INITIAL SUBMITTAL OF WALKTHROUGH JPMS

FOR CLINTON INITIAL EXAMINATION - JULY 2001

Facility: Clinton Power Station Date of Examination: 07/16/01

Exam Level (circle one): [RO] / [SRO(I)] / SRO(U) Operating Test No.: 2001-01

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a. 202001 Recirculation Emergency Shutdown and Isolation of One Reactor Recirculation Loop from Fast Speed per CPS 3302.01.	(S) (D)	1
b. 259001 Reactor Feedwater Startup Motor Driven Reactor Feedwater Pump (MDRFP) per CPS 3103.01.	(S) (D) (L)	2
c. 239001 Main and Reheat Steam Defeat MSIV/MSL Drains Group 1 Isolations per CPS 4410.00C007.	(C) (N)	3
d. 209001 Low Pressure Core Spray Manually Start LPCS - Logic Not Available per CPS 3313.01.	(S) (M) (A)	4
e. 262001 A. C. Electrical Distribution Transfer 4160v Bus 1B1From Main to Reserve Source IAW CPS 3501.01.	(S) (D) (A)	6
f. 272000 Radiation Monitoring Shifting Off-Gas Post Treatment Process Radiation Monitors per CPS 3315.03.	(S) (N)	7
g. 290003 Control Room HVAC Startup the Control Room Ventilation System (VC) in the High Radiation Mode per CPS 3402.01.	(S) (M) (A)	9

B.2 Facility Walk-Through

a. 295037 Scram Condition Present & Reactor Pwr >5% Open Reactor Protection System Scram Breakers Outside the MCR per CPS 4411.08.	(R) (D)	1
b. 223001 Primary Containment Systems & Auxiliaries Startup a Hydrogen Recombiner from the Local Control Panel per CPS 4411.11	(R) (D)	5
c. 286000 Fire Protection Manual Startup of the "B" Diesel Fire Pump per CPS 3213.01.	(D) (A)	8

*Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol Room, (S)imulator, (L)ow-Power, (R)CA

Facility: Clinton Power Station	Date of Examination: 07/16/01
Exam Level (circle one): RO / SRO(I) / SRO(U)	Operating Test No.: 2001-01

B.1 Control Room Systems

System / JPM Title	Type Code*	Safety Function
a.		
b. 259001 Reactor Feedwater Startup Motor Driven Reactor Feedwater Pump (MDRFP) per CPS 3103.01.	(S) (D) (L)	2
c.		
d. 209001 Low Pressure Core Spray Manually Start LPCS - Logic Not Available per CPS 3313.01.	(S) (M) (A)	4
e. 262001 A. C. Electrical Distribution Transfer 4160v Bus 1B1From Main to Reserve Source IAW CPS 3501.01.	(S) (D) (A)	6
f.		
g.		

B.2 Facility Walk-Through

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c.		

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CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.1.a **REVISION**: 00

TASK TITLE: Emergency Shutdown and Isolation of One Reactor Recirculation Loop from Fast Speed per CPS No. 3302.01

TASK NUMBER: 014202C514

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES _____ NO X

_____ _____
TRAINEE **DATE**

_____ **PASS**____ **FAIL**____
EVALUATOR

COMMENTS:_____

Simulated Performance _____ Actual Performance X

Classroom _____ Simulator X Plant _____

METHOD OF TESTING:

APPROXIMATE TIME FOR COMPLETION: 18 minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.1.a **REVISION**: 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

SIMULATOR SET-UP CONDITIONS:

1. Initialize to any suitable IC (IC-3 is recommended) with RR Pumps in fast speed and rod line such that trip does not cause entry into restricted zone.
2. Load Remote LC103 to shut 1C11-F026B using a remote or manual trigger.
3. Insert RR06C, RR Pump "B" Seal B1 Failure, 100%.
4. Insert RR06D, RR Pump "B" Seal B2 Failure, 50% with 5 minute ramp, then take the simulator out of FREEZE.
5. Start mixing compressor(s) and maintain DW pressure between 0.3 and 1.0 psig.
6. Freeze the simulator when Drywell pressure is approximately 0.6 psig.

TASK STANDARDS:

Reactor Recirculation Pump B shutdown and the "B" Loop of RR System isolated.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

None

PROCEDURAL/REFERENCES:

CPS No. 3302.01, REACTOR RECIRCULATION, rev. 25a, Sect. 8.2.3 and 8.2.4

EVALUATOR INSTRUCTIONS:

1. Amplifying cues are provided within the JPM steps.

2. Take simulator out of FREEZE after examinee acknowledges the initiating cue.

JPM NUMBER: B.1.a **REVISION**: 00

INITIAL CONDITIONS AND INITIATING CUE:

The plant was operating at 100 % power, step 71 on the 104% rod line. The Reactor Recirc. Pump "B" outer seal has failed and the inner seal is failing. The CRS has directed you to perform an Emergency Shutdown and isolation of the "B" Reactor Recirculation Loop. Report when you have completed the task.

START TIME: _____

JPM NUMBER: B.1.a **REVISION**: 00

PERFORMANCE INFORMATION

Critical steps are denoted with a asterisk (*) to the left of the step number and appear in **BOLDED** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

8.2.3 RR Loop - Emergency Shutdown / RR Pump Trip

> CAUTION
>
> Core flow near the RESTRICTED ZONE increases the potential for thermal hydraulic instabilities. If instability is observed or the restricted zone is entered, an immediate SCRAM is required.
>
> Do not operate with partial FW heating (4005.01) when only one RR pump is operating (Rapid Plant Shutdown required).
>
> Single Loop Operating limits are controlled per the appropriate 300x.01 integrated procedures.

***8.2.3.1** **Trip RR Pump A(B), ensuring pump amps and speed show a complete pump trip:**

from fast speed by opening Bkr 3A(3B), 4A(4B) or 5A(5B), or
from slow speed by opening Bkr 1A(1B) or 2A(2B).

STANDARD: The operator depresses the pushbuttons for the 3B, 4B, or 5B breaker to the open position. Breaker indication is green for motor breaker used. Pump amps on CRT and speed indication on P678 are zero.

CUE:

COMMENTS: Operator may lower reactor water level prior to tripping the pump.

SAT _____ UNSAT _____

JPM NUMBER: B.1.a **REVISION**: 00

***8.2.3.2**	**Shut 1B33-F067A(B), Discharge Vlv.**
STANDARD:	The close pushbutton for 1B33-F067B is depressed, and when the valve is shut, observes its red light is "OUT" and the green light is "ON" (indicates shut).
CUE:	
COMMENTS:	It will take two minutes to fully close this valve. The annunciator "RECIRC MTR B LS AUTO XFER CKT NA" will alarm when 1B33-F067B closes.

SAT _____ UNSAT _____

8.2.3.3	Enter CPS No. 4008.01, ABNORMAL REACTOR COOLANT FLOW.
STANDARD:	Verifies Immediate Operator Actions. Informs CRS that plant is in the 'EXIT' region of the P/F Map.
CUE:	
COMMENTS:	

SAT _____ UNSAT _____

JPM NUMBER: B.1.a **REVISION**: 00

8.2.4 Idle RR Loop - Isolating

CAUTION

With the RR pump shutdown and injection flow stopped, seal cavity will reach 185°F in ~ 30 to 60 minutes. Seal damage may occur at > 250°F and the time necessary to reach 250°F will be dependent upon the seal leakage rate and initial cavity temperature.

Securing CRD injection to a RR pump which has been secured and isolated due to a seal leak will cause an increase in DW airborne activity as the loop depressurizes to atmosphere through the seal.

***8.2.4.1 Shut 1G33-F100(F106), Recirc Loop A(B) Suct. [RT valves]**

STANDARD: The operator depresses the CLOSE pushbutton for 1G33-F106, the valve should indicate shut, green light "ON", red light "OFF".

CUE:

COMMENTS:

SAT _____ UNSAT _____

8.2.4.2 Shut 1B33-F067A(B), Discharge Vlv.

STANDARD: Previously Shut.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.a **REVISION**: 00

NOTE
1B33-F075A(B), Pmp A (B) Seal Stag Shutoff Vlv fails open upon either a loss of DC power or a loss of air.

***8.2.4.3** **Shut/Verify shut 1B33-F075A(B), Pmp A(B) Seal Stag Shutoff Vlv.**

STANDARD: The operator takes the 1B33-F075B switch to the CLOSE position.

CUE:

COMMENTS:

SAT _____ UNSAT _____

***8.2.4.4** **IF** **Loop suction isolation is required to prevent further system degradation or system challenges (i.e., High DW pressure isolations, reactor coolant leakage/level control, etc.),**

THEN **Shut 1B33-F023A(B), Pmp Suction Vlv.**

STANDARD: The operator depresses the CLOSE pushbutton for 1B33-F023B, and the valve should indicate shut, green light "ON", and red light "OFF".

