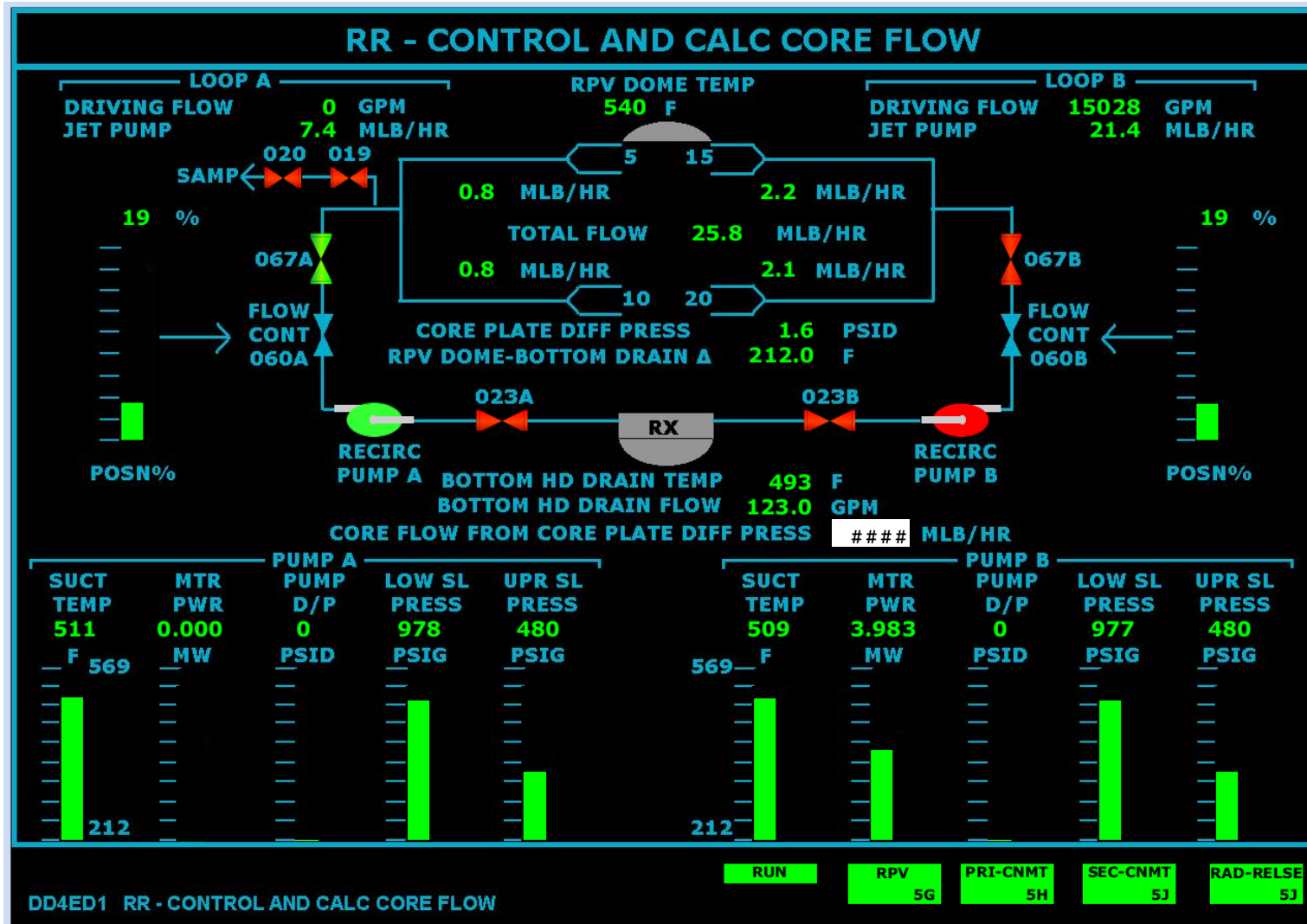
 The operator's performance was evaluated against standards contained within this JPM and has been determined to be: Satisfactory Unsatisfactory

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

Attachment 1: RR – Control and Calc Core Flow



INITIAL CONDITIONS

A plant transient has resulted in entry into CPS 4008.01 Abnormal Reactor Coolant Flow. All immediate operator actions have been completed.

Reactor power is currently 39%.

INITIATING CUE

The Control Room Supervisor (CRS) has directed you to determine if plant operation is within the limits of CPS 4008.01 Abnormal Reactor Coolant Flow Figure 1, CPS Stability Control & Power/Flow Operating Map and determine required actions (if any) that need to be taken.

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. _____
2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

Procedure: <u>CPS 9000.10</u>	Revision: <u>33c</u>
Procedure: _____	Revision: _____
Procedure: _____	Revision: _____
Procedure: _____	Revision: _____
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

Revision #	Summary
00	8/17/20 – New JPM.

SETUP INSTRUCTIONS

1. IC Setup (N/A if administering JPM505 per step 2).
 - a. Initialize the simulator to any suitable IC with the reactor operating in Mode 1.
 - b. Fail the blue pen on 1LR-SM016 (Containment Pressure) to 2.60 psig. Set A05_A02_A12AR02_1 (1LR-CM016 – BLU PEN) final value to 0.5065.
 - c. Freeze the simulator.
 - d. Save to a different IC if JPM is being used more than once. IC-217 is saved for the ILT 19-1 NRC exam (pw 13852).
 - e. This completes the setup for this JPM.

<p>NOTE: It is acceptable to use a similar IC to the IC listed above, provided the specific IC used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently.</p>

2. JPM Administration
 - a. Reset to the IC saved after performing step 1 above. IC-217 is saved for the ILT 19-1 NRC exam (pw 13852).
 - b. Open and execute Simulator Lesson Plan ILT 19-1 NRC Exam JPMs LP.
 - c. Release JPM505 which will fail the blue pen on 1LR-SM016 (Containment Pressure) to 2.60 psig.
 - d. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
 - e. Save to a different IC if required.
 - f. Freeze the simulator.

INITIAL CONDITIONS

The plant is operating in Mode 1.

You are the 'B' Reactor Operator (RO).

INITIATING CUE

CPS 9000.10, Accident Monitoring and Remote Shutdown Instrumentation Log was started on midshift but the operator was unable to complete it. The CRS has directed you to complete the remaining portions of CPS 9000.10 Accident Monitoring and Remote Shutdown Instrumentation Log.

Inform the CRS after completing CPS 9000.10 Accident Monitoring and Remote Shutdown Instrumentation Log.

Ensure Comments/Deficiencies are documented on the Supplemental Review Sheet, as necessary.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

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Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM.

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Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

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JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

The examinee will complete the unfinished portion of CPS 9000.10 Accident Monitoring And Remote Shutdown Instrumentation Log and document all deficiencies identified during performance of the surveillance.

