

Job Performance Measure

Determine Venting Time for Reactor Vessel Void

JPM Number: S-108

Revision Number: 151

Date: 03 / 21 / 2016

Developed By: Eric Steinberg 03/21/2016
Instructor Date

Validated By: Dan Burton 4/22/2016
SME or Instructor Date

Reviewed By: Kevin Lueshen 04/22/2016
Operations Representative Date

Approved By: Eric Steinberg 04/26/2016
Training Department Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

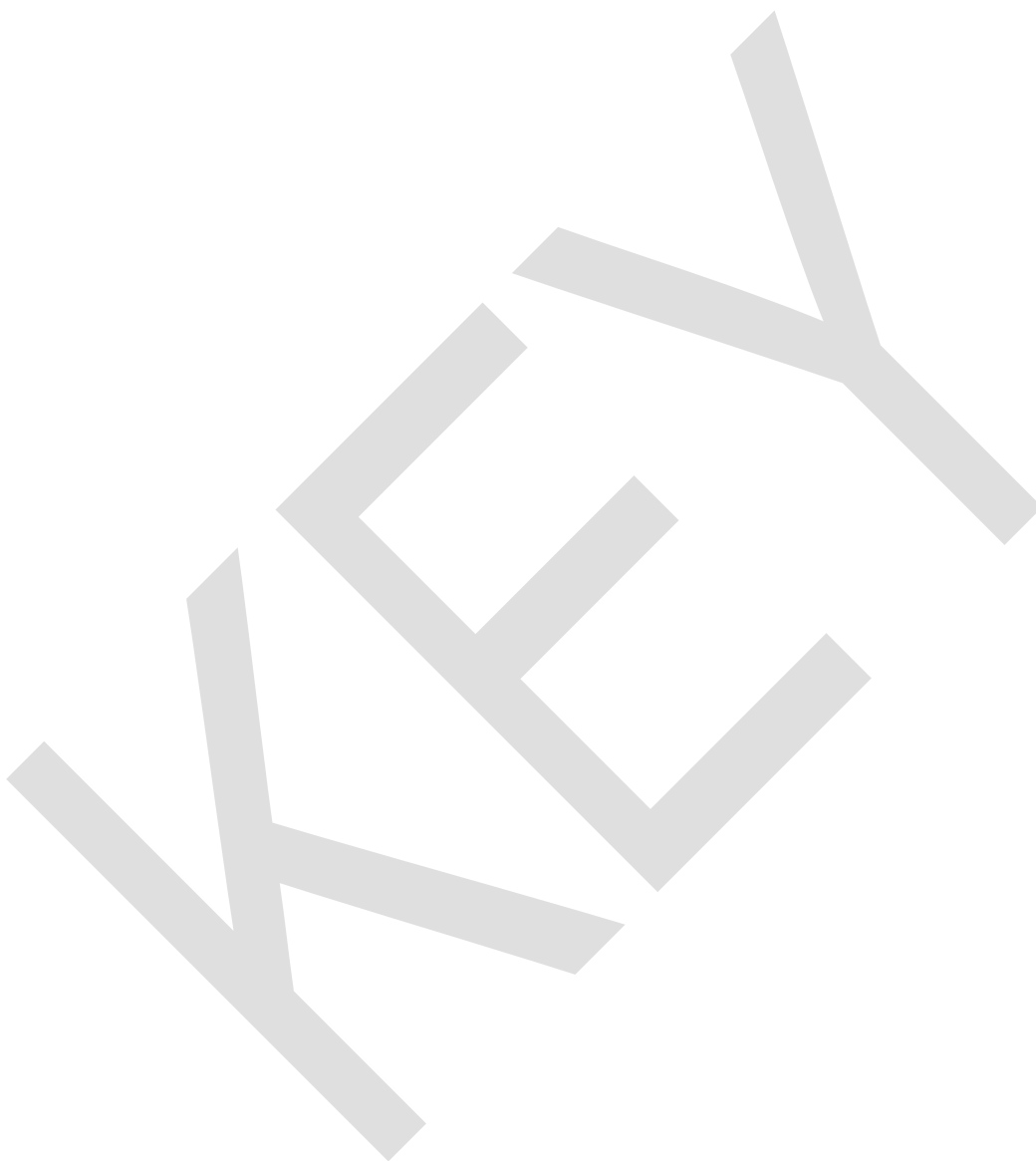
NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

- _____ 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 1BwFR-I.3 Rev: 201
 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)

