Job Performance Measure

Perform APRM Flow Biased High Flux (Heat Balance) Calibration Test (Partial for step H.4.)

JPM Number: RO Admin 1

Revision Number: 02

Date: 05/03/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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 QCOS 0700-06 Rev: 30
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 00, This JPM was developed for ILT Certification Exam 03-1 IAW NUREG 1021,
Rev. 8.
Revision 01, This JPM was revised to current procedures and a new template for the 2009 ILT

Licensing Exam IAW NUREG 1021, Rev. 9 Supplement 1.

Revision 02, This JPM was revised for the 2018 ILT NRC Exam.

SIMULATOR SETUP INSTRUCTIONS

1. Reset the simulator to IC 20 (rst 20), and lower core flow until reactor power is 70%.

   NOTE: It is okay to use a similar IC to the IC listed above, provided the IC actually used is verified to be compatible with this and other JPMs that are scheduled to be run concurrently. Shutdown Cooling cannot be in service.

2. When the above steps are completed for this and other JPMs to be run concurrently, then validate the concurrently run JPMs using the JPM Validation Checklist.
3. This completes the setup for this JPM.

INITIAL CONDITIONS

- Unit 1 has been operating at 70% power for the last 2 days.
- Unit 1 has been operating at a stable power level and flow for the last hour and expected to remain stable for the remainder of the shift.
- The weekly APRM flow bias calibration check is due.
- You are the Administrative Nuclear Station Operator.
- Another NSO will be available to perform calculation verifications prior to final acceptance of the procedure.

INITIATING CUE

In accordance with QCOS 0700-06, perform the APRM Flow Biased High Flux Calibration Test, step H.4. only, on Unit 1

Inform the Unit Supervisor when the test is complete

Provide examinee with:

1. Copy of QCOS 0700-06, APRM Flow Bias High Flux (Heat Balance) Calibration Test filled out as a partial test for step H.4 only. Steps H.1, H.2 and H.3 to be marked N/A/
2. Calculator
3. Copy of QCGP 4-1, Attachment A, stating that rated drive flow is 30.04 Mlb/hr.

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
H.4.a	Maintains Drive Flow constant	Initials H.4.a that Drive Flow is being held constant.	___	___	___
CUE: Provide the candidate with a copy of QCGP 4-1 Attachment A.					
*H.4.b	Records rated drive flow from QCGP 4-1 Attachment A.	Records 30.04 from QCGP 4-1 Attachment A.	___	___	___
*H.4.c	Obtains and records drive flow from process computer.	Obtains and records drive flow from process computer using OD-5 WD=20.73	___	___	___
CUE: When candidate demonstrates ability to access drive flow from the process computer using OD-5, provide the OD-5 printout.					
*H.4.d	Calculates % drive flow	Enters 69.01 and signs as the performer (20.73/30.04) x100=69.01	___	___	___
CUE: If asked for verification, reiterate that verification is not available right now but will be available prior to final acceptance of the procedure per procedure limitations and actions section.					
EVALUATOR: for the following steps, after the candidate selects FLOW on the APRM meters, give them the prompts provided.					
*h.4.e (1)	Determines % flow from APRM #1.	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.	___	___	___
CUE: Provide the picture of APRM #1. The candidate should read 67.0%					
*H.4.e (2)	Determines % flow from APRM #2.	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.	___	___	___
CUE: Provide the picture of APRM #2. The candidate should read 69.0%					

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*H.4.e (3)	Determines % flow from APRM #3.	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.			
CUE: Provide the picture of APRM #3. The candidate should read 70.0%					
*H.4.e (4)	Determines % flow from APRM #4.	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.			
CUE: Provide the picture of APRM #4. The candidate should read 70.0%					
*H.4.e (5)	Determines % flow from APRM #5.	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.			
CUE: Provide the picture of APRM #5. The candidate should read 69.0%					
*H.4.e (6)	Determines % flow from APRM #6.	Places APRM Meter Function switch to FLOW, obtains and records reading, then places the switch back to AVERAGE.			
CUE: Provide the picture of APRM #6. The candidate should read 68.0%					
H.4.f	Verifies % Flow on each APRM is $\leq$ % Drive Flow.	Does NOT sign “Performed By” in step H.4.f.			
*H.4.g (1)	Refers to step F.5 Notifies US that APRMs #3 & #4 are above % Drive Flow. Holds power constant and prompts US to refer to TS and the TRM	Notifies US that APRMS #3 & #4 are above % Drive Flow, holds power constant and prompts US to refer to TS and the TRM.			
CUE: Role play as US as necessary. Tell the candidate that you will refer to TS and the TRM for the out of calibration APRMs.					

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
H.4.g (2)	Contacts IMD.	Contacts IMD or asks US to contact IMD to perform QCIPM 0200-11, 25, 26 or 27			
CUE: As IMD or the US, inform the candidate IMs will perform QCIPM 0200-11 and QCIPM 0200-25 will be performed.					
H.4.g (3)	Informs QNE	Informs QNE or asks US to contact QNE and notify of failed surveillance.			
CUE: As QNE, tell the candidate that you understand QCOS 0700-06 has failed due to flows on the APRMS being higher than % Drive Flow					
EVALUATOR: The candidate should inform you that the task is complete.					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Job Title**: ☐ EO ☐ RO ☒ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Perform APRM Flow Biased High Flux (Heat Balance) Calibration Test

JPM Number: 2018 ILT NRC RO Admin 1 Revision Number: 01

Task Number and Title:

SR-0700-P08 (Freq: LIC=I) Given an operating reactor plant and Instrument Maintenance personnel are NOT available, perform the APRM Flow Biased High Flux (Heat Balance) Calibration Test in accordance with QCOS 0700-06 and QCOP 0700-07.

K/A Number and Importance: **KA:** 2.1.43 **Rating:** 4.1

Suggested Testing Environment: Simulator

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

Reference(s): QCOS 0700-06

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

Comments: _____

_____

_____

_____

_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

- Unit 1 has been operating at 70% power for the last 2 days.
- Unit 1 has been operating at a stable power level and flow for the last hour and expected to remain stable for the remainder of the shift.
- The weekly APRM flow bias calibration check is due.
- You are the Administrative Nuclear Station Operator.
- Another NSO will be available to perform calculation verifications prior to final acceptance of the procedure.

