Job Performance Measure

Evaluate Plant Chemistry

JPM Number: JPM557

Revision Number: 00

Date: 3/1/18

Developed By:	Tony Jennings Instructor	3/1/18 Date
Validated By:	Mark McCleary SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 Date

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

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 SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 4010.02 Rev: 8a
Procedure CY-AB-120-100 Rev: 19
Procedure ORM 2.3.1 Rev: 76
Procedure 5013.03 Rev: 27
Procedure 4010.01 Rev: 11a
Procedure 5205 Rev: 26a

_____ 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. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	3/1/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

a. This is an SRO admin JPM; no simulator setup is required.

b. Administer this JPM in a location that allows access to the Operational Requirements Manual (ORM).

INITIAL CONDITIONS

The plant is in Mode 1 at rated thermal power.

At 0800 the following MCR annunciator was received:

- 5013-3B Trouble PS System Local Pnl 1PL88JB.

Operators dispatched to 1PL88JB report the following 1PL88JB alarms:

- 5205-4E High Specific Conductivity Condensate Demineralizer Discharge Header, and
- 5205-5F High Spec Cdty Reactor Feedwater Header

At 0900, Chemistry reports the following reactor coolant chemistry sample results:

- Chlorides – 0.34 ppb (up from 0.21 ppb 72 hours ago)
- Conductivity – 1.05 µS/cm (up from 0.42 µS/cm 72 hours ago)
- pH – 5.8 (down from 6.1 72 hours ago)

1RIX-PR034 Off Gas Pre-Treat Process Radiation Monitor (PRM) and Main Steam Line (MSL) Radiation Monitors are normal and stable.

INITIATING CUE

Evaluate plant chemistry and determine any required actions.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	Provide the examinee with **Cue Sheet 1** and the following items: • 5013.03 Alarm Panel 5013 Annunciators – Row 3 • CPS 4010.02 Plant Chemistry • CPS 4010.01 Reactor Coolant High Activity • CY-AB-120-100 Reactor Water Chemistry • CPS 5205 Alarm Panel 5205 Annunciators (1PL88JB)				

***1**	Determines reactor coolant conductivity has exceeded ORM and procedural limitations.	• Refers to CPS 4010.02 Plant Chemistry, step 4.4, and starts 24 hour clock to return reactor water conductivity below the Action Level 2 limit or initiate an orderly plant shutdown within 16 hours.
		• Refers to CY-AB-120-100 step 4.3.3.1 Reactor Water Control Parameters – Power Operation and determines reactor coolant conductivity has exceeded Action Level 2 limit.
		• Refers to ORM 2.3.1 and determines that conductivity has exceeded Table. 3.3.1-1 Mode 1 Conductivity limit.
		  • Enters ORM 2.3.1 Action 3.3.1.1a.
		  • Begins 72 hour clock for ORM 2.3.1 Action 3.3.1.1.b
			___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number

CUE	As the ATC and BOP operators, **provide Cue Sheet #2** to the examinee and cue the examinee as follows:
	• Over the past 10 minutes:
	  • RWCU Inlet Conductivity has risen from 0.14 µS/cm to 1.01 µS/cm.
	  • 1RIX-PR034 Off Gas Pre-Treat PRM has risen from 2.65 µci/cc to 35 µci/cc.
	  • Determine if any additional actions are required.				

***2**	Determines that response is required for rapidly rising conductivity IAW CPS 4010.02 section 4.2 and CPS 4010.01 symptom 1.2.	Reviews 4010.02 Plant Chemistry and determines that the limits for rapid conductivity rise have been exceeded requiring the following: • Rapid Plant Shutdown per CPS 3005.01 Unit Power Changes to establish Mode 4 as rapidly as plant conditions and ITS cooldown rates allow, and • Transfer level control to an alternate source and secure and isolate the Condensate / Feedwater systems.	___	___	___
CUE	Cue the examinee that the 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: Evaluate Plant Chemistry
JPM Number: JPM557 Revision Number: 00
Task Number and Title: 401002.01 Respond to Abnormal Plant Chemistry
K/A Number and Importance: 2.1.34 / RO (2.7), SRO (3.5)
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☐ No
Reference(s):