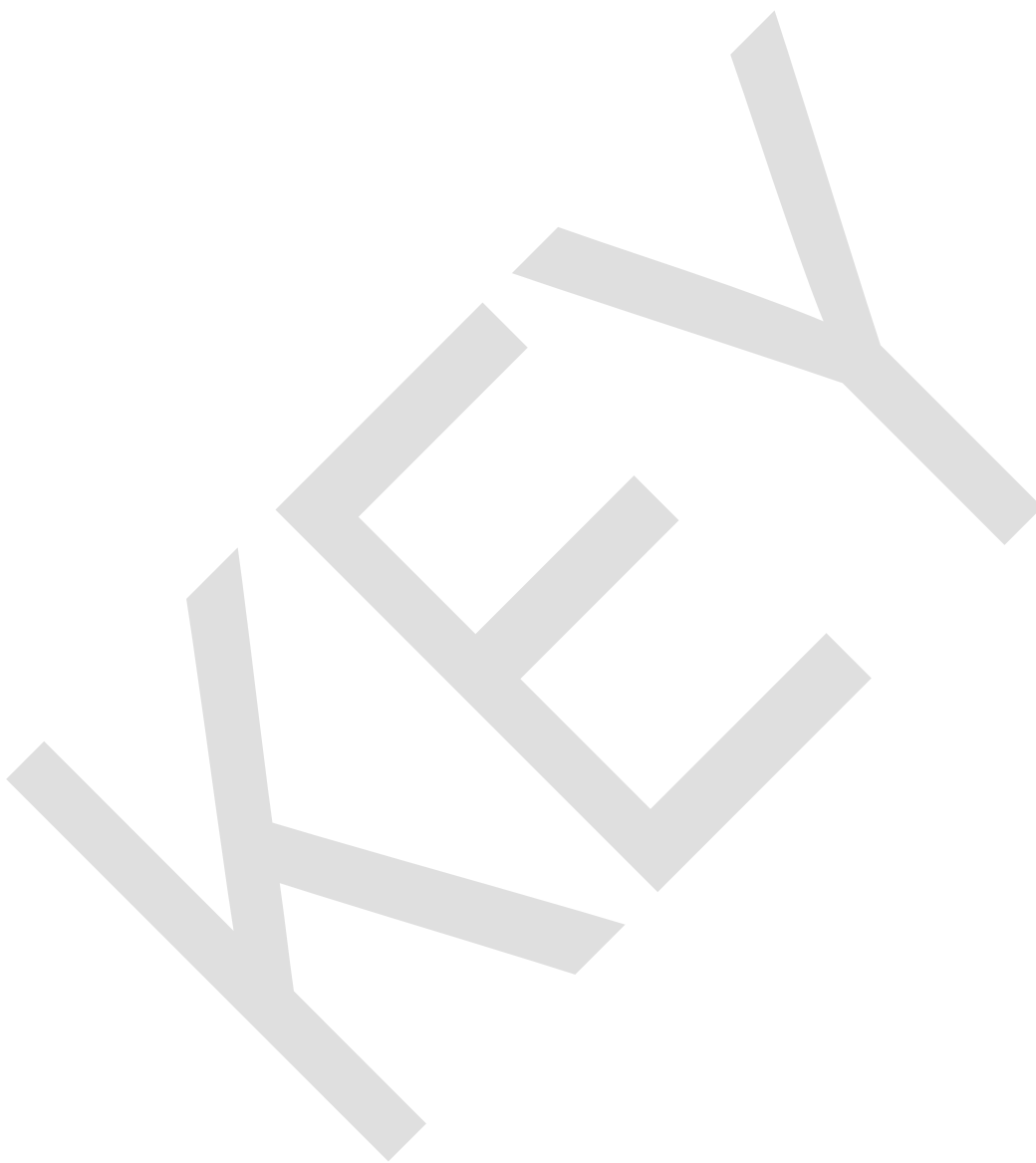
Revision 151, updated to current JPM template and most recent procedure revision.



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SIMULATOR SETUP INSTRUCTIONS

S-108 rev 151

1. NONE



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INITIAL CONDITIONS

S-108 rev 151

Unit 1 is recovering from an event that caused a suspected hydrogen bubble to accumulate in the reactor vessel head. The crew is currently performing 1BwFR-I.3, RESPONSE TO VOIDS IN REACTOR VESSEL. The TSC has directed the crew to perform a direct vessel vent.

Current plant conditions are:

Containment temperature (dry bulb) = 160°F

Containment pressure = 3.5 psig

Containment hydrogen concentration = 1%

RCS pressure = 1900 psig

INITIATING CUE

The Shift Manager has directed you to calculate the vessel vent time per 1BwFR-I.3, Attachment B. Inform the Shift Manager when you have completed the calculation.

Provide examinee with a copy of 1BwFR-I.3.

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

Information For Evaluator's Use:

UNSAT requires written comments on respective step.

* Denotes critical steps.

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

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

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

The timeclock starts when the candidate acknowledges the initiating cue.

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S-108 rev 151

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*1	Calculate containment temperature in Rankine.	Perform Attachment B, step 1: <ul style="list-style-type: none"> Enter 160 in °F blank. Add 460 to 160 and enter 620 in °R blank. 	—	—	—
*2	Calculate containment air volume based on current temperature and pressure.	Perform Attachment B, step 2: <ul style="list-style-type: none"> Enter 620 in °R blank. Enter 3.5 in CNMT press blank. Perform calculation and enter 2,750,968 (or approx. 2.75E6) in ft³ blank. 	—	—	—
*3	Calculate maximum hydrogen volume that can be vented keeping cnmt concentration below 3%.	Perform Attachment B, step 3: <ul style="list-style-type: none"> Enter 1 in cnmt hydrogen conc. blank. Enter 2,750,968 (or approx. 2.75E6) in ft³ blank Perform calculation and enter 55,019 (or approx. 5.5E4) in ft³ blank. 	—	—	—
*4	Determine hydrogen flow rate from RCS vent.	Perform Attachment B, step 4: <ul style="list-style-type: none"> Plot RCS pressure on Figure 1BwFR I.3-4 and determine flow rate will be 5850 scfm (range of 5800 to 5900) Enter flow rate in step 4 SCFM blank. 	—	—	—
*5	Calculate maximum venting time.	Perform Attachment B, step 5: <ul style="list-style-type: none"> Enter 55,019 (or approx. 5.5E4) in ft³ blank. Enter 5850 (5800 – 5900) in SCFM blank. Calculate minutes and enter 9.4 (range of 9.3 to 9.5) in minutes blank. 	—	—	—
6	Report to SM results of venting calculation.	Notify SM that RCS venting can be performed for approx. 9.4 minutes.	—	—	—
CUE	This completes this JPM.				

JPM Stop Time: _____

JPM SUMMARY

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

Job Title: ☐ EO ☐ RO ☒ SRO ☐ FS ☐ STA/IA ☐ SRO CertJPM Title: Determine Venting Time for Reactor Vessel VoidJPM Number: S-108Revision Number: 151Task Number and Title: S-FR-017 Determine venting time for Reactor Vessel VoidK/A Number and Importance: 0020002.1.25 SRO 4.2Suggested Testing Environment: Simulator or ClassroomAlternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No

Reference(s): 1BwFR-I.3, rev 201, RESPONSE TO VOIDS IN REACTOR VESSEL

Actual Testing Environment: ☒ Simulator ☐ Control Room ☐ In-Plant ☒ OtherTesting Method: ☐ Simulate ☒ PerformEstimated Time to Complete: 10 minutes

Actual Time Used: _____ minutes

EVALUATION SUMMARY:

Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ NoThe 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: _____

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INITIAL CONDITIONS

S-108 rev 151

Unit 1 is recovering from an event that caused a suspected hydrogen bubble to accumulate in the reactor vessel head. The crew is currently performing 1BwFR-I.3, RESPONSE TO VOIDS IN REACTOR VESSEL. The TSC has directed the crew to perform a direct vessel vent.