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
CUE	Provide the examinee with: <ul style="list-style-type: none"> The Initiating Cue (last page of JPM) A marked up copy of CPS 9000.10 Accident Monitoring And Remote Shutdown Instrumentation Log. 				
NOTE:	Procedure steps can be performed in any order and therefore, JPM steps can be performed in any order.				
01	8.1.3.1 Channel Check Suppression Pool Water Level – High	Examinee locates recorders 1LR-CM030 and 1LR-CM031 on MCR panel 1H13-P601 (5064/5066), reads the red pens on both recorders and determines the readings are within 3 inches of each other and then initials the step.	<input type="checkbox"/>	<input type="checkbox"/>	—
02	8.1.3.2 Channel Check Suppression Pool Water Level - Low	Examinee locates recorders 1LR-SM014 and 1LR-SM016 on MCR panel 1H13-P601 (5064/5066), reads the red pens on both recorders and determines the readings are upscale and then initials the step.	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
03	8.1.4.1 Channel Check Primary Containment Pressure - High	Examinee locates recorders 1LR-CM030 and 1LR-CM031 on MCR panel 1H13-P601 (5064/5066), reads the blue pens on both recorders and determines the readings are downscale low and then initials the step.	<input type="checkbox"/>	<input type="checkbox"/>	—
*04	8.1.4.2 Channel Check Primary Containment Pressure - Low	Examinee locates recorders 1LR-SM014 and 1LR-SM016 on MCR panel 1H13-P601 (5064/5066), reads the blue pens on both recorders and subtracts the readings. The examinee will annotate the out of specification reading, inform the CRS that the channel check of containment pressure indications on 1LR-SM014 and 1LR-SM016 has failed.	<input type="checkbox"/>	<input type="checkbox"/>	—
CUE	As the CRS, acknowledge the report and tell the examinee, "I will refer to Technical Specifications. Continue with the surveillance".				
*05	8.1.10 Penetration Flow Path, Automatic PCIV Position.	Examinee locates valves: <ul style="list-style-type: none"> • 1FP092 and 1FP050 • 1CC049 and 1CC050 on MCR panel 1H13-P800 (5040) and verifies position indication exists by verifying open or closed indicating lights.	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*05 (cont.)	8.1.10 Penetration Flow Path, Automatic PCIV Position. (cont.)	Examinee locates valves 1CC073 and 1CC074 on MCR panel 1H13-P800 (5040) and determines: <ul style="list-style-type: none"> the position indicating lights are not available secondary position indication (computer points) listed next to each valve must be pulled up to verify valve position (Closed or Not Closed). 	<input type="checkbox"/>	<input type="checkbox"/>	—
NOTE: Step *05 is considered UNSAT if the examinee fails to identify position indication of any valves using either primary or secondary indications.					
CUE	If examinee requests that the breakers for 1CC073/74 be shut, acknowledge the request and respond “current plant conditions do not permit energizing 1CC073 or 1CC074. If informed that any position check failed, acknowledge the report (as CRS) and tell the examinee, “I will refer to Technical Specifications.				
*06	8.3 Notification of Completion.	Examinee completes the “Comments/Deficiencies” block of CPS 9000.10 (page 11).	<input type="checkbox"/>	<input type="checkbox"/>	—
CUE	If examinee notifies CRS that the surveillance is complete, tell the examinee “Complete CPS 9000.10.”				
CUE	JPM is complete.				

JPM Stop Time: _____



JPM SUMMARY
Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

 JPM Title: Accident Monitoring And Remote Shutdown Instrumentation Log

 JPM Number: JPM505 Revision Number: 00

 Task Number and Title: 900010.01 Accident Monitoring And Remote Shutdown Instrumentation Log

 Task Standard: The examinee will complete the unfinished portion of CPS 9000.10 Accident Monitoring And Remote Shutdown Instrumentation Log and document all deficiencies identified during performance of the surveillance.

K/A Number and Importance:

K/A System	K/A Number	Importance (RO/SRO)	
Generic	2.1.31	4.6	4.3

 Suggested Testing Environment: Simulator

 Alternate Path: Yes No SRO Only: Yes No Time Critical: Yes No

Reference(s):

 Procedure: CPS 9000.10 Revision: 33c
Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 15 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

 Were all the Critical Elements performed satisfactorily? Yes No

 The operator's performance was evaluated against standards contained within this JPM and has been determined to be: Satisfactory Unsatisfactory

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

INITIAL CONDITIONS

The plant is operating in Mode 1.

You are the 'B' Reactor Operator (RO).

INITIATING CUE

CPS 9000.10, Accident Monitoring and Remote Shutdown Instrumentation Log was started on midshift but the operator was unable to complete it. The CRS has directed you to complete the remaining portions of CPS 9000.10 Accident Monitoring and Remote Shutdown Instrumentation Log.

Inform the CRS after completing CPS 9000.10 Accident Monitoring and Remote Shutdown Instrumentation Log.

Ensure Comments/Deficiencies are documented on the Supplemental Review Sheet, as necessary.

Job Performance Measure**Perform a Manual Jet Pump Operability**JPM Number: JPM512Revision Number: 03Date: 8/18/2020Developed By: Bill Kiser / 8/18/20
Instructor: Print / Sign DateReviewed By: Scott Labunski / 3/01/21
SME or Instructor: Print / Sign DateReviewed By: Tim Windingland / 3/11/21
Operations Representative: Print / Sign DateApproved By: Matthew Beeler / 3/11/21
Training Department: Print / Sign Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

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2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

Procedure: <u>CPS 9041.01</u>	Revision: <u>36c</u>
Procedure: <u>CPS 9041.01D001</u>	Revision: <u>34b</u>
Procedure: _____	Revision: _____
Procedure: _____	Revision: _____
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

Revision #	Summary
00	12/5/5 – New format and numbering convention, revalidated. This replaces JPM 012202J005. Revision number reset to 00.
01	6/14/13 – Updated to new template and numbering convention. This replaces 90410101LAN01.
02	6/12/16 – Updated references.
03	8/18/20 – Updated JPM format.



SETUP INSTRUCTIONS

1. No setup is required for this JPM.

INITIAL CONDITIONS

You are the extra RO.

The computerized method of performing CPS 9041.01 Jet Pump Operability Test is not available at this time.

Plant conditions are as follows:

- Reactor is operating at 96% power.
- RR Pumps 'A' and 'B' are operating in fast speed.
- APRM calibrations are NOT in progress.

INITIATING CUE

CPS 9041.01 Jet Pump Operability Test was started on midshift – completed through step 8.1.3. The Control Room Supervisor (CRS) has directed you to complete the remaining portions of CPS 9041.01. Document results on CPS 9041.01D001 Jet Pump Operability Test Data Sheet. Ensure Comments/Deficiencies are documented on the Supplemental Review Sheet, as necessary.

No Engineer is available to provide judgements or evaluations.

Report to the CRS after completing the task.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

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Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM. Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.

.....

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

The examinee will complete CPS 9041.01 Jet Pump Operability Test and determine:

- Recirc Loop A Loop Flow % Deviation is outside the Acceptance Value and steps 8.3.2, 8.3.3 and 8.3.4 may NOT be omitted.
- Jet Pump 19 Flow % Deviation is outside its Acceptance Value.