INITIATING CUE

In accordance with QCOS 0700-06, perform the APRM Flow Biased High Flux Calibration Test, step H.4. only, on Unit 1.

Inform the Unit Supervisor when the test is complete

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

Job Performance Measure

Determine Action Time for Work in a Heat Stress Control Environment

JPM Number: RO Admin 2

Revision Number: 00

Date: 05/03/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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 SA-AA-111 Rev: 16
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 00, This JPM was developed for the 2018 ILT NRC EXAM

SIMULATOR SETUP INSTRUCTIONS

1. Provide candidate with SA-AA-111, “Heat Stress Control”
2. This completes the setup for this JPM.

INITIAL CONDITIONS

- Unit 1 is in a refueling outage with the Drywell open for personnel access.
- Mechanical Maintenance has just completed maintenance activities on the Drywell Equipment Drain System and the Drywell Coolers located in the Drywell Basement.
- Dry Bulb temperature in the Drywell Basement is 85ºF
- Drywell relative humidity is 60%.
- RP required protective clothing for the Drywell basement is single PC's plus Casi suit.
- The Site Safety Advisor has determined it is acceptable to obtain WBGT using attachment 1, Wet Bulb Globe Temperature (WBGT) Estimate Table.

Initiating Cue:

Using SA-AA-111, "Heat Stress Control," Attachment 4, complete steps 1 thru 6 to determine the action time for removing the clearance orders associated with the Drywell maintenance activities.

Provide examinee with:

1. Copy of SA-AA-111, "Heat Stress Control"

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: Inform the candidate "The Site Safety Advisor has determined that it is acceptable to estimate the WBGT using attachment 1, Wet Bulb Globe Temperature (WBGT) Estimate Table."					
*4.1.1	OBTAIN Dry Bulb and Wet Bulb Globe Temperature in location(s) where the work is to performed and RECORD the temperatures in lines 1 and 2 of attachment 4.	-Using the given Drywell Bulb Temperature and Humidity, determines that WBGT is estimated at 82F -Records Dry Bulb and WBGT values in Attachment 4.	___	___	___
*4.1.2	CLASSIFY the work environment and RECORD in line 3 of attachment 4.	-Classifies the Drywell work environment as a High Temperature work area. -Records classification in attachment 4.	___	___	___
*4.2.1	DETERMINE Work Rate through the use of attachment 2 and RECORD results in line 4 of attachment 4.	-Determines work rate to be considered MODERATE -Records results in line 4 of attachment 4.	___	___	___
*4.3.1	IDENTIFY the description of clothing that best describes what workers will be wearing during the work activity and RECORD results in line 5 of attachment 4.	-Cloth coveralls with a Casi "plastic" suit over top is required. Exceptions listed in Step 4.3 are not applicable. -Records result in line 5 of attachment 4.	___	___	___
*4.4.1	DETERMINE the Action Time using attachment 3 AND the WBGT values obtained in 4.1.1, the work rate determined in 4.2.1, and the clothing ensemble identified in 4.3.1.	-Determines action time is 40 minutes. -Record results in line 6 of attachment 4.	___	___	___
EVALUATOR: The candidate should inform you that the task is complete.					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Job Title**: ☐ EO ☐ RO ☒ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Determine Action Time for Work in a Heat Stress Control Environment

JPM Number: 2018 ILT NRC RO Admin 2 Revision Number: 00

Task Number and Title:

Knowledge of industrial safety procedures (such as rotating equipment, electrical, high temperature, high pressure, caustic, chlorine, oxygen, and hydrogen).

K/A Number and Importance: **KA:** 2.1.26 **Rating:** 3.4

Suggested Testing Environment: Simulator

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

Reference(s): SA-AA-111 Rev. 16, Heat Stress Control

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**: _____

INITIAL CONDITIONS

- Unit 1 is in a refueling outage with the Drywell open for personnel access.
- Mechanical Maintenance has just completed maintenance activities on the Drywell Equipment Drain System and the Drywell Coolers located in the Drywell Basement.
- Dry Bulb temperature in the Drywell Basement is 85ºF
- Drywell relative humidity is 60%.
- RP required protective clothing for the Drywell basement is single PC's plus Casi suit.
- The Site Safety Advisor has determined it is acceptable to obtain WBGT using attachment 1, Wet Bulb Globe Temperature (WBGT) Estimate Table.

INITIATING CUE

Using SA-AA-111, "Heat Stress Control," Attachment 4, complete steps 1 thru 6 to determine the action time for removing the clearance orders associated with the Drywell maintenance activities.

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Job Performance Measure

Review Quarterly SBLC Pump Flow Rate Test

JPM Number: RO Admin 3

Revision Number: 01

Date: 05/16/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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 QCOS 1100-07 Rev: 38
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 00, New JPM developed for ILT 09-1 NRC Exam.

Revision 01, JPM revised for the 2018 ILT NRC Exam.

SIMULATOR SETUP INSTRUCTIONS

1. **NOTE:** This JPM may be conducted in any appropriate setting; i.e., simulator, classroom, or Control Room.
2. Prepare a copy of QCOS 1100-07, SBLC Pump Flow Rate Test as follows:

   Sign off Prerequisites for an IST Group B Test / Partial for “A” Pump.

   Initial complete all steps associated with SBLC Pump “A” IST Group B Test.

   N/A all steps associated with SBLC Pump “B”.

   N/A all steps associated with IST Comprehensive and IST-Pre Service Pump Test.

   Step H.6.f. for SBLC Pump “A”, write in 52 psig and 1300 psig. Sign off the TS PASS and IST PASS blocks.

   Step H.6.i.(3)., write in 49 gpm.

   Step H.6.i.(4). Sign initial criteria met and enter 50 (H.6.f.) – 49 (H.6.i.(3) for 1 gpm on next line.
3. Provide a copy of IST Pump Test Acceptance Criteria Sheet for the SBLC Pump A.
4. This completes the setup for this JPM.

