ES-301   **Administrative Topics Outline**   **Form ES-301-1**

Facility: <u>River Bend Station</u>   Date of Examination: <u>12/6/2010</u>

Examination Level: RO ☒   SRO ☐   Operating Test Number: _____

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R,N	(A1) Determine corrected Fuel Zone Level indication and determine whether or not adequate core cooling exists. KA 2.1.25 IR 3.9
Conduct of Operations	R,D	(A2) Using core monitor print out, determine if thermal limits are in spec. KA 2.1.20 IR 4.6
Equipment Control	R,M	(A3) Identify components and sequence for a tagout on HVN-STR1B, TURBINE BLDG PUMP 1A SUCTION STRAINER KA 2.2.13 IR 4.1
Radiation Control	R,M	(A4) Perform a dose assessment and determine acceptability of an RWP. KA 2.3.7 IR 3.5
Emergency Procedures/Plan		

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom
                                         (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
                                         (N)ew or (M)odified from bank (≥ 1)
                                         (P)revious 2 exams (≤ 1; randomly selected)

ES-301   **Administrative Topics Outline**   **Form ES-301-1**

Facility: <u>River Bend Station</u>		Date of Examination: <u>12/6/2010</u>
Examination Level: RO ☒ SRO ☐		Operating Test Number: _____

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R,N	(A1) Determine corrected Fuel Zone Level indication and determine whether or not adequate core cooling exists. KA 2.1.25 IR 3.9
Conduct of Operations	R,D	(A2) Using core monitor print out, determine if thermal limits are in spec. KA 2.1.20 IR 4.6
Equipment Control	R,M	(A3) Identify components and sequence for a tagout on HVN-STR1B, TURBINE BLDG PUMP 1A SUCTION STRAINER KA 2.2.13 IR 4.1
Radiation Control	R,M	(A4) Perform a dose assessment and determine acceptability of an RWP. KA 2.3.7 IR 3.5
Emergency Procedures/Plan		

NOTE: All items (5 total) are required for SROs.   RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom
                                        (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
                                        (N)ew or (M)odified from bank (≥ 1)
                                        (P)revious 2 exams (≤ 1; randomly selected)

ES-301   **Administrative Topics Outline**   **Form ES-301-1**

Facility: <u>River Bend Station</u>		Date of Examination: <u>12/6/2010</u>
Examination Level: RO ☐ SRO ☒		Operating Test Number: _____

Administrative Topic (see Note)	Type Code*	Describe activity to be performed
Conduct of Operations	R,M	(A5) Determine time to 200°F and whether or not a Recirc Pump may be secured. KA 2.1.25 IR 4.2
Conduct of Operations	R,M	(A6) Given a personnel list and their qualification status, determine if minimum staffing requirements are met. KA 2.1.5 IR 3.9
Equipment Control	R,D	(A7) Review a tag out of LOS-STR1, TURBINE LUBE OIL TRANSFER PUMP SUCTION HEADER STRAINER. KA 2.2.13 IR 4.3
Radiation Control	R,D	(A8) Review a liquid radwaste release permit issued by Chemistry. KA 2.3.6 IR 3.8
Emergency Procedures/Plan	R,M	(A9) Determine Protective Action Recommendations. KA 2.4.44 IR 4.4

NOTE: All items (5 total) are required for SROs. RO applicants require only 4 items unless they are retaking only the administrative topics, when all 5 are required.

* Type Codes & Criteria: (C)ontrol room, (S)imulator, or Class(R)oom
                                      (D)irect from bank (≤ 3 for ROs; ≤ 4 for SROs & RO retakes)
                                      (N)ew or (M)odified from bank (≥ 1)
                                      (P)revious 2 exams (≤ 1; randomly selected)

NRC

Facility: <u>River Bend Station</u>   Date of Examination: 12/6/2010

Exam Level: RO ☐   SRO-I ☒   SRO-U ☐   Operating Test No.: _____

Control Room Systems@ (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
(S1) Shift Stator Cooling Water Pumps	A,D,S	4
(S2) Start LPCS in Sup Pool to Sup Pool Lineup w/ pump trip	A,D,S,EN	2
(S3) Start Drywell Low Vol purge to vent the drywell	A,EN,N,L	9
(S4) Shift CRD Pumps with trip of on-coming pump	A,M,S	1
(S5) Restore Offsite power with AOP-0004	D,L,S	6
(S6) Perform Rod Withdrawal Limiter Surveillance (> HPSP)	N,S	7
(C1) Defeat RWCU Level 2 and SLC Initiation Isolation Interlocks	C,D,EN,L	5

In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)

	Type Code*	Safety Function
(P1) Inject into the RPV with Fire Water.	E,L,M,R	8
(P2) Startup RPS MG Set B with failure to achieve voltage	A,M	7
(P3) Place RHR in Sup Pool Cooling mode from Div 2 RSS	D,E,L	5

@   All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path (C)ontrol room (D)irect from bank (E)mergency or abnormal in-plant (EN)gineered safety feature (L)ow-Power / Shutdown (N)ew or (M)odified from bank including 1(A) (P)revious 2 exams (R)CA (S)imulator	4-6 / 4-6 / 2-3 ≤ 9 / ≤ 8 / ≤ 4 ≥ 1 / ≥ 1 / ≥ 1 - / - / ≥1 (control room system) ≥ 1 / ≥ 1 / ≥ 1 ≥ 2 / ≥ 2 / ≥ 1 ≤ 3 / ≤ 3 / ≤ 2 (randomly selected) ≥ 1 / ≥ 1 / ≥ 1

NRC

Facility: <u>River Bend Station</u>   Date of Examination: 12/6/2010

Exam Level: RO ☒   SRO-I ☐   SRO-U ☐   Operating Test No.: _____

Control Room Systems@ (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)		
System / JPM Title	Type Code*	Safety Function
(S1) Shift Stator Cooling Water Pumps	A,D,S	4
(S2) Start LPCS in Sup Pool to Sup Pool Lineup w/ pump trip	A,D,S,EN	2
(S3) Start Drywell Low Vol purge to vent the drywell	A,EN,N,L	9
(S4) Shift CRD Pumps with trip of on-coming pump	A,M,S	1
(S5) Restore Offsite power with AOP-0004	D,L,S	6
(S6) Perform Rod Withdrawal Limiter Surveillance (> HPSP)	N,S	7
(C1) Defeat RWCU Level 2 and SLC Initiation Isolation Interlocks	C,D,EN,L	5
(C2) Stuck open SRV fuse removal per AOP-0035	C,D	3

In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)		
(P1) Inject into the RPV with Fire Water.	E,L,M,R	8
(P2) Startup RPS MG Set B with failure to achieve voltage	A,M	7
(P3) Place RHR in Sup Pool Cooling mode from Div 2 RSS	D,E,L	5

@   All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path (C)ontrol room (D)irect from bank (E)mergency or abnormal in-plant (EN)gineered safety feature (L)ow-Power / Shutdown (N)ew or (M)odified from bank including 1(A) (P)revious 2 exams (R)CA (S)imulator	4-6 / 4-6 / 2-3 ≤ 9 / ≤ 8 / ≤ 4 ≥ 1 / ≥ 1 / ≥ 1 - / - / ≥1 (control room system) ≥ 1 / ≥ 1 / ≥ 1 ≥ 2 / ≥ 2 / ≥ 1 ≤ 3 / ≤ 3 / ≤ 2 (randomly selected) ≥ 1 / ≥ 1 / ≥ 1

Rev 0

NRC

ES-301 **Control Room/In-Plant Systems Outline** **Form ES-301-2**

Facility: River Bend Station

Date of Examination: 12/6/2010

Exam Level: RO ☐   SRO-I ☐   SRO-U ☒

Operating Test No.: _____

Control Room Systems@ (8 for RO); (7 for SRO-I); (2 or 3 for SRO-U, including 1 ESF)

System / JPM Title	Type Code*	Safety Function
(S1) Shift Stator Cooling Water Pumps	A,D,S	4
(S2) Start LPCS in Sup Pool to Sup Pool Lineup w/ pump trip	A,D,S,EN	2
(C1) Defeat RWCU Level 2 and SLC Initiation Isolation Interlocks	C,D,EN,L	5

In-Plant Systems@ (3 for RO); (3 for SRO-I); (3 or 2 for SRO-U)

System / JPM Title	Type Code*	Safety Function
(P1) Inject into the RPV with Fire Water.	E,L,M,R	8
(P2) Startup RPS MG Set B with failure to achieve voltage	A,M	7

@   All RO and SRO-I control room (and in-plant) systems must be different and serve different safety functions; all 5 SRO-U systems must serve different safety functions; in-plant systems and functions may overlap those tested in the control room.

* Type Codes	Criteria for RO / SRO-I / SRO-U
(A)lternate path (C)ontrol room (D)irect from bank (E)mergency or abnormal in-plant (EN)gineered safety feature (L)ow-Power / Shutdown (N)ew or (M)odified from bank including 1(A) (P)revious 2 exams (R)CA (S)imulator	4-6 / 4-6 / 2-3 ≤ 9 / ≤ 8 / ≤ 4 ≥ 1 / ≥ 1 / ≥ 1 - / - / ≥1 (control room system) ≥ 1 / ≥ 1 / ≥ 1 ≥ 2 / ≥ 2 / ≥ 1 ≤ 3 / ≤ 3 / ≤ 2 (randomly selected) ≥ 1 / ≥ 1 / ≥ 1

Rev 0

Facility: River Bend Station	Scenario No.: __1__	Op-Test No.:

Examiners: _____ Operators: _____
_____ _____
_____ _____

Initial Conditions: 99% power. Preparing for down power for sequence exchange.
EOOS STATUS = 10   GREEN   PROTECTED EQUIPMENT   DIV I and RCIC
DIV III work week. High Pressure Core Spray is available but not operable until the breaker functional is complete.

Turnover: Complete breaker functional per SOP on the High Pressure Core Spray breaker. The pre-start checks have been completed satisfactory. Lower power per GOP-5 Power Maneuvering and the approved reactivity control plan.

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP,SRO)	Perform High Pressure Core Spray Pump Breaker Functional per SOP.
2		R(ATC)	Lower reactor power with control rods.
3	RCIC009 RCIC007	I (BOP,SRO)	Spurious RCIC Isolation. (Technical Specifications) E51-F063 RCIC Steam Supply Inboard Isolation Valve fails to auto close
4	B21005	I (SRO)	B21-PTN078A RPV pressure transmitter fails high. (Technical Specifications)
5	GMC002A GMC001B	C (BOP,SRO)	Stator Cooling Pump A trips, Stby pump fails to AUTO start requiring manual start.
6	GMC002B	C (ALL)	Second Stator Cooling Pump trips / Reactor Scram
7	RPS001A	M (ALL)	RPS Fails to Scram – All Signals
8	FWS004A	C (ATC,SRO)	Feedwater Master Controller output fails low
9	EHC002A	C (ATC,SRO)	Main Turbine Bypass Valves fail OPEN.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Total Malfunctions: (5-8): (8) RCIC, E51-MOVF063, B21-PTN078A, Stator Cooling Pumps A & B, ATWS, FWS Controller, BPVs
Malfunctions after EOP entry: (1-2) (2) FWS, BPVs
Abnormal events: (2-4): (2) (AOP-3, AOP-1)
Major transients: (1-2): (1) ATWS
EOPs entered: (1-2): (2)EOP-1, EOP-2
EOP contingencies: (0-2) (1) EOP-1A
Critical tasks: (2-3) (2) Terminate FW injection, Begin control rod insertion.

Rev 02

Op-Test No.: _____   Scenario No.: __1__   Event No.: __1__   Page _1_ of _10_

Event Description:

Perform HPCS Pump Breaker Functional per SOP.

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the BOP to start the HPCS pump per SOP-0030 section 5.4 with suction lined up to the CST
	BOP	Perform HPCS Breaker Functional • Start the HPCS Pump and verify the following: • HPCS Pump motor current is less than or equal to 350 amps on E22-R616, HPCS PUMP MOTOR AMPS. • WHEN HPCS Pump discharge pressure rises above 300 psig on E22-R601, HPCS PUMP DISCH PRESSURE, THEN E22-F012, HPCS MIN FLOW VALVE TO SUPPRESSION POOL opens. • Trip E22-ACB02, HPCS PUMP SUPPLY BRKR. • WHEN HPCS Pump discharge pressure lowers below 300 psig on E22-R601, • HPCS PUMP DISCH PRESSURE, THEN verify E22-F012, HPCS MIN FLOW VALVE TO SUPPRESSION POOL closes. • Log completion of the breaker functional in the MCR Logs. • Notify SRO that the breaker functional is complete
	ROLE PLAY	As the reactor building operator, if requested report that all pre-start checks are complete and SAT.
	ROLE PLAY	As the control building operator, if requested, report that the charging springs for High Pressure Core Spray pump motor breaker are charged.
	SRO	When the High Pressure Core Spray breaker functional test is complete, notify Work Management Center to exit the High Pressure Core Spray LCO.

Op-Test No.: _____	Scenario No.: __1__	Event No.: __2__	Page _2_ of _10_

Event Description:

Lower reactor power with control rods.

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the power reduction per the reactivity Control Plan step 02 and 03
	ATC	Accept the direction for power reduction. Insert control rods per the RCP • At H13-P680, on the ROD SELECT MODULE, select the rod to be moved. • Depress SELECTED GROUP button to check positions of control rods within group are correct prior to movement • Check that a Rod Insert Block or Inhibit does not exist. • On H13-P680, depress and hold C11A-S314, INSERT Pushbutton until the IN indicator is lit or the start of rod motion is observed. • Check that the new rod notch position displayed is the next lowest even number.
	ATC	Repeat the rod movement steps as needed to complete step 02 and 03 of the RCP Report completion of the power reduction

Rev 02

| Op-Test No.: _____ | Scenario No.: __1__ | Event No.: __3__ | Page _3_ of _10_ |

Event Description:

Spurious RCIC Isolation. (Technical Specifications) RCIC MOV63 fails to auto close

Cue: RCIC Steam supply isolation annunciators on H13-P601. E51-F063 red light on, green light off.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the RCIC isolation due to high differential steam flow
	SRO	• Accept the report • Refer to Tech. Specs. • Request back panel reading
	BOP	Refer to the Alarm Response Procedure Retrieve the requested back panel information
	ROLE PLAY	As the back panel operator when requested, report that trip unit E31-ESN683A and B reads 138 inches and the trip red LED is on.
	BOP	Report the back panel reading to the SRO Report that E51-F063 did not isolate per the ARP
	SRO	Direct the BOP to perform AOP-0003 for the isolation signal Direct the BOP to attempt to close E51-F063
	BOP	Closes E51-F063 manually. Verifies that all other required isolation valves have closed per AOP-0003
	SRO	Enters T.S. 3.5.3A and 3.3.6.1A Notifies WMC to investigate the trip unit failure Makes the required notifications per OSP-046

Rev 02

Op-Test No.: _____ Scenario No.: __1__ Event No.: __4__   Page _4_ of _10_

Event Description:

B21-PTN078A RPV pressure transmitter fails high. (Technical Specifications)

Cue: Annunciator H13-P680-06-A5.