CUE:

COMMENTS:
1. Per the initiating cue an emergency condition exists.
2. It will take two minutes to fully close this valve.
3. The annunciator "RECIRC MTR B LS AUTO XFER CKT NA" will alarm when 1B33-F023B closes.

SAT _____ UNSAT _____

JPM NUMBER: B.1.a **REVISION**: 00

8.2.4.5 Notify Chemistry that the RR loop will be isolated.

Coordinate with Chemistry to establish normal water chemistry limits for power operation before fully isolating the loop due to possible high conductivity intrusion (i.e., isolating the idle loop prior to power accession).

STANDARD: The operator reminds the CRS to contact Chemistry concerning chemistry limits.

CUE: As the CRS, acknowledge the reminder.

COMMENTS:

SAT _____ UNSAT _____

8.2.4.6 **WHEN** Idle loop has cooled down to < 250°F,
[Comp Pt: RR-BF018(019); Recorder 1H13-R614]
or
In the event the RR seals are failed, idle RR loop has depressurized to ~ Drywell pressure.

THEN (CNMT 755' AZM 189°, perform if CNMT accessible

STANDARD: Uses Emergency Conditions and allows loop depressurization via the blown recirc. pump seals.

CUE: Cue that time has been compressed and that the loop has been depressurized to approximately drywell pressure.

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.a **REVISION**: 00

8.2.4.6.1) If running and the RR seals are intact, then secure the RR Aux Seal Inj Pump to prevent loop over pressurization unless NSED evaluation warrants continued RR Aux Seal Inj Pump operation:

a) Stop 1C11-C300, RCRC Aux Seal Inj Pump.
b) Open 1C11-F370, RCRC Aux Seal Pmp Vlv.

STANDARD: No action required

CUE Aux Seal Inj Pump is not running.

COMMENTS:

SAT _____ UNSAT _____

8.2.4.6.2) If RR Aux Seal Inj Pump is not running, then shut 1C11-F026A(B), CRD Supp Isol To RR Pump A(B).

STANDARD: Operator directs "C" Area Operator to shut 1C11-F026B when loop is approx. the same as drywell pressure.

CUE: Activate Remote LC103 and then, cue the operator that 1C11-F026B is shut. Cue that RP has verified containment is accessible.

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.a **REVISION**: 00

8.2.4.6.3) When proper RR loop chemistry limits established, Shut 1B33-F023A(B), Pmp Suction Vlv.

STANDARD: Not applicable to this task.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.a **REVISION**: 00

8.2.4.9	If the loop is to remain isolated in MODEs 1, 2, or 3, record the date & time of isolation in the Clinton Narrative Log & notify NSED - ECCS & Reactivity Systems Team. The RR loop shall remain isolated until the average reactor coolant temperature is < 200°F.
STANDARD:	The operator logs the date and time of the isolation in the Clinton Narrative Log. Notifies NSED - ECCS & Reactivity Systems Team.
CUE:	If asked about the notifications, as the CRS state that the notifications have been made. If asked about initiating a SCRAM or Plant Shutdown, as the CRS state that the CPS Management has been notified and the decision is forthcoming.
COMMENTS:	

SAT _____ UNSAT _____

JPM NUMBER: B.1.a **REVISION**: 00

TERMINATING CUE:

Reactor Recirculation Pump B is shutdown with the loop isolated.

STOP TIME: _____

JPM NUMBER: B.1.a **REVISION**: 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
202001	A4.01	3.7	3.7
	A4.02	3.5	3.4
	A4.05	3.3	3.3

INITIATING CUE

The plant was operating at 100 % power, step 71 on the 104% rod line. The Reactor Recirc. Pump "B" outer seal has failed and the inner seal is failing. The CRS has directed you to perform an Emergency Shutdown and isolation of the "B" Reactor Recirculation Loop. Report when you have completed the task.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.1.b **REVISION:** 00

TASK TITLE: Startup Motor Driven Reactor Feedwater Pump (MDRFP)

TASK NUMBER: 011259C504

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES _____ NO X

_____ _____
TRAINEE **DATE**

_____ **PASS**_____ **FAIL**_____
EVALUATOR

COMMENTS:_____

METHOD OF TESTING:

Simulated Performance _____ Actual Performance X

Classroom _____ Simulator X Plant _____

APPROXIMATE TIME FOR COMPLETION: 25 minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.1.b **REVISION:** 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

SIMULATOR SET-UP CONDITIONS:

1. Initialize to a startup IC (IC-16 recommended) with the condensate booster pumps feeding the reactor and the startup level controller in manual, controlling the 1FW004 valve.
2. Place all Condensate Booster Pump Min Flow Valves in Auto.

TASK STANDARDS:

Motor Driven Reactor Feedwater Pump is running

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

None

PROCEDURAL/REFERENCES:

CPS No. 3103.01, FEEDWATER, Rev. 19e, Section 8.1.3.

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

Reactor power and pressure ascension is in progress as part of a normal reactor startup and are approaching the limit of the condensate booster pumps. All LOCAL pre-start checks for the MDRFP have been performed and the warming line has been open for 30 minutes. Start the Motor Driven Reactor Feedwater pump, by performing the P680 actions and verify it is capable of injecting into the vessel per CPS 3103.01, Feedwater, Section 8.1.3. Maintain Reactor Water Level 30 to 39 inches. Report when the task is complete.

START TIME: _____

JPM NUMBER: B.1.b **REVISION:** 00

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in **BOLDED** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

JPM TITLE: Startup of Motor Driven Reactor Feedwater Pump

CAUTION

For startup and low flow conditions only one CD/CB should be run to minimize wear on CB Pump seals as described in 6.4.

8.1.3.1 **IF** The plant has been operating with the MDRFP in standby (prestart checks previously performed) **AND** there is an immediate need to start the MDRFP for injection to the RPV due to a plant transient,

THEN

1. Ensure that all MDRFP trip signals reset (may cause auto start)
2. Start the MDRFP by depressing the MDRFP START pushbutton
3. Dispatch an operator to verify proper MDRFP operation

STANDARD: No operator actions required. No immediate need for injection due to a transient.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

NOTES

1. *The following pre-start checks may be performed in any order or concurrently.*
2. *The following pre-start checks are performed locally unless otherwise specified.*
3. *The Shift Manager/Control Room Supervisor may waive all or part of the following pre-start checks if necessary to support plant conditions.*

8.1.3.2 Verify the following prestart conditions. **IF** a prestart condition is not met, **THEN** operate systems as needed to satisfy the condition.

a) Lube oil temperature greater than 60°F.

b) Seal water differential pressure approximately 15 psid

c) MDRFP filled/vented per section 8.1.15.

d) (MCR/Local) Cooling water temperature ≤ 105°F.

e) Lube oil sump level is:

1) between +1/4" and -1/4" of center of sight glass on the oil level indicator, when Aux Oil Pump is running, **OR**

2) greater than center of sight glass, when Aux Oil Pump is stopped.

f) Lube oil level is visible in both sight glasses on the motor housing.

g) **IF** Feedwater heating is in service.

THEN Warm the pump for 30 minutes with RFP 1C Warming Line Isolation valves 1FW036C and 1FW038C open.

Oh) (MCR/Local) Min Flow Vlv 1FW010C is in AUTO, unless otherwise approved by SMgnt.

Oi) Verify that FRV 1FW004 is ready for use per step 8.1.18.

STANDARD: No operator actions required. Pre-start checks are complete per initial conditions.

CUE:

COMMENTS: If asked, cue the operator that pre-start checks are completed.

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

8.1.3.3 Place/Verify CB Min Flow Valve(s), 1CB011A-D, in AUTO

STANDARD: Operator verifies 1CB011A-D in AUTO

CUE:

COMMENTS:

SAT _____ UNSAT _____

8.1.3.4 **IF** HI WATER LEVEL TRIP RESET light(s) are lit.
THEN perform the following to reset the Hi Water Level Trip:

1.) Place/Verify MDRFP AOP in STOP LOCK.

2.) Depress the RX HI WATER LEVEL TRIP RESET button(s).

STANDARD: No operator action required.

CUE:

COMMENTS: A high Reactor water level condition should not exist in the Simulator setup.

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

CAUTIONS

1. *If the double detent position is used while manually operating 1FW004 with the Startup Level Controller, there is a potential for the valve operator to lock up.*
2. *The following steps (8.1.3.5 through 8.1.3.10) should be performed expeditiously to reestablish feedwater to the RPV.*

8.1.3.5 **IF** feeding the Reactor with CD/CB through FRV 1FW004,

THEN Raise RPV level to high in the control band.

STANDARD: Operator raises RPV level to high in the control band.

CUE:

COMMENTS: Annunciator 5062-2D, REACTOR VESSEL WATER HIGH LEVEL 8 may annunciate. This is expected under these conditions.