- CPS 4010.02 Plant Chemistry, Rev. 8a
- CPS 4010.01 Reactor Coolant High Activity, Rev. 11a
- CY-AB-120-100 Reactor Water Chemistry Rev. 19
- ORM 2.3.1 Reactor Coolant System Chemistry Rev. 76
- CPS 5013.03 (3B) Trouble PS System Local Pnl 1PL88JB Rev. 27
- CPS 5205 Alarm Panel 5205 Annunciators (1PL88JB) Rev. 26a

Actual Testing Environment: ☐ Simulator ☐ Control Room ☐ In-Plant ☒ Other

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 30 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

Comments: _____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

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

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

CUE SHEET 2

(PROVIDE TO THE EXAMINEE WHEN PROMPTED IN JPM STEP 2)

SUBSEQUENT CONDITIONS

Over the past 10 minutes:

- RWCU Inlet Conductivity has risen from 0.14 µS/cm to 1.01 µS/cm.
- 1RIX-PR034 Off Gas Pre-Treat PRM has risen from 2.65 µci/cc to 35 µci/cc.
- Determine if any additional actions are required.

CUE SHEET 1

INITIAL CONDITIONS

The plant is in Mode 1 at rated thermal power.

At 0800 the following MCR annunciator was received:

- 5013-3B Trouble PS System Local Pnl 1PL88JB.

Operators dispatched to 1PL88JB report the following 1PL88JB alarms:

- 5205-4E High Specific Conductivity Condensate Demineralizer Discharge Header, and
- 5205-5F High Spec Cdty Reactor Feedwater Header

At 0900, Chemistry reports the following reactor coolant chemistry sample results:

- Chlorides – 0.34 ppb (up from 0.21 ppb 72 hours ago)
- Conductivity – 1.05 µS/cm (up from 0.42 µS/cm 72 hours ago)
- pH – 5.8 (down from 6.1 72 hours ago)

1RIX-PR034 Off Gas Pre-Treat Process Radiation Monitor (PRM) and Main Steam Line (MSL) Radiation Monitors are normal and stable.

INITIATING CUE

Evaluate plant chemistry and determine any required actions.

Job Performance Measure

Determine Minimum Crew Complement

JPM Number: JPM510

Revision Number: 02

Date: 3/5/18

Developed By:	Tony Jennings Instructor	3/5/18 Date
Validated By:	Cuong Hoang SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/20/18 Date
Approved By:	Tony Jennings Training Department	4/20/18 Date

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

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 SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure OP-CL-101-102-1001 Rev: 7c
Procedure_____ Rev: _____
Procedure _____ Rev: _____

_____ 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. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	11/18/12	New JPM.
01	7/8/16	Updated procedure references. Updated estimated time to complete based on validation.
02	3/5/18	Updated procedure references. Updated JPM to new template.

SIMULATOR SETUP INSTRUCTIONS

a. This is an SRO admin JPM; no simulator setup is required.

INITIAL CONDITIONS

Plant status is as follows:

- The plant scrammed late on midshift.
- All rods are in.
- Reactor pressure is 600 psig and stable.
- RPV level is being maintained between Level 3 and Level 8 with feed water.

INITIATING CUE

You are the on-coming Work Center Supervisor. The on-coming crew consists of the following personnel:

- SRO #1 – Qualified STA
- SRO #2 – Qualified Shift Manager & STA
- SRO #3 – Qualified Shift Manager
- 5 Reactor Operators (all qualified FB and 1 qualified as a FB Leader)
- 3 Equipment Operators (all qualified FB and EROC)
- 2 RP Technicians
- 2 First Aid/Rescue Operations Responders supplied by Security
- 1 EMD/IMD Technician
- 1 MMD Technician
- 1 Chemistry Technician

Determine shift manning requirements for the on-coming crew.