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report the failure of B21-PTN078A RPV pressure transmitter Give the SRO a critical parameter report Refer to ARP-P680-06-A5
	SRO	Accept the report Refer to Tech. Specs. Request back panel indication
	ROLE PLAY	As the back panel operator when requested, report that B21-ESN678A reads 1250 psig. All other channels read normal for this power level
	SRO	Enters T.S. 3.3.1.1A Contacts the WMC to investigate the transmitter failure

Op-Test No.: _____ Scenario No.: __1__ Event No.: __5__   Page _5_ of _10_

Event Description:

Stator Cooling Pump A trips, Standby pump fails to AUTO start requiring manual start.

Cue: Annunciator H13-P870-54-D01.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the trip of Stator cooling water pump A. Recognize and report the failure of Stator cooling water pump B to auto start. Manually start Stator cooling water pump B. Refer to the Alarm Response procedure Direct the turbine building operator to perform running checks on pump B
	SRO	Accept the report from the BOP. Direct manual start of Stator cooling water pump B if not completed by the BOP. Contact WMC to investigate the pump trip.
	ROLE PLAY	As the turbine building operator, accept the direction to investigate the trip of Stator cooling water pump A and perform running checks on pump B

Rev 02

Op-Test No.: _____ Scenario No.: __1__ Event No.: __6__		Page _6_ of _10_

Event Description:

Second Stator Cooling Pump trips / Reactor Scram

Cue: Annunciator H13-P870-54-D01.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the trip of Stator cooling water pump B
	ATC	Recognize and report that a turbine runback is in progress
	SRO	Accept report from the BOP / ATC Direct the ATC to place the reactor mode switch to Shutdown due to the turbine runback
	ATC	Place the mode switch to shutdown Determine that all control rods did not fully insert Arm and depress all four manual scram pushbuttons Determine that all control rods did not fully insert Arm and initiate Alternant Rod Insertion Determine that all control rods did not fully insert Give the SRO an ATWS report

| Op-Test No.: _____ | Scenario No.: __1__ Event No.: __7__ | Page _7_ of _10_ |

Event Description:

RPS Fails to Scram – All Signals

Cue: Indication of control rods not fully inserted on H13-P680 Full Core Display.

Time	Position	Applicant's Actions or Behavior
	SRO	Enter EOP-1 and transition to EOP-1A RPV control ATWS Direct EOP-1A actions • ATC trip both reactor recirc pumps • BOP terminate and prevent injection with HPCS • BOP inhibit ADS • BOP install EOP-5 enclosures 16 and 24 • ATC terminate injection with feedwater and lower reactor water level to -60" to -140" • BOP initiate Standby liquid control system • BOP install EOP-5 enclosures 14 and 10 • BOP maximize CRD cooling water flow
	ATC	Trip both reactor recirc pumps • Depress STOP, RECIRC PUMP BREAKER 5A. • Depress STOP, RECIRC PUMP BREAKER 5B. • TRIP LFMG BRKR 1A • TRIP LFMG BRKR 1B.
	BOP	Terminate and prevent injection with High Pressure Core Spray • Override Injection / Initiate High Pressure Core Spray • Verify E22-F004 amber override light is lit. • Stop the High Pressure Core Spray pump. • Notify the SRO that injection from HPCS has been terminated and prevented.
	BOP	Inhibit ADS • Place Div I ADS key lock switch to INHIBIT • Place Div II ADS key lock switch to INHIBIT
	BOP	Install EOP-5 enclosures 16 and 24 • Request the back panel operator to perform needed actions • Verify that IAS-MOV106 is open

Rev 02

Op-Test No.:	Scenario No.: 1	Event No.: 7	Page 8 of 10

Event Description:

RPS Fails to Scram – All Signals continued

Time	Position	Applicant's Actions or Behavior
	ATC	Terminate injection with feedwater and lower reactor water level to -60" to -140" • Place the master RPV level controller into manual • Lower master controller output signal to "0"

	BOP	Initiate Standby liquid control system
		• Place SLC PUMP A(B) (NOT BOTH), control switch to RUN.
		• Verify the following:
		  o SQUIB CONTINUITY A(B), light goes Off.
		  o C41-F001A(B), SLC PUMP A(B) SUCT VLV, Opens.
		  o C41-C001A(B), SLC PUMP A(B), Starts.
		• Notify SRO of SLC injection status.
		• Verify IAS-MOV106 is Open.
		• Record SLC Tank Level gallons.

	BOP	Install EOP-5 enclosures 14 and 10 • Request the back panel operator to perform needed actions
	BOP	Enclosure 10 actions • Determine if any rod motion has occurred • Direct the back panel operator to reinstall the fuses
	ATC	Enclosure 14 actions • Fully INSERT control rods by group, starting with Group 10, using IN TIMER SKIP pushbutton. Skip control rods which do not fully INSERT.
	BOP	Maximize CRD cooling water flow • Start C11-C001AP(BP), CRD AUX OIL PUMP A(B). • Verify C11-C001A(B), CRD PUMP A(B), white control power available light on. • Start C11-C001A(B), CRD PUMP A(B). • Place CRD HYDRAULICS FLOW CONTROLLER, in MANUAL and raise signal to 100%. • Fully Open C11-F003, CRD DRIVE WATER PRESS CONTROL VALVE. • Verify IAS-MOV106 is Open.

Op-Test No.: _____ Scenario No.: __1__ Event No.: __8__   Page _9_ of _10_

Event Description:

FWS Master Controller output fails low

Cue: Output demand signal remains at "0" when OPEN pushbutton is depressed on Feedwater Master Controller.

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report the failure of the master controller Place Feedwater level control valves A, B and C into manual Manually control reactor level within the given band of -60" to -140"
	SRO	Direct manual control of the feedwater level control valves

Appendix D   **Required Operator Actions**   **Form ES-D-2**

Event Description:

Main Turbine Bypass Valves fail OPEN.

Cue: Bypass Valve position indication FULL OPEN lights are illuminated when reactor pressure is below the established pressure setpoint.

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report the turbine bypass valves have failed open and reactor pressure is lowering
	SRO	Direct the turbine building operator to secure the turbine bypass valve EHC pumps to close the bypass valves Direct the BOP to close the MSIV's if reactor pressure lowers to 600 psig

Rev 02

Facility: <u>River Bend Station</u>   Scenario No.: __1____   Op-Test No.:

Examiners: _____   Operators: _____

          _____   _____

          _____   _____

Initial Conditions: <u>99% power. Preparing for down power for sequence exchange.</u>
<u>EOOS STATUS = 10   GREEN   PROTECTED EQUIPMENT   DIV I and RCIC</u>
<u>DIV III work week. High Pressure Core Spray is available but not operable until the breaker functional</u>
<u>is complete.</u>

Turnover: <u>Complete breaker functional per SOP on the High Pressure Core Spray breaker. The pre-</u>
<u>start checks have been completed satisfactory. Lower power per GOP-5 Power Maneuvering and the</u>
<u>approved reactivity control plan.</u>

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP,SRO)	Perform High Pressure Core Spray Pump Breaker Functional per SOP.
2		R (ATC)	Lower reactor power with control rods.
3	RCIC009	I (BOP,SRO)	Spurious RCIC Isolation. (Technical Specifications)
	RCIC007		E51-F063 RCIC Steam Supply Inboard Isolation Valve fails to auto close
4	B21005	I (SRO)	B21-PTN078A RPV pressure transmitter fails high. (Technical Specifications)
5	GMC002A GMC001B	C (BOP,SRO)	Stator Cooling Pump A trips, Stby pump fails to AUTO start requiring manual start.
6	GMC002B	C (ALL)	Second Stator Cooling Pump trips / Reactor Scram
7	RPS001A	M (ALL)	RPS Fails to Scram – All Signals
8	FWS004A	C (ATC,SRO)	Feedwater Master Controller output fails low
9	EHC002A	C (ATC,SRO)	Main Turbine Bypass Valves fail OPEN.

*   (N)ormal,   (R)eactivity,   (I)nstrument,   (C)omponent,   (M)ajor

Total Malfunctions: (5-8): (8) RCIC, E51-MOVF063, B21-PTN078A, Stator Cooling Pumps A & B,
ATWS, FWS Controller, BPVs
Malfunctions after EOP entry: (1-2) (2) FWS, BPVs
Abnormal events: (2-4): (2) (AOP-3, AOP-1)
Major transients: (1-2): (1) ATWS
EOPs entered: (1-2): (2)EOP-1, EOP-2
EOP contingencies: (0-2) (1) EOP-1A
Critical tasks: (2-3) (2) Terminate FW injection, Begin control rod insertion.

Rev 02

Facility: <u>River Bend Station</u>   Scenario No.: <u> 2 </u>   Op-Test No.:

Examiners: _____   Operators: _____
           _____   _____
           _____   _____

Initial Conditions: <u>Mode 1 75% power. Down power in progress. Feedwater pump C is shutdown.</u>
<u>EOOS STATUS 10</u>   <u>GREEN(9.8 GREEN when the FWS pump is tagged) PROTECTED</u>
<u>EQUIPMENT DIV I work week DIV II protected.</u>

Turnover: <u>Perform STP-406-0201, DIVISION I FUEL BUILDING HVAC CHARCOAL FILTER A</u>
<u>OPERABILITY TEST. Section 6.0 has been completed. Raise reactor power per GOP-005 Power</u>
<u>Maneuvering. FWS P1C is off and due to be tagged and drained this shift.</u>

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP,SRO)	Perform STP-406-0201 Division I Fuel Building HVAC Charcoal Filter A Operability Test
2		R (ATC)	Raise reactor power with reactor recirculation flow.
3	ED004K	C (SRO)	Loss of NJS-LDC1K 480 VAC Load Center (Technical Specification).
4	RMS013A	C (SRO)	RMS-RE13A Control Building Local Intake Monitor fails upscale.(Technical Specification)
5		C (BOP,SRO)	HVC-AOD51A Control Room Isolation damper fails to isolate, but can be manually isolated.
6	CNM004A	C (ATC,SRO)	Condensate pump A trip
7	WCS006	M (ALL)	RWCU leak in the Main Steam Tunnel
8	WCS004 WCS005	C(BOP,SRO)	G33-MOVF004 RWCU Pumps Outboard Isolation valve fails to automatically isolate. G33-MOVF001 RWCU Pumps Inboard Isolation valve fails to automatically isolate but can be manually isolated.
9	MGEN003	C(ATC,SRO)	Main Generator reverse power relay fails.

*   (N)ormal,   (R)eactivity,   (I)nstrument,   (C)omponent,   (M)ajor

Total Malfunctions: (5-8) (7) NJS-LDC1K, RMS-RE13A, HVC-AOD51A, CNM-P1A, RWCU leak, G33-MOVs, Main Turbine
Malfunctions after EOP entry: (1-2) (2) G33-MOVs, Main Turbine
Abnormal events: (2-4) (4) AOP-3, AOP-1, AOP-2, AOP-6
Major transients: (1-2) (1) Steam Tunnel leak
EOPs entered: (1-2) (2) EOP-1, EOP-3
EOP contingencies: (0-2) (0)
Critical tasks: (2-3) (2) Isolate leak, Trip the main turbine

Rev 02

Op-Test No.: _____ Scenario No.: __2__ Event No.: __1__ Page __1__ of __9__

Event Description:

Perform STP-406-0201 Division I Fuel Building HVAC Charcoal Filter A Operability Test

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the BOP to perform STP-406-0201 DIVISION I FUEL BUILDING HVAC CHARCOAL FILTER A OPERABILITY TEST
	BOP	Perform STP-406-0201 DIVISION I FUEL BUILDING HVAC CHARCOAL FILTER A OPERABILITY TEST • At H13-P863/76B, record HVF-TI30A, CHARCOAL BED 2A INLET TEMP temperature. • Start HVF-FN3A, EXH FLTR TRAIN and record the time it was started. • Check HVF-AOD20A, FILTER 2A INLET opens. • Check HVF-AOD31A, FAN 3A DISCH opens. • Place the standby HVF-FN8A(B), FUEL BLDG EXH FAN A(B) Control Switch in STOP. • Stop the running HVF-FN8A(B), FUEL BLDG EXH FAN A(B). • Check HVF-AOD6A(B), FUEL BLDG EXH FAN A(B) DISCH closes. • Close HVF-AOD102, FUEL BLDG EXH FAN INLT. • Close HVF-AOD112, FUEL BLDG EXH FAN INLT. • Close HVF-AOD104, FUEL BLDG EXH ISOL. • Close HVF-AOD137, FUEL BLDG EXH ISOL. • Calculate required stop time. • Request Electrical Maintenance to take current readings on heater HVF-FLT2AH, FUEL BLDG FILTER TRAIN HEATER • Request Electrical Maintenance to take voltage readings on heater HVF-FLT2AH, FUEL BLDG FILTER TRAIN HEATER Report to the SRO that the filter train is in service per the STP.
	ROLE PLAY	As EM accept the direction to obtain amp and voltage readings per the STP. As reactor building operator accept direction to perform running checks on the filter train

Rev 02

Op-Test No.:	Scenario No.: 2	Event No.: 2	Page 2 of 9

Event Description:

Raise reactor power with reactor recirculation flow.

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct power ascension from 74% to 77% per GOP-005 by raising reactor recirc. Flow with the approved RCP.
	ATC	Accept direction for power ascension. • Raise reactor power with reactor recirculation flow. • Verify B33-K603A(B), RECIRC LOOP A(B) FLOW CONTROL M/A Station is in MAN. • Determine which B33-K603A(B), RECIRC LOOP A(B) FLOW CONTROL is to be adjusted by observing Loop Flows on B33-R612A and B33-R612B. Both loops may have to be adjusted to obtain the desired Reactor Power while maintaining Loop Flow mismatch within specification. • Note the current B33-HYVF060A(B), FLOW CONTROL VALVE position, generator load, MWt, APRMs and loop flows. • Raise Reactor Recirculation Flow by toggling momentarily B33-K603A(B) controller in the open direction using the slow detent while observing for a servo error deviation in the positive direction. • Verify the servo error returns to its previous position. • Observe B33-HYVF060A(B), FLOW CONTROL VALVE position, generator load, MWt, APRMs and loop flows for expected changes. • Repeat steps 5.9.1.2.2) through 5.9.1.2.7) until the desired Reactor Power Level is achieved. Report to the SRO when 77% power level is reached

Op-Test No.: _____ Scenario No.: __2__ Event No.: __3__		Page __3__ of __9__

Event Description:

Loss of NJS-LDC1K 480 VAC Load Center (Technical Specification).