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

***8.1.3.6 Verify Close/Close FRV 1FW004, using either the S.U. Level Controller, or the RFP C Flow Controller, as appropriate.**

STANDARD: Operator CLOSES 1FW004 using the S. U. Level Controller and verifies GREEN indication for 1FW004 on the DCS screen.

CUE: If required, direct the operator to use the Startup Level Controller.

COMMENTS: 5002-1N, FEEDWATER TURBIDITY HI and 5002-2N, FEEDWATER TURBIDITY MON FL LOW will alarm after 1FW004 is closed.

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

CAUTION

The opening of a RFP Min Flow Valve may cause a reduction in main condenser vacuum, reduced megawatt output, feedwater heater instability and increased load on the Condensate Polishers.

***8.1.3.7 IF the RFP 1C Auxiliary Lube Oil Pump 1FW02P is locked out to prevent an Auto start of the MDRFP (see step 2.1.2)**
THEN Start the MDRFP, as follows:

1. Depress and hold the STOP pushbutton for the MDRFP.

2. Depress and release the RELEASE pushbutton to start RFP 1C Auxiliary Lube Oil Pump 1FW02P.

3. After allowing enough time for oil pressure to build up and circulate in the MDRFP (5002-1L Clear),
Release MDRFP STOP pushbutton to start the MDRFP.

4. Depress the MDRFP START pushbutton to clear the AUTO START annunciator and enable the AUTO TRIP annunciator for the MDRFP.

OTHERWISE Depress the MDRFP START pushbutton to start the MDRFP.

STANDARD: Operator depresses and holds STOP pushbutton for MDRFP. While holding STOP pushbutton operator depresses RELEASE pushbutton for 1FW02P. Observes RED light ON for 1FW02P (GREEN light for RFP 1C). When annunciator 5002-1L clears, operator releases STOP pushbutton to start MDRFP. Observes RED light ON for RFP 1C. Operator depresses START pushbutton for MDRFP.

CUE:

COMMENTS: Annunciator for low oil pressure (5002-1L) clears in approximately 5 seconds. Operator should monitor RFP motor amps on the CRT. Simulator lighting will dim during pump start.

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

8.1.3.8 Verify RFP 1C Auxiliary Lube Oil Pump 1FW02P stops, as the MDRFP comes up to speed.

STANDARD: Verifies 1FW02P stops, as the MDRFP comes up to speed, by observing GREEN light ON.

CUE:

COMMENTS:

SAT _____ UNSAT _____

8.1.3.9 Monitor MDRFP Vibration for indication of dead heading and throttle RFP 1C Min Flow 1FW010C as necessary to minimize pump vibration. Refer to section 8.1.14 for Operation of RFP Min Flow Valves.

STANDARD: Operator monitors RFP 1C for vibration. Observes RED light ON for 1FW010C.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

CAUTIONS

1. *RPV Inlet Vlvs 1B21-F065A and 1B21-F065B shall only be open when necessary to feed the Reactor to maintain the specified level band.* <<*LBD-1*>>
2. *The second RPV Inlet Isolation valve should only be opened after feedwater flow exceeds approximately 600 gpm to prevent fluttering of the check valves.*
3. *Thermal transients on the feedwater nozzles can be minimized by: maintaining feed flow as constant as possible, avoiding rapid changes in feed flow, and initiating Feedwater heating as soon as possible.* <<*LBD-2*>>

***8.1.3.10 IF the MDRFP was started per section 8.2.5,**

THEN return to section 8.2.5.1 step 9;

OTHERWISE Concurrently perform the following as necessary to control RPV injection rate:

1. **Throttle, as necessary, the FRV 1FW004 using the appropriate controller.**
2. **Throttle/Adjust as necessary the RPV Inlet Vlvs 1B21-F065A and/or 1B21-F065B.**
3. **As appropriate for plant conditions, place the Startup Level Controller in service per section 8.1.5 (if not already in service) or 8.1.6.**

STANDARD: Operator OPENS 1FW004 using the S.U. Level Controller and OPEN valve to feed RPV. Observes discharge flow increase on CRT.

CUE:

COMMENTS: Startup Level Controller is in service per setup conditions.

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

8.1.3.11 Close/verify closed RFP Bypass Vlv 1FW024.

STANDARD: Operator requests the "B" RO to close the 1FW024.
Operator verifies 1FW024 CLOSED by observing GREEN light ON.

CUE:

COMMENTS: Operator not required to perform this step to meet the task standard for this JPM.
Operator can also observe GREEN light for bypass valve on CRT.

SAT _____ UNSAT _____

8.1.3.12 Close/Verify closed Warming Line Isolation valves 1FW036C and 1FW038C.

STANDARD: Operator directs D area operator to close or verify 1FW036C and 1FW038C closed.

CUE: As D area operator report the warming line isolation valves are CLOSED. (Not simulated)

COMMENTS: Operator not required to perform this step to meet the task standard for this JPM.

SAT _____ UNSAT _____

JPM NUMBER: B.1.b **REVISION:** 00

TERMINATING CUE:

Motor Driven Reactor Feedwater Pump is operating.

STOP TIME: _____

JPM NUMBER: B.1.b **REVISION:** 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
259001	A4.02	3.9	3.7
	A4.05	4.0	3.9
	A4.08	3.3	3.3

INITIATING CUE

Reactor power and pressure ascension is in progress as part of a normal reactor startup and are approaching the limit of the condensate booster pumps. All LOCAL pre-start checks for the MDRFP have been performed and the warming line has been open for 30 minutes. Start the Motor Driven Reactor Feedwater pump, by performing the P680 actions and verify it is capable of injecting into the vessel per CPS 3103.01, Feedwater, Section 8.1.3. Maintain Reactor Water Level 30 to 39 inches. Report when the task is complete.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.1.c **REVISION**: 00

TASK TITLE: Defeat MSIV/MSL Drains Group 1 Isolations

TASK NUMBER: 015200C607

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES _____ NO X

_____ _____
TRAINEE **DATE**

_____ **PASS**____ **FAIL**____
EVALUATOR

COMMENTS:_____

METHOD OF TESTING:

Simulated Performance X Actual Performance_____

Classroom _____ Simulator _____ Plant X

APPROXIMATE TIME FOR COMPLETION: 30 minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.1.c **REVISION**: 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

No equipment or controls will be manipulated during this evaluation, only **Simulated** Actions will occur.

SIMULATOR SET-UP CONDITIONS:

Not Applicable

TASK STANDARDS:

MSIV/MSL Drains Group 1 Isolations have been defeated.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

Panel Keys
Flashlight
NSPS Backplane Jumpers
Training Aid NSPS Backplane Pin

PROCEDURAL/REFERENCES:

CPS No. 4410.00C007, DEFEATING RPV VENT INTERLOCKS, Rev. 3, Section 3.4

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

You are directed to Defeat the MSIV/MSL Drains Group 1 Isolations per CPS No. 4410.00C007 Section 3.4. The Group 1 valve control switches are in the CLOSE position. Report when the task is complete.

START TIME: _____

JPM NUMBER: B.1.c **REVISION**: 00

PERFORMANCE INFORMATION

Critical steps are denoted with a asterisk (*) to the left of the step number and appear in **BOLDED** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

3.4 Defeating MSIV/MSL Drains Group 1 Isolations

> CAUTION
>
> Installation of a backplane jumper may cause the Group 1 valves to open if the associated valve control switch is not in the CLOSE position.

Div 1: 1H13-P661 (Backpanel)

***a) At backpanel 1H13-P661, Bay B, Backplane cover A15, P1 card 14, install backplane jumper first on pin 32, and last, on pin 3.**

STANDARD: Operator locates panel 1H13-P661, Bay B, Backplane cover A15, P1 card 14, and simulates placing jumper **First** on pin 32, and **Last**, on pin 3.

CUE: Jumper installed

COMMENTS: Remind the operator that he should not physically touch any component located inside the cabinet

SAT _____ UNSAT _____

JPM NUMBER: B.1.c **REVISION**: 00

***b) At backpanel 1H13-P661, Bay B, Backplane cover A15, P1 card 14, install backplane jumper first on pin 34, and last, on pin 4.**

STANDARD: Operator locates panel 1H13-P661, Bay B, Backplane cover A15, P1 card 14, and simulates placing jumper **First** on pin 34, and **Last**, on pin 4.

CUE: Jumper installed

COMMENTS: Remind the operator that he should not physically touch any component located inside the cabinet.

SAT _____ UNSAT _____

***c) At backpanel 1H13-P661, Bay B, Backplane cover A16, P1 card 21, install backplane jumper first on pin 27, and last, on pin 3.**

STANDARD: Operator locates panel 1H13-P661, Bay B, Backplane cover A16, P1 card 21, and simulates placing jumper **First** on pin 27, and **Last**, on pin 3.