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.

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

JPM Start Time: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	Provide the examinee with a copy of OP-CL-101-102-1001 CPS Minimum On-Shift Staffing Functions.				
***1**	Compares on-coming crew composition with the minimum shift staffing requirements.	Reviews OP-CL-101-102-1001 Table 1 and determines that an additional NLO qualified operator (EO or RO) is required to meet minimum shift staffing requirements.	___	___	___

CUE	**Provide Cue Sheet #2** to the examinee and cue the examinee as follows:
	• You now take the shift with the personnel listed in the **INITIATING CUE** and any additional personnel you have requested.
	• Two hours after you take the shift SRO #1 has a personal emergency, leaves the site and will not return.
	  • SRO #1 was the CRS.
	  • SRO #3 assumes the CRS position and SRO #2 remains as the SM.
	• Evaluate shift manning requirements in light of this recent change in staffing.				

***2**	Determines required staffing and additional manning needs.	Reviews OP-CL-101-102-1001 Table 1 and determines that: • an IA OR STA is required in Mode 3, and • an additional SRO is required to meet minimum shift staffing requirements, and • the position must be manned within two hours.	___	___	___
CUE	Cue the examinee that the 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: Determine Minimum Crew Complement
JPM Number: JPM510 Revision Number: 02
Task Number and Title: 999999.25 Prepare a Minimum Shift Complement Form
K/A Number and Importance: 2.1.5 / RO (2.9), SRO (3.9)
Suggested Testing Environment: Classroom
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s):

- OP-CL-101-102-1001, Rev 7c CPS Minimum On-Shift Staffing Functions

Actual Testing Environment: ☐ Simulator ☐ Control Room ☐ In-Plant ☐ Other

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 25 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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

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

Position	Position Requirements†	Filled By:
Shift Manager (SM)	Cannot be the IA or the STA.	SRO2
Control Room Supervisor (CRS)	May also be STA, but not the IA.	SRO3
Reactor Operator (RO)	No other concurrent duties.	RO1 RO2
Shift Technical Advisor (STA)	No other concurrent ERO duties, except IA when permitted.	SRO Within 2 hrs
Incident Assessor (IA)	Separate IA is only required if CRS is STA. No other concurrent ERO or Fire Brigade duties. (Cue 2)	SRO Within 2 hrs
Non Licensed Operators (NLO)	Can also be EROC, ENLO, or a Fire Brigade position. (Cue 1)	EO1(ROC) EO2(C) EO3(D) (E)
Safe Shutdown Operator (SSQ)	Can not be A RO, B RO, Fire Brigade Member or EROC. Must be C area qualified.	EO2(C)
Shift Emergency Director	SED job function assigned to SM.	SRO2
ERO Communicator (EROC)	Can not be the SM, STA, IA, A RO, B RO, ENLO, a Fire Brigade position, or SSQ. [See 2.2 discussion]	EO1(ROC)
ERO - NLO (ENLO)	Supports Repair & Corrective Actions. Can not be the EROC. Mech Maint can fill this function.	MM01
Fire Brigade Leader	May be provided by other position.	RO3
Fire Brigade Members	Can also be ENLO or ERO Access. (Cue 1)	RO4 RO5 EO3(D) (E)
First Aid/ Rescue Operations	May be provided by other positions or Security.	SEC01 SEC02
Radiation Technician	May be assigned other ERO functions.	RP01
Offsite Dose Assessment	Normal RP function during an event. Cannot be assigned to the SED.	RP02
In-Plant Surveys	RP Personnel.	RP01
In-Plant Protective Actions (ERO Access 1/2)	On shift Personnel.	RO4 RO5
EMD/IMD Technician	Supports Repair & Corrective Actions.	EM/IM01
Chemistry Technician	Supports ERO Rad Assessment Function.	CH01
Refueling SRO	During CORE ALTERATIONs only.	NA

Note: Different combinations may be used to achieve the same results. However, the outcome must determine the following:
Cue 1 - an additional NLO qualified operator (EO or RO) is required.
Cue 2 – an additional SRO is required within 2 hours for the vacant SRO position.