INITIAL CONDITIONS

You are the Admin NSO.

- The EO has performed QCOS 1100-07, SBLC Pump Flow Rate Test, for the “A” pump ONLY.
- The surveillance is completed up to step H.12.

INITIATING CUE

Complete Step H.12 a.(1) and a.(2) of QCOS 1100-07, SBLC Pump Flow Rate Test.

Provide examinee with: Marked up copy of QCOS 1100-07 with IST Data Sheet attached.

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
EVALUATOR NOTE: Step H.12 will require the examinee to review all applicable acceptance criteria and calculations. Acceptance criteria G.3, G.5, and G.6 do NOT apply since the Group B test was performed for SBLC Pump "A" only. The steps listed below are those which correspond to the acceptance criteria.					
G.1	Verify SBLC Pump flow rate > 42 gpm at discharge pressure ≥ 1275 psig.	Refers to Step H.6.f. and verifies that SBLC Pump "A" flow of 52 gpm at a discharge pressure of 1300 psig passes TS criteria.	___	___	___
∗G.2	Verify SBLC Pump flow rate within IST Acceptable Range.	Refers to IST Pump Acceptance Criteria Sheet and determines that SBLC Pump flow of 52 gpm is in the Required Action Range (> 46 gpm). Step H.6.f (IST PASS) is incorrectly signed off.	___	___	___
G.4	Verify stroke open operability of 1-1101-43A, SBLC PMP DISCH CK VLV.	Refers to step H.6.h and determines SBLC Pump flow is > 42 gpm satisfying operability requirement.	___	___	___
∗G.7	Verify stroke closed operability of 1-1101-43B, SBLC PMP DISCH CK VLV.	Refers to step H.6.i.(4), and identifies SBLC Pump flow of 50 gpm instead of 52 gpm has been entered from step H.6.f. IST flow reduction criteria (< 2 gpm) is NOT met. (Actual flow reduction is 3 gpm).	___	___	___
G.8	Verify 1A SBLC Accumulator 1-1101-7A charge is > 750 psig.	Refers to step H.1.b and notes recorded charge of 870 psig meets acceptance criteria of 750 psig.	___	___	___
EVALUATOR NOTE: The examinee should inform you that step H.12 is NOT met due to SBLC pump flow being in the Required Action Range AND the stroke closed criteria for the 1-1101-43A check valve is also NOT met with a reduction flow of 3 gpm.					

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
CUE:	**As Unit Supervisor acknowledge report and state that you will "determine the compensatory actions."**				
EVALUATOR NOTE: The examinee should inform you that the task is complete.					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Job Title**: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Review Quarterly SBLC Pump Flow Rate Test

JPM Number: RO Admin 3 Revision Number: 01

Task Number and Title: 1100.051, Determine if SBLC meets IST requirements.

K/A Number and Importance: **KA:** 2.2.12 **Rating:** 3.7/4.1

Suggested Testing Environment: Simulator or Classroom

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

Reference(s): QCOS 1100-07 Rev. 38, SBLC Pump Flow Rate Test.

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:

The task is successfully completed when the examinee identifies that the following two performance acceptance criteria for the "A" SBLC Pump are NOT met:

- SBLC Pump flow rate in the IST Acceptable Range.
- Stroke closed operability of the 1-1101-43B, 1B PMP DSCH CK VLV.

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 Admin NSO.

- The EO has performed QCOS 1100-07, SBLC Pump Flow Rate Test, for the “A” pump ONLY.
- The surveillance is completed up to step H.12.

INITIATING CUE

Complete Step H.12 a.(1) and a.(2) of QCOS 1100-07, SBLC Pump Flow Rate Test.

Job Performance Measure

Perform Whole Body Frisk

JPM Number: RO Admin 4

Revision Number: 01

Date: 05/03/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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 RP-AA-350 Rev: 19
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 00, This JPM was developed IAW guidelines established in NUREG 1021 Rev. 9 Supplement 1, ES-301 and Appendix C. This JPM meets the criteria of ES-301 D.3 for "Administrative Topics."

This JPM was developed NEW for the 2009 ILT NRC Exam.

Revision 01, This JPM was revised for the 2018 ILT NRC Exam.

Revision 01a – As-administered changes:

1. Indicated the "critical" elements of the STANDARDS using **BOLD** font.

SIMULATOR SETUP INSTRUCTIONS

1. This JPM is performed at a lab location that has been secured for Licensing Exam administration.
2. Provide the following equipment
    - A frisker

      Verify Calibration Sticker is filled out.

      Place Range Switch on the X100 scale.
    - A phone
3. This completes the setup for this JPM

INITIAL CONDITIONS

- You have just completed a task in a highly contaminated area.
- You have removed your protective clothing, boots and gloves when you crossed the step off pad.
- A field monitoring station has been setup near the exit.

INITIATING CUE

Perform a Whole Body Frisk before proceeding to a Whole Body Monitor.

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. "Critical" elements of step STANDARD indicated by **BOLD** font.

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
NOTE: The following steps are from RP-AA-350 Attachment 3, unless otherwise noted.					
*B	Verify the equipment is within calibration, has had proper pre-operational checks, and is operating on the X1 scale.	Verifies: -Calibration Due date sticker is current -**Switches Range switch to the X1 scale**	___	___	___
C	The background reading should be less than 200 cpm	Verifies Portable Radiation Monitor is indicating < 200 cpm.	___	___	___
*F.1	Survey both hands before picking up probe. Identifies contamination on palm of second hand before touching probe with contaminated hand.	Moves both sides of hand(s) slowly (≤ 2 in/sec) at approx. ≤ ½ inch from the probe face before picking up probe.			
CUE: When the second hand is surveyed, while frisking the palm state "The frisker count rate has just increased by 150 cpm. State this again when the palm is surveyed a second time.					
E	Surveys the palm of the hand a second time because of the count rate increase.	Moves probe slowly (≤ 2 in/sec) at approx. ≤ ½ inch from the palm of the hand.			
*F	Remains in area and calls Radiation Protection to report contamination on hand.	Uses phone to notify Radiation Protection when an increase in count rate of 150 cpm is determined on palm of hand.			
ROLE PLAY: As the Radiation Protection Supervisor, tell the candidate to remain in the area and that you are dispatching a Technician to assist with decontamination.					
Inform the candidate that the task is complete.					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Job Title**: ☐ EO ☒ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Perform Whole Body Frisk

JPM Number: 2018 ILT NRC RO Admin 4 Revision Number: 01

Task Number and Title:

N-GET Radiation Worker Objective 70

Demonstrate removing protective clothing and performing a whole body frisk.