Current plant conditions are:

Containment temperature (dry bulb) = 160°F

Containment pressure = 3.5 psig

Containment hydrogen concentration = 1%

RCS pressure = 1900 psig

INITIATING CUE

The Shift Manager has directed you to calculate the vessel vent time per 1BwFR-I.3, Attachment B. Inform the Shift Manager when you have completed the calculation.

Job Performance Measure

Determine if Reactor Start-up should continue.

JPM Number: S-114

Revision Number: 151

Date: 03 / 30 / 2016

Developed By: Eric Steinberg 3/30/2016
Instructor Date

Validated By: Dan Burton 04/22/2016
SME or Instructor Date

Reviewed By: Kevin Lueshen 04/22/2016
Operations Representative Date

Approved By: Eric Steinberg 04/26/2016
Training Department Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

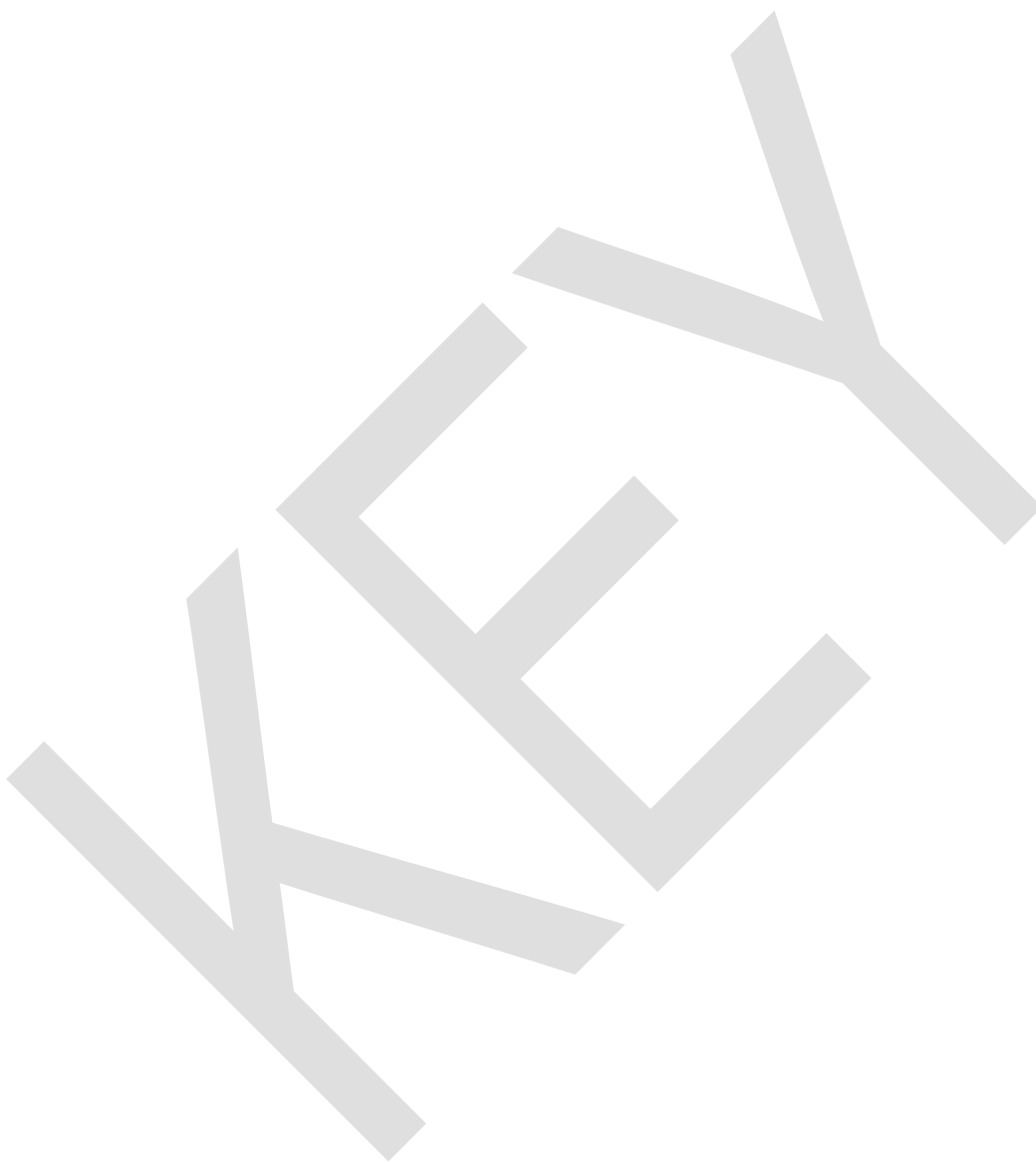
NOTE: All steps of this checklist should be performed upon initial validation.
Prior to JPM usage, revalidate JPM using steps 9 and 13 below.

- _____ 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 1BwGP-100-2 Rev: 40
 Procedure 1BwGP-100-7T2 Rev: 17
 Procedure BwCB-1 Fig 2A Rev: 25
 Procedure BwCB-1 Fig 9 Rev: 24
 Procedure 1BwGP-100-2A1 Rev: 5
- _____ 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 151, New JPM for ILT 15-1 NRC exam.