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

CUE SHEET 2

(PROVIDE TO THE EXAMINEE WHEN PROMPTED IN JPM STEP 2)

SUBSEQUENT CONDITIONS

You now take the shift with the personnel listed in the **INITIATING CUE** and any additional personnel you have requested.

Two hours after you take the shift SRO #1 has a personal emergency, leaves the site and will not return.

- SRO #1 was the CRS.
- SRO #3 assumes the CRS position and SRO #2 remains as the SM.

Evaluate shift manning requirements in light of this recent change in staffing.

CUE SHEET 1

INITIAL CONDITIONS

Plant status is as follows:

- The plant scrammed late on midshift.
- All rods are in.
- Reactor pressure is 600 psig and stable.
- RPV level is being maintained between Level 3 and Level 8 with feed water.

INITIATING CUE

You are the on-coming Work Center Supervisor. The on-coming crew consists of the following personnel:

- SRO #1 – Qualified STA
- SRO #2 – Qualified Shift Manager & STA
- SRO #3 – Qualified Shift Manager
- 5 Reactor Operators (all qualified FB and 1 qualified as a FB Leader)
- 3 Equipment Operators (all qualified FB and EROC)
- 2 RP Technicians
- 2 First Aid/Rescue Operations Responders supplied by Security
- 1 EMD/IMD Technician
- 1 MMD Technician
- 1 Chemistry Technician

Determine shift manning requirements for the on-coming crew.

Job Performance Measure

Review CPS 9071.01 Diesel Driven Fire Pumps Operability Test

JPM Number: JPM556

Revision Number: 00

Date: 3/5/18

Developed By:	Tony Jennings Instructor	3/5/18 Date
Validated By:	Mark McCleary SME or Instructor	4/2/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 Date

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

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

NOTE: All steps of this checklist should be performed upon initial validation.
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_____ 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 SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure 9071.01 Rev: 40b
Procedure 1893.01 Rev: 20f
Procedure 1893.06 Rev: 12d

_____ 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. Subsequent validations, sign and date below:

SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision	Date	Description
00	3/5/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

a. This is an SRO admin JPM; no simulator setup is required.

INITIAL CONDITIONS

The plant is in Mode 1.

CPS 9071.01 Diesel Driven Fire Pumps Operability Test is field complete for 0FP01PA Diesel Driven Fire Pump 'A', awaiting supervisory review.

INITIATING CUE

Review CPS 9071.01 Diesel Driven Fire Pumps Operability Test.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	Provide the examinee with a marked up copy of CPS 9071.01 Diesel Driven Fire Pumps Operability Test. **Upon request ONLY**, provide the examinee with a copy of CPS 1893.06 Fire Protection Maintenance And Testing Program.				
***1**	Determines 0FP01PA: • coolant temperature exceeded section 9.2.2 Acceptance Criteria, and • was not run for the required time (section 9.2.1.1 Acceptance Criteria	Reviews the procedure and discovers the following: • **8.2.9 - Determines that test performer failed to add the correction factor for engine coolant temperature from step 4.2.1. When added engine coolant temperature exceeded 200°F.** • **8.2.19 - Determines that test performer failed to run 0FP01PA for the required 30 minutes.** *Evaluator Note: Calculations for 8.2.19 are as follows:* • *8.2.2.a.3 start time - 0124* • *8.2.19 time – 0150* • *8.3.5 time – 0152* • *Total time operating at full speed – 28 minutes.*	___	___	___
CUE	If the examinee identifies at least one of the deficiencies in step 1, cue him/her to determine required actions, and then provide examinee with a copy of CPS 1893.01 Fire Protection Impairment Reporting.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2**	Determines required action for a non-functional Fire Pump.	Reviews CPS 1893.01 Fire Protection Impairment Reporting Appendix A Fire Protection Functionality Requirements, and determines that the non-functional pump must be restored to FUNCTIONAL status within 7 days or provide an alternate backup pump.	___	___	___
CUE	Cue the examinee that the 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: Review CPS 9071.01 Diesel Driven Fire Pumps Operability Test

