CONTROL ROOM JPM a

Xcel Energy	JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: CRD PUMP SWAPOVER

JPM NUMBER: JPM-B.01.03-019 **REV.** 0

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR201.110
Perform CRD Pump Swapover

K/A NUMBERS: 201001 A4.01 **Rating: SRO/RO:** 3.1/3.1

APPLICABLE METHOD OF TESTING:
Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐
Simulator: ☒ Other: ☐
Lab: ☐

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: Yes

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☐

Additional site-specific signatures may be added as desired.

Developed by:	**Roman Becker**	
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

CONTROL ROOM JPM a

INITIAL CONDITIONS:

- Plant is operating in Mode 1and you are the OATC.
- The Reactor Building Operator is standing by in the CRD Pump room
- 11 CRD pump is running, 12 CRD pump to be placed in service.

INITIATING CUES:

- The Control Room Supervisor directs you to place the 12 CRD pump in service per B.01.03-05.E.1.
- B.01.03-05.E.1 Steps **1.a** & **1.b** are complete.

CONTROL ROOM JPM a

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step SHALL result in failure of this JPM, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1 **Critical: N**	Locate Procedure B.01.03-05.E.1 (CRD Pump Swapover).
Standard:	Locates appropriate procedure.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: Y**	(Procedure B.01.03-05.E.1, Step 1.c) 1. <u>If</u> 11 CRD pump is running, <u>And</u> 12 CRD pump is to be placed in service, <u>Then</u> perform the following: c. Place 12 CRD pump control switch on Panel C-05 in START and VERIFY the red light above the switch comes on.
Standard:	Examinee places switch to start and observes the red light comes on.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

CONTROL ROOM JPM a

Performance Step: 3 **Critical: N**	(Procedure B.01.03-05.E.1, Step 1.d) 1. If 11 CRD pump is running, And 12 CRD pump is to be placed in service, Then perform the following: d. VERIFY local discharge pressure gauge PI-3-223 shows a slight rise in discharge pressure 1) If no rise in discharge pressure is observed, Or discharge pressure is >1700 psig, Then ADJUST 12 discharge valve, CRD-3-2
Standard:	Examinee contacts RB operator for local discharge pressure.
Evaluator Cue:	As the RB operator, tell examinee that discharge pressure rose slightly to 1490 psig.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: Y**	(Procedure B.01.03-05.E.1, Step 1.e) 1. If 11 CRD pump is running, And 12 CRD pump is to be placed in service, Then perform the following: e. Place 11 CRD pump control switch on Panel C-05 in STOP and VERIFY the green light above the switch comes on.
Standard:	Examinee places switch to stop and observes the green light comes on.
Evaluator Cue:	None
Evaluator Note:	Placing the 11 CRD Pump switch to STOP inserts the trigger for 12 CRD pump high vibrations. **ALTERNATE PATH TO ARP 5-B-2**.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: N**	ARP 5-B-2 (CRD Pump B Hi Vibration) Setpoint: 0.6g
Standard:	Contacts RB operator for local vibration reading on VS-5601.
Evaluator Cue:	As the RB operator, report vibrations reading is 0.7g and slowly rising.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

CONTROL ROOM JPM a

Performance Step: 6 **Critical: Y**	ARP 5-B-2 (CRD Pump B Hi Vibration) 1. START standby CRD pump
Standard:	Places 11 CRD pump control switch on Panel C-05 in START and verifies the red light above the switch comes on.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: Y**	ARP 5-B-2 (CRD Pump B Hi Vibration) 2. STOP previously running CRD pump
Standard:	Places 12 CRD pump control switch on Panel C-05 in STOP and verifies the green light above the switch comes on.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: When 12 CRD Pump is stopped, state JPM complete.

Stop Time: _____

CONTROL ROOM JPM b

Xcel Energy	JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: PLACE HPCI IN PRESSURE CONTROL

JPM NUMBER: JPM-C.5-3302-002 **REV.** 0

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR206.118 Control reactor pressure or reactor water level using HPCI

K/A NUMBERS: 206000 A4.04 Ability to manually operate and/or monitor in the control room: Major system valves Rating: SRO/RO: 3.7/3.7

APPLICABLE METHOD OF TESTING:

Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐

Simulator: ☒ Other: ☐

Lab: ☐

Time for Completion: 15 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☐

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

CONTROL ROOM JPM b

INITIAL CONDITIONS:

- The plant was in Mode 1 when and inadvertent Group 1 isolation occurred
- RPV water level is being controlled by Condensate and Feed
- RPV pressure is being controlled by SRVs in the LL-SET mode
- The TSC is not activated

INITIATING CUES:

- The CRS directs you to Initiate and place HPCI in the Pressure Control Mode IAW C.5-3302 Part C (Alternate Pressure Control).