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
CUE	Provide the examinee with a copy of: <ul style="list-style-type: none"> • Initiating Cue (last page of JPM) • Marked up copy of CPS 9041.01 Jet Pump Operability Test • Marked up copy of CPS 9041.01D001 Jet Pump Operability Test Data Sheet • Attachment 1 Data for Section 8.1 and 8.2 • Calculator 				
*01	Step 8.1.4 Calculate the % deviation of the indicated loop flow from the established loop using the data sheet formula.	Examinee calculates Loop Flow % Deviation using the formula listed and records the following values: Recirc Loop A: <ul style="list-style-type: none"> • Indicated flow – 32,500 gpm • Established flow – 28,800 gpm • Loop Flow % Deviation – 12.8% to 13.0% 	<input type="checkbox"/>	<input type="checkbox"/>	_____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*01 (cont.)		Recirc Loop B: <ul style="list-style-type: none"> Indicated flow – 31,000 gpm Established flow – 29,200 gpm Loop Flow % Deviation – 6.0% to 6.2% Examinee checks the box for step 8.1.4 in CPS 9041.01.	<input type="checkbox"/>	<input type="checkbox"/>	—
CUE	If the examinee reports that the 'A' RR Loop % deviation is outside the $\pm 10\%$ acceptance value, acknowledge the report and cue the examinee to complete the surveillance and report any remaining data outside the acceptance criteria of CPS 9041.01.				
02	Step 8.1.4 Documents 'A' RR Loop % deviation is outside the $\pm 10\%$ acceptance value.	Examinee records 'A' RR Loop % deviation being outside the $\pm 10\%$ acceptance value on CPS 9041.01D001 Supplemental Review Sheet.	<input type="checkbox"/>	<input type="checkbox"/>	—
03	Step 8.2.1 Records Indicated Total Core Flow.	Examinee records Indicated Total Core Flow (Attachment 1). <ul style="list-style-type: none"> Indicated Total Core Flow – 77.0 Mlbm/hr 	<input type="checkbox"/>	<input type="checkbox"/>	—
*04	Step 8.2.2 Calculates Total Recirc Loop Flow.	Examinee calculates Total Recirc Loop Flow using the formula listed and records the following values: <ul style="list-style-type: none"> Loop A Indicated flow – 32,500 gpm Loop B Indicated flow – 31,000 gpm Total flow – 63,500 gpm 	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*05	Step 8.2.3.1 Determines and records Established Total Core Flow. (Step 8.2.3.2 is N/A)	Examinee uses Figure 2a from CPS 9041.01 to determine Established Core Flow and records the following: <ul style="list-style-type: none"> • 81.0 – 83.0 Mlbm/hr Examinee checks the box for step 8.2.3.1 in CPS 9041.01.	<input type="checkbox"/>	<input type="checkbox"/>	—
*06	Step 8.2.4 Calculates Core Flow % Deviation.	Examinee calculates Core Flow % Deviation using the formula listed and records the following values: <ul style="list-style-type: none"> • Indicated flow – 77.0 Mlbm/hr • Established flow – 81.0 to 83.0 Mlbm/hr • Core Flow % Deviation – -4.9% to -7.2% Examinee checks the box for step 8.2.4 in CPS 9041.01.	<input type="checkbox"/>	<input type="checkbox"/>	—
CUE	Provide the examinee with a copy of Attachment 2 Jet Pump Flows for Section 8.3				
*07	Step 8.3.1 Records Jet Pump Flow.	Examinee records Jet Pump Flows in Mlbm/hr (Attachment 2).	<input type="checkbox"/>	<input type="checkbox"/>	—
	Determines steps 8.3.2, 8.3.3 and 8.3.4 must be completed.	Examinee determines steps 8.3.2, 8.3.3 and 8.3.4 must be completed due to step 8.1.4 failing to meet the Acceptance Value (Recirc Loop A).	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*07 (cont.)	Records sum of each loop's jet pump flows.	Examinee records the sum of each loop's jet pump (JP) flows: Loop A (JP 1 thru 10) – 37.97 Mlbm/hr Loop B (JP 11 thru 20) – 39.08 Mlbm/hr Examinee checks the box for step 8.3.1 in CPS 9041.01.	<input type="checkbox"/>	<input type="checkbox"/>	—
*08	Step 8.3.2 Calculates the Average Jet Pump Flow for each recirc loop.	Examinee calculates Average Jet Pump Flow for each recirc loop using Formula #1 and records the following values: <ul style="list-style-type: none"> • Loop A – 3.797 to 3.80 Mlbm/hr • Loop B – 3.9 to 3.91 Mlbm/hr 	<input type="checkbox"/>	<input type="checkbox"/>	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number																						
*09	Step 8.3.3 Calculates the Jet Pump Flow % Deviation for jet pumps 1 through 10.	Examinee calculates the Jet Pump Flow % Deviation for each jet pump in each recirc loop using Formula #1 and records the following values: <table border="1" data-bbox="760 751 1192 1522"> <thead> <tr> <th>JP</th> <th>%Dev Range</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5.0 to 5.1</td> </tr> <tr> <td>2</td> <td>5.0 to 5.1</td> </tr> <tr> <td>3</td> <td>-1.84 to -1.76</td> </tr> <tr> <td>4</td> <td>-0.79 to -0.71</td> </tr> <tr> <td>5</td> <td>0.0 to 0.08</td> </tr> <tr> <td>6</td> <td>0.26 to 0.34</td> </tr> <tr> <td>7</td> <td>-1.84 to -1.76</td> </tr> <tr> <td>8</td> <td>-1.05 to -0.97</td> </tr> <tr> <td>9</td> <td>-1.84 to -1.76</td> </tr> <tr> <td>10</td> <td>-3.68 to -3.6</td> </tr> </tbody> </table>	JP	%Dev Range	1	5.0 to 5.1	2	5.0 to 5.1	3	-1.84 to -1.76	4	-0.79 to -0.71	5	0.0 to 0.08	6	0.26 to 0.34	7	-1.84 to -1.76	8	-1.05 to -0.97	9	-1.84 to -1.76	10	-3.68 to -3.6	<input type="checkbox"/>	<input type="checkbox"/>	<hr style="width: 20px; margin: auto;"/>
JP	%Dev Range																										
1	5.0 to 5.1																										
2	5.0 to 5.1																										
3	-1.84 to -1.76																										
4	-0.79 to -0.71																										
5	0.0 to 0.08																										
6	0.26 to 0.34																										
7	-1.84 to -1.76																										
8	-1.05 to -0.97																										
9	-1.84 to -1.76																										
10	-3.68 to -3.6																										

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number																						
*09 (cont.)	Step 8.3.3 (cont.) Calculates the Jet Pump Flow % Deviation for jet pumps 11 through 20.	<p>Examinee calculates the Jet Pump Flow % Deviation for each jet pump in each recirc loop using Formula #1 and records the following values:</p> <table border="1" data-bbox="761 701 1192 1470"> <thead> <tr> <th data-bbox="761 701 873 772">JP</th> <th data-bbox="873 701 1192 772">%Dev Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="761 772 873 844">11</td> <td data-bbox="873 772 1192 844">2.56 to 2.82</td> </tr> <tr> <td data-bbox="761 844 873 915">12</td> <td data-bbox="873 844 1192 915">2.56 to 2.82</td> </tr> <tr> <td data-bbox="761 915 873 987">13</td> <td data-bbox="873 915 1192 987">-1.3 to -1.0</td> </tr> <tr> <td data-bbox="761 987 873 1058">14</td> <td data-bbox="873 987 1192 1058">-1.53 to -1.28</td> </tr> <tr> <td data-bbox="761 1058 873 1129">15</td> <td data-bbox="873 1058 1192 1129">-1.3 to -1.0</td> </tr> <tr> <td data-bbox="761 1129 873 1201">16</td> <td data-bbox="873 1129 1192 1201">-1.53 to -1.28</td> </tr> <tr> <td data-bbox="761 1201 873 1272">17</td> <td data-bbox="873 1201 1192 1272">-1.3 to -1.0</td> </tr> <tr> <td data-bbox="761 1272 873 1344">18</td> <td data-bbox="873 1272 1192 1344">- 2.56 to -2.31</td> </tr> <tr> <td data-bbox="761 1344 873 1415">19</td> <td data-bbox="873 1344 1192 1415">6.6 to 6.92</td> </tr> <tr> <td data-bbox="761 1415 873 1470">20</td> <td data-bbox="873 1415 1192 1470">-2.81 to -2.56</td> </tr> </tbody> </table> <p>Examinee checks the box for step 8.3.3 in CPS 9041.01.</p>	JP	%Dev Range	11	2.56 to 2.82	12	2.56 to 2.82	13	-1.3 to -1.0	14	-1.53 to -1.28	15	-1.3 to -1.0	16	-1.53 to -1.28	17	-1.3 to -1.0	18	- 2.56 to -2.31	19	6.6 to 6.92	20	-2.81 to -2.56	<input type="checkbox"/>	<input type="checkbox"/>	<hr style="width: 20px; margin: auto;"/>
JP	%Dev Range																										
11	2.56 to 2.82																										
12	2.56 to 2.82																										
13	-1.3 to -1.0																										
14	-1.53 to -1.28																										
15	-1.3 to -1.0																										
16	-1.53 to -1.28																										
17	-1.3 to -1.0																										
18	- 2.56 to -2.31																										
19	6.6 to 6.92																										
20	-2.81 to -2.56																										