JPM Number: JPM556 Revision Number: 00

Task Number and Title: 101100.01 Apply the administrative requirements of SURVEILLANCE TESTING PROGRAM

K/A Number and Importance: 2.2.12 / RO (3.7), SRO (4.1)

Suggested Testing Environment: Classroom

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

Reference(s):

- CPS 9071.01Diesel Driven Fire Pumps Operability Test, Rev. 40b
- CPS 1893.01 Fire Protection Impairment Reporting, Rev. 20f
- CPS 1893.06 Fire Protection Maintenance And Testing Program, Rev. 12d

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

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

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

INITIAL CONDITIONS

The plant is in Mode 1.

CPS 9071.01 Diesel Driven Fire Pumps Operability Test is field complete for 0FP01PA Diesel Driven Fire Pump ‘A’, awaiting supervisory review.

INITIATING CUE

Review CPS 9071.01 Diesel Driven Fire Pumps Operability Test.

Job Performance Measure

Review CPS 9038.70 Radiation Monitoring Source Check Surveillance

JPM Number: JPM536

Revision Number: 02

Date: 3/5/18

Developed By:	Tony Jennings Instructor	3/5/18 Date
Validated By:	Cuong Hoang SME or Instructor	4/4/18 Date
Reviewed By:	James Lucas Operations Representative	4/10/18 Date
Approved By:	Tony Jennings Training Department	4/10/18 Date

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

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 SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure CY-CL-170-301 Rev: 25
Procedure CPS 9038.70 Rev: 3f
Procedure _____ Rev: _____

_____ 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. Subsequent validations, sign and date below:

_____ _____
SME / Instructor Date

_____ _____
SME / Instructor Date

_____ _____
SME / Instructor Date

Revision Record (Summary)

Revision	Date	Description
00	10/9/14	New JPM.
01	8/23/16	Updated procedure references.
02	3/5/18	Updated procedure references. Updated to new JPM template.

SIMULATOR SETUP INSTRUCTIONS

a. This is an SRO admin JPM; no simulator setup is required.

b. Administer this JPM in a location that allows access to CY-CL-170-301 Offsite Dose Calculation Manual (ODCM).

INITIAL CONDITIONS

The plant is operating at rated power.

NO LCOs are in effect.

1RIX-PR041 Off Gas Post-Treatment Monitor is currently NON-FUNCTIONAL for maintenance.

The OG Vault Refrigeration (VO) System has been shut down for repairs. The repairs have just been completed, and the VO system is being prepared for startup. The OG Charcoal Beds are in BYPASS to support VO system startup IAW CPS 3407.01 Off-Gas Vault Refrigeration (VO) step 4.1.

CPS 9038.70 Radiation Monitoring Source Check Surveillance has just been completed for the gaseous radiation monitors, OG Pre-treatment process radiation monitor, and the OG Post-Treatment process radiation monitors.

INITIATING CUE

As an on-shift SRO, perform the supervisory review of CPS 9038.70 Radiation Monitoring Source Check Surveillance.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE	Provide the examinee with the marked up copy of CPS 9038.70 Radiation Monitoring Source Check Surveillance.				
1	Reviews CPS 9038.70 section 5.0 Prerequisites.	Examinee reviews section 5.0 and determines section is filled out correctly.	___	___	___
Note	The examinee may perform the following review steps (2-4) in any order.				

CUE	If the examinee reports the failure in step 2, acknowledge the report and direct the examinee to complete the task.				