CUE: Jumper installed

COMMENTS: Remind the operator that he should not physically touch any component located inside the cabinet.

SAT _____ UNSAT _____

JPM NUMBER: B.1.c **REVISION**: 00

Div 2: 1H13-P662 (Backpanel)

*d) **At backpanel 1H13-P662, Bay C, Backplane cover A15, P1 card 14, install backplane jumper first on pin 32, and last, on pin 3.**

STANDARD: Operator locates panel 1H13-P662, Bay C, Backplane cover A15, P1 card 14, and simulates placing jumper **First** on pin 32, and **Last**, on pin 3.

CUE: Jumper installed

COMMENTS: Remind the operator that he should not physically touch any component located inside the cabinet.

SAT _____ UNSAT _____

---

*e) **At backpanel 1H13-P662, Bay C, Backplane cover A15, P1 card 14, install backplane jumper first on pin 34, and last, on pin 4.**

STANDARD: Operator locates panel 1H13-P662, Bay C, Backplane cover A15, P1 card 14, and simulates placing jumper **First** on pin 34, and **Last**, on pin 4.

CUE: Jumper installed

COMMENTS: Remind the operator that he should not physically touch any component located inside the cabinet.

SAT _____ UNSAT _____

JPM NUMBER: B.1.c **REVISION**: 00

***f) At backpanel 1H13-P662, Bay C, Backplane cover A15, P1 card 21, install backplane jumper first on pin 35, and last, on pin 3.**

STANDARD: Operator locates panel 1H13-P662, Bay C, Backplane cover A15, P1 card 21, and simulates placing jumper **First** on pin 35, and **Last**, on pin 3.

CUE: Jumper installed

COMMENTS: Remind the operator that he should not physically touch any component located inside the cabinet.

SAT _____ UNSAT _____

TERMINATING CUE:

MSIV/MSL Drains Group 1 Isolations are Defeated

STOP TIME: _____

JPM NUMBER: B.1.c **REVISION**: 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
239001	A4.01	4.2*	4.0
	A4.02	3.2	3.2

INITIATING CUE

CAUTION
No equipment or controls will be manipulated during this evaluation, only **Simulated** Actions will occur.

You are directed to Defeat the MSIV/MSL Drains Group 1 Isolations per CPS No. 4410.00C007 Section 3.4. The Group 1 valve control switches are in the CLOSE position. Report when the task is complete.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.1.d **REVISION**: 00

TASK TITLE: Manually Startup Low Pressure Core Spray – Logic Not Available

TASK NUMBER: 015200C617

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES X NO _____

_____ _____
TRAINEE **DATE**

_____ **PASS**____ **FAIL**____
EVALUATOR

COMMENTS:_____

METHOD OF TESTING:

Simulated Performance _____ Actual Performance X

Classroom _____ Simulator X Plant _____

APPROXIMATE TIME FOR COMPLETION: _____ minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.1.d **REVISION**: 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

SIMULATOR SET-UP CONDITIONS:

1. Initialize to any suitable IC with reactor pressure less than 400 psig
2. Insert malfunction to prevent LPCS Pump Min Flow Recirc Valve from opening automatically.
3. Insert I/O override to prevent 'Manual Initial Pushbutton' from working.

TASK STANDARDS:

Low Pressure Core Spray is running with full flow and injecting into the RPV.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

None

PROCEDURAL/REFERENCES:

CPS No. 3313.01, LOW PRESSURE CORE SPRAY, Rev. 14, Section 8.1.3 & 8.1.4

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

A transient has occurred that has placed the plant in the condition where only LPCS is available to inject into the vessel. You are directed to manually initiate LPCS to inject with full flow into the RPV. Report when the task is complete.

START TIME: _____

JPM NUMBER: B.1.d **REVISION**: 00

PERFORMANCE INFORMATION

Critical steps are denoted with a asterisk (*) to the left of the step number and appear in **BOLDED** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

8.1.3 Manual Initiation – Logic Operable

1. Arm and Depress
LPCS/LPCI FM RHR A MANUAL INITIATION push-button

STANDARD: The operator rotates collar to the 'ARMED' position and depresses the pushbutton. Determines that no action has occurred.

CUE: As CRS acknowledge the report that LPCS has not started.

COMMENTS: Operator should recognize that the LPCS logic is not operable and proceed to section 8.1.4, 'Manual Initiation – Logic Not Operable.

SAT _____ UNSAT _____

JPM NUMBER: B.1.d **REVISION**: 00

8.1.4 Manual Initiation – Logic Not Operable

1. During LPCS operation, verify as appropriate that 1E21-F011, LPCS Pump Min Flow Recirc Valve:
   Opens whenever LPCS flow is < 875 gpm, and
   Shuts whenever LPCS flow is ≥ 875 gpm.

STANDARD: No action necessary, pump has not been started yet.

CUE:

COMMENTS: After pump is started and flow increases above 875 gpm operator should notice that 1E21-F011 has not closed, and takes action to close 1E21-F011.

SAT _____ UNSAT _____

***2.** **Start LPCS Pump, 1E21-C001**

STANDARD: Operator places control switch for 1E21-C001 to the 'START' position. Observes RED light ON, GREEN light OFF. Observes LPCS motor current.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.d **REVISION**: 00

3. Verify LPCS Pmp Rm Sply Fan, 1VY01C starts.

STANDARD: Operator verifies 1VY01C is running, by observing RED light ON.

CUE:

COMMENTS:

SAT _____ UNSAT _____

***4.** **When RPV pressure < 472 psig,**
Open 1E21-F005, LPCS To CNMT Outbd Isol Valve.

STANDARD: Operator places control switch for 1E21-F005 to the 'OPEN' position. Observes RED light ON.

Operator ensures flow is increasing by observing LPCS Pump Flow Meter (E21-R600).

CUE:

COMMENTS: Both RED and GREEN lights may be on at the same time as 1E21-F005. Reactor Pressure is less than 400 psig.

SAT _____ UNSAT _____

JPM NUMBER: B.1.d **REVISION**: 00

***5. Operator observes when flow is ≥ 875 gpm that 1E12-F011, LPCS Min Flow Recirc Valve has not closed and closes it by taking the control switch for 1E21-F011 to close**

STANDARD: The operator places control switch for 1E21-F011 to close. Observes RED light is OFF and GREEN light is ON.

CUE:

COMMENTS: This step may be performed anytime after flow increases above 875 gpm.

SAT _____ UNSAT _____

---

6. Restore and maintain level using 1E21-F005, LPCS To CNMT Outbd Isol Valve.

STANDARD: The operator verifies that 1E21-F005 is fully open by observing RED light is ON and GREEN light is OFF.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.d **REVISION**: 00

TERMINATING CUE:

The Low Pressure Core Spray Pump is running and injecting into the RPV at full flow.

STOP TIME: _____

JPM NUMBER: B.1.d **REVISION**: 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
209001	A4.01	3.8	3.6
	A4.03	3.7	3.6
	A4.04	2.9	2.9
	A4.11	3.7	3.6

INITIATING CUE

A transient has occurred that has placed the plant in the condition where only LPCS is available to inject into the vessel. You are directed to manually initiate LPCS to inject with full flow into the RPV. Report when the task is complete.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.1.e **REVISION**: 00

TASK TITLE: Transferring 4160V Bus 1B1 from the Main to the Reserve Source IAW CPS 3501.01

TASK NUMBER: 011262C002

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES X NO _____

_____ _____
TRAINEE **DATE**

_____ **PASS**_____ **FAIL**_____
EVALUATOR

COMMENTS:_____

METHOD OF TESTING:

Simulated Performance _____ Actual Performance X

Classroom _____ Simulator X Plant _____

APPROXIMATE TIME FOR COMPLETION: 9 minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.1.e **REVISION**: 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

SIMULATOR SET-UP CONDITIONS:

Any IC in which the RAT and ERAT are available.
Insert Override 4160V Bus 1B1 RES BKR 1AP09EC to "Flag_A_Trip" (TRUE)

TASK STANDARDS:

Operator actions performed per CPS No. 3501.01, step 8.1.8

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

None

PROCEDURAL/REFERENCES:

CPS No. 3501.01, HIGH VOLTAGE AUXILIARY POWER SYSTEM, rev. 24a, Step 8.1.8

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

The Control Room Supervisor has directed you to transfer the 4160V bus 1B1 from the RAT to the ERAT. Report when the task is complete.

START TIME: _____

JPM NUMBER: B.1.e **REVISION**: 00

PERFORMANCE INFORMATION

Critical steps are denoted with a asterisk (*) to the left of the step number and appear in **BOLDED**, CAPITAL letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

8.1.8 **Transferring a 6900V or 4160V Bus TO or FROM its Reserve {Main} Source**

1. **IF** Any Safety Related 4160V Bus is being supplied from the RAT (ERAT) when the respective RAT (ERAT) SVC is not in service,

   THEN Voltage monitoring shall be initiated per CPS No. 3501.01D001, Monitoring Safety Related 4.16KV Bus Voltage Data Sheet.