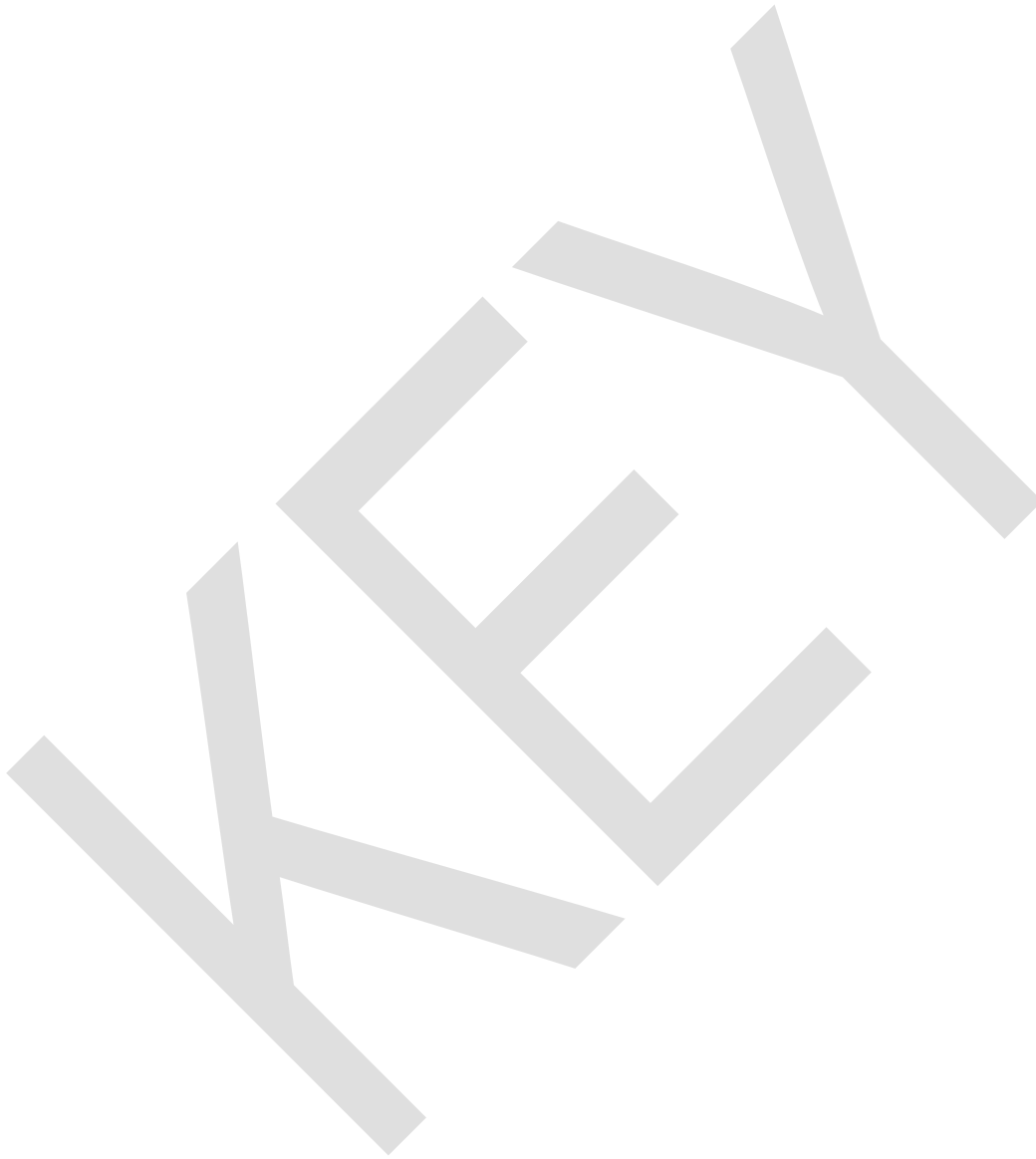


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SIMULATOR SETUP INSTRUCTIONS

S-114 rev 151

1. None, perform in classroom.
2. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
3. This completes the setup for this JPM.



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INITIAL CONDITIONS

S-114 rev 151

1. Unit 1 is being started up from a 5 day long forced outage for turbine repairs.
2. The reactor core burnup is 1681.3 EFPH.
3. 1BwGP 100-2, PLANT STARTUP, is in progress at step F.23.I.
4. Control Bank C is at 90 steps.
5. Counts are stable at 8-fold count rate.
6. There is no ITR for this startup.

INITIATING CUE

1. You are the Unit 1 Reactivity Manager.
2. The RO has predicted criticality at control bank D at 65 steps based on 8-fold rod position.
3. The Shift Manager has directed you to determine if the reactor start-up should continue.

Provide the examinee a place kept copy of 1BwGP100-2, and a filled out copy of 1BwGP 100-7T2, estimated critical conditions table.

BwCB curve books should also be available for reference.

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: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE: The correct critical rod height from the 8 fold graph is Control Bank D at 5 steps (CB C at 120 is the same height).					
*1	Verify estimated critical rod height.	<ul style="list-style-type: none"> ○ Refer to BwCB-1 Figure 9. ○ Determine page 2 of 5 is the correct graph for the current core burn up. ● Determine correct estimated critical rod height is CB C 120 steps +/- 5 steps. ○ Inform the Shift Manager the RO's estimated critical rod height is incorrect. 	—	—	—
CUE	If told as the Shift Manager that the estimated critical position is wrong, acknowledge the report.				
*2	Determine startup should be stopped.	<ul style="list-style-type: none"> ○ Refers to note before step F.23.I. ○ The estimated critical rod height is below the 750 pcm limit and no ITR exists. ○ Checks if ICRR estimate outside +/- 750 pcm limit. (yes) ● Determines 1BwGP 100-2 Attachment A needs to be performed. ○ Directs the RO to stop the startup. 	—	—	—
CUE	<p>If asked as the Nuclear Engineer to report ICRR estimate report, "ICRR predicts criticality at CB C at 120 steps or CB D at 5 steps."</p> <p>If asked for an ITR, "There is no ITR and one cannot be provided."</p>				

3	Inform the Shift Manager.	<ul style="list-style-type: none">• Calls Shift Manager to inform him that you are suspending the reactor startup.• Direct that an IR be written.	—	—	—
CUE	As the Shift Manager acknowledge the report of suspending the startup and need to write an IR. Inform the Examinee, "The unit supervisor will oversee the remaining actions." That completes this JPM.				

JPM Stop Time: _____

JPM SUMMARY**Operator's Name:** _____ **Emp. ID#:** _____**Job Title:** ☐ EO ☐ RO ☒ SRO ☐ FS ☐ STA/IA ☐ SRO CertJPM Title: Determine if Reactor Start-up should continue.JPM Number: S-114Revision Number: 151Task Number and Title: S-AM-151, PERFORM proper reactivity management on unit startup and during normal plant operations.K/A Number and Importance: 001G2.1.37, 4.6Suggested Testing Environment: ClassroomAlternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No

Reference(s): 1BwGP 100-2, rev 40, PLANT STARTUP, 1BwGP 100-2A1, rev 5, Attachment A contingency for suspended reactor startup, 1BwGP 100-7T2, rev 17, Calculation of estimated critical condition based on known boron concentration, BwCB-1 Fig. 2A, rev 25, Braidwood unit 1 cycle 19 HZP differential and integral rod worth vs RCCA steps withdrawn, BwCB-1 Fig. 9, rev 24, Braidwood unit 1 cycle 19 ECC bank position VS 8-Fold increase bank position.