Cue: Annunciator H13-P808-86-G07. NJS-ACB149 red light off, green light on.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report Loss of NJS-LDC1K 480 VAC Load Center
	SRO	Accept report of NJS-LDC1K 480 VAC Load Center failure.
	BOP	Direct ACR operator to investigate the loss of NJS-LDC 1K. 480 VAC Load Center
	ROLE PLAY	As the ACR operator when requested report that the supply breaker for NJS-LDC1K 480 VAC Load Center has an over current flag in and the 86 lock out device is tripped
	SRO	Contact the WMC to investigate the fault on NJS-LDC1K 480 VAC Load Center Enter TRM 3.7.9.1 A Make required notifications per OSP-0046

Op-Test No.: _____   Scenario No.: __2__   Event No.: __4__   Page _4_ of _9_

Event Description:

RMS-RE13A Control Building Local Intake Monitor fails upscale.(Technical Specification)

Cue: Annunciator H13-P863-74-H03 and Digital Radiation Monitoring computer alarm.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the failure of RMS-RE13A Control Building Local Intake Monitor Refer to the Alarm response Procedure for the alarms received. Determine and report normal readings / status of RE13B Control Building Local Intake Monitor
	SRO	Accept the failure report Assign the performance of AOP-003 Automatic Isolations to the BOP Enter Tech Spec 3.3.7.1 A and D

Op-Test No.: _____   Scenario No.: __2__   Event No.: __5__   Page _5_ of _9_

Event Description:

HVC-AOD51A Control Room Isolation damper fails to isolate, but can be manually isolated.

Cue: HVC-AOD51A red light on, green light off with isolation signal present.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the failure of HVC-AOD51A Control Room Isolation damper to close Close HVC-AOD51A Control Room Isolation damper per the AOP-003 or ARP actions. Verify all other isolations have occurred and report to the SRO.
	SRO	Enter Tech Spec 3.7.2 B (short term until AOD is closed) Contact WMC to investigate the failure of the radiation instrument and the failure to isolate.

Appendix D **Required Operator Actions** **Form ES-D-2**

Event Description:

CONDENSATE PUMP A TRIP

Cue: Annunciator H13-P680-02-A03

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report that Condensate pump 'A' has tripped. Give the SRO a critical parameter report
	SRO	Accept the report Direct the ATC to perform AOP-006 Condensate and Feedwater failures Direct the ATC to verify pump shutdown per the SOP-007
	ATC	Close the 'A' condensate discharge valve.

Op-Test No.: _____ Scenario No.: __2__ Event No.: __7__   Page _7_ of _9_

Event Description:

RWCU leak in the Main Steam Tunnel

Cue: Annunciator H13-P680-19-A01,A03,B01,B03

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report high main steam tunnel temperature Obtain back panel reading for steam tunnel temperature
	ROLE PLAY	As the back panel operator when requested report MST temperature for the insight file – AAA top 40
	SRO	Enter EOP-003 Secondary Containment control when the main steam tunnel temperature reaches max normal temperature of 135 deg F. Direct the ATC to place the reactor mode switch to shutdown when the MST temperature reaches 200 deg F.
	ATC	Place the mode switch to shutdown Give the SRO a scram report
	SRO	Direct a reactor level band of -20" to 51" with condensate and feedwater Direct a pressure band of 500 to 1090 psig with bypass valves and steam line drains until the MSIVs close. Then direct pressure control with SRVs and RCIC Direct performance of AOP-0001 Reactor Scram and AOP-0002 Turbine Generator trip to the ATC Direct the performance of AOP-0003 Automatic Isolations to the BOP
	BOP	Perform actions of AOP-0003 to verify all required isolations have occurred.

Rev 02

Op-Test No.: _____ Scenario No.: __2__ Event No.: __8__ Page __8__ of __9__

Event Description:

G33-MOVF004 RWCU Pumps Outboard Isolation valve fails to automatically isolate.
G33-MOVF001 RWCU Pumps Inboard Isolation valve fails to automatically isolate but can be .
manually isolated.

Cue: Both valves indicate red light on, green light off with an isolation signal present.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report MSIV isolation
	BOP	Recognize and report the failure of G33-MOVF001 and F004 to isolate. Attempt to close G33-MOVF001 and F004 RWCU Pumps Isolation valves. Report that G33-MOVF001 did close and G33-MOVF004 did not.
	SRO	Direct BOP to obtain new reading for the MST temperature Direct the BOP to place RHR into suppression pool cooling mode of operation
	ROLE PLAY	As the back panel operator when requested report MST temperature for the insight file – AAA top 40
	BOP	Inform the SRO of the new MST temperature Place RHR into suppression pool cooling • Verify the selected system is not required for adequate core cooling. • Throttle E12-F068A(B), RHR HX A(B) SVCE WTR RTN, not to exceed 5800 gpm flow. • Start/Verify Running RHR PUMP A(B). • Verify E12-F042A(B), RHR PUMP A(B) LPCI INJECT ISOL VALVE, Closed. • Verify E12-F053A(B), RHR PUMP A(B) SDC INJECTION VALVE, Closed. • Open/Verify Open E12-F024A(B), RHR PUMP A(B) TEST RTN TO SUP PL. • Verify E12-F064A(B), RHR PUMP A(B) MIN FLOW TO SUP PL, Closed. • Close E12-F048A(B), RHR A(B) HX BYPASS VALVE, when auto open signal has cleared.

Op-Test No.: _____   Scenario No.: __2__   Event No.: __9__   Page _9_ of _9_

Event Description:

Main Generator reverse power relay fails.

Cue: YMC-20640 and YMC-20635 indicate red light on, green light off with Main Turbine TRIPPED indication lit.

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report that the generator did not trip on reverse power Perform action of AOP-0002 Turbine Generator trips • IF an automatic trip setpoint has been exceeded, THEN verify Main Turbine has tripped. • Verify Main Generator Output Breakers YMC-20640, 230KV GEN BKR and YMC-20635, 230KV GEN BKR are open. • Verify Exciter Field Breaker is open.
	SRO	Direct actions of AOP-0002 if not already performed

Facility: <u>River Bend Station</u> Scenario No.: __2____ Op-Test No.:

Examiners: _____ Operators: _____
_____ _____
_____ _____

Initial Conditions: <u>Mode 1 75% power. Down power in progress. Feedwater pump C is shutdown.</u>
<u>EOOS STATUS 10 GREEN(9.8 GREEN when the FWS pump is tagged) PROTECTED</u>
<u>EQUIPMENT DIV I work week DIV II protected.</u>

Turnover: <u>Perform STP-406-0201, DIVISION I FUEL BUILDING HVAC CHARCOAL FILTER A</u>
<u>OPERABILITY TEST. Section 6.0 has been completed. Raise reactor power per GOP-005 Power</u>
<u>Maneuvering. FWS P1C is off and due to be tagged and drained this shift.</u>

Event No.	Malf. No.	Event Type*	Event Description
1		N (BOP,SRO)	Perform STP-406-0201 Division I Fuel Building HVAC Charcoal Filter A Operability Test
2		R (ATC)	Raise reactor power with reactor recirculation flow.
3	ED004K	C (SRO)	Loss of NJS-LDC1K 480 VAC Load Center (Technical Specification).
4	RMS013A	C (SRO)	RMS-RE13A Control Building Local Intake Monitor fails upscale.(Technical Specification)
5		C (BOP,SRO)	HVC-AOD51A Control Room Isolation damper fails to isolate, but can be manually isolated.
6	CNM004A	C (ATC,SRO)	Condensate pump A trip
7	WCS006	M (ALL)	RWCU leak in the Main Steam Tunnel
8	WCS004 WCS005	C(BOP,SRO)	G33-MOVF004 RWCU Pumps Outboard Isolation valve fails to automatically isolate. G33-MOVF001 RWCU Pumps Inboard Isolation valve fails to automatically isolate but can be manually isolated.
9	MGEN003	C(ATC,SRO)	Main Generator reverse power relay fails.

* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor

Total Malfunctions: (5-8) (7) NJS-LDC1K, RMS-RE13A, HVC-AOD51A, CNM-P1A, RWCU leak, G33-MOVs, Main Turbine
Malfunctions after EOP entry: (1-2) (2) G33-MOVs, Main Turbine
Abnormal events: (2-4) (4) AOP-3, AOP-1, AOP-2, AOP-6
Major transients: (1-2) (1) Steam Tunnel leak
EOPs entered: (1-2) (2) EOP-1, EOP-3
EOP contingencies: (0-2) (0)
Critical tasks: (2-3) (2) Isolate leak, Trip the main turbine

Rev 02

Facility: <u>River Bend Station</u>   Scenario No.: <u>3</u>   Op-Test No.:

Examiners: _____   Operators: _____

                 _____   _____

                 _____   _____

Initial Conditions: <u>Mode 1, 100%, RCIC tagged out for pump repairs. EOOS STATUS 8.6 YELLOW.</u>
<u>DIV III protected. Non-Divisional work week</u>

Turnover:<u> Perform STP-256-0202 Standby Cooling Tower Fan Operability. Perform OSP-0101 section</u>
<u>4.11.3 for the turning gear oil pump pressure switch replacement. .</u>

Event No.	Malf. No.	Event Type*	Event Description
1		N (SRO,ATC)	Perform OSP-0101 Turbine Generator Periodic Testing Section 4.11.3
2		N (SRO,BOP)	Perform STP-256-0202 Division II Standby Cooling Tower Fans Operability Test. Bank 1 fans only.
3	FWS012	R(ATC)	Loss of Extraction Steam to Feedwater Heater
4		C (SRO,BOP)	HVR-UC1A Containment Unit Cooler trips. (Technical Specifications)
5	CRDM1617	I (SRO,ATC)	Control Rod 16-17 Drifts out (Technical Specifications).
6	CCP001B CCP004A	C (SRO,BOP)	CCP Component Cooling Water Pump B trips, CCP Component Cooling Water Pump A fails to Auto start
7	ED001 EDG001A EDG002B	M(ALL)	Station Blackout • Loss of offsite power • Div 1 DG trips • Div 2 DG fails to start
8	SWP004	C (SRO,BOP)	SWP-AOV599 Standby Cooling Tower Inlet Valve fails to auto open.
9	HPCS003	C (SRO,BOP)	High Pressure Core Spray fails to automatically initiate *(Pump only, DG starts on LOP to require SWP-AOV599 actions).*

*   (N)ormal,   (R)eactivity,   (I)nstrument,   (C)omponent,   (M)ajor

Total Malfunctions: (5-8) (7) Feedwater Heating, HVR UC, Rod Drift, CCP, SBO, SWP-AOV599, HPCS
Malfunctions after EOP entry: (1-2) (2) SWP-AOV599, HPCS
Abnormal events: (2-4) (2) AOP-1, AOP-50
Major transients: (1-2) (1) SBO
EOPs entered: (1-2) (2) EOP-1, EOP-2
EOP contingencies: (0-2) (1) Alternate Level Control
Critical tasks: (2-3) (2) Open SWP-AOV599, Maintain Adequate Core Cooling with HPCS

Rev 02

Op-Test No.: _____	Scenario No.: __3__	Event No.: __1__	Page _1_ of _9_

Event Description:

Perform OSP-0101 Turbine Generator Periodic Testing Section 4.11.3

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the ATC to perform OSP-0101 Turbine Generator Periodic Testing section 4.11.3 as a post maintenance test for pressure switch replacement
	ATC	Perform OSP-0101 Turbine Generator Periodic Testing section 4.11.3 • Verify the 5 BRG LIFT PUMP switches are in OFF/RESET.(depress the OFF/RESET push button) • Depress the MSOP LOW PRESS TEST START pushbutton. • Check TML-TGOP TURNING GEAR OIL PMP starts and the white OUTPUT PRESS light comes on. • Depress TML-TGOP TURNING GEAR OIL PMP OFF/RESET pushbutton. • Check the white OUTPUT PRESS light goes off. • Depress the TML-TGOP TURNING GEAR OIL PMP AUTO pushbutton. • Place the 5 BRG LIFT PUMP switches in AUTO. Report the completion of OSP-0101 Turbine Generator Periodic Testing section 4.11.3

Rev 02

Op-Test No.: _____	Scenario No.: __3__	Event No.: __2__	Page _2_ of _9_

Event Description:

Perform STP-256-0202 Division II Standby Cooling Tower Fans Operability Test. Bank 1 fans only.

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the performance of STP-256-0202 Division II Standby Cooling Tower Fans Operability Test
	BOP	Perform STP-256-202 Division II Standby Cooling Tower Fans Operability Test • Check SWP-FN1B, SWP-FN1D, SWP-FN1F, SWP-FN1H, and SWP-FN1K Standby Cooling Tower #1 Fans green status lights are on. • Place SWP-FN1B, 1D, 1F, 1H, 1K STBY CLG TOWER #1 Fans bank hand switch to START and record time the last fan starts. • Check Standby Cooling Tower #1 Fans are operating by observing SWP-FN1B, SWP-FN1D, SWP-FN1F, SWP-FN1H, and SWP-FN1K red status lights are on. • <u>WHEN</u> the Standby Cooling Tower #1 Fans have operated for at least 15 minutes, <u>THEN</u> place SWP-FN1B, 1D, 1F, 1H, 1K STBY CLG TOWER #1 fans bank hand switch to STOP and record time. • Check Standby Cooling Tower #1 Fans are stopped by observing SWP-FN1B, SWP-FN1D, SWP-FN1F, SWP-FN1H, and SWP-FN1K green status lights are on. Report the completion of STP-256-0202 Division II Standby Cooling Tower Fans Operability Test for Bank 1 fans.

Op-Test No.: _____ Scenario No.: __1__ Event No.: __3__   Page _3_ of _9_

Event Description:

Loss of Extraction Steam to Feedwater Heater

Cue: Rising reactor power and lowering feedwater inlet temperature. Alarm P870-53A-H09

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report a loss of extraction steam to Feedwater heater 1A
	SRO	Direct the ATC to refer to AOP-007 for a Loss of feedwater heating Direct the BOP to refer to AOP-0024 for Stability control
	ATC	Refer to AOP-007 • Determine that a greater than 3% loss of feedwater heating has occurred • Lower reactor power to 80% with recirc flow
	BOP	Refer to AOP-0024 • Determine that the monitored region has been entered as reactor power is lowered
	SRO	Contact the WMC to investigate the loss of feedwater heating Contact Reactor Engineering to take actions of AOP-007 and AOP-0024

Rev 02

Op-Test No.: _____ Scenario No.: __3__ Event No.: __4__   Page _4_ of _9_

Event Description:

HVR-UC1A Containment Unit Cooler trips. (Technical Specifications)

Cue: Annunciator H13-P863-71A-H03. Amber light illuminated at HVR-UC1A breaker indication.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the trip of HVR-UC1A Refer to alarm response procedure
	SRO	Accept the report Direct the start of HVR-UC1C per the SOP
	ROLE PLAY	When requested, as the reactor building operator report that there is an OC flag down for HVR-UC1A and the breaker indicates tripped.
	BOP	Accept the direction to start HVR-UC1C • Start the standby HVR-UC1C, CONTMT UNIT CLR C and verify the applicable cooling water valve HVN-TV122) opens. Report to the SRO when HVR-UC1C is started.
	SRO	Enter Tech Spec 3.6.1.7 A
	ROLE PLAY	As EM / FIN accept the request to investigate HVR-UC1A Inform the SRO not to depress the STOP pushbutton until the investigation is complete.