***2**	Evaluates surveillance data for 1RIX-PR034 Off-Gas Pre-treatment PRM.	Examinee reviews surveillance data for 1RIX-PR034 and determines the following:
		• Monitor failed to reach the required value of 1.5 times the current cpm value during the surveillance.
		• 1RIX-PR034 is NON-FUNCTIONAL per ODCM 3.2.1.
		• 1RIX-PR034 is required to be FUNCTIONAL during operation of the main condenser air ejector(s) per ODCM 3.2.1.1 Applicability.
		• The following ODCM 3.2.1 Required Actions must be taken:
		  • A.1, C.1, C.2.1.1, and C.2.1.2, <u>OR</u>
		  • A.1, C.1, C.2.2.1, C2.2.2, and C2.2.3 (requires that the OG Charcoal Beds must immediately be placed in service)
		Evaluator Note - If the examinee attempts to check the calculations on the data sheets, inform the examinee that the calculations have already been verified correct.
		Evaluator Note – If the examinee requests the status of the OG Charcoal Beds, cue him/her that the charcoal beds are bypassed to support startup of the OG Vault Refrigeration System.
			___	___	___

CUE	If the examinee reports the failure in step 3, acknowledge the report and direct the examinee to complete the task.				

***3**	Evaluates surveillance data for 1RIX-PR035 Off-gas Post-Treatment PRM #1.	Examinee reviews surveillance data for 1RIX-PR035 and determines the following:
		• Monitor failed to reach 30 cpm and 1.5 times the current cpm value when the source check was performed.
		• 1RIX-PR035 is NON-FUNCTIONAL per ODCM 3.2.1.
		• 1RIX-PR035 or 1RIX-PR041 is required to be FUNCTIONAL during operation of the main condenser air ejector(s) per ODCM 3.2.1 Applicability.
		• With 1RIX-PR041 already NON-FUNCTIONAL for maintenance, the following ODCM Required Actions must be taken:
		  • A.1, D.1, and D.2.1, OR
		  • A.1, D.1, D.2.2.1, and D.2.2.2
		Evaluator Note - If the examinee attempts to check the calculations on the data sheets, inform the examinee that the calculations have already been verified correct.
			___	___	___

CUE	If the examinee reports the failure in step 4, acknowledge the report and direct the examinee to complete the task. If asked, 0RIX-PR001 is in service.				
4	Reviews surveillance data for the remainder of the Gaseous Monitors in the surveillance.	Examinee reviews surveillance data for each of the remaining gaseous radiation monitors and determines the following: • Each monitor passed channel functional testing with the exception of 0RIX-PR002 HVAC Exhaust PRM #2 Iodine channel. • 0RIX-PR002 HVAC Exhaust PRM #2 Iodine Sampler is required to be FUNCTIONAL at all times, and that the non-ODCM failure does not impact functionality. • *Evaluator Note - If the examinee attempts to check the calculations on the data sheets, inform the examinee that the calculations have already been verified correct.*	___	___	___
CUE	Cue the examinee that the 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: Review CPS 9038.70 Radiation Monitoring Source Check Surveillance
JPM Number: JPM536 Revision Number: 02
Task Number and Title: 999999.19 Review the results of Surveillance Tests.
K/A Number and Importance: 2.3.15 / RO (2.9), SRO (3.1)
Suggested Testing Environment: Classroom
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s):

- CY-CL-170-301 Clinton Power Station Unit 1 Offsite Dose Calculation Manual (ODCM) Rev. 25
- CPS 9038.70 Radiation Monitoring Source Check Surveillance Rev. 3f

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

Comments: _____

_____

_____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

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

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

INITIAL CONDITIONS

The plant is operating at rated power.

NO LCOs are in effect.

1RIX-PR041 Off Gas Post-Treatment Monitor is currently NON-FUNCTIONAL for maintenance.

The OG Vault Refrigeration (VO) System has been shut down for repairs. The repairs have just been completed, and the VO system is being prepared for startup. The OG Charcoal Beds are in BYPASS to support VO system startup IAW CPS 3407.01 Off-Gas Vault Refrigeration (VO) step 4.1.