Actual Testing Environment: ☐ Simulator ☐ Control Room ☐ In-Plant ☒ Other**Testing Method:** ☐ Simulate ☒ PerformEstimated Time to Complete: 10 minutes**Actual Time Used:** _____ minutes**EVALUATION SUMMARY:**Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ NoThe 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

1. Unit 1 is being started up from a 5 day long forced outage for turbine repairs.
2. The reactor core burnup is 1681.3 EFPH.
3. 1BwGP 100-2, PLANT STARTUP, is in progress at step F.23.I.
4. Control Bank C is at 90 steps.
5. Counts are stable at 8-fold count rate.
6. There is no ITR for this startup.

INITIATING CUE

1. You are the Unit 1 Reactivity Manager.
2. The RO has predicted criticality at control bank D at 65 steps based on 8-fold rod position.

The Shift Manager has directed you to determine if the reactor start-up should continue.

Job Performance Measure

Review Surveillance and Determine Battery operability Requirements

JPM Number: S-204

Revision Number: 151

Date: 03 / 22 / 2016

Developed By:	<u>Eric Steinberg</u>	<u>03/22/2016</u>
	Instructor	Date

Validated By:	<u>Dan Burton</u>	<u>04/22/2016</u>
	SME or Instructor	Date

Reviewed By:	<u>Kevin Lueshen</u>	<u>04/22/2016</u>
	Operations Representative	Date

Approved By:	<u>Eric Steinberg</u>	<u>04/26/2016</u>
	Training Department	Date

JOB PERFORMANCE MEASURE VALIDATION CHECKLIST

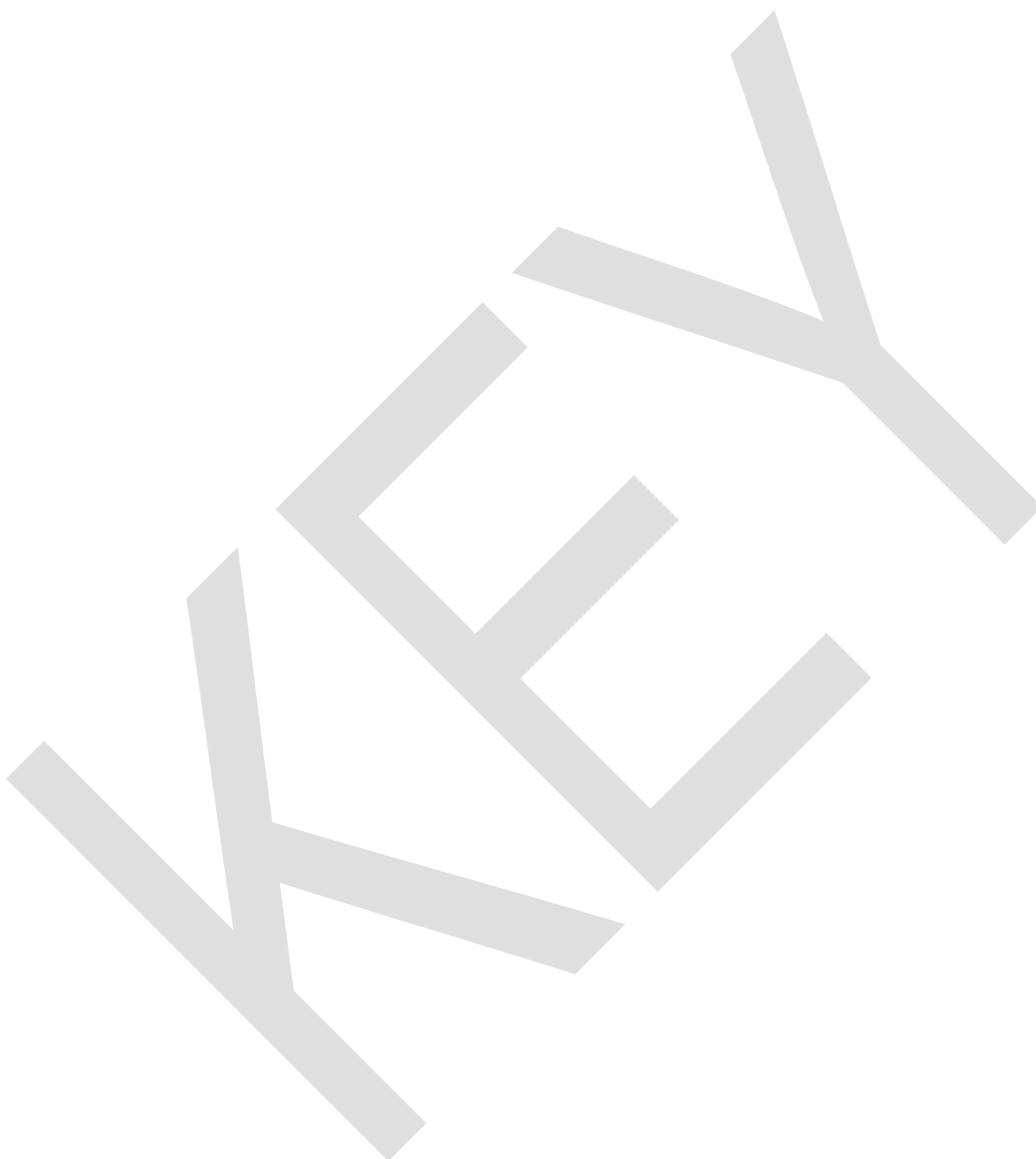
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- _____ 6. Task standards identified and verified by SME review.
- _____ 7. Critical steps meet the criteria for critical steps and are identified with an asterisk (*).
- _____ 8. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure 1BwOSR 3.8.6.5-2 Rev: 13
 Procedure 1BwOL 3.8.4 Rev: 7
 Procedure 1BwOL 3.8.6 Rev: 3
 Procedure 1BwOL TRM 3.8.c Rev: 4
- _____ 9. Verify cues both verbal and visual are free of conflict.
- _____ 10. Verify performance time is accurate
- _____ 11. If the JPM cannot be performed as written with proper responses, then revise the JPM.
- _____ 12. 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 151, updated to current revision of the JPM template and procedures.