Rev 02

Op-Test No.: _____   Scenario No.: __3__   Event No.: __5__   Page _5_ of _9_

Event Description:

Control Rod 16-17 Drifts out (Technical Specifications).

Cue: Annunciator H13-P680-07A-B02.

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report that control rod 16-17 is drifting out.
	SRO	Direct the ATC to take actions of AOP-0061 for Mis-positioned control rods
	ATC	Perform actions of AOP-061 • Select control rod 16-17 • Apply and maintain an insert signal to control rod 16-17 • Remove the insert signal when the control rod is at position 00 • Determine that the control rod continues to drift out • Apply and maintain an insert signal to control rod 16-17 • Direct the reactor building operator to isolate control rod 16-17
	ROLE PLAY	When requested as the reactor building operator, report that control rod 16-17 has been isolated
	SRO	Enter Tech Spec 3.1.3 C when the control rod is isolated Contact reactor engineering for the drifting control rod

| Op-Test No.: _____ | Scenario No.: __3__ | Event No.: __6__ | Page _6_ of _9_ |

Event Description:

CCP Pump B trips, CCP Pump A fails to Auto start

Cue: Annunciator H13-P870-55A-C04.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the trip of CCP-P1B Start CCP-P1A per the ARP Refer to AOP-0011
	SRO	Accept the report for the tripped CCP pump Direct reference to AOP-0011
	ROLE PLAY	As the reactor building operator, report that nothing looks abnormal with B pump and post start checks are satisfactory for the A pump.

Op-Test No.: _____	Scenario No.: __3__	Event No.: __7__	Page __7__ of __9__

Event Description:
Station Blackout

Loss of offsite power
Div 1 DG trips
Div 2 DG fails to start
Cue: Loss of control room lighting, various annunciators, Offsite power supply breakers indicate green lights on, red lights off. Div 1 DG amber trip light, Div 2 DG indicates standby conditions.

Time	Position	Applicant's Actions or Behavior
	ALL	Recognize and report the loss of offsite.
	ATC	Place the reactor mode switch to Shutdown Give a scram report to the SRO
	BOP	Recognize and report the status of the emergency diesel generators • Div I started and tripped • Div II did not start Attempt to emergency start the Div II diesel generator
	SRO	Accept the scram report Enter EOP-001 RPV Control • Direct a level band of -20" to 51" with HPCS • Direct a pressure band of 500 to 1090 psig with SRV's • Direct implementation of AOP-0050

Rev 02

Op-Test No.: _____ Scenario No.: __3__ Event No.: __8__ Page _8_ of _9_		

Event Description:

SWP-AOV599 Standby Cooling Tower Inlet Valve fails to auto open.

Cue: SWP-AOV599 green light on, red light off.

Time	Position	Applicant's Actions or Behavior
	BOP	Implement action of AOP-050 Station Blackout • Verify SWP-P2C, STANDBY SERVICE WATER PUMP running. • Verify SWP-MOV40C, PUMP DISCH VALVE open. • Verify SWP-AOV599, STBY CLG TWR INLET, STATION BLACKOUT RETURN TO STBY COOLING TOWER open. • Dispatch an operator to attempt an emergency start of the Diesel Generators per Attachment 1

Op-Test No.:	Scenario No.: 3	Event No.: 9	Page 9 of 9

Event Description:

High Pressure Core Spray fails to automatically initiate *(Pump only, DG starts on LOP to required SWP-AOV599 actions)*.

Cue: HPCS Initiation white light is off with Level <-43 inches or manual initiation signal present.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report that the HPCS pump did not automatically start. Manually start the HPCS pump. • **Verify** Annunciator **P601-16A-G04**, HPCS INJECTION LINE PRESSURE LOW, is **not lit**. • Arm and depress **HPCS MANUAL INITIATION** Pushbutton. • Verify **HPCS PUMP running**. • Verify **E22-F004**, HPCS INJECT ISOL VALVE, **Opens**. • Verify HPCS **injection flow**. • Verify E22-F012, HPCS **MIN FLOW VALVE** TO SUPPRESSIONPOOL, **Closes**. • **WHEN DESIRED TO STOP INJECTION** 　　o If possible reset initiation by depressing E22A-S7 　　o Close E22-F004**, HPCS INJECT ISOL VALVE** Report that HPCS is running and injecting.

<table>
<tr><td colspan="2">Facility: <u>River Bend Station</u></td><td>Scenario No.: <u>__3____</u></td><td>Op-Test No.:</td></tr>
<tr><td colspan="2">Examiners: _____</td><td colspan="2">Operators: _____</td></tr>
<tr><td colspan="2">_____</td><td colspan="2">_____</td></tr>
<tr><td colspan="2">_____</td><td colspan="2">_____</td></tr>
<tr><td colspan="4">Initial Conditions: <u>Mode 1, 100%, RCIC tagged out for pump repairs. EOOS STATUS 8.6 YELLOW. DIV III protected. Non-Divisional work week</u></td></tr>
<tr><td colspan="4">Turnover: <u>Perform STP-256-0202 Standby Cooling Tower Fan Operability. Perform OSP-0101 section 4.11.3 for the turning gear oil pump pressure switch replacement. .</u></td></tr>
</table>

Event No.	Malf. No.	Event Type*	Event Description
1		N (SRO,ATC)	Perform OSP-0101 Turbine Generator Periodic Testing Section 4.11.3
2		N (SRO,BOP)	Perform STP-256-0202 Division II Standby Cooling Tower Fans Operability Test. Bank 1 fans only.
3	FWS012	R(ATC)	Loss of Extraction Steam to Feedwater Heater
4		C (SRO,BOP)	HVR-UC1A Containment Unit Cooler trips. (Technical Specifications)
5	CRDM1617	I (SRO,ATC)	Control Rod 16-17 Drifts out (Technical Specifications).
6	CCP001B CCP004A	C (SRO,BOP)	CCP Component Cooling Water Pump B trips, CCP Component Cooling Water Pump A fails to Auto start
7	ED001 EDG001A EDG002B	M(ALL)	Station Blackout • Loss of offsite power • Div 1 DG trips • Div 2 DG fails to start
8	SWP004	C (SRO,BOP)	SWP-AOV599 Standby Cooling Tower Inlet Valve fails to auto open.
9	HPCS003	C (SRO,BOP)	High Pressure Core Spray fails to automatically initiate *(Pump only, DG starts on LOP to require SWP-AOV599 actions).*

*   (N)ormal,   (R)eactivity,   (I)nstrument,   (C)omponent,   (M)ajor

Total Malfunctions: (5-8) (7) Feedwater Heating, HVR UC, Rod Drift, CCP, SBO, SWP-AOV599, HPCS
Malfunctions after EOP entry: (1-2) (2) SWP-AOV599, HPCS
Abnormal events: (2-4) (2) AOP-1, AOP-50
Major transients: (1-2) (1) SBO
EOPs entered: (1-2) (2) EOP-1, EOP-2
EOP contingencies: (0-2) (1) Alternate Level Control
Critical tasks: (2-3) (2) Open SWP-AOV599, Maintain Adequate Core Cooling with HPCS

Rev 02

Facility: <u>River Bend Station</u>   Scenario No.: __4____   Op-Test No.:

Examiners: _____   Operators: _____
                      _____   _____
                      _____   _____

Initial Conditions: <u>Mode 1, 50% power. Plant startup in progress. GOP-0001 Step G.29. (2 FWS pumps in service.) EOOS = 10 GREEN. Non-divisional work week. Division III is Protected</u>
_____
_____

Turnover: <u>Start HDL pumps A & C. Then raise power to 55% per reactivity control plan Step 90. Hold at 55% until chemistry is adequate to Pump Forward. Start RHR A in Sup Pool Cooling lineup to support system flush.</u>

Event No.	Malf. No.	Event Type*	Event Description
1		N (ALL)	Start Heater Drain Pumps A & C in Recirc mode.
2		R (ATC)	Raise power to 55% with control rods.
3		N (SRO,BOP)	Start RHR A Residual Heat Removal Pump in Suppression Pool Cooling mode per SOP-0031 to support system flush to reduce dose rates in pump room.
4	RHR002A	C (SRO,BOP)	RHR A Residual Heat Removal Pump trips. (Technical Specifications)
5	RPS003B	C (ALL)	LOSS OF POWER TO RPS CHANNEL B
6	Overrides	C (SRO)	Containment Monitoring System H2 analyzer failure (Technical Specifications)
7	CNM006 RPS001C	M (ALL)	Condensate filter high differential pressure. Total loss of feedwater. Reactor Scram. ARI inserts rods. HPCS failure.
8	RCIC001	C (SRO,BOP)	Reactor Core Isolation Cooling pump turbine trips, but can be manually reset for level control.
9	MSS111P MSS112P	C (SRO,BOP)	MSS-MOV111/112 MSR Steam Supply Valve fails to isolate causing uncontrolled pressure drop.

*   (N)ormal,   (R)eactivity,   (I)nstrument,   (C)omponent,   (M)ajor

Total Malfunctions: (5-8) (7) RHR A, RPS-B loss, CMS, CNM dp, RPS, RCIC, MSS
Malfunctions after EOP entry: (1-2) (2) RCIC, MSS
Abnormal events: (2-4) (3) AOP-1, AOP-2, AOP-10
Major transients: (1-2) (1) Loss of FW, HPCS injection valve failure
EOPs entered: (1-2) (2) EOP-1, EOP-2
EOP contingencies: (0-2) (1) Alternate level control
Critical tasks: (2-3) (3) Insert rods with ARI, Adequate core cooling with RCIC, Close MSIVs or MSS to avoid exceeding cooldown rate.

Op-Test No.:	Scenario No.: 4	Event No.: 1	Page 1 of 11

Event Description:

Start Heater Drain Pumps A & C in Recirc mode.

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the BOP operator to start HDL-P1A and C Heater Drain pumps in recirc mode per SOP-010
	BOP	Accept the direction to start Heater Drain Pumps Perform SOP actions to start HDL-P1A and C Heater Drain pumps in recirc mode per SOP-010
	BOP	Direct the turbine building operator to: • Close HDL-LV4A, 3RD PT A HTR DRAIN VLV per Attachment 6 • Close HDL-LV4B, 3RD PT HTR B DRAIN VLV per Attachment 6
	ROLE PLAY	When requested as the TB operator in form the BOP that steps 4.3.1.1 and 4.3.1.2 are complete
	ATC	Verify the following Htr Drain Pump Suction Valves are open: 1) HDL-MOV53A, HTR DR PMP 1A SUCT 3) HDL-MOV53C, HTR DR PMP 1C SUCT Verify the following Heater Drain Pump Discharge Valves are closed: 1) HDL-MOV55A, HTR DR PMP 1A DISCH 3) HDL-MOV55C, HTR DR PMP 1C DISCH
	BOP	Open the following Cooling Water Valves: 1) CCS-AOV57A, PUMP A CLR ISOL VLV 3) CCS-AOV57C, PUMP C CLR ISOL VLV Verify the following Seal Water Valves are open: 1) CNA-AOV5A, PUMP A SEAL WTR VALVE 3) CNA-AOV5C, PUMP C SEAL WTR VALVE Direct the turbine building operator to vent the Heater drain Pump Seal per step 4.3.6.
	ROLE PLAY	As the TB operator when requested report that step 4.3.6 is complete

Op-Test No.: _____	Scenario No.: __4__	Event No.: __1__	Page _2_ of _11_

Event Description:

Start HDL Pumps A & C in Recirc mode. (Cont.)

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	BOP	• Place HDL-FV20A, HTR DR PUMP 1A RECIRC FLOW CONTROLLER in MANUAL. • Open HDL-FV20A to 25% open • Open HDL-MOV58A, HTR DR PMP A VENT valve. Direct the turbine building operator to perform step 4.3.9
	ROLE PLAY	As the TB operator when requested report that step 4.3.9 is complete
	ATC	• Start HDL-P1A, HTR DR PUMP 1A for Heater String A • Open HDL-MOV55A, HTR DR PMP 1A DISCH valve.
	BOP	• Throttle HDL-FV20A open to no more than 55% to prevent damage to piping and supports. • Close HDL-MOV58A, HTR DR PMP A VENT valve. • Place HDL-FV20B, HTR DR PUMP 1B RECIRC FLOW CONTROLLER in MANUAL. • Open HDL-FV20B to 25% open. Direct the turbine building operator to perform step 4.3.15
	ROLE PLAY	As the TB operator when requested report that step 4.3.15 is complete and the pump is not rotating
	BOP	• Open HDL-MOV58C, HTR DR PMP C VENT valve. Direct the turbine building operator to perform step 4.3.18
	ROLE PLAY	As the TB operator when requested report that step 4.3.18 is complete
	ATC	• Start HDL-P1C HTR DR PUMP 1C for Heater String B. • Open HDL-MOV55C, HTR DR PMP 1C DISCH valve.
	BOP	• Throttle HDL-FV20B open to no more than 55% to prevent damage to piping and supports. • Close HDL-MOV58C, HTR DR PMP C VENT valve Direct the turbine building operator to perform step4.3.23 Report to the SRO that HDL-P1A and C are in the recirc mode.
	ROLE PLAY	As the TB operator when requested report that step 4.3.23 is complete

Op-Test No.: _____	Scenario No.: _4_	Event No.: _2_	Page _3_ of _11_

Event Description:
Raise power to 55% with control rods.
Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the ATC to raise reactor power with control rods per the reactivity control plan
	ATC	Accept the direction to raise power With draw control rods 20-37, 36-37, 36-21 and 20-21 from position 06 to position 12. • Select the rod to be moved • Depress SELECTED GROUP button to check positions of control rods within group are correct prior to movement. • Check that a Rod Withdrawal Block or Inhibit does not exist. • Depress and hold C11A-S334, WITHDRAW Pushbutton until the IN indicator is lit or the start of rod motion is observed. • Check that the new rod notch position displayed is the next highest even number. Repeat for all 4 control rods. Report completion to the SRO.

Rev 02

Op-Test No.: _____ Scenario No.: __4__ Event No.: __3__   Page _4_ of _11_

Event Description:

Start RHR A Residual Heat Removal Pump in Suppression Pool Cooling mode per SOP-0031

Cue: Turnover item.