JPM PERFORMANCE INFORMATION

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step SHALL result in failure of this JPM, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1 **Critical: N**	Locates procedure C.5-3302 and reviews Precautions and Prerequisites.
Standard:	Obtains and reviews C.5-3302 and reviews Precautions and Prerequisites
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	C.5-3302, Part C, Step 1 If directed by Shift Supervision to bypass the High Drywell Pressure initiation, Then perform the following.
Standard:	N/A – This initiation signal is not present and will not be bypassed.
Evaluator Cue:	As the CRS, state that this signal will NOT be bypassed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	C.5-3302, Part C, Step 2 If directed by Shift Supervision to bypass the Low-Low RPV level initiation, Then perform the following.
Standard:	N/A – This initiation signal is not present and will not be bypassed.
Evaluator Cue:	As the CRS, state that this signal will not be bypassed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	C.5-3302, Part C, Step 3 Before Torus level reaches +2 in., Then bypass the HPCI high Torus level suction transfer by performing the following: a. OPEN knife switch 23A-S28 (behind C-03) b. Verify Annunciator 3-B-51 (HPCI Torus Level Suction Transfer Signal Bypass Knife Switch Open) is in alarm.
Standard:	a. Verifies OPEN knife switch 23A-S28 b. Verifies Annunciator 3-B-51 is in alarm.
Evaluator Cue:	As the CRS, state that the suction transfer WILL be bypassed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: N**	C.5-3302, Part C, Step 4 OPEN CV-2065, HPCI PUMP MINIMUM FLOW VALVE
Standard:	Opens CV-2065
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: N**	C.5-3302, Part C, Step 5 START HPCI GLAND SEAL CONDENSER BLOWER
Standard:	Starts HPCI Turbine Gland Seal Condenser Blower.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	C.5-3302, Part C, Step 6 Depress HPCI TEST RETURN VALVE ISOLATION RESET pushbutton, 23A-S26.
Standard:	Depress' HPCI TEST RETURN VALVE ISOLATION RESET pushbutton
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: Y**	C.5-3302, Part C, Step 7 OPEN MO-2071, HPCI TEST FLOW ISOLATION.
Standard:	Opens MO-2071
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: Y**	C.5-3302, Part C, Step 8 Set CV-3503, HPCI TEST RETURN FLOW to 47% OPEN.
Standard:	Sets HPCI Test Return Flow to approximately 47%.
Evaluator Note:	• This step would be considered unsatisfactory if CV-3503 is set such that it causes HPCI to trip or damage to the HPCI system.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: N**	C.5-3302, Part C, Step 9 If not needed for RPV level control, Then verify CLOSED MO-2068, HPCI PUMP IDCHARCE INBOARD.
Standard:	Verifies closed MO-2068
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: N**	C.5-3302, Part C, Step 10 If the High Reactor Water level trip reset light is not lit, Then depress the HIGH REACTOR WATER LEVEL TRIPRESET pushbutton (23A-S27)
Standard:	Verifies High Reactor Water level trip reset light is LIT
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: Y**	C.5-3302, Part C, Step 11 Perform the following concurrently: • START the HPCI AUX OIL PUMP • OPEN MO-2036, HPCI TURBINE STEAM SUPPLY • OPEN MO-2067, HPCI PUMP IDCHARGE OUTBOARD
Standard:	• Starts HPCI Turbine Aux Oil Pump • Opens MO-2036 • Opens MO-2067
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: N**	C.5-3302, Part C, Step 12 Verify CLOSED the following valves: • CV-2046A, HPCI STEAM LINE DRAIN TO MAIN CONDENSER • CV-2046B, HPCI STEAM LINE DRAIN TO MAIN CONDENSER • CV-2394A, HPCI GLAND SEAL CONDENSER DRAIN TO CRW CV-2394B, HPCI GLAND SEAL CONDENSER DRAIN TO CRW
Standard:	Verifies closed CV-2046A&B and CV-2394A&B
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: N**	C.5-3302, Part C, Step 13 When flow increases above 660 gpm, Then verify CLOSED CV-2065, HPCI PUMP MINIMUM FLOW VALVE.
Standard:	Verifies CV-2065 closes
Evaluator Cue:	As the CRS, state another operator will continue controlling RPV pressure.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: At this point HPCI is in the pressure control mode and the JPM is complete.

Stop Time: _____

Xcel Energy	JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: ISOLATE CORE SPRAY LOOP A

JPM NUMBER: JPM-B.03.01-002 **REV.** 6

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR209.108
Isolate a Core Spray Loop 11(12)

K/A NUMBERS: 209001 A4.01 **Rating SRO/RO:** 3.6/3.8

APPLICABLE METHOD OF TESTING:

Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐
Simulator: ☒ Other: ☐
Lab: ☐

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☐

Additional site-specific signatures may be added as desired.

Developed by: _____
Developer Date

Validated by: _____
Validator Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

INITIAL CONDITIONS:

- The plant is in Mode 1
- 11 Core Spray pump failed to start during the performance of an operability test.

INITIATING CUES (IF APPLICABLE):

- The CRS directs you to isolate Core Spray Loop A IAW B.03.01-05.E.2.

JPM PERFORMANCE INFORMATION

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step SHALL result in failure of this JPM, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1 **Critical: N**	Locate procedure B.03.01-05.E.2. (11 Core Spray Loop Isolation).
Standard:	Locates appropriate procedure.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	(Procedure STEP 1) EVALUATE Tech Spec 3.5.1 and 3.5.2 and ENTER applicable Condition for 11 Core Spray INOPERABLE.
Standard:	Notifies CRS to evaluate TS 3.5.1
Evaluator Cue:	As the CRS, state that TS 3.5.1 has been evaluated appropriately
Evaluator Note:	TS 3.5.2 is for Mode 4 & 5 and is N/A
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: Y**	(Procedure STEP 2) PLACE 14A-S5A, 11 Core Spray Pump, control switch in PULL-TO-LOCK.
Standard:	Places 11 CS Pump in PULL-TO-LOCK
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	(Procedure STEP 3) CLOSE MO-1753 using 14A-S1A, MO1753 Div I CS Injection Inboard, control switch.
Standard:	Verifies MO-1753 is closed
Evaluator Cue:	None
Evaluator Note:	MO-1753 is normally closed
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	(Procedure STEP 4) PLACE 14A-S16A, MO-1751 Div I CS Injection Bypass, keylocked switch in BYPASS
Standard:	Places MO-1751 keylocked bypass switch in BYPASS
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	(Procedure STEP 5) CLOSE MO-1751 using 14A-S2A, MO-1751 Div I CS Injection Outboard, control switch.
Standard:	Closes MO-1751
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: When MO-1751 is closed, state that the JPM is complete.

Stop Time: _____

Xcel Energy	JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: BYPASSING AN LPRM

JPM NUMBER: JPM-B.05.01.02-004 **REV.** 2

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR215.119
Bypass a failed LPRM

K/A NUMBERS: 215005 A4.04 A4.06 **Rating: SRO/RO:** 3.2/3.2 3.8/3.6

APPLICABLE METHOD OF TESTING:
Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐
Simulator: ☒ Other: ☐
Lab: ☐

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☐

Additional site-specific signatures may be added as desired.