CPS 9038.70 Radiation Monitoring Source Check Surveillance has just been completed for the gaseous radiation monitors, OG Pre-treatment process radiation monitor, and the OG Post-Treatment process radiation monitors.

INITIATING CUE

As an on-shift SRO, perform the supervisory review of CPS 9038.70 Radiation Monitoring Source Check Surveillance.

Job Performance Measure

Classify An Emergency Event and Determine Protective Action Recommendations

JPM Number: JPM476

Revision Number: 00

Date: 7/21/18

Developed By:	Tony Jennings Instructor	7/21/18 Date
Validated By:	Aaron Speagle SME or Instructor	7/24/18 Date
Reviewed By:	James Lucas Operations Representative	7/26/18 Date
Approved By:	Tony Jennings Training Department	7/26/18 Date

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

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 SME review.

_____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).

_____ 8. If an alternate path is used, the task standard contains criteria for successful completion.

_____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
Procedure EP-AA-1003 Addendum 3 Rev: 2
Procedure EP-AA-111-F-07 Rev: H
Procedure EP-AA-111 Rev: 21
Procedure EP-AA-112-100-F-01 Rev: Y
Procedure _____ Rev: __

_____ 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. Subsequent validations, sign and date below:

_____ _____
SME / Instructor Date

_____ _____
SME / Instructor Date

_____ _____
SME / Instructor Date

Revision Record (Summary)

Revision	Date	Description
00	7/21/18	New JPM.

SIMULATOR SETUP INSTRUCTIONS

a. This is an SRO admin JPM; no simulator setup is required.

b. Administer this JPM in a location that allows access to:

   1) the Shift Emergency Director Binder

   2) EP-AA-1003 Addendum 3 Emergency Action Levels For Clinton Station (including the Addendum 3 Bases)

INITIAL CONDITIONS

You are the Shift Manager.

At 0100, the plant was operating at rated thermal power when a tornado struck the site, resulting in a complete loss of the 345KV and 138KV Switchyards.

- The Div 1, 2, and 3 Diesel Generators automatically started, but the Div 1 DG immediately tripped on Generator High Differential Overcurrent due to a generator fault NOT associated with the tornado strike.

The reactor scrammed and immediate actions were taken.

At 0110, current plant conditions are as follows:

- Reactor water level is -20 inches and lowering slowly with RCIC injecting to the RPV.
- Radiation levels in the containment are 1.0 r/hr and stable.

INITIATING CUE

This JPM is time critical.

You are to determine if any Emergency Action Levels have been exceeded.

Evaluator: Log JPM START TIME (next page) as soon as the Initiating Cue is read and acknowledged by the examinee.