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the BOP to start RHR pump A in the suppression pool cooling mode per SOP-0031
	BOP	Accept the direction Start RHR-A in suppression pool cooling mode • Verify RMS-RE15A is operable OR Chemistry grab sampling is being obtained on the RHR A Heat Exchanger. • On H13-P870, throttle open E12-F068A, RHR HX A SVCE WTR RTN to establish less than or equal to 5800 gpm flow as indicated on E12-R602A, RHR HX A SVCE WTR FLOW. • Start the E12-C002A, RHR PUMP A. • Open E12-F024A, RHR PUMP A TEST RTN TO SUP PL. • WHEN flow exceeds 1100 gpm, THEN verify E12-F064A, RHR PUMP A MIN FLOW TO SUP PL closes • Check running pump amps are less than or equal to 91 amps. • Throttle closed E12-F048A, RHR A HX BYPASS VALVE to obtain the desired cooling. Report that RHR pump A is in the suppression pool cooling mode

Op-Test No.: _____	Scenario No.: __4__	Event No.: __4__	Page _5_ of _11_

Event Description:

Residual Heat Removal Pump A trips. (Technical Specifications)

Cue: Annunciator H13-P601-20A-E05

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the Residual Heat Removal Pump A has tripped
	SRO	Accept the report Direct the completion of the shutdown section of SOP-0031 Enter Tech Spec 3.5.1 A (ECCS) and 3.6.2.3 A (SPC) Contact WMC to investigate the trip of RHR pump A

	BOP	• Close E12-F024A, RHR PUMP A TEST RTN TO SUP PL.
		• Verify open the following:
		  o E12-F003A, RHR A HX OUTLET VALVE
		  o E12-F048A, RHR A HX BYPASS VALVE
		  o E12-F064A, RHR PUMP A MIN FLOW TO SUP PL
		• On H13-P870, close E12-F068A, RHR HX A SVCE WTR RTN.
		Report that Residual Heat Removal Pump A is shutdown

Op-Test No.: _____   Scenario No.: __4__   Event No.: __5__   Page _6_ of _11_

Event Description:

LOSS OF POWER TO RPS CHANNEL B

Cue: P680-05A-A10 in alarm and numerous other alarms

Time	Position	Applicant's Actions or Behavior
	ATC / BOP	Recognize and report the loss of RPS A
	SRO	Accept the report Direct the BOP to perform actions of AOP-0010 Loss of One RPS bus

	BOP	Perform actions of AOP-0010
		• On H13-P610, place RPS B POWER TRANSFER SWITCH to the AVAILABLE power source for RPS Bus B.
		• Circle the position of B21-F085, MSL WARMUP HDR SHUTOFF VALVE.
		• Depress the following to reset the isolation:
		  o B21H-S33, INBD ISOLATION SEAL-IN RESET Pushbutton
		  o B21H-S32, OUTBD ISOLATION SEAL-IN RESET Pushbutton
		• At H13-P870, reopen the following isolation valves.
		  o CCP-MOV144, RR PUMP CLG UP STREAM RTN
		  o CCP-MOV158, CONTMT RTN INBD ISOL
		• At H13-P670 and P672, Neutron Monitoring Cabinets, depress S1, RESET Pushbutton for RPS B

	ATC	• Place C71A-S5B, SCRAM RESET LOGIC B and C71A-S5D, SCRAM RESET LOGIC D in RESET

	BOP	• Place control switches for all tripped Drywell Unit Coolers to OFF.
		• At H13-P877, close the following breakers:
		  o EJS-ACB49, NORM CHGR 1B SPLY BRKR
		  o EJS-ACB50, NHS-MCC101 SPLY BRKR
		  o EJS-ACB66, NHS-MCC 102B SPLY BRKR
		  o EJS-ACB77, IHS-CHGR 1D SPLY BRKR
		• At H13-P870, reopen the following isolation valves:
		  o SWP-MOV4B, DRYWELL UC SUPPLY
		  o SWP-MOV5A, DRYWELL UC RETURN
		  o DFR-AOV101, RB FLOOR DR INBD ISOL
		  o DER-AOV126, RB EQUIP DR INBD ISOL
		  o WCS-MOV178 BW TK DR INBD ISOL
		• Start additional Drywell Unit Coolers as needed per SOP-0060

Op-Test No.: _____ Scenario No.: __4__ Event No.: __5__	Page _7_ of _11_

Event Description:

LOSS OF POWER TO RPS CHANNEL B cont.

Cue: P680-05A-A10 in alarm and numerous other alarms

Time	Position	Applicant's Actions or Behavior

	BOP	• At H13-P863, reopen the following isolation valves:
		  o HVN-MOV129, CHW SPLY SHUTOFF VLV
		  o HVN-MOV102, CHW RTN INBD ISOL
		  o HVN-MOV130, CHW RTN SHUTOFF VLV
		  o JRB-SOV15, SUPPLY AIR ISOL VLV
		  o JRB-SOV25, SUPPLY AIR ISOL VLV
		• At H13-P863, perform the following to reset HVK-MOV10B, CHW SURGE TK B NORM MKUP:
		  o Place HVK-MOV10B, CHW SURGE TK B NORM MKUP Control Switch in CLOSE.
		  o Place HVK-MOV10B, CHW SURGE TK B NORM MKUP Control Switch in AUTO
		• At H13-P808, reopen the following isolation valves:
		  o RCS-MOV61B, FCV B ACTUATOR LEAKOFF
		  o RCS-MOV60B, FCV B RETURN ISOL VLV
		  o RCS-MOV59B, FCV B CLOSING SPLY VLV
		  o RCS-MOV58B, FCV B OPENING SPLY VLV
		• At H13-P601, reopen the following isolation valves:
		  o B33-F019, REACTOR WATER UPSTREAM ISOL VLV
		  o B21-F016, MSL WARMUP HDR INBD CONTMT ISOL VLV
		  o B21-F085, MSL WARMUP HDR SHUTOFF VALVE

| Op-Test No.: | Scenario No.: 4 Event No.: 6 | Page 8 of 11 |

Event Description:

Containment Monitoring System H2 analyzer failure (Technical Specifications)

Cue: Annunciator H13-P808-83A-F04.

Time	Position	Applicant's Actions or Behavior
	BOP	Recognize and report the loss of power to Containment Monitoring System
	SRO	Accept the report Enter TRM 3.3.14 A Contact WMC to investigate CMS power loss.

Op-Test No.: _____ Scenario No.: _4_ Event No.: _7_ Page _9_ of _11_

Event Description:

Condensate filter high differential pressure. Total loss of feedwater. Reactor Scram. ARI inserts rods. HPCS failure.

Cue: Rising pressure indicated on CND-PDI138 just prior to annunciator H13-P680-03A-B03, followed by amber trip indication on all 3 feedwater pumps.

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report that condensate differential pressure is rising
	SRO	Accept the report Direct the ATC to place the reactor mode switch to shutdown
	ATC	Place the reactor mode switch to S/D Recognize that ARI initiation is required and initiate ARI Give the SRO a scram report that includes ARI inserted the control rods
	SRO	Accept the report Enter EOP-001 RPV control • Direct a level band to the BOP of -20" to 51" with RCIC and HPCS • Direct a pressure band the ATC of 500 to 1090 psig with bypass valves and steam line drains. • Assign AOP-001, 002 and 006 actions to the ATC
	BOP	Recognize and report failure of HPCS injection valve

Rev 02

Op-Test No.:		Scenario No.: __4__ Event No.: __8__ Page __10__ of __11__

Event Description:

Reactor Core Isolation Cooling turbine trips, but can be manually reset for level control.

Cue: RCIC Trip and Throttle valve position indication green light on, red light off with initiation signal present.

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report a loss of all high pressure feed at the P680 panel
	SRO	Direct the BOP to initiate Reactor Core Isolation Cooling Direct the BOP to install Enclosure 16
	BOP	Accept the direction • Arm and depress, RCIC MANUAL INITIATION Pushbutton. • Verify the following: o E51-F045, RCIC STEAM SUPPLY TURBINE STOP VALVE Opens. o RCIC STEAM SUPPLY and EXHAUST DRAIN POT ISOLATION VALVES Close. o E51-C002C, GLAND SEAL COMPRESSOR Starts. o E51-F013, RCIC INJECT ISOL VALVE Opens. • Verify RCIC Turbine comes up to speed and stabilizes at 2300 – 4600 rpm. • Verify RCIC injection flow. • Verify E51-F019, RCIC MIN FLOW VLV TO SUPPRESSION POOL, Closes. • Adjust flow controller as required to achieve desired injection rate. Recognize and report the Reactor Core Isolation Cooling turbine has tripped
	SRO	Accept the report that RCIC has tripped Direct the BOP to reset the RCIC turbine trip
	BOP	Accept the direction to reset RCIC Direct the Reactor building operator to reset the RCIC turbine Install Enclosure 16
	ROLE PLAY	As the reactor building operator when requested inform the BOP that Reactor Core Isolation Cooling Turbine has been reset
	BOP	Restart RCIC to maintain given level band
	BOP	Recognize and report that the High Pressure Core Spray injection valve breaker has tripped
	SRO	Contact Work Management Center about the High Pressure Core Spray injection valve.

Rev 02

Op-Test No.: _____	Scenario No.: __4__	Event No.: __9__	Page __11__ of __11__

Event Description:

MSS-MOV111/112 fails to isolate causing uncontrolled pressure drop.

Cue: MSS-MOV111/112 red lights off, green lights on following turbine trip.

Time	Position	Applicant's Actions or Behavior
	ATC	Recognize and report that reactor pressure is lowering due to unknown reasons
	SRO	Accept the report of reactor pressure lowering Direct the BOP and ATC to investigate the pressure loss.
	BOP / ATC	Recognize and report that the MSR steam supply valves did not respond as designed
	SRO	Direct the closure of MSS-MOV111 and 112 MSR Steam Supply Valves or MSIVs to avoid exceeding the cooldown rate.
	BOP	Close the MSS-MOV111 and 112 MSR Steam Supply Valve or MSIVs prior to exceeding the cooldown rate.

Rev 02

Facility: <u>River Bend Station</u>	Scenario No.: <u>4</u> Op-Test No.:

Examiners: _____   Operators: _____
                  _____   _____
                  _____   _____

Initial Conditions: <u>Mode 1, 50% power. Plant startup in progress. GOP-0001 Step G.29. (2 FWS pumps in service.) EOOS = 10 GREEN. Non-divisional work week. Division III is Protected</u>
_____
_____

Turnover: <u>Start HDL pumps A & C. Then raise power to 55% per reactivity control plan Step 90. Hold at 55% until chemistry is adequate to Pump Forward. Start RHR A in Sup Pool Cooling lineup to support system flush.</u>

Event No.	Malf. No.	Event Type*	Event Description
1		N (ALL)	Start Heater Drain Pumps A & C in Recirc mode.
2		R (ATC)	Raise power to 55% with control rods.
3		N (SRO,BOP)	Start RHR A Residual Heat Removal Pump in Suppression Pool Cooling mode per SOP-0031 to support system flush to reduce dose rates in pump room.
4	RHR002A	C (SRO,BOP)	RHR A Residual Heat Removal Pump trips. (Technical Specifications)
5	RPS003B	C (ALL)	LOSS OF POWER TO RPS CHANNEL B
6	Overrides	C (SRO)	Containment Monitoring System H2 analyzer failure (Technical Specifications)
7	CNM006 RPS001C	M (ALL)	Condensate filter high differential pressure. Total loss of feedwater. Reactor Scram. ARI inserts rods. HPCS failure.
8	RCIC001	C (SRO,BOP)	Reactor Core Isolation Cooling pump turbine trips, but can be manually reset for level control.
9	MSS111P MSS112P	C (SRO,BOP)	MSS-MOV111/112 MSR Steam Supply Valve fails to isolate causing uncontrolled pressure drop.

*   (N)ormal,   (R)eactivity,   (I)nstrument,   (C)omponent,   (M)ajor

Total Malfunctions: (5-8) (7) RHR A, RPS-B loss, CMS, CNM dp, RPS, RCIC, MSS
Malfunctions after EOP entry: (1-2) (2) RCIC, MSS
Abnormal events: (2-4) (3) AOP-1, AOP-2, AOP-10
Major transients: (1-2) (1) Loss of FW, HPCS injection valve failure
EOPs entered: (1-2) (2) EOP-1, EOP-2
EOP contingencies: (0-2) (1) Alternate level control
Critical tasks: (2-3) (3) Insert rods with ARI, Adequate core cooling with RCIC, Close MSIVs or MSS to avoid exceeding cooldown rate.

**RIVER
BEND STATION**

Number: ***RJPM-NRC-D10-A1**
Revision: **00**
Page 1 of 8

JOB PERFORMANCE MEASURE

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TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

* DETERMINE CORRECTED FUEL ZONE LEVEL INDICATION AND WHETHER OR NOT ADEQUATE CORE COOLING EXISTS

REASON FOR REVISION:

NRC Exam JPM	**A1**

PREPARE / REVIEW:

Angie Orgeron	1538	8/26/2010
Preparer	KCN	Date
John Hedgepeth	0069	8/26/2010
Technical Review (SME)	KCN	Date
Scott Shultz	0176	9/9/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

TASK DESCRIPTION:	Determine corrected fuel zone level indication and determine whether or not adequate core cooling exits.

TASK REFERENCE:	2000090005005

K/A REFERENCE & RATING:	2.1.25 IR 3.9

TESTING METHOD:	Simulate Performance				Actual Performance	**X**
	Control Room		Simulator		Classroom	**X**

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SIMULATOR SETUP SHEET

Task Description: Determine corrected fuel zone level indication and determine whether or not adequate core cooling exits.

Required Power: N/A

IC No.:   N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development: SOP-0001, Nuclear Boiler Instrumentation, Attachment 3

Required Materials: SOP-0001, Nuclear Boiler Instrumentation, Attachment 3

Required Plant Condition: None

Task Standard   Determine that RPV water level is below TAF and the adequate core cooling is not assured.

Applicable Objectives: RLP-STM-0051 Obj.5

Safety Related Task: Yes

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant has experienced a LOCA.

Fuel Zone level indication is -210 inches

RPV pressure is 250 psig.

Low pressure core spray is injecting at 2500 gpm.

Initiating Cue:

The CRS has directed you to use the fuel zone correction curve of SOP-0001 (Attachment 3) and determine whether level is above or below the top of active fuel and whether or not adequate core cooling is assured to support the decision on emergency depressurization.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1.	Plot fuel zone level indication on Attachment 3 of SOP-0001.	Candidate plotted –210 inches on y-axis of Attachment 3 of SOP-0001.	_____	
_____ 2.	Plot RPV pressure indication on Attachment 3 of SOP-0001	Candidate plotted 250 psig on x-axis of Attachment 3 of SOP-0001.	_____	
* _____ 3.	Identify intersection of fuel zone level and RPV pressure plots.	Candidate identified the intersection of the fuel zone level and RPV pressure lines as being **BELOW TAF** and circled on cue sheet. Candidate determined that adequate core cooling **IS NOT ASSURED** based on corrected level being below the minimum steam cooling reactor water level (MSCRWL) and circled on cue sheet.	_____ _____	 .