Developed by: _____
Developer Date

Validated by: _____
Validator Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

INITIAL CONDITIONS:

- Plant is operating at 100% power.
- LPRM 36-29A (Associated with APRM/OPRM 3) has been erratic and nuclear engineering and I&C maintenance have recommended bypassing it with High Volts ON.
- No other LPRMs are bypassed
- You are an extra licensed operator in the Control Room.

INITIATING CUES:

- The CRS directs you to bypass LPRM 36-29A with the High Volts in ON.
- Provide a copy of B.05.01.02-05 to the operator

JPM PERFORMANCE INFORMATION

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step SHALL result in failure of this JPM, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1 **Critical: N**	Procedure Step 1 EVALUATE Tech Spec 3.3.1.1, Reactor Protection System, to determine the appropriate ACTION to take when APRM is removed from service.
Standard:	Evaluates Tech Spec 3.3.1.1.
Evaluator Cue:	Notify that Tech Spec 3.3.1.1 has been evaluated.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	Procedure Step 2 At panel C-05, BYPASS APRM containing LPRM to be bypassed by placing Switch 7B-S3 (APRM Bypass) in selected position and verify associated white lamp is on or corresponding APRM ODA header display indicates BYP in inverse video.
Standard:	Bypasses APRM #3.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	Procedure Step 3 At Panel C-05, SELECT a rod monitored by LPRM to be bypassed.
Standard:	Selects a rod that results in LPRM 36-29A being displayed on an RBM ODA
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: Y**	Procedure Step 4.a **NOTE 1:** Correct password must be entered within 10 seconds of pressing BYPASS SELECTIONS softkey or display will revert to main display. **NOTE 2:** Step 4.a. may be repeated as required until BYPASS SELECTIONS screen appears. At Panel C-37, on APRM for which LPRM is required to be bypassed, perform the following: a. NAVIGATE to and PRESS BYPASS SELECTIONS softkey
Standard:	NAVIGATES to and PRESSES BYPASS SELECTIONS softkey
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	Procedure Step 4.b At Panel C-37, on APRM for which LPRM is required to be bypassed, perform the following: b. ENTER password 4221
Standard:	ENTERS password 4221
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	Procedure Step 4.c At Panel C-37, on APRM for which LPRM is required to be bypassed, perform the following: c. PRESS ENT on keypad
Standard:	PRESSES ENT on keypad
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: Y**	Procedure Step 4.d At Panel C-37, on APRM for which LPRM is required to be bypassed, perform the following: d. Using left/right cursor keys, SELECT LPRM to be bypassed
Standard:	Using left/right cursor keys, SELECT LPRM to be bypassed
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: Y**	Procedure Step 4.e At Panel C-37, on APRM for which LPRM is required to be bypassed, perform the following: e. Based on technical staff recommendations, PRESS one of the following: o BYPASS/HV ON softkey o BYPASS/HV OFF softkey
Standard:	Presses the BYP/HV ON softkey
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: N**	Procedure Step 4.f At Panel C-37, on APRM for which LPRM is required to be bypassed, perform the following: f. VERIFY status of LPRM selected to be bypassed changes to BYP/HV ON or BYP/HV OFF as applicable:
Standard:	Verifies BYP/HV ON
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: N**	Procedure Step 4.g At Panel C-37, on APRM for which LPRM is required to be bypassed, perform the following: g. PRESS EXIT softkey to return to main display.
Standard:	Presses EXIT softkey
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: N**	Procedure Step 5 At Panel C-05, on the applicable RBM ODA, VERIFY BYP/HV ON or BYP/HV OFF, is indicated for LPRM which is bypassed.
Standard:	On RBM ODA, VERIFIES BYP/HV ON is indicated for LPRM which is bypassed.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: N**	Procedure Step 6 PERFORM OSP-NIP-0590 (APRM Heat Balance) to readjust APRM gain to account for loss of an LPRM input.
Standard:	Recognizes need to perform APRM Heat Balance.
Evaluator Cue:	Inform examinee no gain adjustment required.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: N**	Procedure Step 7 At Panel C-05, place Switch 7B-S3, APRM Bypass Switch, in the neutral position and VERIFY associated APRM BYPASS white lamp is OFF or associated APRM ODA display header does NOT indicate BYP inverse video [M76053A].
Standard:	Verifies APRM bypass is removed.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge that the task has been completed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: Examinee has bypassed LPRM and removed the Bypass from APRM 3.

Stop Time: _____

Xcel Energy	JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: SWAPPING STATOR COOLING PUMPS

JPM NUMBER: JPM-B.06.02.04-001 **REV.** 5

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR200.171
Perform the procedure for a stator cooling water failure

K/A NUMBERS: 241000 A2.10 Rating: SRO/RO: 3.2 / 3.1

APPLICABLE METHOD OF TESTING:
Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐
Simulator: ☒ Other: ☐
Lab: ☐

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: Yes

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☐

Additional site-specific signatures may be added as desired.

Developed by: _____
Developer Date

Validated by: _____
Validator Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

INITIAL CONDITIONS:

- 11 Stator Liquid Cooling pump P-72A is in service.
- 12 Stator Liquid Cooling pump P-72B is in standby.
- Vibration Engineer needs to collect vibration data on 12 Stator Liquid Cooling pump.
- Turbine Building Operator is standing by locally

INITIATING CUES:

- CRS has directed you to place 12 Stator Liquid Cooling pump P-72B in service and place 11 Stator Liquid Cooling pump P-72A in standby IAW the B Manual.