STANDARD: No action is necessary, the SVCs are in service.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.e **REVISION**: 00

*2. **Place the 4160V BUS 1B1 RES BKR SYNC keylock switch to the 'ON' position.**

STANDARD: 4160V BUS 1B1 RES BKR SYNC keylock switch is placed in the "ON" position.

CUE:

COMMENTS: When operating the Auxiliary Power System, the operator must ensure that only one Sync Selector Switch per Synchroscope is placed ON at a time. Failure to do this can result in equipment damage. (Precaution 4.1)
The operator may want to keep the Transmission Electric System Coordinator (Dispatcher) informed of changes in the lineup. (Limitation 6.6)

SAT _____ UNSAT _____

---

3. For 4160V Safety Related Bus 1A1 (1B1) (1C1) transfer:

Verify 4160V Bus Incoming Voltage is 4084 – 4300V.

Refer to Section(s) 8.3.1/2 as necessary to adjust Incoming Voltage within allowable OPERABILITY range.

STANDARD: Operator verifies that voltage is within band on 4160V BUS 1B1 INCOMING VOLTAGE meter.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.e **REVISION**: 00

4. For 4160V Non - Safety Related Bus 1A (1B) transfer:

IF Any Safety Related Bus is being fed from the RAT,

And

TG voltage is > 22,000 volts,

THEN Lower TG voltage as necessary to ≤ 22,000 volts.

STANDARD: No action required, Turbine Generator is not in service.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.e **REVISION**: 00

NOTE

A stationary synchroscope at a position other than ~ 12 o'clock indicates the Reserve {Main} source is not energized.

5. Verify the synchroscope is steady at ~ the 12 o'clock position.

STANDARD: Syncroscope steady at the ~ 12 o'clock position.

CUE:

COMMENTS: The operator should verify voltage and synchronization per Precaution 4.2.

SAT _____ UNSAT _____

JPM NUMBER: B.1.e **REVISION**: 00

NOTE

Taking the Res {Mn} supply breaker control switch to the CLOSE position will parallel the original power source with the alternate source, and will FREEZE the associated SVC (5011-7G/8G).

Releasing the Res {Mn} supp;y breakeer to the AUTO position will open the original power source bkr, and will un-FREEZE the associated SVC (5011-7G/8G).

CAUTION

When transferring a bus, do not hold the Res {Mn} Bkr control switch in CLOSE longer than 5 seconds to preclude an undesirable trip due to circulating currents between the transformers.

*6. **Close the Bus Res {Mn} Bkr, and prior to releasing the switch to the AUTO position, verify:**
- **Closed indication on the source breaker, and**
- **A load shift is indicated on the bus load meters.**

IF Source breaker failed to close,
or
A bus load shift is not indicated on the bus,

THEN **Place the sync switch to OFF prior to releasing the switch to the AUTO position** (this prevents the auto trip of the load breaker and the resulting loss of the bus).

STANDARD: 4160V BUS 1B1 RES BKR 1AP09EC switch is taken to the "CLOSED" position and held until the operator verifies that the breaker did not close & no load shift.

The operator places the 4160V Bus 1B1 RES BKR SYNC switch to OFF prior to releasing the breaker switch to AUTO.

CUE: As the CRS, acknowledge the report from the operator of the failure to transfer.

COMMENTS: The operator should recognize the failure of the breaker to close and therefore performs alternate action which is to turn the synchroscope to OFF prior to releasing the breaker switch.

SAT _____ UNSAT _____

JPM NUMBER: B.1.e **REVISION**: 00

TERMINATING CUE:

The 4160V bus 1B1 is still on the RAT and the CRS has been informed of the problem.

STOP TIME: _____

JPM NUMBER: B.1.e **REVISION**: 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
262000	A1.02	3.1	3.5
	A4.01	3.4	3.7
	A4.02	3.4	3.4
	A4.03	3.2	3.4
	A4.04	3.6	3.7
	A4.05	3.3	3.3

INITIATING CUE

The Control Room Supervisor has directed you to transfer the 4160V bus 1B1 from the RAT to the ERAT. Report when the task is complete.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.1.f **REVISION**: 00

TASK TITLE: Shifting Off-Gas Post Treatment Process Radiation Monitors

TASK NUMBER: 011273C504, 011273C505

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES _____ NO X

_____ _____
TRAINEE **DATE**

_____ **PASS**____ **FAIL**____
EVALUATOR

COMMENTS:_____

METHOD OF TESTING:

Simulated Performance _____ Actual Performance X

Classroom _____ Simulator X Plant _____

APPROXIMATE TIME FOR COMPLETION: _____ minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.1.f **REVISION**: 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

SIMULATOR SET-UP CONDITIONS:

Initialize to any suitable IC in which the 1RIX-PR041 monitor is in service.

TASK STANDARDS:

Off-Gas Post Treatment Process Radiation Monitor 1RIX-PR035 is in service.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

None

PROCEDURAL/REFERENCES:

CPS No. 3315.03, RADIATION MONITORING (AR/PR), Rev. 0c, Section 8.5

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

You are directed to transfer the Off-Gas Post Treatment Radiation Monitors from 1RIX-PR041 to 1RIX-PR035 up to performance of the Channel Check. Report when task is complete.

START TIME: _____

JPM NUMBER: B.1.f **REVISION**: 00

PERFORMANCE INFORMATION

Critical steps are denoted with a asterisk (*) to the left of the step number and appear in **BOLDED** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

8.5 Shifting Off-Gas Post Treatment PRMs 1RIX-PR035 / 1RIX-PR041

NOTE
During monitor shifting both Off-Gas Post Treatment PRMs should be considered INOP. Refer to ODCM 3.9.1

CAUTION
To prevent closure of 1N66-F060, Off-Gas System Isolation Valve, the following steps must be performed in sequence.

***8.5.1 At the Channel Status screen for the monitor being placed in Standby, select STBY under the Standby Command.**

STANDARD: The operator selects 'STBY' for monitor 1RIX-PR041.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.f **REVISION**: 00

***8.5.2 At the Channel Status screen for the monitor being placed in Normal, start the sample pump by selecting ON under the pump command.**

STANDARD: The operator starts the sample pump for 1RIX-PR035 by selecting 'ON' under the the pump command.

CUE:

COMMENTS:

SAT _____ UNSAT _____

8.5.3 At the Channel Status screen for the monitor being placed in Normal, observe that the sample flow (Channel 15) is 47 to 60 LPM.

STANDARD: Operator observes that Channel 15 flow is 47 to 60 LPM.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.f **REVISION**: 00

8.5.4 If flow adjustment is required, coordinate with Radiation Protection to adjust flow per CPS No. 7410.75, LOCAL OPERATION OF AR/PR MONITORS.

STANDARD: No action required.

CUE:

COMMENTS: Flow is 47 to 60 LPM.

SAT _____ UNSAT _____

8.5.5 Verify as left flow is 47 to 60 LPM.

STANDARD: Operator verifies flow 47 to 60 LPM.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.f **REVISION**: 00

***8.5.6 At the Channel Status screen for the monitor being placed in Normal, select NRML under the Standby Command.**

STANDARD: The operator selects 'NRML' on the Channel Status screen for 1RIX-PR035.

CUE:

COMMENTS:

SAT _____ UNSAT _____

8.5.7 Notify Radiation Protection to Record AS LEFT flow, date, and time of monitor startup on a label and place label on the monitor.

STANDARD: The operator notifies Radiation Protection that 1RIX-PR035 has been placed in service and that AS LEFT flow, date, and time of monitor startup needs to be recorded on a label and placed on the monitor.

CUE: As Radiation Protection acknowledge the notification.

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.f **REVISION**: 00

8.5.8 After ≥ 30 minutes of operation perform a channel check per CPS No. 9000.01, CONTROL ROOM SURVEILLANCE LOG.

STANDARD: Operator informs CRS that monitor 1RIX-PR035 has been placed in service and that a channel check will be done in approximately 30 minutes.

CUE: As the CRS, acknowledge that the monitor 1RIX-PR035 has been placed in service and a channel check should be done in approximately 30 minutes.

COMMENTS:

SAT _____ UNSAT _____

TERMINATING CUE:

Off-Gas Post Treatment Radiation Monitors have been transferred from 1RIX-PR041 to 1RIX-PR035 with the exception of performing a channel check.