Terminating Cue: Corrected level indication determined to be below the top of active fuel and adequate core cooling does not exist. Responses documented on cue sheet.

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant has experienced a LOCA.

Fuel Zone level indication is -210 inches

RPV pressure is 250 psig.

Low pressure core spray is injecting at 2500 gpm.

Initiating Cues: The CRS has directed you to use the fuel zone correction curve of SOP-0001 (Attachment 3) and determine whether level is above or below the top of active fuel and whether or not adequate core cooling is assured to support the decision on emergency depressurization.

Record your responses below.

Corrected Level is:

ABOVE TAF   /   BELOW TAF   (Circle one)

Adequate Core Cooling:

IS ASSURED   /   IS <u>NOT</u> ASSURED   (Circle one)

JOB PERFORMANCE MEASURE

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TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

* USING A CORE MONITOR PRINT OUT, DETERMINE IF THERMAL LIMITS ARE IN SPEC.

REASON FOR REVISION:

NRC Exam JPM	**A2**

PREPARE / REVIEW:

John Hedgepeth	0069	8-31-2010
Preparer	KCN	Date
Angie Orgeron	1538	8-31-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	9-9-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Using a core monitor print out, determine if thermal limits are in spec.

TASK REFERENCE:	302001002001

K/A REFERENCE & RATING:	2.1.20 IR 4.6

TESTING METHOD:	Simulate Performance				Actual Performance	**X**
	Control Room		Simulator		Classroom	**X**

COMPLETION TIME:	6 min.

MAX TIME:	N/A

JOB LEVEL:	RO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	Yes

SIMULATOR SETUP SHEET

Task Description: Using a core monitor print out, determine if thermal limits are in spec

Required Power: N/A

IC No.:   N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	STP-000-0001, Daily Operations Logs GOP-0004, Single Loop Operation
Required Materials:	STP-000-0001, Daily Operations Logs GOP-0004, Single Loop Operation Attached POWERPLEX Core Performance Log
Required Plant Condition:	N/A
Task Standard	The information is recorded in step 113 and determination made that MFLCPR acceptance criteria is not met.
Applicable Objectives:	RLP-STM-514, Obj. H5
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The "A" Reactor Recirc Pump tripped from full power and GOP-0004, Single Loop Operation has been entered. Reactor Engineering has NOT implemented a new core monitoring system thermal limit deck for Single Loop Operation.

Initiating Cue:

The CRS has directed you to complete Step 113 of STP-000-0001, Data Sheet, with the attached Core Performance Log data and determine if acceptance criteria is met. Assume the limit for MFLPD is 0.99.

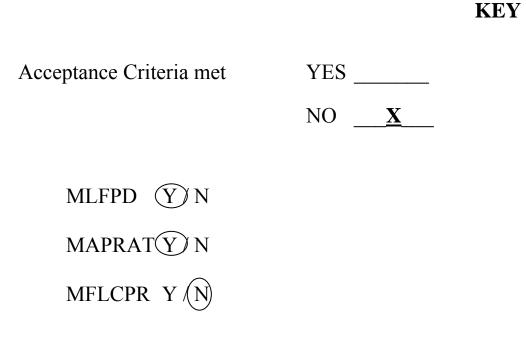| PERFORMANCE STEP	STANDARD	S/U	COMMENTS
____ 1. **STEP 113 NOTES** Power Distribution Limits shall be verified to be within the limits stated in Technical Specifications within 12 hours after Thermal Power is ≥ 23.8% of rated thermal power and once per 24 hours thereafter. During Single Loop Operation, refer to GOP-0004 to determine if administrative limits are applicable.	Referred to administrative limits in GOP-0004 Step 3.4.	____	
____ 2. GOP-0004 Step 3.4 During Single Loop Operation, an administrative limit of 0.980 shall be applied to MFLCPR and an administrative limit of 0.79 shall be applied to MAPRAT while core flow is greater than 50% rated. The administrative limits may be removed once Reactor Engineering implements the appropriate core monitoring system thermal limit deck.	Used 0.980 Admin limit for MFLCPR and 0.79 for MAPRAT.	____	

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
___*___3. Reviews Core Performance Log to obtain values for MFLPD, MAPRAT, and MFLCPR for operating log Step 113.	Filled in Step 113 identifying MFLCPR at 0.988 as exceeding SLO administrative limit. Notifies CRS of MFLCPR exceeding limit.	_____	**CUE:** As CRS, acknowledge MFLCPR exceeding limit. **NOTE:** Reading being circled is NOT critical.

Terminating Cue: Step 113 of STP-000-0001, Data Sheet 1 completed and MFLCPR identified as exceeding limit.

KEY

Acceptance Criteria met   YES _____

                                 NO   __**X**___

MLFPD   (Y) N

MAPRAT (Y) N

MFLCPR Y (N)

RJPM-NRC-D10-A2

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The "A" Reactor Recirc Pump tripped from full power and GOP-0004 Single Loop Operation has been entered.
Reactor Engineering has NOT implemented a new core monitoring system thermal limit deck for Single Loop Operation.

Initiating Cues: The CRS has directed you to complete Step 113 of STP-000-0001, Data Sheet, with the attached Core Performance Log data and determine if acceptance criteria is met. Assume the limit for MFLPD is 0.99.

Acceptance Criteria met   YES _____

                               NO   _____

   MLFPD   Y / N

   MAPRAT Y / N

   MFLCPR Y / N

RJPM-NRC-D10-A2

DAILY OPERATING LOGS

Step No.	Instrument	Night	Limits	Day
		Panel Numbers		Panel Numbers
110	ENS-SWG1A Degraded (27/62-2A, B, C) and Under (27-1A, B, C) Voltage Relay Channel Check	P877 Volts V-1EGSA08	≥ 3740 VAC <u>AND</u> ≤ 4580 VAC	P877 Volts V-1EGSA08
111	ENS-SWG1B Degraded (27/62-2A, B, C) and Under (27-1A, B, C) Voltage Relay Channel Check	P877 Volts V-1EGSB08		P877 Volts V-1EGSB08
112	E22-S004 Degraded and Undervoltage Relay Channel Check	P601 Place E22B-S4, E22-ACB004 SYNC SWITCH in NRM/BUS.		P601 Place E22B-S4, E22-ACB004 SYNC SWITCH in NRM/BUS.
	Degraded 27/62-1, 2	Incoming Volts E22-R611	≥ 3740 VAC <u>AND</u> ≤ 4580 VAC	Incoming Volts E22-R611
	Undervoltage 27-S1, 2, 3, 4	Running Volts E22-R614		Running Volts E22-R614

P601	P601
Place E22B-S4 in OFF (Key removed) Lined up by: _____ Verified by: _____ (Initials)　　　　　　　　(Initials)	Place E22B-S4 in OFF (Key removed) Lined up by: _____ Verified by: _____ (Initials)　　　　　　　　(Initials)

113	Thermal Limits Core Power		**STEP 113 NOTES**	
			Power Distribution Limits shall be verified to be within the limits stated in Technical Specifications within 12 hours after Thermal Power is ≥ 23.8% of rated thermal power and once per 24 hours thereafter.	
	(LHGR) MFLPD (Most limiting)			
	(APLHGR) MAPRAT (Most limiting)		During Single Loop Operation, Refer To GOP-0004 to determine if administrative limits are applicable.	
	(MCPR) MFLCPR (Most limiting)			

RJPM-NRC-D10-A2

POWERPLEX – III CORE PERFORMANCE LOG – OPS - 03FEB10 – 164555
B1-01-04 (02.11.03 @ 2100)   GEOM=FULL
PREDICT CALCULATION – UPD TDXEC PREV PCS Y   RESTART 03FEB10 - 161100

POWER	2036.0 MWTH	CYCLE EXP	10133.4 MWD/MT	CMFLCPR	.988 23-22
	(67.0%)	CORE EXP	23317.4 MWD/MT	CMAPRAT	.781 21-32-17
FLOW	45.4 MLB/HR	PRESS	1015.0 PSIA	CMFLPD	.824 21-32-17
	(53.7%)	DHS	30.40 BTU/LB	CMTPF	2.558 19-32-15
ELEC	719.6 MWE	WFW	7.473 MLB/HR	FCBB	1.879 2.46 FT
ROD-LN	106.9 %	TFW-A	383.7 DEG F	P-PCS	.000 17-34-18
K-EFF	1.0054	NON-EQ XE	.00	P-PCFC	-.252 35-10-10

CONTROL RODS SYMMETRIC,   C.R. SEQUENCE: B-1,   C.R. DENSITY: .070

	04	08	12	16	20	24	28	32	36	40	44	48	52		
53				--	--	--	--	--	--	--				53	
49			--	--	--	--	--	--	--	--				49	
45		--	--	--	--	--	-	--	--	--	--	--		45	KEY
41	--	--	--	--	06	--	12	--	06	--	--	--	--	41	R-MFLCPR
37	--	--	--	--	--	--		--	--	--	--	--	--	37	M-MAPRAT
33	--	--	10	P	24*	--	--	--	24	--	10	--	--	33	X-FDLRX
29	--	--	--	--	--	--	--	--	--	--	--	--	--	29	P-PRECOND
25	--	--	10	--	24	--	--	--	24	--	10	--	--	25	*-MULT
21	--	--	--	--	--	R--	12	--	--	--	--	--	--	21	
17	--	--	--	--	06	--	--	--	17	--	--	--	--	17	SUBST RODS
13		--	--	--	--	--	--	--	--	--	--	--		13	
09			--	--	--	--	--	--	--	--				09	
05				--	--	--	--	--	--	--				05	
	04	08	12	16	20	24	28	32	36	40	44	48	52		

THERMAL LIMIT DETAIL (TOP 5)

MFLCPR	LOC	MAPRAT	LOC	MFLPD	LOC	TPF	LOC
.988	23-22	.781	21-32-17	.824	21-32-17	2.558	19-32-15
.961	27-22	.773	19-24-17	.763	19-32-17	2.461	21-34-15
.938	21-28	.760	19-32-17	.751	19-24-17	2.438	23-48-04
.925	15-22	.739	15-20-09	.746	29-48-04	2.376	35-12-04
.920	13-20	.737	13-26-21	.746	29-48-04	2.376	35-12-04

AXIAL REL POWER

LOC	NOTCH	RPOW
25		.098
24	00	.315
23	02	.801
22	04	1.007
21	06	1.100
20	08	1.147
19	10	1.154
18	12	1.150
17	14	1.146
16	16	1.189
15	18	1.189
14	20	1.193
13	22	1.199
12	24	1.184
11	26	1.179
10	28	1.180
09	30	1.178
08	32	1.166
07	34	1.149
06	36	1.124
05	38	1.100
04	40	1.071
03	42	.996
02	44	.780
01	46	.204

FUEL TYPE DETAIL

TYPE	MAX LHGR LHGR	LOC	BATCH AVG EXP
14	7.427	15-20-20	32.972
15	6.380	05-20-20	27.034
16	5.005	05-30-20	27.375
17	7.140	19-22-17	20.836
18	8.616	19-28-17	26.561
19	9.622	21-32-15	28.341
20	9.045	21-28-17	12.792
21	10.185	19-32-17	12.224

AXIAL DISTRIBUTION DETAIL

CORE –AVERAGE
POWER (PINER)   -3.458

CORE-AVERAGE
EXPOSURE (INER)   -10.915

RADIAL RING	1	2	3	4	5	6	7
RING REL POWER	1.07	1.26	1.29	1.20	1.21	1.13	.59

JOB PERFORMANCE MEASURE

Entergy

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

* IDENTIFY COMPONENTS AND SEQUENCE FOR A TAGOUT ON HVN-STR1B, TURBINE BUILDING PUMP 1A SUCTION STRAINER

REASON FOR REVISION:

NRC Exam JPM	**A3**

PREPARE / REVIEW:

John Hedgepeth	0069	8-31-2010
Preparer	KCN	Date
Angela Orgeron	1538	8-31-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	9-9-2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

TASK DESCRIPTION:	IDENTIFY COMPONENTS AND SEQUENCE FOR A TAGOUT ON HVN-STR1B, TURBINE BUILDING PUMP 1A SUCTION STRAINER

TASK REFERENCE:	300095003001

K/A REFERENCE & RATING:	2.2.13 IR 4.1

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	17 min.

MAX TIME:	N/A

JOB LEVEL:	RO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SIMULATOR SETUP SHEET

Task Description: IDENTIFY COMPONENTS AND SEQUENCE FOR A TAGOUT
ON HVN-STR1B, TURBINE BUILDING PUMP 1A SUCTION
STRAINER

Required Power: N/A

IC No.:   N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development: PID 22-14A, System P&ID
SOP-0116, TURBINE AND RADWASTE
BUILDING HVAC CHILLED WATER
SYSTEM
EN-OP-102 Protective and Caution Tagging

Required Materials: PID 22-14A, System P&ID
SOP-0116, TURBINE AND RADWASTE
BUILDING HVAC CHILLED WATER
SYSTEM (lineup section)
EN-OP-102 Protective and Caution Tagging

Required Plant Condition: The plant is operating in Mode 1, maintenance
requested that HVN-STR1B be tagged out to clean
and inspect the strainer.

Task Standard   Required components and sequence identified as
listed on the attached answer key.

Applicable Objectives: ELP-OPS-CLR Obj. C

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant is operating in Mode 1. Maintenance requested that HVN-STR1B be tagged out to clean and inspect the strainer.

Initiating Cue:

The CRS has directed you to assist in preparing a tagout to clean and inspect HVN-STR1B.

A tagging official will enter the information you provide into the tagging computer.

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____1.	Obtains documents to develop tagout.	Obtained PID 22-14A, System P&ID SOP-0116, TURBINE AND RADWASTE BUILDING HVAC CHILLED WATER SYSTEM	_____	**CUE:** Provide PID and SOP when requested.
*_____2.	Identify components to be tagged and the proper sequence.	Student identified the proper components and sequence as per the answer key below.	_____	

Terminating Cue: Tagout Form completed.

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

Sequence		Component ID	Component Name	Hang Position
1	1	HVN-P1B control switch	HVN-P1B VENT CHILL WATER PUMP	STOP
2	2	NNS-SWG1B ACB19	ACB19 TURB BLDG CHILLED WP MOT HVN-P1B	Racked out
3	2	NHS-MCC1F BKR 3B	CHILLED WATER PUMP P1B DISCHARGE VALVE	off
4	3	HVN-MOV4B	CHILLED WATER PUMP P1B DISCHARGE VALVE hand wheel	closed
5	4	HVN-V2	TURB BLDG PUMP 1B HVN-P1B SUCTION	closed
6	5	HVN-V18	TURB BLDG PUMP 1B SUCTION STRAINER HVN-STR1B DRAIN	Uncapped open
7	6	HVN-V1216	TURB BLDG PUMP 1B HVN-P1B CASING VENT	Uncapped open
V16 ALTERNANTE VENT V-1217 OR 808 ALTERNATE DRAIN				

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions:
The plant is operating in Mode 1. Maintenance requested that HVN-STR1B be tagged out to clean and inspect the strainer.