K/A Number and Importance: **KA:** 2.3.5 **Rating:** 2.9

Suggested Testing Environment: LAB

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

Reference(s): RP-AA-350 Rev.19, Personnel Contamination Monitoring, Decontamination and Reporting.

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

Comments: _____

_____

_____

_____

_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

- You have just completed a task in a highly contaminated area.
- You have removed your protective clothing, boots and gloves when you crossed the step off pad.
- A field monitoring station has been setup near the exit.

INITIATING CUE

Perform a Whole Body Frisk before proceeding to a Whole Body Monitor.

Job Performance Measure

Coaching for Proper Behaviors
Rounds

JPM Number: SRO Admin 1

Revision Number: 01

Date: 05/03/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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-AA-101-111-1001 Rev: 20
Procedure OP-AA-101-111 Rev: 12
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 00, JPM created for Coaching for Proper Behaviors per TQ-AA-150 rev 8

Revision 01, This JPM was revised for the 2018 ILT NRC Exam. Originally titled JPM SRO Admin 16.

SIMULATOR SETUP INSTRUCTIONS

1. Any IC can be used for this JPM.

MATERIALS NEEDED

1. Copy of OP-AA-101-111-1001, Operating Standards and Expectations.
2. Copy of OP-AA-111-101, Operating Narrative Logs and Records.
3. A Copy of altered control room rounds with 3 errors.

PARTICIPANT ROLE PLAY NOTES

1. The NSO will submit log sheets for review by SRO
2. It is anticipated that the SRO will provide Coaching on the following:
   - **a)** 7:38:39 entry has no record of completion of the test.
   - **b)** 7:45 entry for power change has initial conditions listed but no final conditions**.**
   - **c)** 10:50 entry lists a Stator Cooling Water pump trip with no annunciator response, operator dispatch, or any other details as to cause or subsequent actions.

INITIAL CONDITIONS

- It is late during the day shift and you are the U2 Unit Supervisor in process of reviewing the day shift logs of U2ANSO Ortega.
- All surveillances and tests that were started this shift were completed this shift.

INITIATING CUE

You are to review the day shift logs and give feedback and coaching if necessary to U2ANSO Ortega as role played by the evaluator.

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
NOTE: This activity is being conducted to evaluate the participant in the area of coaching for proper behaviors. **NSO Ortega will be role played by the evaluator to address any feedback and coaching from the student.**					
1	7:38 log entry lists the start of the U2 Weekly Turbine Generator Tests but no data regarding completion time or status. Initial conditions stated all tests started this shift were completed this shift.	Coach NSO on completing the log entry when test is completed and the status or results of the test.	___	___	___
*2	7:45 log entry adjusted reactor power and gives initial conditions but not final conditions for reactor power.	Coach NSO on logging final conditions following a power adjustment.	___	___	___
*3	10:50 log entry lists a stator cooling water pump trip but has no follow up data such as procedures addressed, personnel dispatched, findings, IR number, and annunciators received (901-7 B-10/C-10).	Coach NSO on completion of the log entry to complete documentation of the event and follow up actions.	___	___	___
EVALUATOR NOTE: When the outstanding issues have been identified, terminate the JPM by stating: "The Shift Manager will continue the review of the logs."					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____
Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Coaching for Proper Behaviors-Rounds
JPM Number: 2018 ILT NRC SRO Admin 1 Revision Number: 01
Task Number and Title:

Ability to make accurate, clear and concise logs, records, status boards, and reports

K/A Number and Importance: **KA:** 2.1.18 **Rating:** 3.8
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s): OP-AA-101-111-1001 Rev. 20, Operations Standards and Expectations
OP-AA-111-101 Rev. 12, Roles and Responsibilities of On-Shift Personnel

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

Comments: _____

_____

_____

_____

_____

Evaluator's Name: _____ (Print)

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

INITIAL CONDITIONS

- It is late during the day shift and you are the U2 Unit Supervisor in process of reviewing the day shift logs of U2ANSO Ortega.
- All surveillances and tests that were started this shift were completed this shift.

INITIATING CUE

You are to review the day shift logs and give feedback and coaching if necessary to U2ANSO Ortega as role played by the evaluator.

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

Job Performance Measure

Executing ReMA Review Checklist

JPM Number: SRO Admin 2

Revision Number: 00

Date: 05/03/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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-AB-300-1003 Rev: 15
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 00, JPM created for 2018 NRC ILT Exam.

SIMULATOR SETUP INSTRUCTIONS

1. Any IC can be used for this JPM.

MATERIALS NEEDED

1. Copy of OP-AB-300-1003, BWR Reactivity Maneuver Guidance and QCGP 1-2, Normal Unit 2 Startup.
2. A Copy of an altered ReMA with the following:
    - Step 1 of Att. 7 for QNE presence required in Control Room – Check “No” box
    - Onsite Only? Check “Yes” box
    - Step 2 of 2 of Att. 7 for Key Parameters: No contingency action listed for Core Thermal Power

INITIAL CONDITIONS

- You are the Unit 2 Unit Supervisor
- Unit 2 is scheduled to startup from a cold shutdown condition next shift.
- Nuclear Engineering has submitted a ReMA, “Unit 2 Start Up to 25% Core Thermal Power (Cycle 25).”

INITIATING CUE

- Perform the Unit Supervisor review and authorization of ReMA “Unit 2 Start Up to 25% Core Thermal Power (Cycle 25).” per OP-AB-300-1003.