STOP TIME: _____

JPM NUMBER: B.1.f **REVISION**: 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
272000	A4.02	3.0	3.0
	A4.03	2.6	2.6
	A4.06	2.9	3.2

INITIATING CUE

You are directed to transfer the Off-Gas Post Treatment Radiation Monitors from 1RIX-PR041 to 1RIX-PR035 up to performance of the Channel Check. Report when task is complete.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.1.g **REVISION:** 00

TASK TITLE: Startup the Control Room Ventilation System (VC) in the High Radiation Mode

TASK NUMBER: 011288C538

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES X NO _____

_____ _____
TRAINEE **DATE**

_____ **PASS**____ **FAIL**____
EVALUATOR

COMMENTS:_____

METHOD OF TESTING:

Simulated Performance _____ Actual Performance X

Classroom _____ Simulator X Plant _____

APPROXIMATE TIME FOR COMPLETION: 20 minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.1.g **REVISION:** 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied.

SIMULATOR SET-UP CONDITIONS:

Initialize to any suitable IC, ensure a VC train is running in normal mode.
Fail dampers 0VC09YA/10YA/11YA in current position until switch is taken to filter position.
I/O the following meters to read:

0RI-VC075	8 mrem/hr (3600)	0RI-VC175	9 mrem/hr (3900)
0RI-VC076	5 mrem/hr (3200)	0RI-VC 176	5 mrem/hr (3200)

TASK STANDARDS:

The VC System is running in the High Radiation Mode

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

CPS No. 9094.01, CUMULATIVE DATA REPORT

PROCEDURAL/REFERENCES:

CPS No. 3402.01, CONTROL ROOM HVAC (VC), Section 8.3.3, Rev. 18c.

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

A plant transient has occurred causing a high radiation condition. You are directed to place the VC system in the HI RADIATION MODE per CPS No. 3402.01, Section 8.3.3. Report when task is complete.

START TIME: _____

JPM NUMBER: B.1.g **REVISION:** 00

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in **BOLDED** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

JPM TITLE: Startup the Control Room Ventilation System (VC) in the High Radiation Mode

NOTE

Hi Radiation Isolation Logic is 1 out of 2 twice. A single monitor will initiate the HI RADIATION CONT RM HVAC SYST DIVISION 1(2) annunciator, but will not initiate isolation. Cause of such an alarm will need to be investigated and appropriate action taken.

Step 8.3.3.1 may be used to initiate operation of VC system in HI RAD mode. The remainder of procedure should be followed regardless of whether initiation was automatic or manual.

Refer to ITS LCO 3.3.7.1 for further guidance.

Run time with flow through VC make up filter train 0VC09SA(B) and VC supply filter train 0VC07SA(B) shall be tracked per CPS No. 9094.01, CUMULATIVE DATA REPORT.

JPM NUMBER: B.1.g **REVISION:** 00

***8.3.3.1** **IF Manual Initiation of a High Radiation Isolation is required, THEN depress both Cont Rm Mu Trn Hi Rad initiation pushbuttons.**

STANDARD: Operator depresses BOTH Cont Rm Mu Trn Hi Rad initiation pushbuttons and observes RED light ON

CUE:

COMMENTS: Pushbuttons are located on 1H13-P801
The following annunciators are expected after a short time delay:
- MALFUNCTION HI SMOKE/RAD/CL SUP FILTER DMPRS DIV
- MALFUNCTION HI SMOKE/RAD/CL SLIP FILTER DMPRS DIV 2
- AUTO STRT CONT ROOM HVAC M-U AIR FAN A

SAT _____ UNSAT _____

***8.3.3.2** Verify Supply Air Trn A(B) unisolates as follows:

a) 0VC09YA(B), Sply Air Trn A(B) Filt Inlet Dmpr opens.

b) 0VC10YA(B), Sply Air Trn A(B) Filt Byp Dmpr closes.

c) 0VC11YA(B), Sply Air Trn A(B) Filt Outlet Dmpr opens.

STANDARD: Operator identifies that 0VC09YA and 0VC11YA are still CLOSED and 0VC10YA is still OPEN.

CUE: As the CRS, acknowledge the report from the operator that the dampers have not repositioned.

COMMENTS: The operator should recognize the failure of the dampers to reposition.

SAT _____ UNSAT _____

JPM NUMBER: B.1.g **REVISION:** 00

***8.3.3.3 IF Supply Air Trn A(B) does not unisolate,
THEN Place Sply Air Fltr Dmprs 0VC09YA/10YA/11YA (0VC09YB/10YB/11YB) control switch in the FILTER position and repeat the previous step.**

STANDARD: Operator places control switch for 0VC09YA/10YA/11YA in the FILTER position and verifies positions.

CUE:

COMMENTS:

SAT _____ UNSAT _____

8.3.3.4 Verify running or start 0VC05CA(B), Cont Rm HVAC A(B) MU Air Fan.

STANDARD: Operator verifies 0VC05CA running by observing RED light ON.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.g **REVISION:** 00

8.3.3.5 Verify the following dampers open:

a) 0VC02YA(B), Cont Rm Trn A(B) MU Air Dmpr.

b) 0VC06YA(B), Cont Rm MU Trn A(B) Outlet Dmpr, and

c) Verify 0VC114YA(B), Cont Rm MU Trn A(B) Flow Cont Dmpr. modulates.

STANDARD: Operator verifies 0VC02YA and 0VC06YA OPEN by observing RED light ON and verifies 0VC114YA modulates by observing RED and GREEN lights ON.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.g **REVISION:** 00

8.3.3.6 **IF** The following dampers do not close,

THEN The associated breakers may be opened to fail them closed:

- 0VC03YA, Div I Damper MCC A Cub 1E.
- 0VC03YB, Div II Damper MCC B Cub 1E.
- 0VC05YA, Div 1 Damper MCC A CUB 5D
- 0VC05YB, Div I Damper MCC A CUB 5E
- 0VC48YA, Div II Damper MCC B CUB 5D
- 0VC48YB, Div II Damper MCC B CUB 5E
- 0VC49YA, Div I Damper MCC A CUB 5F
- 0VC49YB, Div I Damper MCC A CUB 6A
- 0VC81YA, Div II Damper MCC B CUB 5F
- 0VC81YB, Div II Damper MCC B CUB 6A
- 0VC115YA, Div II Damper MCC B Cub 2A.
- 0VC115YB, Div I Damper MCC A Cub 2A
- 0VC69Y, Div1 Damper MCC A CUB 1C
- 0VC70Y, Div II Damper MCC B CUB 1C

STANDARD: No operator action required.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.g **REVISION:** 00

8.3.3.7 Verify the following dampers close:

a) 0VC03YA(B), Cont Rm Trn A Min OS Dmpr.
b) 0VC05YA(B), MCR Max Intake & Purge Dmpr.
c) 0VC48YA(B), MCR Max Intake & Purge Dmpr.
d) 0VC49YA(B), MCR Max Intake & Purge Dmpr.
e) 0VC81YA(B), MCR Max Intake & Purge Dmpr.
f) 0VC115YA(B), Cont Rm Trn A Min OS Dmpr.
g) 0VC69Y, MCR Locker Rm Exhaust Dmpr.
h) 0VC70Y, MCR Locker Rm Exhaust Dmpr.
i) 0VC11C, MCR Locker Rm Exhaust Fan is not running

STANDARD: Operator verifies dampers CLOSED by observing GREEN light is ON and Fan not running by observing GREEN light is ON.

CUE:

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.g **REVISION:** 00

NOTE

Cont Rm Trn A(B) Min Air Dmpr 0VC01YA(B) is located on the east (west) side of the plant.

Use the following table to quickly locate monitors and indicators to aid in completion of the remaining steps in section 8.3.3.

	MONITOR	LOCATIO	INDICATION	LOCATIO
DIV 1:	PR009A	AB 781'W	0RI-VC075	P801-66B
	PR009C	CB 825'E	0RI-VC076	P801-66B
DIV 2:	PR009B	AB 781'W	0RI-VC175	P801-67B
	PR009D	CB 825'E	0RI-VC176	P801-67B

*8.3.3.8 **IF a high radiation condition exists as indicated by OS Air Inlet Rad Mon indication on panels P801-66B and 67B,**
THEN open/verify open the minimum air damper (0VC01YA/B) with the lowest radiation level and close/verify closed the other minimum air damper.

STANDARD: Operator determines that Radiation Monitors for the EAST side of the plant have the lowest radiation levels and verifies 0VC01YA OPEN by observing RED light ON. Operator CLOSES 0VC01YB and observes GREEN light ON.

CUE: Meters should be overidden to the following values. If the simulator is not available, provide the operator with the following radiation monitor readings:

0RI-VC075 reads 8 mR/hr
0RI-VC076 reads 5 mR/hr
0RI-VC175 reads 9 mR/hr
0RI-VC176 reads 5 mR/hr

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.1.g **REVISION:** 00

NOTE

Clearance of the high radiation isolation is indicated by annunciator 5050-7M, (5052-7M), HI RADIATION CONT RM HVAC SYS DIVISION 1 (2) resetting.

8.3.3.9 When high radiation signal has cleared, depress **both** the Cont Rm MU Trn A and Trn B Hi Rad Reset pushbuttons

STANDARD: No operator action required.