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JPM SETUP INSTRUCTIONS

S-204 - rev 151

- 1) Fill out the data sheet D-2 as follows:
 - a) F.1: Mode 1, make up numbers for serial numbers for all 4 instruments.
 - b) F.6: 130V
 - c) F.7: Check no corrosion present.
 - d) F.8: record 4.0 for amps and 0.4 mvdc for shunt voltage.
 - e) F.9: record 130V
 - f) F.12 record 1.225
 - g) F.13 record 0.032
 - h) F.14 record 80
 - i) F.15 record 81
 - j) F.16 record 2.24
 - k) F.17 record 0.18
- 2) Fill out data sheet D-3 and D-4 as follows:
 - a) N/A all temp correct factors
 - b) Y for all cell levels
 - c) For cell 18 enter: 80°, 1.193, 2.06V, 1.193
 - d) For the remaining cell temperatures enter the following (randomly): 79° in 9 cells, 81° in 9 cells, and 80° in the remaining cells.
 - e) For the remaining cell ICVs enter the following randomly: 2.24 in 36 cells, 2.25 in 9 cells, 2.26 in 7 cells, and 2.23 in 5 cells.
 - f) For the remaining cell SGs (corrected and uncorrected) enter the following randomly: 1.226 in 33 cells, 1.227 in 1 cell, 1.224 in 1 cell, 1.223 in 1 cell, and 1.225 in 21 cells.
- 3) Place keep the main body and fill in the following (connected cells =58):
 - a) F.12: sum = 71.05, average = 1.225
 - b) F.13 $1.225 - 1.193 = 0.032$
 - c) F.14 sum = 4640, average = 80
 - d) F.15 $81^\circ - 80^\circ = 1^\circ$
 - e) F.16 sum = 129.92, average = 2.24
 - f) F.17 $2.24 - 2.06 = 0.18$

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INITIAL CONDITIONS

S-204 - rev 151

1. You are the Unit 1 Unit Supervisor.
2. Both units are at full power.

INITIATING CUE

1. An EO has informed you that 1BwOSR 3.8.6.5-2, Unit One 125V DC Battery 112 Operability Surveillance, is complete and ready for review.
2. Cell #47 is the pilot cell for battery 112.
3. Review the surveillance and inform the Shift Manager when the surveillance is complete.

Hand student completed copy of 1BwOSR 3.8.6.5-2.

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.

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The timeclock starts when the candidate acknowledges the initiating cue.

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*1	Review Data Sheet D-2.	Review Data Sheet D-2: Determine battery parameters unsat. (<i>Regulatory Compliance</i>) <ul style="list-style-type: none"> ○ Present Mode: <u>1</u> ○ Instrument data ○ Battery terminal voltage SAT ○ No visible corrosion on cells • Battery float current UNSAT • Battery Shunt Volt UNSAT ○ Battery charger float voltage ○ Average corrected cell specific gravity SAT • Maximum corrected specific gravity deviation below average corrected specific gravity UNSAT ○ Average cell electrolyte temperature SAT ○ Maximum individual cell temperature deviation SAT ○ Average individual cell voltage SAT ○ Maximum ICV deviation below average ICV UNSAT 	—	—	—
NOTE	If examinee notifies SM of UNSAT parameters, acknowledge report.				

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S-204 - rev 151

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	<u>SAT</u>	<u>UNSAT</u>	<u>Comment Number</u>
*2	Review Data Sheets D-3, D-4, and D-5.	<p>Review Data Sheets D-3, D-4, and D-5.</p> <p>Determine Cell #18 parameters unsat. (<i>Regulatory Compliance</i>)</p> <ul style="list-style-type: none"> • Cell #18 ICV <2.07. • Cell #18 corrected specific gravity <1.195. ○ All other cell parameters SAT. ○ Cell #47 is pilot cell (from comments sheet D-5 and cue sheet). 	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*3	Refer to Tech Specs/Bases	<p>Refer to Tech Specs/Bases: (Regulatory Compliance)</p> <ul style="list-style-type: none"> • Determine that TRM: 3.8.c, Condition A is applicable for Cell #18. <ul style="list-style-type: none"> ○ Cell #18 does not meet category B limits for float voltage and specific gravity. • Verify cell parameters within category C limits within 24 hours. <ul style="list-style-type: none"> ○ Category A limits do not apply to cell #18 (not a pilot cell) • Determine that Tech Spec 3.8.6 Conditions A, B, and F are applicable for Battery 112 <ul style="list-style-type: none"> ○ Cell #18 float voltage <2.07V and battery current >3A. Immediately declare battery 112 inoperable. • Determine that Tech Spec 3.8.4 Condition D is applicable for Division 12 DC electrical power subsystem. <ul style="list-style-type: none"> ○ From T.S. 3.8.4 Bases, one source (Battery 112) inoperable. Restore battery 112 within 2 hours. 	—	—	—
NOTE	Provide copies of LCOAR paperwork and Tech Specs when requested by examinee.				

JPM Stop Time: _____

JPM SUMMARY

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

Job Title: ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO CertJPM Title: **Review Surveillance and Determine Battery Operability Requirements**JPM Number: **S-204**Revision Number: **151**Task Number and Title: **S-AM-123: Review Surveillances to Ensure Compliance with Tech Specs and Non-Tech Spec requirements.**K/A Number and Importance: **063000G2.2.40, SRO 4.7**Suggested Testing Environment: **Simulator or Classroom**Alternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No

Reference(s): 1BwOSR 3.8.6.5-2, Rev 13, Unit One 125V DC ESF Battery 112 Operability Surveillance

1BwOL 3.8.4, Rev 7, LCOAR DC Sources – Operating Tech Spec LCO 3.8.4

1BwOL 3.8.6, Rev 3, LCOAR Battery Parameters Tech Spec LCO 3.8.6

1BwOL TRM 3.8.c, Rev 4, Technical Requirements Manual (TRM) LCOAR Battery Monitoring and Maintenance Tech Spec LCO 3.8.8.