Initiating Cues:
The CRS has directed you to assist in preparing a tagout to clean and inspect HVN-STR1B.

A tagging official will enter the information you provide into the tagging computer.

Sequence	Component ID	Component Name	Hang Position

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

* PERFORM A DOSE ASSESSMENT AND DETERMINE IF RWP IS ACCEPTABLE

REASON FOR REVISION:

NRC Exam JPM	**A4**

PREPARE / REVIEW:

John Hedgepeth	0069	8-31-2010
Preparer	KCN	Date
Angela Orgeron	1538	8-31-2010
Technical Review (SME)	KCN	Date
Scott Shultz	0176	9-9-2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

RJPM-NRC-D10-A4

TASK DESCRIPTION:	PERFORM A DOSE ASSESSMENT AND DETERMINE IF RWP IS ACCEPTABLE

TASK REFERENCE:	300157003001

K/A REFERENCE & RATING:	Generic 2.3.7 3.5

TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X

COMPLETION TIME:	15 min.

MAX TIME:	N/A

JOB LEVEL:	RO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SIMULATOR SETUP SHEET

Task Description: PERFORM A DOSE ASSESSMENT AND DETERMINE IF
RWP IS ACCEPTABLE

Required Power: N/A

IC No.: N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development: Nuclear Management Manual EN-RP-105
RADIOLOGICAL WORK PERMIT

Required Materials: Nuclear Management Manual EN-RP-105
RADIOLOGICAL WORK PERMIT

Required Plant Condition: None

Task Standard: Dose assessment and RWP adequacy determined.

Applicable Objectives: N/A

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "∗" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

- The Plant is operating at 100% power.
- SPC-P1A will be placed in service this shift.

Initiating Cue:

- Your shift will obtain pump bearing vibration readings.
- It will take a maximum of 20 minutes to complete this activity.
- RWP 2010-1032 has been written for this job.
- General area dose levels are shown on the survey map. SPC-P1A is the north most pump in the room
- Determine the expected dose to be received for this activity.
- Determine if the RWP is adequate for the work to be performed.

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* ____ 1	Determine the expected dose to be received for this activity.	Determined the dose that will be received is 0.32mR/min. or 6.4 for the activity.(accept 5-8mR)		
* ____ 2.	Review RWP 2010-1032 and determine if the RWP is adequate for the work to be performed.	Determined that the RWP is adequate for this activity	____	

Terminating Cue: Expected dose calculated and RWP determination made.

KEY

Dose to be received for this activity _____5 – 8 mR_____

RWP is adequate   ☒

RWP is **NOT** adequate   ☐

RJPM-NRC-D10-A4

<u>VERIFICATION OF COMPLETION</u>

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

<u>Follow-up Questions:</u>

<u>Follow-up Question Response:</u>

Time to complete JPM: _____ minutes

Comments / Feedback:

<u>RESULT:</u>   **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

RJPM-NRC-D10-A4

RADIOLOGICAL WORK PERMIT

RWP Title: Replace pump seal on RWCU pump 1A			RWP No. 20101032
Comments:			
RWP type: Specific	**RWP Status:** Active	**Begin Date:** 07-14-2010	**Close On Date:**
Prepared By:	**Keith Rockwood**	**Job Supervisor:**	
Estimated Dose: 100 mrem	**Estimated Hours:** 8.00	**Actual Dose:**	**Actual Hours:**

Buildings	Elevations	Rooms
AB	**70**	**SPC PUMP ROOM**

Radiological Conditions

Description	Value	Unit
Contact RP or review current survey maps	See maps	

TASKS

Task	Description	Status
1	Isolate and Tag out SPC pump 1A	active
2	Remove and replace SPC pump 1A seal	active
3	System return to service	active
4	Obtain pump bearing vibration readings	active

Requirement Groups	Requirement Descriptions
N/A	

Instructions 1:	Pre-job briefing required.
Instructions 2:	
Instructions 3:	

Approver Title	Name	Date
ALARA	K ROCKWOOD	1/5/2010
JOB SUPERVISOR	E COVINGTON	1/6/2010
RP SUPERVISOR	W HOLLAND	1/7/2010

RJPM-NRC-D10-A4

RADIOLOGICAL WORK PERMIT

Task Number: **4**		RWP No.: 20101032
		Rev: 00
Task Description: Obtain pump bearing vibration readings		Task Status: Active
Estimated Dose:		Estimated Hours: 0.3

Hi-Rad: NO	Hot Particle: NO	Locked Hi-Rad: NO	Hi-Contamination: NO

Dose Alarm (mrem)	**20.00**	Dose Rate (mrem/hr)	**50.00**

Requirement Groups	Requirement Descriptions
ACCESS	****CRITICIAL STEP** RP approval required prior to entry**
CONTAMINATION CONTROL	**NO burning, welding, grinding, flapping, insulation removal, system breach, system draining or use of air tools allowed**
COVERAGE	**N/A**
DOSIMETRY	****CRITICIAL STEP** Periodically check your EAD. If an EAD alarm is received, place work in a safe condition and leave the area.**
	Whole body DLR and EAD required.
EXPOSURE CONTROL	**Low dose waiting areas will be discussed during the pre-job brief**
PROTECTIVE CLOTHING	**Single Anti-C's are required if no kneeling or climbing is required.**
RP INSTRUCTIONS	****CRITICIAL STEP** STOP WORK CRITERIA: Dose rate >50 mrem/hr, contamination levels >5 mrad/hr beta/gamma or > or = 1000 dpm/100cm^2 (alpha)**

RJPM-NRC-D10-A4

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions:

- The Plant is operating at 100% power.
- SPC-P1A will be placed in service this shift.

Initiating Cue:

- Your shift will obtain pump bearing vibration readings.
- It will take a maximum of 20 minutes to complete this activity.
- RWP 2010-1032 has been written for this job.
- General area dose levels are shown on the survey map. SPC-P1A is the north most pump in the room
- Determine the expected dose to be received for this activity.
- Determine if the RWP is adequate for the work to be performed.

Dose to be received for this activity _____

RWP is adequate ☐

RWP is **NOT** adequate ☐

RIVER BEND NUCLEAR STATION - Entergy Operations Inc.

Survey: **RBS-1008-0351**
Template: **20E2 TN E-TUNNEL SPC ARE**

Survey Data

Unit: **1**
Building:
Elevation:
Room:
RxPwr: **100**
Template: **20E2 TN E-TUNNEL SPC**
Frequency: **Monthly**
Survey Date:
Survey Time:
Status: **In-Progress**
RWP: **10-1001-01**
Surveyed By:
Badge:
Reviewed By:
Notes:

**20E2 TN E-TUNNEL SPC AREA -
H2=13scfm. Task Required Survey.
Dose Recieved: .5 mR. All clean area
smears taken on floors, walls,
equipment etc... were
<1000dpm/100cm2.**

Smear Data (DPM/100cm2)

1 - *****
2 - *****
3 - *****
4 - **111**
5 - *****
6 - *****
7 - *****

L.A.S. Data (ccpm/LAS)
Alpha Data (DPM/100cm2)

20E1 'E' Tunnel SPC Area

N

Room is inside a posted RA

LHRA

CA

CA

S
O
P

Line in

*126/40
*30/15

8
1
12
2
5
6
20
14
16
18
22
20
22
20
24

All Radiation values are in mrem/hr and <2 mrem/hr unless otherwise noted
Smear contamination values are in DPM/100 CM2 unless otherwise noted
☐ Smear/LAS < 100 CCPM H.S. - denotes Hot Spot
*12/13 denotes gamma contact / far (30cm)
*12/13 B denotes beta contact / far (30 cm)

12.5   denotes gamma genera area, T denotes RADS telemetry
*75 B denotes beta contact doserate
*12 denotes gamma contact doserate
⑪ denotes smear locations
⑫ denotes large area wipe locations.

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

DETERMINE THE TIME TO 200°F AND IF FORCED CIRCULATION IS REQUIRED

REASON FOR REVISION:

2010 NRC Exam JPM – SRO	**A5**

PREPARE / REVIEW:

John Hedgepeth	0069	8/31/2010
Preparer	KCN	Date
Angie Orgeron	1538	8/31/2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9/9/2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Determine the time to 200°F and if forced circulation is required

TASK REFERENCE:	400077004001

K/A REFERENCE & RATING:	2.1.25, 4.2

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	15 min.

MAX TIME:	N/A

JOB LEVEL:	SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SIMULATOR SETUP SHEET

Task Description: Determine the time to 200°F and if forced circulation is required

Required Power: N/A

IC No.:   N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	OSP-0037, Shutdown Operations Protection Plan (SOPP) Rev.23 SOP-0003 REACTOR RECIRCULATION SYSTEM
Required Materials:	OSP-0037, Shutdown Operations Protection Plan (SOPP) Rev.23 (graphs only) SOP-0003 REACTOR RECIRCULATION SYSTEM
Required Plant Condition:	N/A
Task Standard	Used OSP-0037 to determine the time to 200°F and made the determination regarding Recirc pumps in accordance with the attached key.
Applicable Objectives:	
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **<u>Critical Steps</u>**, failure to successfully complete a **<u>Critical Step</u>** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

You are currently in day 15 of a forced outage.

Shutdown cooling is being maintained by RHR 'B' through the Heat Exchanger, recirculation pump A is tagged out for seal replacement that is expected to start next shift. Recirculation pump B is running in slow speed with the FCV at 94% open.

SPC-P1B is tagged out
SPC-P1A and RHR-P1A are out of service due to electrical bus outage.
Reactor Water temperature is 130°F
The water level in the Reactor is about 85 inches.

The first reactor head bolt will be de-tensioned within an hour.

Initiating Cue:

A bus fault has resulted in a loss of power to RHR 'B'. The OSM has directed you to determine time to 200°F and if Reactor Recirc. Pump can be secured at this time.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* _____ 1.	Determine which curve group to use. Before Fuel Shuffle or After Fuel Shuffle.	Used the information provided, determined that Fuel Movement has not started.	_____	
* _____ 2.	Determine Reactor Water Level: • 36 inches • 85 inches • Main Steam Lines • Reactor Flange • Flooded	Using the information provided that the reactor water level is about 85 inches.	_____	
* _____ 3.	Locate Day 15 on Attachment 9 page 4 of 32, Time to 200F curve before fuel shuffle for reactor water level about 85 inches and Rx water Temperature 110.	Determine from the graph that for Day 15, it will take **2.1 hours (± 0.05 hours)** for temperature to rise from 110°F to 200°F	_____	
* _____ 4.	Use the appropriate Multiplier for an initial temperature of 130°F	Determine from the table in the lower right of the graph that the multiplier for Temp 130°F is **0.77**	_____	Note: Because the initial temperature is closer to 200F it will take less time to get to 200F, so a multiplier is used.
* _____ 5.	Multiply 2.1 hours by 0.77	Answer range of 1.57 to 1.65 hours is correct	_____	
* _____ 6.	Determine that Recirc pump cannot be secured.	Time to 200°F is < 2 hours	_____	SOP-003 Section 6.0 NOTE

Terminating Cue: Time to 200°F and recirculation limitations determined.

KEY

Time to 200°F __1.57 to 1.65 hours_____

Can Recirc. Pump be secured?   YES   ☐

                                    NO   ☒

RJPM-NRC-D10-A5

<u>VERIFICATION OF COMPLETION</u>

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

<u>Follow-up Questions:</u>

<u>Follow-up Question Response:</u>

Time to complete JPM: _____ minutes

Comments / Feedback:

<u>RESULT:</u>   **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: You are currently in day 15 of a forced outage.

Shutdown cooling is being maintained by RHR 'B' through the Heat Exchanger, recirculation pump A is tagged out for seal replacement that is expected to start next shift. Recirculation pump B is running in slow speed with the FCV at 94% open.

SPC-P1B is tagged out
SPC-P1A and RHR-P1A are out of service due to electrical bus outage.
Reactor Water temperature is 130^oF
The water level in the Reactor is about 85 inches.

The first reactor head bolt will be de-tensioned within an hour.

Initiating Cues: A bus fault has resulted in a loss of power to RHR 'B'. The OSM has directed you to determine time to 200^oF and if Reactor Recirc. Pump can be secured at this time.

Time to 200^oF _____

Can Recirc. Pump be secured?   YES   ☐

                                 NO   ☐

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

* DETERMINE IF SHIFT STAFFING REQUIREMENTS ARE MET

REASON FOR REVISION:

NRC Exam JPM	**A6**

PREPARE / REVIEW:

Angie Orgeron	1538	8/26/2010
Preparer	KCN	Date
John Hedgepeth	0069	8/26/2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9/9/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

TASK DESCRIPTION:	Determine if shift staffing requirements are met.

TASK REFERENCE:	300071003003

K/A REFERENCE & RATING:	2.1.5 IR 3.9

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SIMULATOR SETUP SHEET

Task Description: Determine if shift staffing requirements are met.

Required Power: N/A

IC No.:   N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development: EN-OP-115, Conduct of Operations

Required Materials: EN-OP-115, Conduct of Operations

Required Plant Condition: None

Task Standard   Determined that EN-OP-115 requirements are not met and that Stone must be the ATC operator.

Applicable Objectives: RLP-OPS-H0206 Obj 6, 7

Safety Related Task: No

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant is in Mode 1 at 100%. No significant evolutions are in progress.

Initiating Cue:

An operator scheduled for the next shift has called in to report that he will not be at work due to illness. The following individuals are scheduled for the shift and will be reporting as scheduled. Determine if minimum staffing requirements of EN-OP-115 are met and determine which of the operators must stand the "at the controls" (ATC) position.

Branscum		OSM	
McLean		CRS/STA	
Parker		STA	
Stone		NCO	
Coykendall		NCO	FBL
Duncan	Fully qualified	SNEO	FBM
Howell	Fully qualified	SNEO	FBM
Dugar	O, T, RW, R	SNEO	FBM
Bordelon	O,T,RW	SNEO	FBM
Seymour	O,T,R	SNEO	FBM

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
*____ 1. Compare available personnel and qualifications to EN-OP-115 requirements.	Candidate reviewed available personnel and EN-OP-115 requirements and determine: 1) Requirements were not met. 2) Stone must stand the ATC position.	____	*EN-OP-115 requirements are not met due to only 2 NCOs being present. The assistant Ops Manager may approve a deviation from this requirement since Technical Specification minimum staffing is met.* *Stone must stand the ATC position because Coykendall is the only Fire Brigade Leader. The Fire Brigade Leader may not stand the ATC position due to the potential of leaving the control room for fire response.*

Terminating Cue: Candidate has determine that EN-OP-115 requirements are not met and that NCO Stone must stand the at the controls (ATC) position.