Provide a blank copy of OP-AA-300-1003 and the ReMA to be reviewed.

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
	Locate and initiate Attachment 7, "Senior Reactor Operator and Unit Supervisor ReMA Review Checklist."	-Enters name in the "Completed by" block. -Record ReMA Plan #	___	___	___
	Review OP-AB-300-1003, ReMA Attachment 1, Reactivity Maneuver Cover Page" utilizing Attachment 7.	Verifies that entries are complete and accurate.	___	___	___
EVALUATOR NOTE: There are two errors. One is on Attachment 2 Step 1, for QNE presence and the other on Attachment 2 step 2 for lack of a contingency action.					
*	Review OP-AB-300-1003, Attachment 2, "Reactivity Maneuver Guidance Sheet" Step 1 of 2 utilizing Attachment 7.	-Determines that QNE presence in the Control Room is incorrectly listed as NO.	___	___	___
*	Review OP-AB-300-1003, Attachment 2, "Reactivity Maneuver Guidance Sheet" Step 2 of 2 utilizing Attachment 7.	Determines that there is NO contingency action for Core Thermal Power in the Key Parameters section.	___	___	___
EVALUATOR: Candidate should inform you that the task is complete.					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____
Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Executing ReMA Review Checklist
JPM Number: 2018 ILT NRC SRO Admin 2 Revision Number: 00
Task Number and Title:

Knowledge of procedures, guidelines, or limitations associated with reactivity management.

K/A Number and Importance: **KA:** 2.1.37 **Rating:** 4.6
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s): OP-AB-300-1003 Rev. 15, BWR Reactivity Maneuver Guidance

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**: _____

INITIAL CONDITIONS

- You are the Unit 2 Unit Supervisor
- Unit 2 is scheduled to startup from a cold shutdown condition next shift.
- Nuclear Engineering has submitted a ReMA, “Unit 2 Start Up to 25% Core Thermal Power (Cycle 25).”

INITIATING CUE

- Perform the Unit Supervisor review and authorization of ReMA “Unit 2 Start Up to 25% Core Thermal Power (Cycle 25).” per OP-AB-300-1003.

Job Performance Measure

Determine Protected Equipment

JPM Number: SRO Admin 3

Revision Number: 01

Date: 05/03/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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-AA-108-117 Rev: 05
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 00, This JPM was developed new for the 2012 LORT NRC Exam.

Revision 01, This JPM was revised for the 2018 ILT NRC Exam. Originally titled JPM SRO-030-I.

SIMULATOR SETUP INSTRUCTIONS

1. Any IC can be used for this JPM.
2. Log in to Paragon Training Mode.
   - For “User Set Selection” --select the Training Region—QCTraining
   - For “Select Data Sets” --- Model (QC1-TRN-M-14A04)
     PRA (QC1-TRN-P-14A04)
     Schedule (QC1-TRN-S-001)
   - Push “MSO” Button and select “Operators Module”
   - Under Configuration Tab: select “Season” then select “Summer Mode”
   - Leave “Safety Systems” Tab selected
3. Provide a copy of OP-AA-108-117
4. After each JPM is completed, set 1/2A SBGTS and HPCI “available”

   OR

   Close out of the screen and reselect Operators Module and verify PRA and Fire Risk are GREEN.

INITIAL CONDITIONS

- You are the Extra SRO.
- Units 1 and 2 are in Mode 1 @ 100% Rx Power.
- Unit 1 is in a normal lineup with the following exceptions:
    - 1/2A SBGTS is running for a monthly surveillance requirement.
    - Unit 1 HPCI surveillance QCOS 2300-01 is in progress for monthly surveillance requirement.
    - The Unit 1 ANSO reports that 1/2A SBGTS flow is 3000 SCFM and lowering. The Unit 1 Supervisor has declared the 1/2A SBGTS INOPERABLE.
- The Shift Manager directs you to determine the protected equipment.
- This JPM is NOT time critical.

INITIATING CUE

Determine what equipment will require posting for Unit 1 IAW the Protected Equipment Program.

Provide a copy of OP-AA-108-117 and Technical Specifications

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
Note: The next step can be determined applying OP-AA-108-117 step 4.2.1.1-3 and Paragon.					
*4.2.1.1	Determines the 1/2B SBGTS and U-1 ESS are required to be posted as protected equipment.	Candidates declares -1/2B SBGTS -U-1 ESS As Protected Equipment	___	___	___
CUE	**After the protected equipment is determined, inform the examinee that: "Unit 1 HPCI has failed QCOS 2300-01, and has been declared INOPERABLE." The Shift Manager directs you to determine any further protected equipment requirements.**				
NOTE: The next steps come from a combination of OP-AA-108-117 and TS 3.5.1					
CUE:	**If needed in response to the Fire Risk turning BLUE, state: "The Expected Duration is < 48 hrs."**				
*TS 3.5.1	TS 3.5.1	Determines a loss of Unit 1 RCIC, U1 ADS, 1 A/B Core Spray, or 1A/B RHR LPCI subsystems would place Unit 1 in LCO 3.0.3	___	___	___
*4.2.1.3	Determines the following additional equipment is to be protected: -Unit 1 RCIC -T12 -U1 ADS -1A Core Spray -1B Core Spray -1A LPCI Subsystem, and -1B LPCI Subsystem	Examinee declares that: -Unit 1 RCIC -T12 -U1 ADS -1A Core Spray -1B Core Spray -1A LPCI Subsystem, and -1B LPCI Subsystem Are required to be protected	___	___	___
Note: The examinee should inform you the task 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 Protected Equipment

JPM Number: 2018 ILT NRC SRO Admin 3 Revision Number: 01

Task Number and Title:

S-RISK-P01 (Freq: LIC=I) Utilize the PARAGON Display in the training mode to accomplish the following operations:

a. Set trains unavailable and evaluate
b. Obtain Safety Function Assessment Trees (SFAT) Results
b. Obtain Plant Transient Assessment Trees (PTAT) Results
b. Obtain Probabilistic Risk Assessment (PRA) Results
e. Obtain train 'Return to Service' and 'Remain in Service' Importance
f. Determine what inservice equipment is protected for a given equipment outage