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*10	Step 8.3.4.1 Compares Jet Pump Flow % Deviation to the Acceptance Criteria.	Examinee compares the calculated jet pump flow % deviation calculated in step 8.3.3 to the acceptance criteria on Table 1 – Fast Speed (80-100% Power). Examinee notes that jet pump (JP) 19 is outside the acceptance criteria. Examinee checks the box for step 8.3.4.1 in CPS 9041.01.	<input type="checkbox"/>	<input type="checkbox"/>	—
CUE	If the examinee reports that jet pump 19 outside the acceptance value, acknowledge the report.				
11	Step 8.3.4.1 Documents Jet Pump Flow % deviation is outside the Table 1 acceptance value.	Examinee records Jet Pump Flow % deviation being outside the Table 1 acceptance value on CPS 9041.01D001 Supplemental Review Sheet.	<input type="checkbox"/>	<input type="checkbox"/>	—
12	Step 8.4 Determines Engineering evaluation was not performed .	Examinee reviews Initiating Cue and determines that there was no Engineer available to perform an evaluation. Step is N/A.	<input type="checkbox"/>	<input type="checkbox"/>	—
13	Step 8.5 Notifies SMngt of the completion of the test.	Examinee notifies SMngt that test is complete.	<input type="checkbox"/>	<input type="checkbox"/>	—
CUE	If the examinee reports that the test is complete, acknowledge the report. JPM is complete.				

JPM Stop Time: _____



JPM SUMMARY

Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

JPM Title: Perform a Manual Jet Pump Operability

JPM Number: JPM512

Revision Number: 03

Task Number and Title: 904101.01 Perform the Jet Pump Operability Test

Task Standard: The examinee will complete CPS 9041.01 Jet Pump Operability Test and determine:

- Recirc Loop A Loop Flow % Deviation is outside the Acceptance Value and steps 8.3.2, 8.3.3 and 8.3.4 may NOT be omitted.
- Jet Pump 19 Flow % Deviation is outside its Acceptance Value.

K/A Number and Importance:

K/A System	K/A Number	Importance (RO/SRO)	
Generic	2.2.12	3.7	4.1

Suggested Testing Environment: Classroom

Alternate Path: Yes No SRO Only: Yes No Time Critical: Yes No

Reference(s):

Procedure: CPS 9041.01 Revision: 36c
CPS 9041.01D001 Revision: 34b

Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 20 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? Yes No

The operator's performance was evaluated against standards contained within this JPM and has been determined to be: Satisfactory Unsatisfactory

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

SRRS: 3D.105 (when utilized for operator initial or continuing training)

Attachment 1: Data for CPS 9041.01 Sections 8.1 and 8.2

B33DA013	INDICATED Loop A Flow	32,500 gpm
B33DA014	INDICATED Loop B Flow	31,000 gpm
B33DA009	B33-F060A Recirc FCV Position	RVDT 61%
B33DA010	B33-F060B Recirc FCV Position	RVDT 61%
B33DA022	Loop A Jet Pump Flow	40.76 mlbm/Hr
B33DA023	Loop B Jet Pump Flow	42.69 mlbm/Hr
B33NA001	Indicated Total Core Flow	77.0 mlbm/Hr

Attachment 2: Data for CPS 9041.01 Sections 8.3

Jet Pump Number	Jet Pump Flow (mlbm/hr)
JP 1	3.99
JP 2	3.99
JP 3	3.73
JP 4	3.77
JP 5	3.80
JP 6	3.81
JP 7	3.73
JP 8	3.76
JP 9	3.73
JP 10	3.66
JP 11	4.01
JP 12	4.01
JP 13	3.86
JP 14	3.85
JP 15	3.86
JP 16	3.85
JP 17	3.86
JP 18	3.81
JP 19	4.17
JP 20	3.80

INITIAL CONDITIONS

You are the extra RO.

The computerized method of performing CPS 9041.01 Jet Pump Operability Test is not available at this time.

Plant conditions are as follows:

- Reactor is operating at 96% power.
- RR Pumps 'A' and 'B' are operating in fast speed.
- APRM calibrations are NOT in progress.

INITIATING CUE

CPS 9041.01 Jet Pump Operability Test was started on midshift – completed through step 8.1.3. The Control Room Supervisor (CRS) has directed you to complete the remaining portions of CPS 9041.01. Document results on CPS 9041.01D001 Jet Pump Operability Test Data Sheet. Ensure Comments/Deficiencies are documented on the Supplemental Review Sheet, as necessary.

No Engineer is available to provide judgements or evaluations.

Report to the CRS after completing the task.

Job Performance Measure**RT Pump Shutdown**JPM Number: JPM475Revision Number: 01Date: 8/19/2020Developed By: Bill Kiser / 8/19/20
Instructor: Print / Sign DateReviewed By: Mark McCleary / 3/01/21
SME or Instructor: Print / Sign DateReviewed By: Tim Windingland / 3/11/21
Operations Representative: Print / Sign DateApproved By: Matthew Beeler / 3/11/21
Training Department: Print / Sign Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

1. Task description and number, JPM description and number are identified. _____
2. Knowledge and Abilities (K/A) references are included. _____
3. Performance location specified. (in-plant, control room, simulator, or other) _____
4. Initial setup conditions are identified. _____
5. Initiating cue (and terminating cue if required) are properly identified. _____
6. Task standards identified and verified by instructor or SME review. _____
7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*). _____
8. IAW NUREG 1021 Appendix C, clearly identify the task standard (i.e., the predetermined qualitative or quantitative outcome) against which task performance will be measured. _____
9. Verify the procedure(s) referenced by this JPM reflects the current revision:

Procedure: <u>CPS 3303.01</u>	Revision: <u>38</u>
Procedure: <u>CPS 3303.01V001</u>	Revision: <u>20a</u>
Procedure: <u>RP-AA-203</u>	Revision: <u>6</u>
Procedure: _____	Revision: _____
10. Verify cues both verbal and visual are free of conflict. _____
11. Verify performance time is accurate. _____
12. If the JPM cannot be performed as written with proper responses, then revise the JPM. _____
13. When JPM is initially validated, sign and date JPM cover page. For subsequent validations, sign and date below: _____

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

_____/_____
SME / Instructor (Print/Sign) _____
Date

Revision Record (Summary)

Revision #	Summary
00	4/10/18 – New JPM.
01	8/19/20 – Updated references.

SETUP INSTRUCTIONS

1. No setup is required for this JPM.

INITIAL CONDITIONS

RWCU Recirc Pump 'B' 1G33-C001B has been secured due to a leaking seal per CPS 3303.01 Reactor Water Cleanup (RT) section 8.1.4 Removing RWCU Pump(s) From Service.

INITIATING CUE

Determine:

- 1) the total dose required to support a pre-job brief of two Equipment Operators tasked with performing CPS 3303.01 section 8.1.4.4 to isolate and vent the 'B' RWCU Pump, and
- 2) the margin each Operator will have to the yearly admin dose limit after performing the task.