JPM PERFORMANCE INFORMATION

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step SHALL result in failure of this JPM, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1 **Critical: N**	Obtain and review Procedure B.06.02.04-05, Section E.1 (Swapping Stator Cooling Pumps).
Standard:	• Obtains and reviews correct procedure and section. • Determines PART B (Placing Stator Cooling Pump P-72B Into Service And Removing Stator Cooling Pump P-72A From Service) will be performed.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	Procedure Step 8. Note pump discharge pressure on gauge PI-7121 (Panel C-83A).
Standard:	Contacts Turbine Building Operator and requests Stator Cooling pump discharge pressure from gauge PI-7121.
Evaluator Cue:	When examinee attempts to contact the Turbine Building Operator, REPORT that pump discharge pressure is 125 psig and steady.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: Y**	Procedure Step 9. Place HS-2125, 12 STATOR LIQUID PUMP P-72B to START (Panel C-08).
Standard:	• Momentarily rotates control switch HS-2125 CW to the START position. **<u>Non-Critical Portion</u>:** • Observes RED light comes ON and GREEN light goes OFF.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	Procedure Step 10. Verify pump discharge pressure rise on PI-7121 (Panel C-83A).
Standard:	Contacts Turbine Building Operator and requests Stator Cooling pump discharge pressure from gauge PI-7121.
Evaluator Cue:	When examinee attempts to contact the Turbine Building Operator, REPORT that pump discharge pressure has risen to 130 psig and is steady.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: N**	Procedure Step 11. Place HS-3125, 11 STATOR LIQUID PUMP P-72A to STOP (Panel C-08).
Standard:	• Momentarily rotates control switch HS-3125 CCW to the STOP position. • Observes RED light goes OFF and GREEN light comes ON. • Reports trip of 12 Stator Cooling pump and may refer to ARP 8-A-17.
Evaluator Note:	• If the operator fails to secure the 11 Stator Cooling pump, DIRECT the Simulator Operator to manually INSERT **Trigger 1**. • Performance Steps 12 – 14 may be marked N/A once operator reports trip of 12 Stator Cooling pump and enters C.4-B.06.02.04.A.
Evaluator Cue:	**Floor Instructor:** When Operator reports trip of 12 Stator Cooling pump, ACKNOWLEDGE report. **Simulator Booth Operator**: When operator takes 11 Stator Liquid pump control switch to the OFF position, VERIFY **Trigger 1** automatically activates. This causes a trip of 12 pump after a 10 second time delay. This also inserts a trip of 11 pump to prevent it from automatically starting when the 12 pump trips.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: N**	Procedure Step 12 (Optional). Verify pump discharge pressure is 115 - 135 psig on gauge PI-7121 (Panel C-83A).
Standard:	Contacts Turbine Building Operator and requests Stator Cooling pump discharge pressure from gauge PI-7121.
Evaluator Note:	Depending on operator timing, if the 12 Stator Cooling pump has tripped, this performance step may not be done and can be marked as N/A.
Evaluator Cue:	If examinee attempts to contact the Turbine Building Operator, REPORT pump discharge pressure is 125 psig and steady. When the 12 Stator Cooling pump trips, REPORT discharge pressure has dropped to 0 psig.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	Procedure Step 13 (Optional). Verify PI-7122, Stator Cooling Water Inlet Pressure ≤ 56 psig (Panel C-83A).
Standard:	Contacts Turbine Building Operator and requests Stator Cooling inlet pressure from gauge PI-7122.
Evaluator Note:	Depending on operator timing, if the 12 Stator Cooling pump has tripped, this performance step may not be done and can be marked as N/A.
Evaluator Cue:	If examinee attempts to contact the Turbine Building Operator, REPORT Stator Cooling inlet pressure is 50 psig and steady. When the 12 Stator Cooling pump trips, REPORT inlet pressure has dropped to 0 psig.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: N**	Procedure Step 14 (Optional). Verify flow through FIS-7183, Cooling Water Flow to Gen Winding, is 285 gpm to 315 gpm (Panel C-83A).
Standard:	Contacts Turbine Building Operator and requests Stator Cooling flow from gauge FIS-7183.
Evaluator Note:	Depending on operator timing, if the 12 Stator Cooling pump has tripped, this performance step may not be done and can be marked as N/A.
Evaluator Cue:	If examinee attempts to contact the Turbine Building Operator, REPORT Stator Cooling flow is 300 gpm and steady. When the 12 Stator Cooling pump trips, REPORT flow has dropped to 0 gpm.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: Y**	ALTERNATE PATH (C.4-B.06.02.04.A) Immediate Operator Action Step 1. Verify a Stator Cooling water pump is running.
Standard:	• Momentarily rotates control switch HS-3125 CW to the START position. **<u>Non-Critical Portion</u>:** • Informs CRS of the intention to start 11 Stator Cooling pump. • Observes RED light comes ON and GREEN light goes OFF. • Observes ARP 8-A-17 has cleared.
Evaluator Note:	This is an Immediate Operator Action and should be performed from memory.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: N**	(C.4-B.06.02.04.A) Immediate Operator Action Step 2. <u>If</u> a total loss of Stator Cooling has occurred, <u>And</u> cooling can <u>NOT</u> be immediately restored, <u>Then</u> initiate a Reactor Scram.
Standard:	• Marks step as N/A.
Evaluator Cue:	When operator obtains and reviews procedure C.4-B.06.02.04.A, INFORM him another operator will complete the procedure.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: Terminate the JPM once 11 Stator Cooling pump is running and examinee has been informed that another operator will complete the procedure.

Stop Time: _____

Xcel Energy	JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: TURBINE-GENERATOR SYNCHRONIZATION AND LOADING

JPM NUMBER: JPM-C.1-006 **REV.** 4

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR200.126
Synchronize and load the Turbine-Generator

K/A NUMBERS: 700000 AA2.08 **Rating: SRO/RO:** 4.4/4.3

APPLICABLE METHOD OF TESTING:
Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐
Simulator: ☒ Other: ☐
Lab: ☐

Time for Completion: 15 Minutes Time Critical: No

Alternate Path: Yes

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☐

Additional site-specific signatures may be added as desired.