K/A Number and Importance: **KA:** 2.2.17 **Rating:** 3.8

Suggested Testing Environment: Simulator

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

Reference(s): OP-AA-108-117 REV. 05, Protected Equipment Program

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

Testing Method: ☐ Simulate ☒ Perform

Estimated Time to Complete: 12 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**: _____

INITIAL CONDITIONS

- You are the Extra SRO.
- Units 1 and 2 are in Mode 1 @ 100% Rx Power.
- Unit 1 is in a normal lineup with the following exceptions:
    - 1/2A SBGTS is running for a monthly surveillance requirement.
    - Unit 1 HPCI surveillance QCOS 2300-01 is in progress for monthly surveillance requirement.
    - The Unit 1 ANSO reports that 1/2A SBGTS flow is 3000 SCFM and lowering. The Unit 1 Supervisor has declared the 1/2A SBGTS INOPERABLE.
- The Shift Manager directs you to determine the protected equipment.
- This JPM is NOT time critical.

INITIATING CUE

Determine what equipment will require posting for Unit 1 IAW the Protected Equipment Program.

Exelon Nuclear

Job Performance Measure

Select Personnel for Radiation Work

JPM Number: SRO Admin 4

Revision Number: 01

Date: 05/03/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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 RP-AA-203 Rev: 05
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 01, JPM created for QDC Training

Revision 02, JPM revised for 2018 NRC ILT Exam. Originally titled JPM SRO-011-I

SIMULATOR SETUP INSTRUCTIONS

1. None. This JPM may be completed at any location, provided that the appropriate reference material is available.
2. The following reference is available:
   - RP-AA-203
3. Ensure a calculator is available.
4. This completes the setup for this JPM.

INITIAL CONDITIONS

- The plant is in a scheduled refueling outage.
- Local Leak Rate Testing in the Steam Tunnel Area under RWP 10007772 is scheduled to be performed.
- Preparation for the LLRT will take two Operators 1 hour to perform.
- Testing and Cleanup afterward will take two Operators two hours (1 hour for testing, 1 hour for Cleanup).
- At least one of the Operators **must** be present throughout the entire 3 hour evolution, for the purposes of work continuity.
- The ED dose alarm is set at 80 mrem.

Four Non-Licensed Operators are available to perform this work.

- None of the four have received dose at any location other than Quad Cities.

- None of the four have received dose since midnight on any RWPs other than 10007772.

The Radiation Protection Department has provided the following dose history for the four Operators to assist you in your planning:

Name	Annual TEDE dose as of Midnight yesterday	DDE dose received on RWP 10007772 today
Jack	1915 mrem	60 mrem
John	1915 mrem	40 mrem
Jared	1900 mrem	0 mrem
Jasper	1800 mrem	25 mrem

IF it is necessary to use more than two Operators to complete the LLRT, THEN the work **must** be divided as follows:

One Operator:	3 hours	Must be present during the entire evolution to provide work continuity.

One Operator:	1 hour	Preparation
One Operator:	2 hours	Test (1 hour) and cleanup (1 hour)

Expected maximum dose rates during this evolution are as follows:

Preparation:	30 mrem/hr
Testing & Cleanup:	Testing 20 mrem/hr Cleanup 30 mrem/hr

INITIATING CUE

Determine which Operators are available to accomplish each task. Explain the basis for your determination.

Provide a copy of RP-AA-203

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
EVALUATOR: The following steps can be performed in any order					
EVALUATOR: The candidate will need to perform the following calculation to determine total projected dose that the Operators are expected to receive. These calculations are listed below for your reference: • **Preparation Activities = 30 mrem/hr x 1 hr = 30 mrem** **Testing Activities = 20 mrem/hr x 1 hr = 20 mrem** **Cleanup Activities = 30 mrem/hr x 1 hr = 30 mrem** • **Total Evolution = 30 mrem + 30 mrem + 20 mrem = 80 mrem** • **Testing Activities + Cleanup Activities = 30 mrem + 20 mrem = 50 mrem**					
	Calculates the projected dose that will be received for each task.	Determines that an Operator will receive 80 mrem for the total evolution, 30 mrem for Preparation activities, and 50 mrem for Testing and Cleanup activities.	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number

EVALUATOR: In the next step, the candidate will compare doses for each task with the list of available operators. Determines that Jack cannot perform any work for this evolution, Jared is the only operator that can perform the entire evolution, John must perform the one hour Preparation activities, and Jasper will need to perform the Testing and Cleanup activities.

Exceeded limits are in BOLD.

Name	Projected job dose for entire evolution (3 hrs)	Projected dose on RWP 10007772 for 24 hour period	Projected Annual TEDE (including all dose from last 24 hours)
Jack	80 mrem	**140 mrem**	**2055 mrem**
John	80 mrem	**120 mrem**	**2035 mrem**
Jared	80 mrem	80 mrem	1980 mrem
Jasper	80 mrem	**105 mrem**	1880 mrem

Name	Projected job dose for Testing and Cleanup activities (2 hrs)	Projected dose on RWP 10007772 for 24 hour period	Projected Annual TEDE (including all dose from last 24 hours)
Jack	50 mrem	**110 mrem**	**2025 mrem**
John	50 mrem	**90 mrem**	**2005 mrem**
Jared	50 mrem	50 mrem	1950 mrem
Jasper	50 mrem	75 mrem	1895 mrem

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number

Name	Projected job dose for Preparation activities (1 hrs)	Projected dose on RWP 10007772 for 24 hour period	Projected Annual TEDE (including all dose from last 24 hours)
Jack	30 mrem	**90 mrem**	**2015 mrem**
John	30 mrem	70 mrem	1985 mrem
Jared	30 mrem	30 mrem	1930 mrem
Jasper	30 mrem	55 mrem	1875 mrem

CUE:	**If the candidate inquires if any of the Operators have received permission to exceed any dose limits, respond, "None of the Operators have received permission to exceed any limits."**				
*	Determines that only Jared can work for the entire evolution.	All other candidate's exceed a dose limit.	___	___	___
*	Determines that Jasper is the only other Operator that can perform the Testing and Cleanup Activities.	The only other Operator that can perform the Testing and Cleanup Activities is Jared, but he is required to be present for the entire evolution.	___	___	___
*	Determines that John must perform the Preparation Activities.	Jared and Jasper are already assigned activities, and Jack would exceed his annual dose limits and/or RWP limits.	___	___	___
CUE:	**Candidate should report the task is complete.**				

JPM Stop Time: _____

JPM SUMMARY

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

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

JPM Title: Select Personnel for Radiation Work

JPM Number: 2018 ILT NRC SRO Admin 4 Revision Number: 01

Task Number and Title:

Knowledge of radiation exposure limits under normal or emergency conditions.