The following amplifying information is provided:

- Equipment Operator #1 has 700 mr radiation dose YTD.
- Equipment Operator #2 has 500 mr radiation dose YTD.
- Equipment Operator #1 will be performing steps 8.1.4.4.1, 8.1.4.4.2, and 8.1.4.4.3 of CPS 3303.01 Reactor Water Cleanup (RT).
- Equipment Operator #2 will be performing steps 8.1.4.4.4, 8.1.4.4.6, 8.1.4.4.7, and 8.1.4.4.8 of CPS 3303.01 Reactor Water Cleanup (RT)
- Use the following estimated stay times for estimating Equipment Operator doses:
 - Equipment Operator #1: 3 minutes at 1G33-F013B, 3 minutes at 45B, and 6 minutes at 43B.
 - For Equipment Operator #2: 2 minutes performing 8.1.4.4.4 and 3 minutes performing 8.1.4.4.6, 8.1.4.4.7, and 8.1.4.4.8.
- Assume minimal dose will be received during the transit to and from each component.
- Valves are to be operated at arms-length.

Inform the Shift Manager when the task is complete.

Fill in the JPM Start Time when the student acknowledges the Initiating Cue.

.....
Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

Number any comments in the "Comment Number" column on the following pages. Then annotate that comment in the "Comments" section. The comment section should be used to document: the reason that a step is marked as unsatisfactory, marginal performance relating to management expectations, or problems the examinee had while performing the JPM.

Comments relating to procedural or equipment issues should be entered and tracked using the site's appropriate tracking system.

Some operations that are performed from outside of the control room may require multiple steps. These items may be listed as individual steps in this JPM. It is acceptable for the candidate to direct the local operator to perform groups of procedure steps instead of calling for each individual item to be performed.

The timeclock starts when the candidate acknowledges the initiating cue.
.....

JPM Start Time: _____ JPM Sequence #: _____ of _____

Task Standard:

At the completion of this JPM the examinee will have determined the total dose and margin to the annual admin dose limit for each operator.

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number																														
CUE	Provide the examinee with a copy of:																																		
	<ul style="list-style-type: none"> Initiating Cue (last page of JPM) CPS 3303.01 Reactor Water Cleanup (RT) CPS 3303.01V001 Reactor Water Cleanup Valve Lineup JPM475 Attachments 1 – 4: Survey maps RP-1137-04, RP-1126-04, RP-1136-05 and RP-1192-03 Selected RP Procedures for Admin JPMs Calculator 																																		
*01	Examinee determines total dose for each operator.	Examinee determines total dose for Operator #1 is 95 mrem. <table border="1" style="margin: 10px auto;"> <thead> <tr> <th colspan="5">Operator #1</th> </tr> <tr> <th>Procedure Step</th> <th>Valve</th> <th>Dose Rate (mr/hr)</th> <th>Time (min)</th> <th>Dose (mr)</th> </tr> </thead> <tbody> <tr> <td>8.1.4.4.1</td> <td>13B</td> <td>700</td> <td>3</td> <td>35</td> </tr> <tr> <td>8.1.4.4.2</td> <td>45B</td> <td>400</td> <td>3</td> <td>20</td> </tr> <tr> <td>8.1.4.4.3</td> <td>43B</td> <td>400</td> <td>6</td> <td>40</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Total Dose</td> <td>95</td> </tr> </tbody> </table>	Operator #1					Procedure Step	Valve	Dose Rate (mr/hr)	Time (min)	Dose (mr)	8.1.4.4.1	13B	700	3	35	8.1.4.4.2	45B	400	3	20	8.1.4.4.3	43B	400	6	40				Total Dose	95	<input type="checkbox"/>	<input type="checkbox"/>	_____
Operator #1																																			
Procedure Step	Valve	Dose Rate (mr/hr)	Time (min)	Dose (mr)																															
8.1.4.4.1	13B	700	3	35																															
8.1.4.4.2	45B	400	3	20																															
8.1.4.4.3	43B	400	6	40																															
			Total Dose	95																															

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number																									
*01 (cont.)		<p>Examinee determines total dose for Operator #2 is 25 mrem.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="5">Operator #2</th> </tr> <tr> <th>Procedure Step</th> <th>Valve</th> <th>Dose Rate (mr/hr)</th> <th>Time (min)</th> <th>Dose (mr)</th> </tr> </thead> <tbody> <tr> <td>8.1.4.4.4</td> <td>005B</td> <td>300</td> <td>2</td> <td>10</td> </tr> <tr> <td>8.1.4.4.6, 8.1.4.4.7, 8.1.4.4.8</td> <td>10B / 11B</td> <td>300</td> <td>3</td> <td>15</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Total Dose</td> <td>25</td> </tr> </tbody> </table>	Operator #2					Procedure Step	Valve	Dose Rate (mr/hr)	Time (min)	Dose (mr)	8.1.4.4.4	005B	300	2	10	8.1.4.4.6, 8.1.4.4.7, 8.1.4.4.8	10B / 11B	300	3	15				Total Dose	25	<input type="checkbox"/>	<input type="checkbox"/>	—
Operator #2																														
Procedure Step	Valve	Dose Rate (mr/hr)	Time (min)	Dose (mr)																										
8.1.4.4.4	005B	300	2	10																										
8.1.4.4.6, 8.1.4.4.7, 8.1.4.4.8	10B / 11B	300	3	15																										
			Total Dose	25																										
*02	Examinee calculates margin to the admin dose limit for both Operators.	<p>Examinee determines Operator #1 will have a margin of 1205 mrem to the annual admin dose limit after completing the task.</p> <p>2000 mr – 700 mr - 95 mr = 1205 mr</p>	<input type="checkbox"/>	<input type="checkbox"/>	—																									
		<p>Examinee determines Operator #2 will have a margin of 1475 mrem to the annual admin dose limit after completing the task.</p> <p>2000 mr – 500 mr - 25 mr = 1475 mr</p>	<input type="checkbox"/>	<input type="checkbox"/>	—																									
CUE	JPM is complete.																													

JPM Stop Time: _____

.....

JPM SUMMARY
Operator's Name: _____ **Emp. ID#:** _____

Job Title: EO RO SRO FS STA/IA SRO Cert

 JPM Title: RT Pump Shutdown

 JPM Number: JPM475

 Revision Number: 01

 Task Number and Title: 102405.01 Apply the administrative requirements of ALARA program elements

 Task Standard: At the completion of this JPM the examinee will have determined the total dose and margin to the annual admin dose limit for each operator.

K/A Number and Importance:

K/A System	K/A Number	Importance (RO/SRO)	
Generic	2.3.13	3.4	3.8

 Suggested Testing Environment: Classroom

 Alternate Path: Yes No SRO Only: Yes No Time Critical: Yes No

Reference(s):

 Procedure: CPS 3303.01 Revision: 37b
CPS 3303.01V001 20a
RP-AA-203 6
Actual Testing Environment: Simulator Control Room In-Plant Other

Testing Method: Simulate Perform

Estimated Time to Complete: 10 minutes **Actual Time Used:** _____ minutes

EVALUATION SUMMARY:

 Were all the Critical Elements performed satisfactorily? Yes No

 The operator's performance was evaluated against standards contained within this JPM and has been determined to be: Satisfactory Unsatisfactory

NOTE: Enter finalized grading, comments, and notes relevant to this evaluation in the associated TQ-AA-150-F03A/B. (See AR [4282419](#)).