Developed by: _____
Developer Date

Validated by: _____
Validator Date
(See JPM Validation Checklist, Attachment 1)

Approved by: _____
Training Supervisor Date

INITIAL CONDITIONS:

- Reactor is in RUN at about 15% power with one and one-half bypass valves open.
- The Main Generator is rolling at approximately 1800 rpm ready for synchronization.
- Main Generator Automatic Voltage Regulator is currently out of service.
- Plant Management has authorized placing the Main Turbine –Generator on line with the Voltage Regulator in the MANUAL MODE.
- Procedure 2167 has been completed through step 129 Steps 124 and 128 are N/Ad due to the voltage regulator being out of service.
- Form QF-0023 (Determination for the Use of Not Applicable) for N/Aing Steps 124 and 128 have been completed in accordance with FP-G-DOC-03 (Procedure Use and Adherence).

INITIATING CUES:

- CRS has directed you to synchronize and load the Main Turbine-Generator commencing with Step 130
- Breaker **8N8** will be closed first.
- **INFORM THE EVALUATOR WHEN YOU HAVE COMPLETED THE TASK.**

JPM PERFORMANCE INFORMATION

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step SHALL result in failure of this JPM, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1 **Critical: N**	Obtain and review Procedure 2167 Part I (Turbine-Generator Synchronization and Loading).
Standard:	Reviews correct procedure and section.
Evaluator Cue:	• PROVIDE operator with Marked up copy of 2167 (Part I) showing Steps 122, 123, 125, 126 and 129 completed and Steps 124, 127 and 128 marked as N/A and filled out Form QF-0023 for N/Ad steps 124 and 128.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: Y**	Procedure Step 130. Place Synchronizing switch to ON, for <u>one</u> of Generator Output Breakers: • 8N7/SS, Sync Main Gen Breaker No 1 • 8N8/SS, Sync Main Gen Breaker No 2 a. OBSERVE Synchronizing pointer moving. b. OBSERVE Synchronizing Voltmeters and sensing lights activated
Standard:	Place Synchronizing switch to ON, for <u>one</u> of Generator Output Breakers: • 8N7/SS, Sync Main Gen Breaker No 1 • 8N8/SS, Sync Main Gen Breaker No 2 c. OBSERVE Synchronizing pointer moving. d. OBSERVE Synchronizing Voltmeters and sensing lights activated **<u>Non-Critical Portion</u>:** • Observes Synchronizing pointer moving and Voltmeters and sensing lights activated
Evaluator Cue:	If necessary repeat that 8N8 should be used for synchronizing per the turnover sheet
Evaluator Note:	Per the turnover sheet 8N8 should be used for synchronizing
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: Y**	Procedure Step 131. Use SLCM, Speed Load Changer, to ADJUST the Generator speed until clockwise synchronous pointer rotation established.
Standard:	Momentarily rotates control switch SLCM (located on Panel C-07) as necessary until synchroscope pointer (located on Panel C-08) is rotating CW.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: Y**	Procedure Step 132. Adjust incoming voltage to match running voltage using 270/CS, Regulator Voltage Adjust (C-08).
Standard:	• Momentarily rotates control switch 270/CS CW as necessary until incoming voltage approximately matches running voltage. **<u>Non-Critical Portion</u>:** • Observes Generator voltage on the No. 1 Main Generator Kilovolt Meter is 20.9 – 23.1 KV.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: N**	Procedure Step 133. <u>If</u> speed and voltage conditions are not met, <u>Then</u> Repeat Steps 131 and 132 until speed and voltage conditions are met.
Standard:	Repeats steps 131 and 132 as necessary to meet the standards indicated in Performance Steps 3 & 4.
Evaluator Note:	Candidate is allowed to return to Steps 131 and 132 as necessary to satisfy the standard.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: N**	Procedure Step 134. Allow the synchroscope to make <u>at least two</u> complete revolutions to verify that the synchroscope is operating properly.
Standard:	Observes the pointer on the synchroscope has completed at least two revolutions.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: Y**	Procedure Step 135 a. When the synchroscope pointer is in the Green Band, Then perform the following (loads the generator): a. PLACE selected Main Generator Output Breaker (8N7 or 8N8) control switch to CLOSE and HOLD. 1). When synchroscope pointer reaches 12 o-clock position, Then RELEASE Main Generator Output Breaker control switch. 2). If breaker does not close on the first attempt, Then PLACE breaker control switch in TRIP a) Verify alarm resets b) Enter step 130 above 3). If breaker does not close on second attempt, Then DO NOT reset breaker and alarm, a) notify System Engineer.
Standard:	• Momentarily rotates control switch 8N8/CS CW to the CLOSE position such that Main Generator output breaker 8N8 closes. • If breaker fails to close on the first attempt, momentarily rotates control switch 8N8/CS CCW to the TRIP position and returns to Step 132. **Non-Critical Portion:** • Observes synchroscope pointer is in the GREEN band when control switch 8N8/CS is taken to the CLOSE position. • Releases breaker control switch when synchroscope pointer is pointing at the straight up 12 o-clock position. • Observes both RED indicating lights for Breaker 8N8 come ON and the GREEN light goes OFF. • If breaker fails to close on the second attempt, informs System Engineer.
Evaluator Note:	Operator may utilize two attempts to close breaker. If operator is unsuccessful in closing the breaker after two attempts and the system engineer is contacted the operator can be informed that they may continue to attempt to close the breaker. This is if it appears that the operator has been attempting to correctly close the breaker while the synchroscope is in the green band. If the operator has been incorrectly attempting to sync the generator then mark this step as UNSAT and inform the operator that the JPM is complete
Evaluator Cue:	• **Simulator Operator**: When operator closes Breaker 8N8, VERIFY **Trigger 1** automatically activates. This will insert the Voltage Regulator RAISE overrides which will drive Generator voltage high out of specification and prevent manual lowering of the voltage regulator. • **Simulator Operator**: **ROLE PLAY:** If contacted as System Engineer, ACKNOWLEDGE report and INFORM operator an investigation will be promptly initiated. • **Floor Instructor:** If operator is unsuccessful in closing the breaker after two attempts, INFORM operator JPM is complete.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: N**	Procedure Step 135.b. Use SLCM, Speed Load Changer to immediately pick up 5% load (about 30 MWe).