K/A Number and Importance: **KA:** 2.3.4 **Rating:** 3.7

Suggested Testing Environment: Simulator

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

Reference(s): RP-AA-203 Rev. 5, Exposure Control and Authorization

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**: _____

INITIAL CONDITIONS

- The plant is in a scheduled refueling outage.
- Local Leak Rate Testing in the Steam Tunnel Area under RWP 10007772 is scheduled to be performed.
- Preparation for the LLRT will take two Operators 1 hour each to perform.
- Testing and Cleanup afterward will take two Operators two hours each (1 hour for testing, 1 hour for cleanup).
- At least one of the Operators **must** be present throughout the entire 3 hour evolution, for the purposes of work continuity.
- The ED dose alarm is set at 80 mrem.

Four Non-Licensed Operators are available to perform this work.

- None of the four have received dose at any location other than Quad Cities.
- None of the four have received dose since midnight on any RWPs other than 10007772.

The Radiation Protection Department has provided the following dose history for the four Operators to assist you in your planning:

Name	Annual TEDE dose as of Midnight yesterday	TEDE dose received on RWP 1000772 today
Jack	1915 mrem	60 mrem
John	1915 mrem	40 mrem
Jared	1900 mrem	0 mrem
Jasper	1800 mrem	25 mrem

IF it is necessary to use more than two Operators to complete the LLRT, THEN the work **must** be divided as follows:

One Operator:	3 hours	Must be present during the entire evolution to provide work continuity.
One Operator:	1 hour	Preparation
One Operator:	2 hours	Test (1 hour) and cleanup (1 hour)

Expected maximum dose rates during this evolution are as follows:

Preparation:	30 mrem/hr
Testing & Cleanup:	Testing 20 mrem/hr Cleanup 30 mrem/hr

INITIATING CUE

Determine which Operators are available to accomplish each task. Explain the basis for your determination.

Job Performance Measure

Perform a Rapid Dose Assessment

JPM Number: SRO Admin 5

Revision Number: 09

Date: 05/03/2018

Developed By:	Instructor	Date
Validated By:	SME or Instructor	Date
Reviewed By:	Operations Representative	Date
Approved By:	Training Department	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 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-110-201 Rev: 04
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 07, This JPM is developed IAW guidelines established in NUREG 1021 Rev 8 ES-301 and Appendix C. This JPM meets the criteria of Category B.1 "Control Room Systems," for RO/SRO candidates.

Revision 08, Revised to update to RASCAL quick assessment program and JPM formatting.

Revision 09, This JPM was revised for the 2018 ILT NRC Exam. Originally titled JPM SS-018-II.

SIMULATOR SETUP INSTRUCTIONS

1. Any IC can be used for this JPM.
2. Use the attached attachments for meteorological data & wind information.
3. As evaluator, log into the US/Center Desk computer and startup the URI application.
    - On the US/Center Desk computer, verify the default printer is set to the simulator copier/printer.
    - Check the ‘Print “This is a Drill” on all reports’ checkbox.
    - Select Rapid Dose Assessment from the File menu or toolbar.

INITIAL CONDITIONS

- You are an SRO on shift.
- Unit 2 is in a LOCA condition.
- All rods inserted on the scram 45 minutes ago.
- An unisolable steam leak into the Turbine Building is occurring.
- The TSC is not staffed.
- The Shift Manager, acting as the Shift Emergency Director, has declared a General Emergency based on the loss of all three fission product barriers and determined a release is in progress.
- The release duration is unknown.
- The plant computer system (plant process computer) is working.
- It is daytime on a week day.
- There is no precipitation
- Traffic conditions are good.
- The Shift Manager has directed you to perform a rapid assessment using EP-AA-110-201, “On-Shift Dose Assessment.” (Tab 12)
- This JPM is NOT time critical.

INITIATING CUE

Perform a rapid dose assessment for a 10 mile radius, using EP-AA-110-201, “On-Shift Dose Assessment”. Use the actual date and time for this assessment. Provide the dose projection to the Shift Emergency Director.

Provide the examinee with the PPDS Screen Print

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
NOTE: The critical tasks are satisfied when the examinee performs the steps correctly for the final assessment. If the examinee identifies an error and corrects the error prior to providing the assessment to the Shift Manager, the critical task is met. **Verification that items were performed correctly (e.g., values were entered correctly) can also be confirmed by comparing the results to the attached key.**					
5.1	Verifies the Rapid Assessment option is selected	Verifies the Rapid Assessment option is selected on the URI program.	___	___	___
NOTE: This assessment is performed in the Control Room (simulator), so step 5.2 is N/A					
*5.3.1.1.	Determines Source Term	Selects Fuel Clad Damage as "Yes"	___	___	___
NOTE: Examinee determines Fuel Clad Barrier is lost based on the "Initial Conditions".					
*5.3.1.3.	Determine Reactor Shutdown Status	Checks the reactor shutdown checkbox Enters the current date Enters a time 45 minutes prior to the start time	___	___	___
*5.4.2.1	Select Site meteorological tower.	Using Attachment 2, "Recommended Release Point Meteorological Towers" for Quad Cities determines: • Release Point – Chimney • Met Tower - Elevated	___	___	___
*5.4.2.2.	Set meteorological data	Enters meteorological data from PPDS: -wind speed (16.6 mph) -direction (69 deg) -stability class (D)	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
*5.4.3.	Set precipitation status	Enters “None” in precipitation box.	___	___	___
*5.5	Determine Release Duration	Enters the default on the Evacuation Time Estimate Form: – Press the Conditions button – Selects Good for traffic condition – Selects the Time of Day matching the current clock time – Selects the appropriate Time of Week – Press the application button to returns to the Rapid Assessment Form – Checks the Auto Update Release Duration w/ETE Update checkbox	___	___	___
*5.6	Select the Release Point Pathway	Selects “<RCS> – <Turbine Building> – <Chimney> – <ENV>” option	___	___	___
*5.7.1	Determine if effluent monitors are available and enter data	Selects Yes for effluent monitors available Enters value for total Noble Gas Release Rate (from the attachment) [1.23E7]	___	___	___
*5.9	Process the assessment	Presses the “Process Assessment” to “10 Miles” button	___	___	___