Actual Testing Environment: ☒ Simulator ☐ Control Room ☐ In-Plant ☒ OtherTesting Method: ☐ Simulate ☒ PerformEstimated Time to Complete: **16** minutes

Actual Time Used: _____ minutes

EVALUATION SUMMARY:Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ NoThe 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

1. You are the Unit 1 Unit Supervisor.
2. Both units are at full power.

INITIATING CUE

1. An EO has informed you that 1BwOSR 3.8.6.5-2, Unit One 125V DC Battery 112 Operability Surveillance is complete and ready for review.
2. Cell #47 is the pilot cell for battery 112.
3. Review the surveillance and inform the Shift Manager when the surveillance is complete.

Job Performance Measure

Review Waste Gas Decay Tank Release

JPM Number: S-301

Revision Number: 151

Date: 03 / 23 / 2016

Developed By:	<u>Eric Steinberg</u>	<u>03/23/2016</u>
	Instructor	Date

Validated By:	<u>Dan Burton</u>	<u>04/22/2016</u>
	SME or Instructor	Date

Reviewed By:	<u>Kevin Lueshen</u>	<u>04/22/2016</u>
	Operations Representative	Date

Approved By:	<u>Eric Steinberg</u>	<u>04/26/2016</u>
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- _____ 9. Verify the procedure(s) referenced by this JPM reflects the current revision:
 Procedure BwOP GW-500T1 Rev: 43
 Procedure 0BwOS RETS 2.2.B-1 Rev: 02
 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.
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SME / Instructor	Date
SME / Instructor	Date
SME / Instructor	Date

Revision Record (Summary)

Revision 151, updated to new template and current revision of the procedures.



Braidwood

SIMULATOR SETUP INSTRUCTIONS

S-301 rev 151

1. NONE

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.

2. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
3. This completes the setup for this JPM.

Braidwood

INITIAL CONDITIONS

S-301 rev 151

1. You are the Unit 1 Unit Supervisor.
2. BOTH Units are at 100% power.
3. The Unit 1 Assist NSO has just completed a release package for the 0F Gas decay tank up to step D.21.

INITIATING CUE

1. The Shift Manager directs you to complete the review and approval of the gas decay tank release package.
2. Inform the Shift Manager when you have approved the release package for release.

Hand examinee marked up BwOP GW-500T1.

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: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE: This JPM is performed by having the student review BwOP GW-500T1. BwOP GW-500T1 Part D contains TWO errors. 0BwOS RETS 2.2.B-1 has NOT been performed (step D.2) AND 0PB102 high alarm is set too high (step D.20.q). The examinee must locate BOTH errors PRIOR TO approving the release.					
1	Review partially completed Part D of BwOP GW-500T1.	Review partially completed Part D of BwOP GW-500T1 <ul style="list-style-type: none"> • Read step D.22 and determines SRO review of Part D of BwOP GW-500T1 required. • Review Part D of BwOP GW-500T1 	—	—	—
*2	Determine 0BwOS RETS 2.2.B-1 has NOT been performed. (step D.2).	Determine 0BwOS RETS 2.2.B-1 has NOT been performed. <ul style="list-style-type: none"> • Determine step D.2 is not initialed or signed as completed. • Determine 0BwOS RETS 2.2.B-1 is required to be performed. <ul style="list-style-type: none"> ○ Determine 0BwOS RETS 2.2-1a is NOT in effect (Step A.3) ○ Notify SM 0BwOS RETS 2.2.B-1 has NOT been performed. 	—	—	—
CUE	If informed as SM that 0BwOS RETS 2.2.B-1 has not been complete, acknowledge the report. Provide the completed copy of 0BwOS RETS 2.2.B-1 and inform the examinee that U-2 assist NSO had the completed surveillance.				
3	Review 0BwOS RETS 2.2.B-1.	Review 0BwOS RETS 2.2.B-1. <ul style="list-style-type: none"> • Determine acceptance criteria met. • Complete BwOP GW-500T1, step D.2. 	—	—	—

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*4	Continue review of Part D of BwOP GW-500T1.	Determine OPB102 high alarm incorrectly set. <ul style="list-style-type: none"> ○ Notify SM OPB102 high alarm incorrectly set. ● Inform NSO to adjust OPB102 high alarm to correct setpoint. ○ Sign and date Part D review (step D.22). 	—	—	—
CUE	That completes this JPM.				

JPM Stop Time: _____

JPM SUMMARY**Operator's Name:** _____ **Emp. ID#:** _____**Job Title:** ☐ EO ☐ RO ☒ SRO ☐ FS ☐ STA/IA ☐ SRO CertJPM Title: Review Waste Gas Decay ReleaseJPM Number: S-301Revision Number: 151Task Number and Title: S-HP-002, Authorize Gas Decay tank Rad Waste ReleaseK/A Number and Importance: 0730002.3.6 3.8Suggested Testing Environment: Simulator or ClassroomAlternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☐ Yes ☒ No

Reference(s): BwOP GP-500T1, rev 43, Gas Decay Tank release form

0BwOS RETS 2.2.B-1, UNIT COMMON PRE-RELEASE SOURCE AND
CHANNEL CHECK FOR GAS DECAY TANK EFFLUENT MONITOR 0PR02J
rev 02**Actual Testing Environment:** ☒ Simulator ☐ Control Room ☐ In-Plant ☐ Other**Testing Method:** ☐ Simulate ☒ PerformEstimated Time to Complete: 15 minutes**Actual Time Used:** _____ minutes**EVALUATION SUMMARY:**Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ NoThe 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

1. You are the Unit 1 Unit Supervisor.
2. BOTH Units are at 100% power.
3. The Unit 1 Assist NSO has just completed a release package for the 0F Gas decay tank up to step D.21.

INITIATING CUE

1. The Shift Manager directs you to complete the review and approval of the gas decay tank release package.
2. Inform the Shift Manager when you have approved the release package for release.