Standard:	• Momentarily rotates control switch SLCM CW to the RAISE position until Main Generator has been loaded to 25 – 35 MWe. • Observes Generator output on the No. 1 Main Generator Megawatt meter (Panel C-08) and/or the Main Generator Megawatt LED (Panel C-07) is reading ~30 MWe.
Evaluator Note:	• MWe may exceed 35 MWe due to the voltage regulator failure. This would not be considered a failure of this step. • Based on recognition of Main Generator voltage rising, this step may not be done.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: N**	Procedure Step 135.c. Check generator voltage and current indications are approximately equal for each phase.
Standard:	• Observes amperage readings on the three No. 1 Main Generator Phase A/B/C Kiloamp meters (Panel C-08) are approximately equal. • Rotates the Phase Voltage Select Switch VS1 (Panel C-08) CW and/or CCW as necessary and observes voltage readings on all three phases are approximately equal. • Should notice that voltage and MVAR readings are rising and reports this to the CRS. • When annunciator 8-A-11 alarms, reports alarm and pulls associated ARP.
Evaluator Cue:	**Floor Instructor:** If operator reports Main Generator voltage and MVAR rising and/or alarm, ACKNOWLEDGE report. **Simulator Operator**: When Main Generator output voltage rises to 23.1 KV, VERIFY **Trigger 2** automatically activates. This will cause the Main Generator Volts/Hz Trouble annunciator (8-A-11) to alarm.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: N**	Procedure Step 135.d. PLACE synchroscope switch in OFF and REMOVE handle from switch.
Standard:	• Rotates synchroscope key 8N8/SS CCW to the OFF position. • Removes synchroscope key from control slot and places it in the synchroscope key holder located on Panel C-08.
Evaluator Note:	If operator is already responding to the increasing generator voltage, this step may be marked as N/A.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: N**	Procedure Step 135.e. Log in Monticello Station Log.
Standard:	Commences to make log entry in SOMS narrative logs.
Evaluator Note:	If operator is already responding to the increasing generator voltage, this step may be marked as N/A.
Evaluator Cue:	When operator attempts to make log entry, INFORM him another operator has made the required log entry.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: N**	Procedure Step 135.f. NOTIFY Security, at 1246 (CAS), Main Generator output line energized.
Standard:	Notifies security
Evaluator Note:	If operator is already responding to the increasing generator voltage, this step may be marked as N/A.
Evaluator Cue:	**Simulator Operator**: **ROLE PLAY:** As security acknowledge the report
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: N**	Procedure Step 135.g Locally inspect the No. 1 Generator Transformer area and 345 KV disconnects to verify no abnormal conditions (i.e. arcing, smoke, unusual noise).
Standard:	Dispatches Turbine Building Operator to perform inspections of Main Generator transformer and associated 345 KV disconnects.
Evaluator Note:	• If operator is already responding to the increasing generator voltage, this step may be marked as N/A. • Inspection results will not be reported so that increasing generator voltage malfunction can be responded to prior to proceeding with Procedure Step 14.
Evaluator Cue:	**Simulator Operator**: **ROLE PLAY:** If directed as Turbine Building Operator to conduct inspections, INFORM operator that inspections will be commenced. DO NOT PROVIDE inspection results.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: N**	Procedure Step 135.h. Transfer SR-1715 from Turbine Speed to Control Valve Cam Position.
Standard:	Selects the Control Valve Cam Position display on paperless recorder SR1715 located on Panel C-07.
Evaluator Note:	If operator is already responding to the increasing generator voltage, this step may be marked as N/A.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 15 **Critical: N**	**ALTERNATE PATH** Obtain and review ARP C.6-008-A-11 (Main Generator Volts/Hz Trouble).
Standard:	• Announces alarm. • Obtains and reviews correct Alarm Response Procedure.
Evaluator Cue:	As CRS acknowledge communication
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 16 **Critical: N**	(C.6-008-A-11) Procedure Step 1. Perform the following: …
Standard:	Starts to perform Step 1 of ARP.
Evaluator Cue:	When operator starts to perform Step 1 of the ARP, INFORM him another operator has completed Step 1.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 17 **Critical: N**	(C.6-008-A-11) Procedure Step 2. If the Generator is ON-LINE, Then reduce excitation to lower generator output voltage to < 23.1 KV.
Standard:	• Momentarily rotates control switch 270/CS CCW to the LOWER position. • Observes no response from the Voltage Regulator. • Observes Main Generator voltage and MVARs continue to rise.
Evaluator Cue:	As CRS acknowledge communication
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 18 **Critical: Y**	(C.6-008-A-11) Procedure Step 2.a. If actions taken to lower output voltage are not effective, And Generator output voltage is ≥ 23.6 KV, Then trip the Generator using the GENERATOR EMERGENCY TRIP handswitch. (C-08).
Standard:	• Momentarily rotates control switch GT/CS CW or CCW to the TRIP position. **Non-Critical Portion:** • Informs CRS of intention to trip the Main Generator. • Observes various indications associated with the Main Turbine-Generator trip.
Evaluator Cue:	• **Floor Instructor:** As CRS, ACKNOWLEDGE report. • **Floor Instructor:** When operator trips the Main Generator, INFORM him another operator will complete remaining portions of procedures. • **Simulator Operator**: When Operator trips Main Generator, VERIFY **Triggers 3 and/or 4** automatically activate. This will delete the Main Generator voltage indication override.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 18 Critical:: N	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge that the task has been completed.
Evaluator Note:	DO NOT PROMPT
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: When the Main Generator is manually tripped inform the operator that the JPM is complete.