Evaluator's Name (Print): _____

Evaluator's Signature: _____ **Date:** _____

SRRS: 3D.105 (when utilized for operator initial or continuing training)

Attachment 1 – Survey Map RP-1137-04

 RP- 1137-04
 11/28/2009

CPS RADIOLOGICAL SURVEY SHEET

 Aux. Building – 750'EL.
 RT Mezzanine

Survey Index No:

XX/XX/XXXX	-	21
Date		IndexNo

 Date: XX/XX/XXXX Time: XX:XX

 Type: RWP Other: _____

 Performed By: A. Radcontech

 Counted By: A. Nothertech

 Reviewed By: R.P. Sup Date: XX/XX/XXXX

Inst. Type

Serial #

Cal Due

Date

RADIATION

Telepole

334721

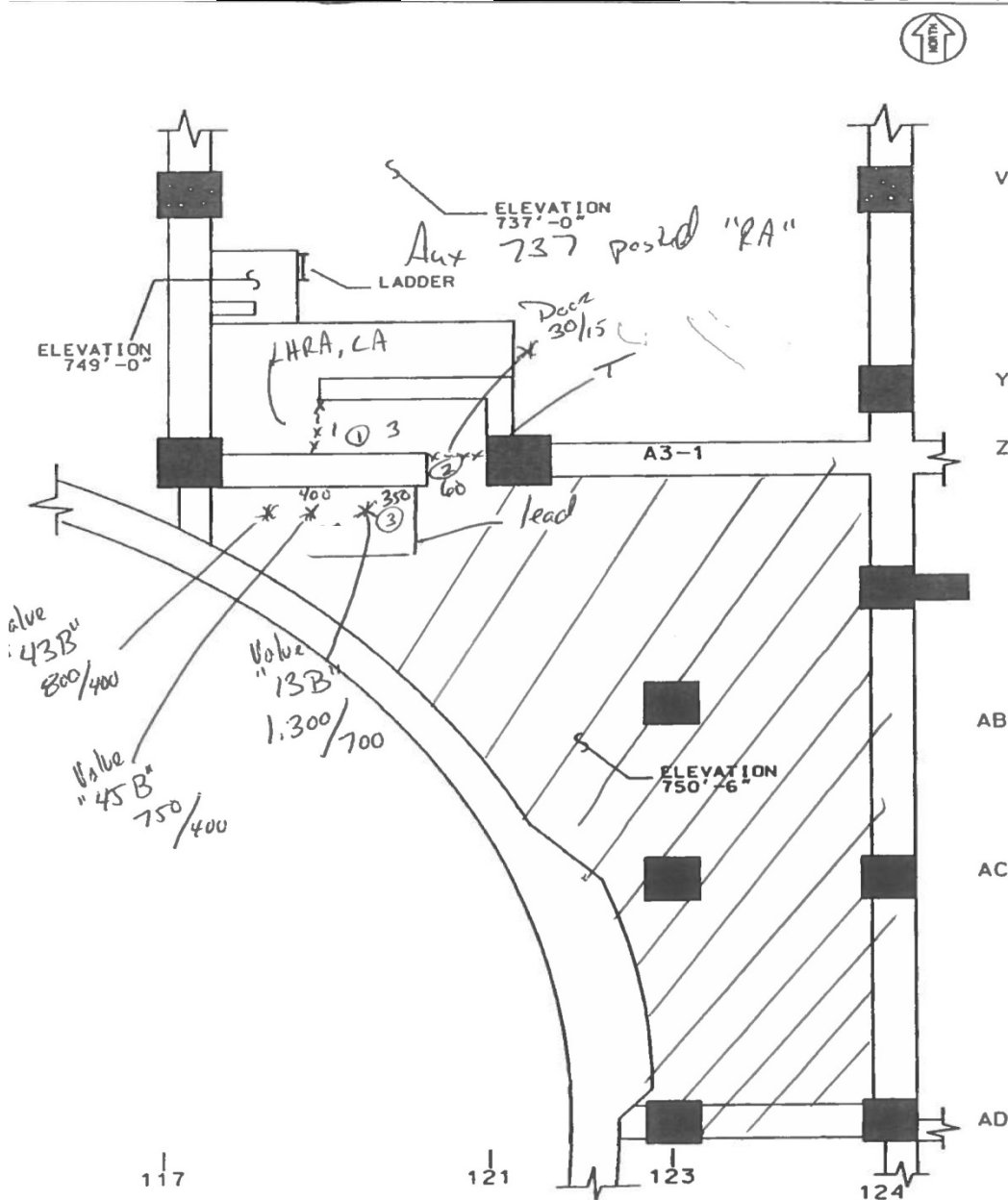
xx/xx/xxxx

CONTAMINATION

L-177

19265

xx/xx/xxxx



Smear/Location		Smear/Location	
No	dpm/100cm ²	No	/
1	21K		
2	21K		
3	2K		

Remarks:

 MRRR/RWP: CL-ILT-XX-XXXXX

To support removing 'B' RWCU Pump from service.

/// Not Surveyed

 Tech Dose Received: 3.4 mR

 Notes: Gross Massinn (~100 ft²)

1. Gen. Area Dose Rates in mRem/hr.
2. * # / # = Contact/30cm Dose Rates
3. Smears Taken at Circled Locations
4. X X = Radiological Boundary
5. RCA = Radiological Control Area
6. CA = Contaminated Area
7. HCA = High Contamination Area
8. RA = Radiation Area
9. HRA = High Radiation Area
10. LHRA = Locked High Radiation Area
11. T = Transfer Area
12. CAB = Clean Area Boundary

Attachment 2 – Survey Map RP-1126-04

 RP- 1126-04
 11/28/2009

CPS RADIOLOGICAL SURVEY SHEET

Aux. Building – 737'EL.
 Reactor Water Cleanup Pump 'B'