Job Performance Measure

Classify Event, Cold Matrix

JPM Number: S-413

Revision Number: 151

Date: 03 / 25 / 2016

Developed By: Eric Steinberg 03/25/2016
Instructor Date

Validated By: Dan Burton 04/22/2016
SME or Instructor Date

Reviewed By: Kevin Lueshen 04/22/2016
Operations Representative Date

Approved By: Eric Steinberg 04/26/2016
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-1001 AD 3 Rev: 1
 Procedure EP-MW-114-100 Rev: 16
 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 151, modified from JPM S-408. Revised to new TQ-AA-150-J020 template and new revision of procedures verified.



Braidwood

SIMULATOR SETUP INSTRUCTIONS

S-413 rev 151

1. None, this is a desk top admin JPM.

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.

2. When the above steps are completed for this and other JPMs to be run concurrently then validate, if not previously validated, the concurrently run JPMs using the JPM Validation Checklist.
3. This completes the setup for this JPM.

Braidwood

INITIAL CONDITIONS

S-413 rev 151

1. Unit 1 is defueled.
2. Bus 142 is OOS for the next 24 hours for a scheduled maintenance window.
3. Unit 1 SATs just de-energized due to a switchyard fault on unit 1.
4. The SAT fault will take 2 hours to emergency clear.
5. 1A DG seized on startup.
6. Bus 141 was successfully cross tied to bus 241 in less than 10 minutes.
7. There are no Rad monitors alarming as a result of this event.
8. 34' Wind speed is 4.5 mph.
9. 34' Wind direction is from 270°.

INITIATING CUE

1. You are the Shift Emergency Director (SED).
2. Classify the event and fill out the NARS form for unit 1.
3. This is a **TIME CRITICAL JPM**. The time critical portion of this JPM begins once you have read and understand these conditions and the initiating cue.

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.

Braidwood

S-413 rev 151

JPM Start Time: _____

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
NOTE: If the examinee does not go to the cold table the wrong EAL will be found.					
1	Determine the correct EAL Matrix.	<ul style="list-style-type: none"> Refer to Braidwood Annex. Determine Cold Matrix is applicable. 	—	—	—
NOTE: EAL MA-1 would be applicable if the Hot Matrix is mistakenly used.					
*2	Determine EAL.	<ul style="list-style-type: none"> Review classification against initial conditions given. Determines that EAL CU-1 loss of all but one AC source to emergency busses for 15 minutes or longer is applicable. Updates the team on current EAL. 	—	—	—
NOTE: Once the examinee determines the EAL, the timing for the time critical portion ends. (expected completion time 5-7 minutes) Record the time the EAL was determined: _____.					
*3	Critical time met.	Critical time met. Time EAL Determined - Start Time ≤ 15minutes _____ - _____ ≤ 15minutes			

Braidwood

S-413 rev 151

<u>STEP</u>	<u>ELEMENT</u>	<u>STANDARD</u>	SAT	UNSAT	Comment Number
*4	Fill out the NARS Form.	<p>Fill in the NARS form EP-MW-114-100-F01:</p> <ul style="list-style-type: none"> Utility Message No: <u>1</u> <ul style="list-style-type: none"> State Message No: <u>N/A</u> 1. Status – <u>[B] Drill/Exercise</u> 2. Station – <u>[A] Braidwood</u> 3. Onsite Condition – <u>[A] Unusual Event</u> 4. Accident Classified: <ul style="list-style-type: none"> Time: <u>Time recorded in note before JPM step 3.</u> Date: <u>Today's date.</u> EAL # : <u>CU1</u> Accident Terminated Date and Time: <u>N/A</u> 5. Release Status: <u>[A] None</u> 6. Type of Release: <u>[A] Not Applicable</u> 7. Wind Dir: <u>270</u> 8. Wind Speed: <ul style="list-style-type: none"> <u>[A] is N/A</u> <u>[B] 4.5 Miles/Hr</u> 9. Recommended Actions: <u>Utility Recommendation: [A] None</u> 10. Additional Information: <u>None</u> <p>Verified With: <u>N/A</u></p> <p>Approved By: <u>Examinee Signature</u></p>			
CUE	The Shift Manager will verify the form and complete the rest of the SED actions. That completes this JPM.				

JPM Stop Time: _____

JPM SUMMARY**Operator's Name:** _____ **Emp. ID#:** _____**Job Title:** ☐ EO ☐ RO ☐ SRO ☐ FS ☐ STA/IA ☐ SRO CertJPM Title: Classify EAL, Cold MatrixJPM Number: S-413Revision Number: 151Task Number and Title: S-ZP-008 Classify/Reclassify Emergency Action LevelsK/A Number and Importance: 2.4.38 4.0Suggested Testing Environment: Simulator or ClassroomAlternate Path: ☐ Yes ☒ No SRO Only: ☒ Yes ☐ No Time Critical: ☒ Yes ☐ No

Reference(s): EP-AA-1001 addendum 3 rev1, Emergency Action Levels for Braidwood Station, EP-MW-114-100,

Actual Testing Environment: ☒ Simulator ☐ Control Room ☐ In-Plant ☐ Other**Testing Method:** ☐ Simulate ☒ PerformEstimated Time to Complete: 10 minutes**Actual Time Used:** _____ minutes**EVALUATION SUMMARY:**Were all the Critical Elements performed satisfactorily? ☐ Yes ☐ NoThe 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:** _____

Braidwood

INITIAL CONDITIONS

S-413 rev 151

1. Unit 1 is defueled.
2. Bus 142 is OOS for the next 24 hours for a scheduled maintenance window.
3. Unit 1 SATs just de-energized due to a switchyard fault on unit 1.
4. The SAT fault will take 2 hours to emergency clear.
5. 1A DG seized on startup.
6. Bus 141 was successfully cross tied to bus 241 in less than 10 minutes.
7. There are no Rad monitors alarming as a result of this event.
8. 34' Wind speed is 4.5 mph.
9. 34' Wind direction is from 270°.

INITIATING CUE

1. You are the Shift Emergency Director (SED).
2. Classify the event and fill out the NARS form for unit 1.
3. This is a **TIME CRITICAL JPM**. The time critical portion of this JPM begins once you have read and understand these conditions and the initiating cue.