Stop Time: _____

Xcel Energy	JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: MANUALLY ISOLATE SCTMT

JPM NUMBER: JPM-B.04.02-005 **REV.** 4

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR261.108
Manually Isolate SCTMT

K/A NUMBERS: 290001 / A3.01
Secondary Containment Isolation **Rating: SRO/RO:** 4.0/3.9

APPLICABLE METHOD OF TESTING:
Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐
Simulator: ☒ Other: ☐
Lab: ☐

Time for Completion: 15 Minutes Time Critical: No

Alternate Path: Yes

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☐

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

INITIAL CONDITIONS:

- I & C has replaced an isolation relay for Secondary Containment.
- PMT requires that a manual secondary containment isolation be performed.
- A SBGT has been verified in AUTO/STANDBY

INITIATING CUES (IF APPLICABLE):

- Manually isolate Secondary Containment IAW the B-04.02-05.D.2.

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step SHALL result in failure of this JPM, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1 **Critical: N**	Locates procedure B.04.02-05.D2 (Manually Isolate SCTMT)
Standard:	Locates procedure B.04.02-05.D2 (Manually Isolate SCTMT), reviews PURPOSE and PRECAUTIONS AND LIMITATIONS
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	PREREQUISITES 1 At least one SBGT Train is in Auto/Standby.
Standard:	Verifies SBGT Train A is in Auto/Standby.
Evaluator Cue:	As stated in the initial conditions, state that A SBGT has been verified in AUTO/STANDBY.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical: N**	PREREQUISITES 2 Either: a. No painting has occurred within Reactor Building for at least 32 hours (online) or 48 hours (outage), Or b. If painting has occurred within 32 hours (online) or 48 hours (outage) of SBGT operation, Then notify the SCTMT System Engineer to evaluate the effect on the charcoal filters
Standard:	Verifies no painting has occurred within Reactor Building for at least 32 hours.
Evaluator Cue:	Inform operator that no painting has occurred within Reactor Building for at least 48 hours.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	Procedure Step 1: If this procedure is being initiated in response to rising radioactive releases from the Reactor Building, Then perform this procedure concurrently with Abnormal Procedure C.4-B.02.04.A (Steam Leaks Outside Primary Containment), And, Or C.4-B.04.01.B (Primary Containment Group 2 – Isolation).
Standard:	Based on initial conditions and initiating cue this step is N/A
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	Procedure Step 2: If the Turbine Building ventilation is to remain operating, Then perform the following: a. Evaluate Tech Spec 3.3.6.2 and enter applicable Condition for inoperable Secondary Containment Instrumentation. b. Evaluate Tech Spec 3.6.4.1 and enter applicable Condition for SCTMT inoperable. c. On Panel C-24A, place HS-4887 in BYPASS. d. On Panel C-24B, place HS-4888 in BYPASS.
Standard:	a. On Panel C-24A, places HS-4887 in BYPASS. b. On Panel C-24B, places HS-4888 in BYPASS. **NON-CRITIAL PORTION OF STANDARD**: • Evaluate Tech Spec 3.3.6.2 and enter applicable Condition for inoperable Secondary Containment Instrumentation. • Evaluate Tech Spec 3.6.4.1 and enter applicable Condition for SCTMT inoperable. • Acknowledges expected alarms
Evaluator Cue:	Inform operator Turbine Building ventilation IS to remain operating. Tech Spec 3.3.6.2 and 3.6.4.1 have been evaluated by the CRS.
Evaluator Note:	Both Tech Specs do not require entry based on the initial conditions.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	Procedure Step 3: Isolate SCTMT by pushing both TEST pushbuttons on Panels C-24A and C-24B.
Standard:	Isolates SCTMT by pushing both TEST pushbuttons on Panels C-24A and C-24B. **NON-CRITIAL PORTION OF STANDARD:** Acknowledges alarms
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: Y**	**NOTE:** Only SBGT A Train should start by using the TEST pushbuttons.
Standard:	Candidate should recognize that SBGT A failed to start and SBGT B started (Alternate Path) **NON-CRITIAL PORTION OF STANDARD:** Acknowledges alarms
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: N**	Procedure Step 4: If SBGT A Train and SBGT B Train automatically start, Then attempt to determine the reason for the start of B Train, And either:
Standard:	This step is N/A
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 9 **Critical: N**	Procedure Step 5: If SBGT B Train remained in AUTO/STANDBY condition, Then verify the following indications:
Standard:	This step is N/A
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 10 **Critical: N**	Procedure Step 6.a (Alternate Path) If SBGT A Train failed, And SBGT B Train initiated, Then perform the following: a. Verify the following indications at Panel C-24B: 1) DPI-4424 ≤-0.25 WC (more negative) 2) V-EF-17B ON 3) FILTER HEATER E-34B-1 ON 4) AO-2944 OPEN 5) AO-2978 OPEN 6) CV-2942 100% OPEN 7) FIC-2942 ≥ 3150 cfm and ≤4000 cfm
Standard:	a. Verifies the following indications at Panel C-24B: 1) DPI-4424 ≤-0.25 WC (more negative) 2) V-EF-17B ON 3) FILTER HEATER E-34B-1 ON 4) AO-2944 OPEN 5) AO-2978 OPEN 6) CV-2942 100% OPEN 7) FIC-2942 ≥3150 cfm and ≤4000 cfm
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 11 **Critical: N**	Procedure Step 6.b: Declare SBGT A Train INOPERABLE, AND enter Tech Spec 3.6.4.3 Condition A.
Standard:	b. Informs CRS to declare SBGT A Train INOPERABLE, And evaluate Tech Spec 3.6.4.3 Condition A.
Evaluator Cue:	Acknowledge as CRS the inoperability of SBGT A.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 12 **Critical: Y**	Procedure Step 6.c: Investigate cause of SBGT A Train failure and perform the following at Panel C-24A: 1) Place HS-2988A to Position 1 (MANUAL) and verify blue light is ON. 2) Verify the following indications: a) V-EF-17A OFF b) FILTER HEATER E-34A-1 OFF c) AO-2945 CLOSED d) AO-2979 CLOSED
Standard:	c. Investigates cause of SBGT A Train failure and perform the following at Panel C-24A: 1) Places HS-2988A to Position 1 (MANUAL) and verifies blue light is ON. 2) Verifies the following indications **NON-CRITICAL PORTION OF STANDARD:** a) V-EF-17A OFF b) FILTER HEATER E-34A-1 OFF c) AO-2945 CLOSED d) AO-2979 CLOSED
Evaluator Cue:	Inform candidate that another operator will continue the investigation and that they should complete the procedure.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 13 **Critical: N**	Procedure Step 6.d: Notify CRS.
Standard:	Notifies CRS.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 14 **Critical: N**	**INFORM EVALUATOR THAT THE TASK HAS BEEN COMPLETED.**
Standard:	Operator informs evaluator that the task is completed.
Evaluator Cue:	Acknowledge that the task has been completed.
Evaluator Note:	DO NOT PROMPT.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: The remaining portion of the procedure is notifications and verifications (not all modeled in the simulator). When operator informs CRS, terminate JPM.