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: _____

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*1	Examinee evaluates EP-AA-1003 Addendum 3 to determine if EALs have been exceeded.	**Examinee reviews EP-AA-1003 Addendum 3 Hot Matrix and determines that MA1 (Loss of all but one AC power source to emergency buses for 15 minutes or longer) EAL has been exceeded.** *Evaluator Note: MA1 has been exceeded due to:* • *Loss of ERAT (due to loss of 138KV SY)* • *Loss of RAT (due to loss of 345KV SY)* • *Loss of Div 1 DG (due to tripping on high generator differential overcurrent.* *Evaluator Cue: If the examinee requests further status of the Div 1 DG, report as the field operator that Div 1 DG generator casing had an extremely acrid odor when the operator was in the room.* *Evaluator Note: A 15-minute clock to declare the EAL starts as soon as the initiating cue is read and acknowledged via 3-part communication by the examinee. Record the time of the declaration below. The time declared must be no more than 15 minutes from the JPM Start Time.* *Record JPM Start Time* _____ *Record Time EAL declared* _____ *NOT longer than 15 minutes between the time EAL declared and JPM start time:* *YES / NO*	___	___	___
Cue	Cue the examinee, “Annunciator 5061-7E Tripped Diesel Generator 1B has just been received. The Equipment Operator investigating the alarm reports that DG 1B has tripped on low oil pressure and that there is oil flowing into the room from a crack in the 12 cylinder crank case. There is no fire. Estimated repair time is 6 hours.”				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
***2**	Examinee evaluates EP-AA-1003 Addendum 3 to determine if additional EALs have been exceeded.	Examinee acknowledges the additional information provided by the evaluator. **Examinee reviews EP-AA-1003 Addendum 3 Hot Matrix and determines that MG1 (Prolonged loss of all offsite and onsite AC power to emergency buses) EAL has been exceeded.** *Evaluator Note: MG1 has been exceeded due to:* • *Loss of all AC to 4160V Buses 1A1 and 1B1, and* • *Failure of DG 1A and 1B, and* • *Restoration of at least one vital bus (excluding Div 3) in < 4 hours is not likely.* *Evaluator Cue: If the examinee requests further status of the Div 1 or 2 DG, report that repair time estimates are unknown.* *Evaluator Note: A 15-minute clock to declare the EAL starts as soon as the initiating cue is read and acknowledged via 3-part communication by the examinee. Record the time of the declaration below. The time declared must be no more than 15 minutes from the JPM Step 2 Start Time.* *Record JPM Step 2 Start Time* _____ *Record Time EAL declared* _____ *NOT longer than 15 minutes between the time EAL declared and JPM step 2 start time:* *YES / NO*	___	___	___
CUE	Ask the examinee to determine what (if any) Protective Action Recommendations (PARs) are required.				

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*3	Examinee determines protective action recommendations.	**Examinee reviews EP-AA-111-F-07 Clinton PAR Flowchart and determines the protective action recommendation is to evacuate Sub Areas 1.** *Evaluator Note: PAR recommendation is based on the following:* • *Classification is a General Emergency? – Yes* • *Is this the initial PAR? – Yes* • *Is there a Loss of the Primary Containment per the EALs? – No* • *Is there a Hostile Action event in Progress? – No* • *Is this PAR being made from the Control Room? – Yes* • *EVACUATE per Table 3 (below) – WD From 0° to 359° - Sub Areas 1* *Evaluator Cue: If requested, cue the examinee that wind direction is 159°.*	___	___	___
Cue	Cue the examinee that the 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: Classify An Emergency Event and Determine Protective Action Recommendations
JPM Number: JPM476 Revision Number: 00
Task Number and Title: 997777.02 Determine Protective Action Recommendations
K/A Number and Importance: 2.4.44 / RO (2.4), SRO (4.4)
Suggested Testing Environment: Simulator/Classroom
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☒ Yes ☐ No
Reference(s):

- EP-AA-111, Emergency Classification and Protective Action Recommendations, Rev. 21
- EP-AA-1003, Radiological Emergency Plan Annex for Clinton Station, Rev. 28
- EP-AA-1003 Addendum 3 Emergency Action Levels For Clinton Station, Rev. 2
- EP-AA-111-F-07, Clinton Plant Based PAR Flowchart, Rev. H
- EP-AA-112-100-F-01 Shift Emergency Director Checklist, Rev. Y

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

Comments: _____

_____

_____

_____

_____

_____

Evaluator's Name (Print): _____

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

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

INITIAL CONDITIONS

You are the Shift Manager.

At 0100, the plant was operating at rated thermal power when a tornado struck the site, resulting in a complete loss of the 345KV and 138KV Switchyards.

- The Div 1, 2, and 3 Diesel Generators automatically started, but the Div 1 DG immediately tripped on Generator High Differential Overcurrent due to a generator fault NOT associated with the tornado strike.

The reactor scrammed and immediate actions were taken.

At 0110, current plant conditions are as follows:

- Reactor water level is -20 inches and lowering slowly with RCIC injecting to the RPV.
- Radiation levels in the containment are 1.0 r/hr and stable.

INITIATING CUE

This JPM is time critical.

- You are to determine if any Emergency Action Levels have been exceeded.