Survey Index No:	
XX/XX/XXXX	- 13
Date	IndexNo

 Date: XX/XX/XXXX Time: XX:XX

 Type: RWP Other: _____

 Performed By: A. Radcontech

 Counted By: A. Nothertech

 Reviewed By: R.P. Sup Date: XX/XX/XXXX

Inst. Type

Serial #

Cal Due

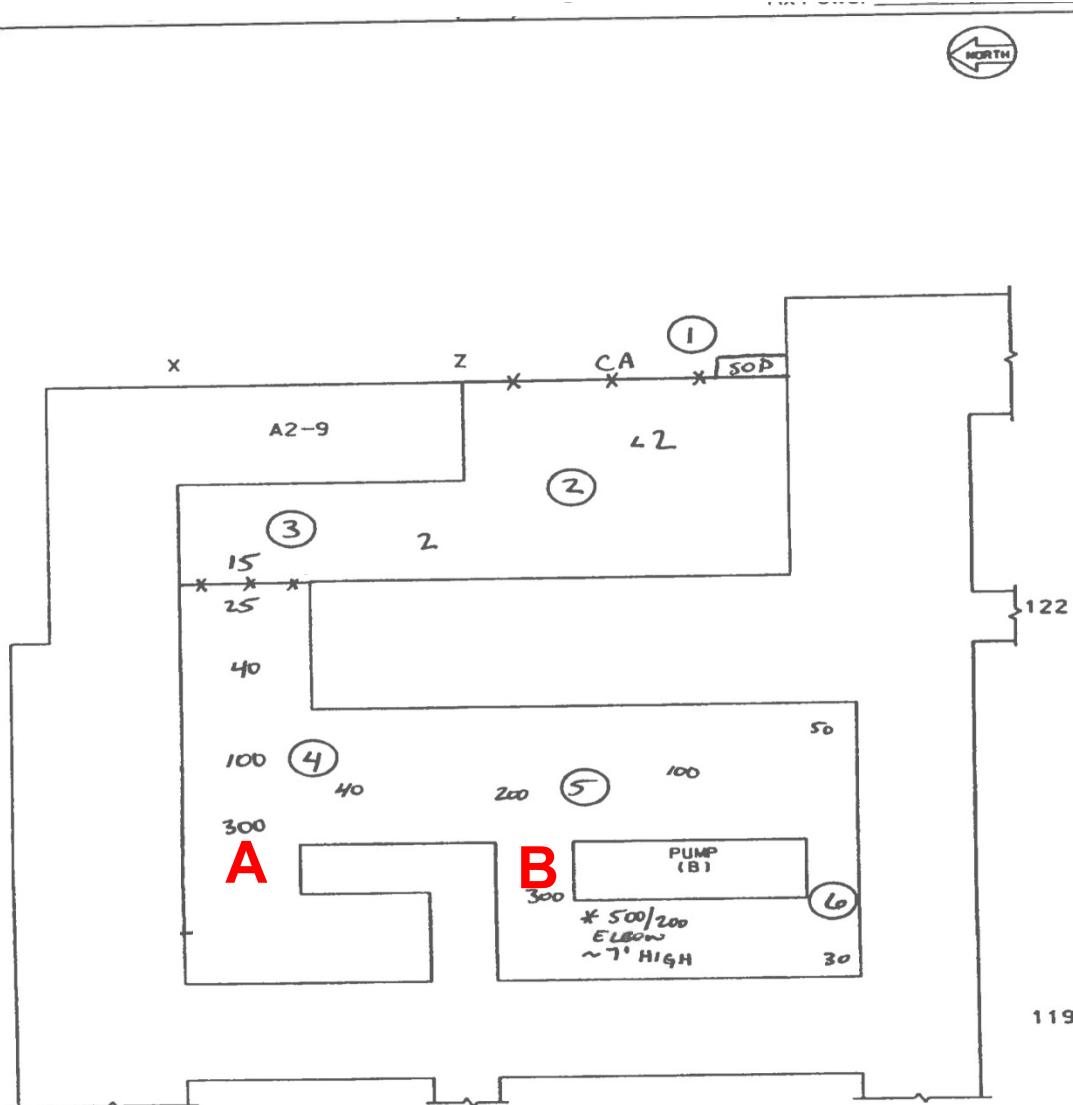
Date

RADIATION

R02A
78050
xx/xx/xxxx

CONTAMINATION

L-177
327040
xx/xx/xxxx



Smear/Location		Smear/Location	
No	dpm/100cm ²	No	N/A
1	< 1K		
2	< 1K		
3	2K		
4	15K		
5	20K		
6	40K		
	N/A		

 Remarks:
 MRRR/RWP: CL-ILT-XX-XXXX

To support removing 'B' RWCU Pump from service.

 1G33-F005B is located at point **A** and 1G33-F010B & 11B are located at point **B**.

119

 Tech Dose Received: 23 mR

 Notes: Gross Masslinn (~100 ft²)

1. Gen. Area Dose Rates in mRpm/hr.
2. * # / # = Contact/30cm Dose Rates
3. Smears Taken at Circled Locations
4. * - * = Radiological Boundary
5. RCA = Radiological Control Area
6. CA = Contaminated Area
7. HCA = High Contamination Area
8. RA = Radiation Area
9. HRA = High Radiation Area
10. LHRA = Locked High Radiation Area
11. T = Transfer Area
12. CAB = Clean Area Boundary

Attachment 3 – Survey Map RP-1136-05

RP- 1136-05
11/28/2009

CPS RADIOLOGICAL SURVEY SHEET

Aux. Building – 750'EL.
Aux. Building Steam Tunnel

Survey Index No:	XX/XX/XXXX	-	8
Date		IndexNo	

Date: XX/XX/XXXX Time: XX:XX

Type: RWP Other: _____

Performed By: A. Radcontech

Counted By: A. Nothertech

Reviewed By: R.P. Sup Date: XX/XX/XXXX

Inst. Type

Serial #

Cal Due

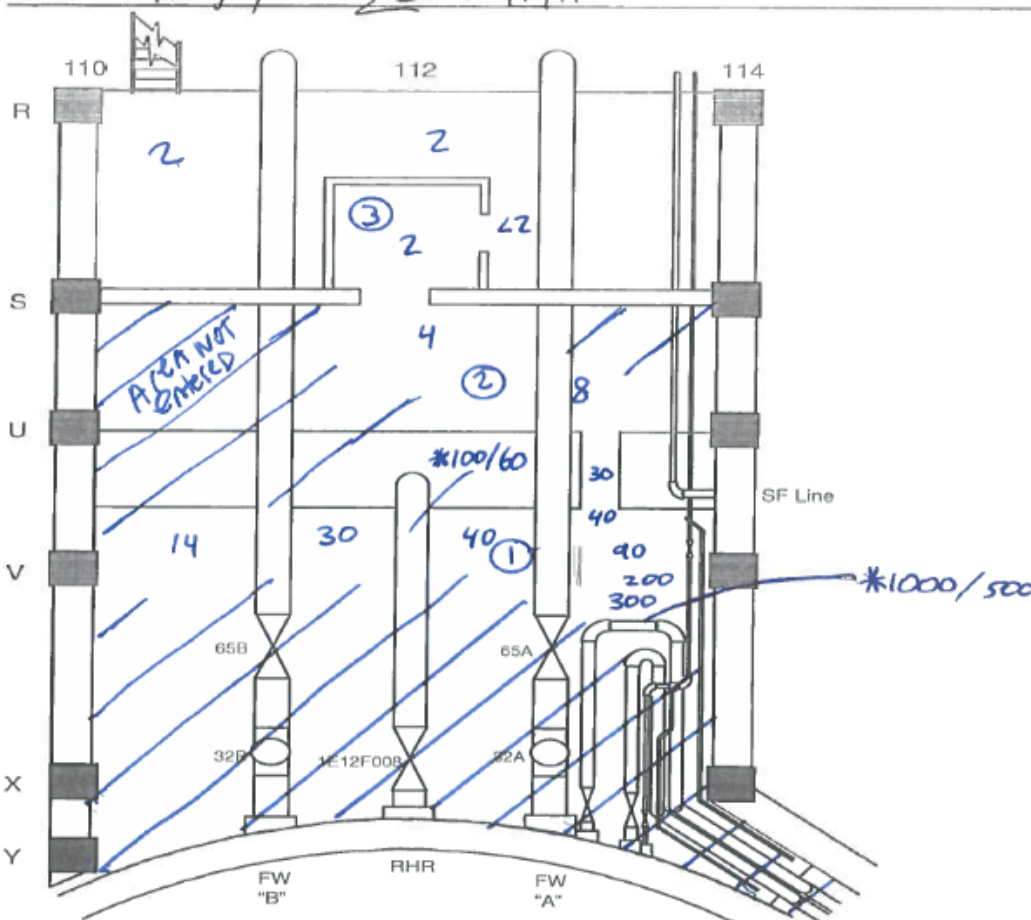
Date

RADIATION

R02A
3316
xx/xx/xxxx

CONTAMINATION

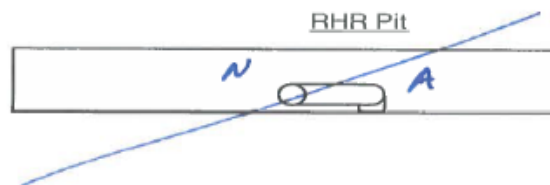
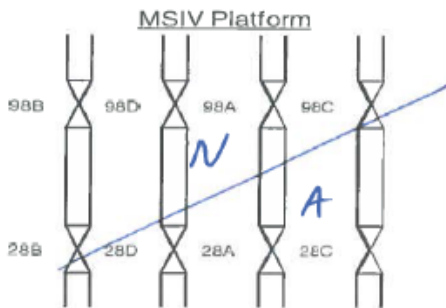
L-177
327099
xx/xx/xxxx



Smear/Location	Smear/Location
No dpm/100cm ²	No
1 <1k	N/A
2 <1k	
3 <1k	
N/A	

Remarks: MRRR/RWP CL-ILT-XX-XXXXX

To support removing 'B' RWCU Pump from service.