Stop Time: _____

Xcel Energy	JOB PERFORMANCE MEASURE (JPM)

SITE: MONTICELLO NUCLEAR GENERATING PLANT

JPM TITLE: REMOVING STACK WRGM FROM SERVICE

JPM NUMBER: JPM-B.05.11-002 **REV.** 2

RELATED PRA INFORMATION: None

TASK NUMBERS / TASK TITLE(S): CR273.107
Removing Stack or RBV WRGM From Service

K/A NUMBERS: 271000 / A1.12 **Rating: SRO/RO:** 3.5/3.1

APPLICABLE METHOD OF TESTING:
Discussion: ☐ Simulate/walkthrough: ☐ Perform: ☒

EVALUATION LOCATION: In-Plant: ☐ Control Room: ☐
Simulator: ☒ Other: ☐
Lab: ☐

Time for Completion: 10 Minutes Time Critical: No

Alternate Path: No

TASK APPLICABILITY: SRO: ☒ RO: ☒ NLO ☐

Additional site-specific signatures may be added as desired.

Developed by:		
	Developer	Date
Validated by:		
	Validator (See JPM Validation Checklist, Attachment 1)	Date
Approved by:		
	Training Supervisor	Date

INITIAL CONDITIONS:

- The plant is at rated conditions
- The “A” Off-gas Stack WRGM is required to be removed from service for calibration

INITIATING CUES (IF APPLICABLE):

- Remove the “A” Off-gas Stack WRGM from service for maintenance IAW the B.05.11-05.

JPM PERFORMANCE INFORMATION

Start Time: _____

NOTE: When providing "Evaluator Cues" to the examinee, care must be exercised to avoid prompting the examinee. Typically cues are only provided when the examinee's actions warrant receiving the information (i.e., the examinee looks or asks for the indication).

IMPORTANT: Critical steps are marked with a "Y" below the performance step number. Failure to meet the standard for any critical step SHALL result in failure of this JPM, per FP-T-SAT-73 (Licensed Operator Requalification Program Examinations).

Performance Step: 1 **Critical: N**	Locates procedure B.05.11-05.F.1 (Removing Stack or RBV WRGM From Service)
Standard:	Locates procedure B.05.11-05.F.1 (Removing Stack or RBV WRGM From Service), reviews PURPOSE and PRECAUTIONS AND LIMITATIONS
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 2 **Critical: N**	PREREQUISITE 1: Chemistry notified to assure DAS for WRGM being taken out of service is disabled.
Standard:	Notifies Chemistry.
Evaluator Cue:	Chemistry has been notified
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 3 **Critical:**	PREREQUISITE 2: TRM 3.3.3.1 has been evaluated for removal of WRGM from service.
Standard:	Verifies with the CRS that TRM 3.3.3.1 has been evaluated.
Evaluator Cue:	Inform the examinee that the CRS has evaluated TRM 3.3.3.1.
Evaluator Note:	If asked, preplanned alternate method of monitoring appropriate parameters is in progress to satisfy TRM 3.3.3.1 Condition E.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 4 **Critical: N**	PREREQUISITE 3: ODCM-03.01 has been evaluated for removal of WRGM from service.
Standard:	Verifies that ODCM-03.01 has been evaluated.
Evaluator Cue:	Inform the examinee that the CRS has evaluated ODCM-03.01.
Evaluator Note:	If asked, releases may be continued for 30 days provided grab samples are performed at least once every 8 hours.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 5 **Critical: Y**	Procedure Step 1: Insert Key #64 into the keylock switch on the Control Room Assembly and turn to the SUPV position.
Standard:	Inserts Key #64 into the keylock switch and turns to the SUPV position.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 6 **Critical: Y**	Procedure Step 2: **NOTE:** Alarm of 259-A-9 (Stack Effluent Monitor INOP) or 252-A-10 (RBV Effluent Monitor INOP) is expected. Momentarily depress the PUMP ON/OFF pushbutton on the WRGM Control Room Assembly
Standard:	Locates the PUMP ON/OFF pushbutton for the appropriate WRGM (Channel A Stack WRGM) and depresses the ON/OFF pushbutton. **Non-Critical:** Acknowledging NOTE for alarm receipt
Evaluator Cue:	None
Evaluator Note:	**BOOTH OPERATOR:** Verify alarm 252-A-9 (Stack Effluent Monitor INOP) alarms when the PUMP ON/OFF pushbutton is depressed.
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 7 **Critical: N**	Procedure Step 3: Check the following occurs after a few seconds: a. PUMP ON/OFF pushbutton lamp OFF b. Green LOW RANGE Oper LED is OFF c. The corresponding INOP alarm is received
Standard:	Examinee verifies: • PUMP ON/OF pushbutton lamp is OFF • Green LOW RANGE Oper LED is OFF • Alarm 252-A-9 is received
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Performance Step: 8 **Critical: N**	Step 4: Return the keylock switch to the NORM position and remove key.
Standard:	Returns the keylock switch to the NORM position and removes the key.
Evaluator Cue:	None
Performance:	**SATISFACTORY** ☐ **UNSATISFACTORY** ☐
Comments:	_____

Terminating Cues: When examinee completes step 4 of the procedure, the JPM is complete.

Stop Time: _____