CUE: Radiation levels are still present.

COMMENTS: Omit steps 8.3.3.10 and 8.3.3.14. Operation of VC in the High Radiation Mode continues to be required.

SAT _____ UNSAT _____

JPM NUMBER: B.1.g **REVISION:** 00

TERMINATING CUE:

The VC system is running in the High Radiation Mode.

STOP TIME: _____

JPM NUMBER: B.1.g **REVISION:** 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	Importance Rating SRO
290003	A4.01	3.1	3.2

INITIATING CUE

A plant transient has occurred causing a high radiation condition. You are directed to place the VC system in the HI RADIATION MODE per CPS No. 3402.01, Section 8.3.3. Report when task is complete.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.2.a **REVISION:** 00

TASK TITLE: Open Reactor Protection System Scram Breakers Outside of the MCR

TASK NUMBER: 045200C524

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES _____ NO X

_____ _____
TRAINEE **DATE**

_____ **PASS**____ **FAIL**____
EVALUATOR

COMMENTS:_____

METHOD OF TESTING:

Simulated Performance X Actual Performance_____

Classroom _____ Simulator _____ Plant X

APPROXIMATE TIME FOR COMPLETION: 5 minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.2.a **REVISION:** 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied. No equipment or controls will be manipulated during this evaluation, only **Simulated** Actions will occur. Ensure that the plane of the panel is not crossed.

SIMULATOR SET-UP CONDITIONS:

Not Applicable

TASK STANDARDS:

Simulates scramming the reactor from outside of the MCR by opening the breakers for the RPS Scram Solenoids.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

Laser Pointer

PROCEDURAL/REFERENCES:

CPS No. 4411.08, ALTERNATE CONTROL ROD INSERTION, Section 2.4

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

A reactor scram has occurred but all rods are not at 00. The MCR is attempting to insert control rods using Alternate Rod Insertion methods. Deenergize the RPS Scram Solenoids in accordance with CPS No. 4411.08, Alternate Control Rod Insertion, Section 2.4. Report when the task is complete.

START TIME: _____

JPM NUMBER: B.2.a **REVISION:** 00

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in **BOLDED** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

JPM TITLE: Open Reactor Protection System Scram Breakers Outside of the MCR

CAUTION
Inadvertent opening of the MSIV Solenoid Brks (located in panel) will result in MSIV closure.
Ensure only listed breakers are opened.

*4.14.6 a) **(Local) At NSPS 120VAC SOL PWR DIST PNLs A & B, place following breakers to OFF. (CB 802', TB Access Corridor)**

° **1C71-P011A: Brks CB29 through 32.**

STANDARD: Operator locates NSPS 120 VAC DIST. PNL. A (C71-P011A) and simulates placing the following breakers in the OFF position:
CB29 CB30 CB31 CB32

CUE: As each breaker is simulated being placed in the OFF position, cue: "The identified component is in the position described."

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.a **REVISION:** 00

*4.14.6 a) (cont'd) **(Local) At NSPS 120VAC SOL PWR DIST PNLs A & B, place following breakers to OFF. (CB 802', TB Access Corridor)**

° **1C71-P011B: Brks CB23 through 36.**

STANDARD: Operator locates NSPS 120 VAC DIST. PNL. B (C71-P011B) and simulates placing the following breakers in the OFF position:
CB23 CB24 CB25 CB26.

CUE: As each breaker is simulated being placed in the OFF position, cue: "The identified component is in the position described."

COMMENTS:

SAT _____ UNSAT _____

Contact the Main Control Room to determine status of control rods.

STANDARD: Main Control Room is contacted by PCS phone or Gaitronics.

CUE: As the B CRO or CRS, cue: "All control rods have fully inserted. Place the RPS Scram Solenoid Breakers back to ON."

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.a **REVISION:** 00

*b) **WHEN** **Control rods are not moving inward,**

THEN **Place breaker opened in 2.4.1 to ON.**

STANDARD: After receiving cue that all control rods are inserted, operator simulates placing CB29 through CB32 at 1C71-P011A and CB23 through CB26 at 1C71-P011B to ON.

CUE: As each breaker is simulated being placed in the ON position, cue: : "The identified component is in the position described."

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.a **REVISION:** 00

TERMINATING CUES:

The Reactor has been scrammed by opening the breakers for the RPS scram solenoids.

STOP TIME: _____

JPM NUMBER: B.2.a **REVISION:** 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
295016	AA1.01	3.8	3.9
	AA1.04	3.1	3.2

INITIATING CUE

CAUTION

No equipment or controls will be manipulated during this evaluation, only **Simulated** Actions will occur.

A reactor scram has occurred but all rods are not at 00. The MCR is attempting to insert control rods using Alternate Rod Insertion methods. Deenergize the RPS Scram Solenoids in accordance with CPS No. 4411.08, Alternate Control Rod Insertion, Section 2.4. Report when the task is complete.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.2.b **REVISION:** 00

TASK TITLE: Startup a Hydrogen Recombiner from the Local Control Panel

TASK NUMBER: 015200C663

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES _____ NO X

_____ _____
TRAINEE **DATE**

_____ **PASS**_____ **FAIL**_____
EVALUATOR

COMMENTS:_____

METHOD OF TESTING:

Simulated Performance X Actual Performance_____

Classroom _____ Simulator _____ Plant X

APPROXIMATE TIME FOR COMPLETION: 25 minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.2.b **REVISION:** 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied. No equipment or controls will be manipulated during this evaluation, only **Simulated** Actions will occur.

SIMULATOR SET-UP CONDITIONS:

None

TASK STANDARDS:

Hydrogen Recombiner A is started and has reached operating temperature.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

Laser Pointer

PROCEDURAL/REFERENCES:

CPS No. 4411.11, Rev. 3, HYDROGEN CONTROL SYSTEM OPERATION, Section 2.5

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

Start the 'A' Hydrogen Recombiner from its local panel per CPS 4411.11, Section 2.5. Report when task is complete.

START TIME: _____

JPM NUMBER: B.2.b **REVISION:** 00

PERFORMANCE INFORMATION

Critical steps are denoted with an asterisk (*) to the left of the step number and appear in **BOLDED** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

JPM TITLE: Startup A Hydrogen Recombiner from the Local Control Panel

> CAUTION
>
> Operating Recombiners > 10 psig in the CNMT can result in blower motor overload due to the higher CNMT air density, but can be operated up to CNMT pressure limit of 46 psig.

2.5.1 **IF** CNMT water level is approaching or is ≥ 40 (50) ft, 1' 4" Range 4 (3' 8" Range 3) as indicated on 1LI-CM260/261 (1H13-P601, 5063),

THEN (MCR) Shut 1HG001/4 (1HG005/8), Unit 1 CGCS CNMT Isol Vlvs.

STANDARD: Operator simulates contacting B CRO using gaitronics or PCS phone and requesting that 1HG001/4 be SHUT if containment water level is approaching or is ≥ 40 feet.

CUE: As the B CRO, report that containment water level is 19 feet 6 inches.

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.b **REVISION:** 00

2.5.2 (MCR) Open 1HG001/4 (1HG005/8), Unit 1 CGCS CNMT Isol Vlvs.

STANDARD: Operator simulates contacting B CRO and requesting that 1HG001/4 be OPENED.

CUE: As the B CRO, report that 1HG001/4 are OPEN.

COMMENTS:

SAT _____ UNSAT _____

NOTE

Green light (DS-4) at local control panel 0HG01JA(B) energizes when recombiner 0HG01SA(B) control switch is in the TEST position.

2.5.3 (MCR) Place CGCS Recomb 1(2), 0HG01SA(B) control switch in TEST.

STANDARD: Operator simulates contacting MCR and requesting that 0HG01SA be placed in TEST.
After 0HG01SA is put in TEST, operator checks DS-4 at the local panel.

CUE: As the BCRO, report that 0HG01SA is in TEST.
When operator checks DS-4, cue that the GREEN light is illuminated.

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.b **REVISION:** 00

NOTE

Hydrogen recombiner requires ~1.5 hours to reach normal operating temperature of 1325°F.

WARNING

Hydrogen recombiner room and area radiation levels may be high following a LOCA.

*2.5.4 **At 0HG01JA(B), Hydrogen Recombiner local control panel, start CGCS Recombiner, 0HG01SA(B), by placing 1HS-HG021B (2HS-HG022B) HS-1 Start/Stop control switch to ON. (A: CB 737', AA-130; B: CB 719', T.5-132)**

STANDARD: Operator simulates placing 1HS-HG021B, HS-1, in ON.

CUE: Switch that you've identified is in the position described. RED light is ON, GREEN light is OFF, AMBER light is OFF.