Tech Dose Received: 6 mR

- Notes:
1. Cen. Area Dose Rates in mRem/hr.
 2. * # / # = Contact/30cm Dose Rates
 3. Smears Taken at Circled Locations
 4. X X = Radiological Boundary
 5. RCA = Radiological Control Area
 6. CA = Contaminated Area
 7. HCA = High Contamination Area
 8. RA = Radiation Area
 9. HRA = High Radiation Area
 10. LHRA = Locked High Radiation Area
 11. T = Transfer Area
 12. CAB = Clean Area Boundary

SRRS: 3D.100; There are no retention requirements for this section

Attachment 4 – Survey Map RP-1192-03

RP- 1192-03
 11/28/2009

CPS RADIOLOGICAL SURVEY SHEET

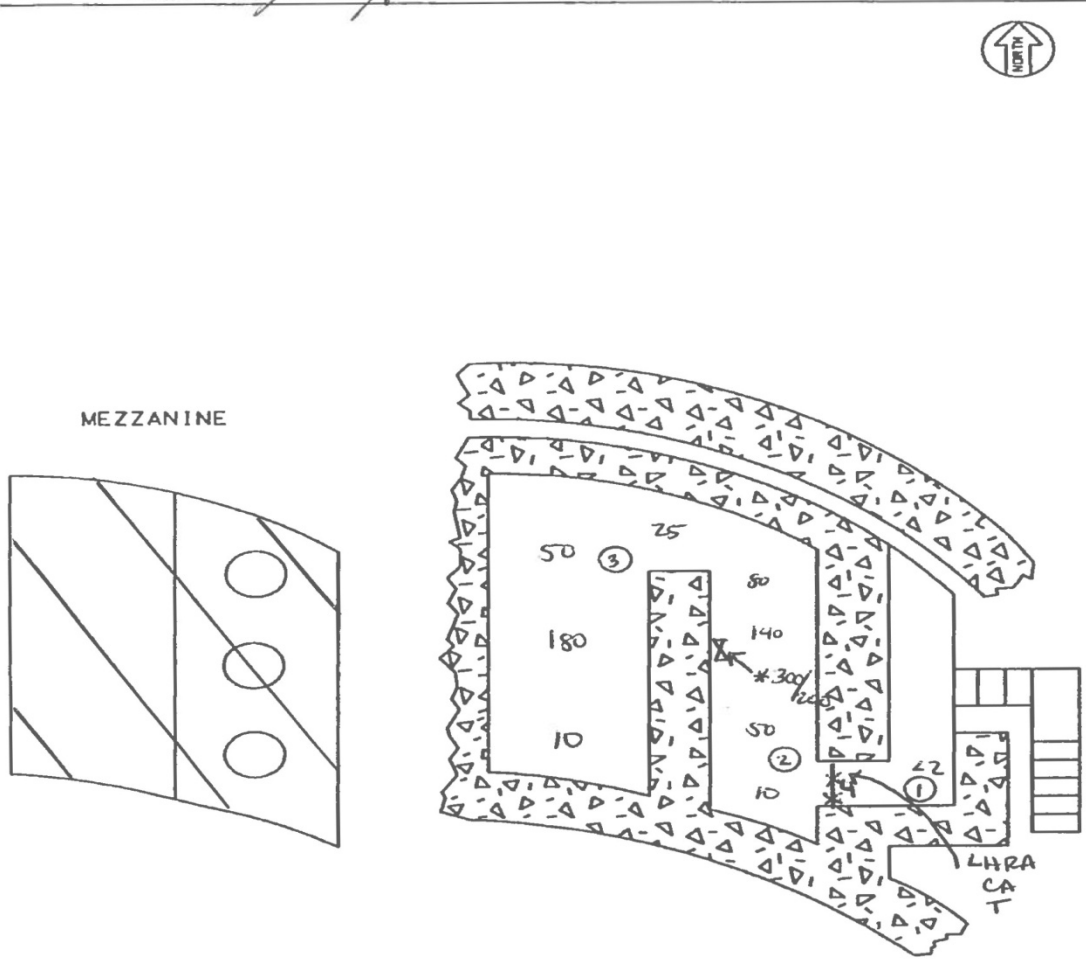
Containment – 789'EL.
 RT HX Room (B)

Survey Index No:	
<u>XX/XX/XXXX</u>	- 10
Date	IndexNo

Date: XX/XX/XXXX Time: XX:XX
 Type: RWP Other: _____ Inst. Type
 Performed By: A. Radcontech Serial #
 Counted By: A. Nothertech Cal Due
 Reviewed By: R.P. Sup Date: XX/XX/XXXX Date

RADIATION
R02A
76965
xx/xx/xxxx

CONTAMINATION
L-177
327099
xx/xx/xxxx



Smear/Location		Smear/Location	
No	dpm/100cm ²	No	N/A
1	21K		
2	10K		
3	35K		
	N/A		

Remarks:
 MRRR/RWP: CL-ILT-XX-XXXX

To support removing 'B' RWCU Pump from service.

Tech Dose Received: 0.5 mR
 Notes: Gross Masslinn (~100 ft²)
 1. Gen. Area Dose Rates in mRem/hr.
 2. * / # = Contact/30cm Dose Rates
 3. Smears Taken at Circled Locations
 4. X-X = Radiological Boundary
 5. RCA = Radiological Control Area
 6. CA = Contaminated Area
 7. HCA = High Contamination Area
 8. RA = Radiation Area
 9. HRA = High Radiation Area
 10. LHRA = Locked High Radiation Area
 11. T = Transfer Area
 12. # N = Neutron Dose Rate (mRem/hr)

INITIAL CONDITIONS

RWCU Recirc Pump 'B' 1G33-C001B has been secured due to a leaking seal per CPS 3303.01 Reactor Water Cleanup (RT) section 8.1.4 Removing RWCU Pump(s) From Service.

INITIATING CUE

Determine:

- 1) the total dose required to support a pre-job brief of two Equipment Operators tasked with performing CPS 3303.01 section 8.1.4.4 to isolate and vent the 'B' RWCU Pump, and
- 2) the margin each Operator will have to the yearly admin dose limit after performing the task.

The following amplifying information is provided:

- Equipment Operator #1 has 700 mr radiation dose YTD.
- Equipment Operator #2 has 500 mr radiation dose YTD.
- Equipment Operator #1 will be performing steps 8.1.4.4.1, 8.1.4.4.2, and 8.1.4.4.3 of CPS 3303.01 Reactor Water Cleanup (RT).
- Equipment Operator #2 will be performing steps 8.1.4.4.4, 8.1.4.4.6, 8.1.4.4.7, and 8.1.4.4.8 of CPS 3303.01 Reactor Water Cleanup (RT)
- Use the following estimated stay times for estimating Equipment Operator doses:
 - Equipment Operator #1: 3 minutes at 1G33-F013B, 3 minutes at 45B, and 6 minutes at 43B.
 - For Equipment Operator #2: 2 minutes performing 8.1.4.4.4 and 3 minutes performing 8.1.4.4.6, 8.1.4.4.7, and 8.1.4.4.8.
- Assume minimal dose will be received during the transit to and from each component.
- Valves are to be operated at arms-length.

Inform the Shift Manager when the task is complete.