STEP	ELEMENT	STANDARD	SAT	UNSAT	Comment Number
NOTE: In the following step the examinee accesses the "Dose Projections" by double clicking on the map.					
5.11	Views the results	Selects Print Preview and accesses the Dose Projection Table	___	___	___
NOTE: The examinee can repeat/correct any step prior to step 5.14. Any errors identified and fixed prior to step 5.14 is satisfactory performance of the task					
*5.14	Provides the dose projection to the Shift Emergency Director	Directs the Shift Manager to the dose projection (print preview) or provides the Shift Manager the printout	___	___	___
NOTE: The attached key is the minimum affected zones. Based upon the time the examinee takes to enter all data the projected zones will degrade further due to the longer reactor shutdown time and changing isotopic mix.					

JPM Stop Time: _____

JPM SUMMARY

Operator's Name: _____ **Emp. ID#**: _____
Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO Cert

JPM Title: Perform a Rapid Dose Assessment
JPM Number: 2018 ILT NRC SRO Admin 5 Revision Number: 09
Task Number and Title:
S-1700-P02 (Freq: LIC=B) (ILT-MP) Given access to the ERO Applications program suite, use PPDS and URI to calculate release rate and determine if PARS need to be modified in accordance with EP-MW-110-200.

K/A Number and Importance: **KA:** 2.4.38 **Rating:** 4.4
Suggested Testing Environment: Simulator
Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No
Reference(s): EP-AA-110-201 Rev 4, ON SHIFT DOSE ASSESSMENT

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**: _____

INITIAL CONDITIONS

- You are an SRO on shift.
- Unit 2 is in a LOCA condition.
- All rods inserted on the scram 45 minutes ago.
- An unisolable steam leak into the Turbine Building is occurring.
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- There is no precipitation
- Traffic conditions are good.
- The Shift Manager has directed you to perform a rapid assessment using EP-AA-110-201, “On-Shift Dose Assessment.” (Tab 12)
- This JPM is NOT time critical.

INITIATING CUE

Perform a rapid dose assessment for a 10 mile radius, using EP-AA-110-201, “On-Shift Dose Assessment”. Use the actual date and time for this assessment. Provide the dose projection to the Shift Emergency Director.

Effluent Release Parameters (rev 3.3)

Quad Cities Station

TODAY / NOW

Chimney (Elevated Release)			Reactor Bldg Vent (Ground Level Release)		
Noble Gas Release Rate			Noble Gas Release Rate		
HI 1.23E+07	µCi/s		LOW 2.02475E+02	µCi/s	
Lo	Bad Input	µCi/cc	Lo	2.06838E-06	µCi/cc
Mid	Bad Input	µCi/cc	Mid	Bad Input	µCi/cc
Hi	7.1490E+04	µCi/cc	Hi	Bad Input	µCi/cc

15 Minute Average Meteorology (Elevated Release)			15 Minute Average Meteorology (Ground Level Release)		
Wind Speed		Wind From	Wind Speed		Wind From
7.9	m/s	69 Deg	4.1	m/s	69 Deg
16.6	mph	UPDATING *15min Avg Status*	9.0	mph	UPDATING *15min Avg Status*
UPDATING *15min Avg Status*		D Stability Class	UPDATING *15min Avg Status*		

Chimney Flow 362.18 kcfm

Drywell Radiation (R/hr)

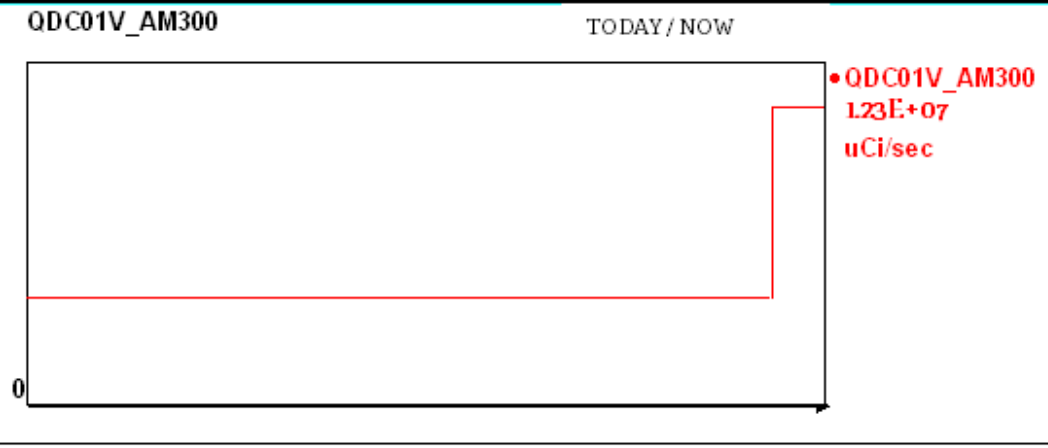
U1 2.97558E+00 U2 1.567E+03

SBGT Flow (cfm)

"A" 0.00 "B" 3967.42

Total Noble Gas Release Rate

1.23E+07 µCi/s



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