COMMENTS:

SAT _____ UNSAT _____

---

*2.5.5 **At 0PL47JA, Hyd Recomb Rooms Cooling System Panel: Start Hyd Recomb Rm Clg Fan, 0VG01CA(B). (CB 702', T-129)**

STANDARD: At 0PL47JA, operator simulates taking control switch for 0VG01CA to START.

CUE: RED light is ON, GREEN light is OFF.
Cue that approximately 1.5 hours has passed.

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.b **REVISION:** 00

CAUTION

Recombiner operation with sustained low flow (Local alarm 5229(30)-2B cannot be cleared) can damage motor-blower assembly.

The recombiner must be shut down, and the cause of low flow determined & corrected before restarting.

NOTE

Div 2 2TIC-HG044 is a Null meter which indicates degrees away from set value.

1325°F is indicated by the Green Band.

*2.5.6 **At 0HG01JA(B), Hydrogen Recombiner local control panel, verify TIC-4 Reaction Chamber Gas Temp, 1(2) TIC-HG044: (A: CB 737', AA-130, B: CB 719', T.5-132)**

a) Set to 1325°F, and

b) Temperature increases to 1325°F.

STANDARD: Operator simulates verifying TIC-4 is set for 1325°F and that temperature increases to 1325°F.

CUE: TIC-4 dial is set for 1325°F.
Reaction Chamber gas temperature meter pointer is at 1325°F.
If requested 1FI-HG051 INLET GAS FLOW is 12"

COMMENTS: The recombiner takes approximately 1.5 hours to reach its normal operating temperature of 1325°F.

SAT _____ UNSAT _____

JPM NUMBER: B.2.b **REVISION:** 00

TERMINATING CUES:

Hydrogen Recombiner A is started and has reached operating temperature.

STOP TIME: _____

JPM NUMBER: B.2.b **REVISION:** 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
223001	K3.04	3.3	3.5
	K4.04	3.5	3.8
	K6.05	3.1	3.3
	A1.05	3.1	3.3

INITIATING CUE

CAUTION

No equipment or controls will be manipulated during this evaluation, only **Simulated** Actions will occur.

Start the A Hydrogen Recombiner from its local panel per CPS 4411.11, Section 2.5. Report when task is complete.

CLINTON POWER STATION
NRC INITIAL LICENSE EXAM 2001-01
SYSTEM JPM

JPM NUMBER: B.2.c **REVISION**: 00

TASK TITLE: Manual Startup of the "B" Diesel Fire Pump

TASK NUMBER: 041286C007

APPLICABILITY: RO X SRO X

TIME CRITICAL: YES _____ NO X **FAULTED:** YES X NO _____

_____ _____
TRAINEE **DATE**

_____ **PASS**____ **FAIL**____
EVALUATOR

COMMENTS: _____

METHOD OF TESTING:

Simulated Performance X Actual Performance_____

Classroom _____ Simulator _____ Plant X

APPROXIMATE TIME FOR COMPLETION: 20 minutes

Prepared/Revised by: _____ Date: _____

Approved by: _____ Date:_____

JPM NUMBER: B.2.c **REVISION**: 00

READ TO THE OPERATOR

I will explain the initial conditions, which step(s) to simulate or discuss, and provide the initiating cues. When you complete the task successfully, the objective of this Job Performance Measure will be satisfied. Inform the operator that he should not touch any components while while performing this task.

SIMULATOR SET-UP CONDITIONS:

Not Applicable.

TASK STANDARDS:

Using CPS No. 3213.01, Attempt manual and Emergency startup of a diesel fire pump. Operate within the prescribed Precautions and Limitations when performing this evolution.

TOOLS, EQUIPMENT, OTHER SPECIAL REQUIREMENTS:

Laser Pointer

PROCEDURAL/REFERENCES:

CPS No. 3213.01, FIRE DETECTION AND PROTECTION, Rev.19c

EVALUATOR INSTRUCTIONS:

Amplifying cues are provided within the JPM steps.

INITIAL CONDITIONS AND INITIATING CUE:

A fire exists in the plant; Both Diesel Driven Fire Pumps have failed to automatically start and could not be started from the MCR.

As the E-Area operator, you are directed by the MCR to perform a local startup of the Diesel Driven Fire Pump "B" per CPS No. 3213.01 step 8.1.1.2.2.7. Report when you have completed the task.

START TIME: _____

JPM NUMBER: B.2.c **REVISION**: 00

PERFORMANCE INFORMATION

Critical steps are denoted with a asterisk (*) to the left of the step number and appear in **BOLD** letters. Failure to meet the standards for a critical step constitutes failure of the Job Performance Measure. The sequence of steps is assumed unless denoted in the comments section of the JPM.

PERFORMANCE STEPS

Start the Diesel Fire Pumps 0FP01PB by one of the following methods.

NOTE
The following starting methods are listed in order of preference, as needed the operator may use any of the methods listed.

_____ 1. Place Diesel Drive Fire pump "B" local control switch in "Test" position.

STANDARD: Locates and simulates placing the correct switch into Test position.

CUE: Indicate that the switch is in the position described, but the Diesel Driven Fire pump "B" HAS NOT STARTED. (No cranking noise)

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.c **REVISION**: 00

_____2. Place Diesel Driven Fire pump "B" local control switch in "MANUAL 1" or "MANUAL 2" position, and depressing the manual start pushbutton until the Engine starts.

STANDARD: Locates and simulates placing the correct switch into "MANUAL 1" or "MANUAL 2" position; and depressing the MANUAL START pushbutton.

CUE: Indicate that the switch is in the "MANUAL 1" or "MANUAL 2" position, as described, and the MANUAL START pushbutton has been depressed; but the Diesel Driven Fire Pump "B" HAS NOT STARTED. (No cranking noise)

COMMENTS: Operator may attempt to start the fire pump using the other "MANUAL" position.

SAT _____ UNSAT _____

JPM NUMBER: B.2.c **REVISION**: 00

CAUTION
Use of the Mantrol Switch bypasses all Diesel Fire Pump alarms, therefore an operator should be present to frequently monitor engine operating parameters.

NOTE
If the Mantrol Switch is used to start the Diesel Fire Pump, it can only be stopped by placing the Mantrol Switch to OFF.

_____3. Place and Hold the Diesel Driven Fire pump "B" local mantrol switch in "START" position until the Engine starts.

STANDARD: Locates and simulates placing the MANTROL switch into "START" position; and holding switch in Start.

CUE: Indicate that the MANTROL switch is in the "START" position, and being held there; but the Diesel Driven Fire Pump "B" HAS NOT STARTED. (No cranking noise).

If the MCR is contacted, respond as the B CRO and direct, performing the Emergency Start section of CPS 3213.01 on the Diesel Driven Fire Pump "B".

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.c **REVISION**: 00

CAUTION
This procedure is to be used only if the Fire Pump Controller is out of service and therefore, an operator must be present to frequently monitor engine operating parameters.

* 4. **OPEN THE FUEL SOLENOID BY TURNING THE MANUAL KNOB CLOCKWISE OR IN.**

STANDARD: Locates and simulates turning the FUEL SOLENOID knob.

CUE: Knurled Knob is turned clockwise to fully screw it in.

COMMENTS:

SAT _____ UNSAT _____

---

* 5. **OPEN COOLING WATER BYPASS STRAINER ISOL VALVE, DFP9B.**

STANDARD: Locates and simulates opening the correct valve.

CUE: Ball valve is turned 90° counterclockwise.

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.c **REVISION**: 00

* 6. **ENGAGE THE STARTER BY RAISING EITHER STARTING SOLENOID MANUAL OPERATOR. RELEASE THE MANUAL OPERATOR AS SOON AS THE ENGINE IS RUNNING.**

STANDARD: Locates and simulates raising a starting solenoid manual operator, then releases when engine is running..

CUE: Inform the examinee;
a. Immediately - engine cranking noise is heard.
b. (5 seconds later) flow noise is heard from relief back to pit.
c. If requested: pump discharge pressure meter reads approx. 170 psig.

COMMENTS:

SAT _____ UNSAT _____

JPM NUMBER: B.2.c **REVISION**: 00

TERMINATING CUE:

Acknowledge the Diesel Driven Fire Pump "B" is started and running smoothly.

STOP TIME: _____

JPM NUMBER: B.2.c **REVISION**: 00

K/A REFERENCE NUMBERS

K/A SYSTEM NUMBER	K/A NUMBER	Importance Rating RO	SRO
286000	K5.05	3.0*	3.1*
	K4.02	3.3	3.5
	A2.08	3.2	3.3
	A4.05	3.3	3.3

INITIATING CUE

A fire exists in the plant; Both Diesel Driven Fire Pumps have failed to automatically start and could not be started from the MCR.

As the E-Area operator, you are directed by the MCR to perform a local startup of the Diesel Driven Fire Pump "B" per CPS No. 3213.01 step 8.1.1.2.2.7. Report when you have completed the task.