RJPM-NRC-D10-A6   *** Denotes <u>Critical Step</u>**   **Page 6 of 9**
^ Denotes <u>Sequence Critical</u>
(**<u>must</u>** be performed after previous step marked ^)

ANSWER KEY

Initial Conditions: The plant is in Mode 1 at 100%. No significant evolutions are in progress.

Initiating Cues: An operator scheduled for the next shift has called in to report that he will not be at work due to illness. The following individuals are scheduled for the shift and will be reporting as scheduled.

Determine if minimum staffing requirements of EN-OP-115 are met and determine which operator must stand the "at the controls" (ATC) position.

Record your responses below.

Branscum		OSM	
McLean		CRS/STA	
Parker		STA	
Stone		NCO	
Coykendall		NCO	FBL
Duncan	Fully qualified	SNEO	FBM
Howell	Fully qualified	SNEO	FBM
Dugar	O, T, RW, R	SNEO	FBM
Bordelon	O,T,RW	SNEO	FBM
Seymour	O,T,R	SNEO	FBM
McCartney	O,T,RW	SNEO	FBM

EN-OP-115 Requirements: MET ☐   /   NOT MET ☑ (Select One)

ATC Operator: _____**STONE**_____

* Denotes <u>Critical Step</u>
^ Denotes <u>Sequence Critical</u>
(<u>must</u> be performed after previous step marked ^)

VERIFICATION OF COMPLETION

Operator: _____ SSN: _____

Evaluator: _____ KCN: _____

Date: _____ License (Circle one): RO / SRO No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____ Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant is in Mode 1 at 100%. No significant evolutions are in progress.

Initiating Cues: An operator scheduled for the next shift has called in to report that he will not be at work due to illness. The following individuals are scheduled for the shift and will be reporting as scheduled.

Determine if minimum staffing requirements of EN-OP-115 are met and determine which operator must stand the "at the controls" (ATC) position.

Record your responses below.

Branscum		OSM	
McLean		CRS/STA	
Parker		STA	
Stone		NCO	
Coykendall		NCO	FBL
Duncan	Fully qualified	SNEO	FBM
Howell	Fully qualified	SNEO	FBM
Dugar	O, T, RW, R	SNEO	FBM
Bordelon	O,T,RW	SNEO	FBM
Seymour	O,T,R	SNEO	FBM
McCartney	O,T,RW	SNEO	FBM

EN-OP-115 Requirements: MET ☐ / NOT MET ☐ (Select One)

ATC Operator _____

JOB PERFORMANCE MEASURE

Entergy

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*REVIEW A TAGOUT OF LOS-STR1, TURBINE LUBE OIL SUCTION HEADER STRAINER

REASON FOR REVISION:

2010 NRC Exam JPM	**A7**

PREPARE / REVIEW:

John Hedgepeth	0069	8/31/2010
Preparer	KCN	Date
Angie Orgeron	1538	8/31/2010
Technical Review (SME)	KCN	Date
Alfonso croeze	0597	9/9/2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	REVIEW A TAGOUT OF LOS-STR1, TURBINE LUBE OIL SUCTION HEADER STRAINER

TASK REFERENCE:	300095003001

K/A REFERENCE & RATING:	2.2.13 4.3

TESTING METHOD:	Simulate Performance			Actual Performance	X
	Control Room		Simulator	Classroom	X

COMPLETION TIME:	15 min.

MAX TIME:	N/A

JOB LEVEL:	SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	Yes

SIMULATOR SETUP SHEET

Task Description: REVIEW A TAGOUT OF LOS-STR1, TURBINE LUBE OIL
SUCTION HEADER STRAINER

Required Power: N/A

IC No.: N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	PID-16-03a PID-16-12A SOP-0012 Main Turbine Lube Oil System
Required Materials:	PID-16-03a PID-16-12A SOP-0012 Main Turbine Lube Oil System
Required Plant Condition:	N/A
Task Standard	Reviewed the prepared tagout and determined that it is not acceptable.
Applicable Objectives:	ELP-OPS-CLR, Obj. 10
Safety Related Task:	NA
Control Manipulations:	N/A

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If In-Plant or In the Control Room:

> **Caution the Operator is NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.**

Read to the Operator:

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Initial Conditions:

> A tagout has been developed to support the cleaning and inspecting of the turbine lube oil suction header strainer LOS-STR1.

Initiating Cue:

> As part of your outage support activities you have been given a tagout to support the cleaning and inspecting of the turbine lube oil suction header strainer LOS-STR1 for approval. Review the tagout and determine if it should be approved, and if not, why.

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____ * 1.	Review the turbine lube oil suction header strainer LOS-STR1 tagout for approval.	DO NOT APPROVE THE TAGOUT for the following reason: 1. The placement sequence for all tags is 1. This is incorrect.	_____	

Terminating Cue: **The candidate has made a determination of the inadequacy of the tagout**.

KEY

APPROVED   ☐

DISAPPROVED   ☒

If disapproved, WHY?   The placement sequence for all tags is 1.

RJPM-NRC-D10-A7

<u>VERIFICATION OF COMPLETION</u>

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

<u>Follow-up Questions:</u>

<u>Follow-up Question Response:</u>

Time to complete JPM: _____ minutes

Comments / Feedback:

<u>RESULT:</u>   **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: A tagout has been developed to support the cleaning and inspecting of the turbine lube oil suction header strainer LOS-STR1.

Initiating Cues: As part of your outage support activities you have been given a tagout to support the cleaning and inspecting of the turbine lube oil suction header strainer LOS-STR1 for approval. Review the tagout and determine if is should be approved, and if not, why.

APPROVED   ☐

DISAPPROVED   ☐

If disapproved, WHY? _____

_____

JOB PERFORMANCE MEASURE

 Entergy

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

*REVIEW A LIQUID RADWASTE RELEASE PERMIT ISSUED BY CHEMISTRY

REASON FOR REVISION:

2010 NRC Exam JPM	**A8**

PREPARE / REVIEW:

John Hedgepeth	0069	8/31/2010
Preparer	KCN	Date
Angie Orgeron	1538	8/31/2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9/9/2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	REVIEW A LIQUID RADWASTE RELEASE PERMIT ISSUED BY CHEMISTRY

TASK REFERENCE:	300174003002

K/A REFERENCE & RATING:	2.3.6 3.8

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator		Classroom	X

COMPLETION TIME:	15 min.

MAX TIME:	N/A

JOB LEVEL:	SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SIMULATOR SETUP SHEET

Task Description: **REVIEW A LIQUID RADWASTE RELEASE PERMIT**
ISSUED BY CHEMISTRY

Required Power: **N/A**

IC No.:   **N/A**

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development:	CSP-0110 Radioactive Liquid Effluent Batch Discharge ADM-0054, Radioactive Liquid Effluent Batch Discharge
Required Materials:	CSP-0110 Radioactive Liquid Effluent Batch Discharge ADM-0054, Radioactive Liquid Effluent Batch Discharge
Required Plant Condition:	N/A
Task Standard	Reviewed the discharge permit and approved for discharge.
Applicable Objectives:	
Safety Related Task:	NA
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

> **Caution the Operator is NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.**

Read to the Operator:

> I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

> LWS-TK4D, Recovery Sample Tank, is ready for discharge. RMS-RE107 is operable.

Initiating Cue:

> Chemistry has brought discharge permit 2010004 to you for authorization. Review the permit and either authorize it or determine why it should not be authorized. Explain your decision.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ * 1.	Review the discharge permit for authorization.	Discharge permit 2010004 should be authorized. • All data is correct, no typographically errors • The RMS-RE107 alarm and alert setpoints on page 1 and page three agree	_____	

Terminating Cue: Discharge permit has been authorized by the SRO.

.

RJPM-NRC-D10-A8

<u>VERIFICATION OF COMPLETION</u>

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

<u>Follow-up Questions:</u>

<u>Follow-up Question Response:</u>

Time to complete JPM: _____ minutes

Comments / Feedback:

<u>RESULT:</u>   **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: LWS-TK4D, Recovery Sample Tank, is ready for discharge.

RMS-RE107 is operable.

Initiating Cues: Chemistry has brought discharge permit 2010004 to you for authorization. Review the permit and either authorize it or determine why it should not be authorized. Explain your decision.

I.   DISCHARGER AUTORHIZATION

LWS-TK4: D   LWS-P4: C   Sample Date/Time: 08/31/2010 10:00

Recirculation Start Date/Time: 08/31/2010 07:35

LWS-FV197 Control Setpoint (Max.): 40 gpm

Diluted Pre-Release ECL Fraction: 3.41E-02 (<1.000)

Calculated RMS-RE 107 Setpoints:
Alarm: 1.99E-03 uCi/ml
Alert: 1.79E-03 uCi/ml

CH.13 Background: 3.35E+03 cpm

Blowdown Rate (Min.):   > 2200 gpm

Diluted Pre-Release Gaseous Act. 2.93E-07 uCi/ml (<2.00e-4)

Chemistry Authorization: _____Wayne Hillard_____ KCN: _1234_ Date/Time: _8-31-2010 / 1700_

Chemistry Authorization: _____N/A_____ KCN: __N/A__ Date/Time: __N/A_____
(Two authorizations required when monitor inoperable)

SS/CRS Discharge Authorization: _____ KCN: _____ Date/Time: _____

II.   DISCHARGE RECORD

	Init. / KCN
RMS-RE107 Source Check Completed:	_____ / _____
RMS-RE107 Sample Pump Started Running:	_____ / _____
Alarm Setpoint Entered:	_____ / _____
Alert Setpoint Entered:	_____ / _____
CH.13 Background Setpoint Entered:	_____ / _____
Sample Pump Operability Check:	_____ / _____
LWS-FE197 Operability Check:	_____ / _____
Valve Lineup Performed:	_____ / _____
Valve Lineup Verified:	_____ / _____

(Two verifications required only when monitor inoperable)

	Date	Time	LWS-FE197 (gpm)	CWS-FE113 (gpm)	Init. / KCN
Start:	_____	_____	_____	_____	_____ / _____
Stop:	_____	_____	_____	_____	_____ / _____

Total Tank Volume Released (gal) _____

III.   POST RELEASE DATA

        Composite Updated (ml) _____

Completed: _____ / _____ / _____
                    Signature   KCN   Date

Reviewed: _____ / _____ / _____
                    Signature   KCN   Date

Total Pages Attached_____

LIQUID PRE-RELEASE PERMIT REPORT

Permit Number: 2010004

Release Point: 1   Radwaste System

Release Mode: 2   Batch

Status: P   Pre-Release

Comments:

= = = PRE-RELEASE DATA =

Estimated start date / time --- 08/31/10 10:20
Estimated end date / time --- 08/31/10 17:35
Estimated release duration (minutes) --- 4.25E+02

Cooling Tower Blowdown flowrate (gpm) -- 2.20E+03

Release volume (gal) --- 1.70E+04
Release flowrate (gpm) --- 4.00E+01

LWS-FV197 Control Setpoint (Max.) (gpm) -- 40
Diluted Pre-release ECL Fraction (<1.0) -- 3.41E-02

RMS-RE107 Operable? -- Operable
Current Monitor Background (cpm) --- 3.47E+03
Lowest 10 Minute Trend Background (uCi/mL) -- 1.79E-06
Alarm Setpoint (uCi/mL) --- 1.99E-03
Alert Setpoin (uCi/mL) --- 1.79E-03

Channel-13 Background (cpm) -- 3.35E+03

Tank --- D
Pump -- C
Recirculation Start Date -- 08/31/2010 07:35
Sample Date -- 08/31/2010 10:00

LIQUID PRE-RELEASE PERMIT REPORT

Permit Number: 2010004

Release Point: 1 Radwaste System

Release Mode: 2 Batch

Status: P Pre-Release

= = = = NUCLIDE DATA (INITIAL) =

Nuclide	Undiluted uCi/ml	EC	Ratio to EC	Ratio to 10*EC	Diluted uCi/ml	Ratio to EC	Ration to 10*EC
MN-54	3.07E-07	3.00E-05	1.02E-02	1.02E-03	5.48E-09	1.83E-04	1.83E-05
CO-60	7.53E-07	3.00E-06	2.51E-01	2.51E-02	1.34E-08	4.48E-03	4.48E-04
Gamma	1.06E-06		2.61E-01	2.61E-02	1.89E-08	4.66E-03	4.66E-04
H-3	1.87E-02	1.00E-03	1.87E+01	1.87E+00	3.34E-04	3.34E-01	3.34E-02
FE-55	6.04E-06	1.00E-04	6.04E-02	6.04E-03	1.08E-07	1.08E-03	1.08E-04
Beta	1.87E-02		1.88E+01	1.88E+00	3.34E-04	3.35E-01	3.35E-02
XE-135	1.29E-05	2.00E-04	6.45E-02	6.45E-03	2.30E-07	1.15E-03	1.15E-04
XE-133	3.46E-06	2.00E-04	1.73E-02	1.73E-03	6.18E-08	3.09E-04	3.09E-05
O&EG	1.64E-05		8.18E-02	8.18E-03	2.92E-07	1.46E-03	1.46E-04
Total	1.87E-02		1.91E+01	1.91E+00	3.34E-04	3.41E-01	3.41E-02

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

DETERMINE PROTECTIVE ACTION RECOMMENDATIONS

REASON FOR REVISION:

2010 NRC Exam JPM -	**A9**

PREPARE / REVIEW:

John Hegdepeth	0069	8/31/2010
Preparer	KCN	Date
Angie Orgeron	1538	8/31/2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9/9/2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Determine Protective Action Recommendations

TASK REFERENCE:	301016005003

K/A REFERENCE & RATING:	2.4.44 4.4

TESTING METHOD:	Simulate Performance				Actual Performance	**X**
	Control Room		Simulator		Classroom	**X**

COMPLETION TIME:	15 min.

MAX TIME:	15 min

JOB LEVEL:	SRO

TIME CRITICAL:	Yes

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SIMULATOR SETUP SHEET

Task Description: Determine Protective Action Recommendations.

Required Power: N/A

IC No.:   N/A

Notes: **Administrative JPM that will be conducted in a classroom.**

DATA SHEET

References for Development: EIP-2-007, Protective Action Recommendation
Guidelines
EIP-2-006, Notifications

Required Materials: EIP-2-007, Protective Action Recommendation
Guidelines
EIP-2-006, Notifications

Required Plant Condition: N/A

Task Standard: An upgraded Protective Action Recommendation has
been issued within 15 minutes

Applicable Objectives: EP-42.12, Obj. 11

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "∗" are required to be performed, and are **Critical Steps**, failure to
successfully complete a **Critical Step** requires the JPM to be evaluated as
"Unsatisfactory". Comments describing the reason for failure are required in the
comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not
performed in the sequence described, appropriate cues other than described in the body of
the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The plant has experienced a loss of offsite power. Div III D/G did not start. RCIC tripped on over speed. Main steam tunnel temperature is above 200 deg. F. The Main plant exhaust activity level has been reading greater than the General Emergency level for 15 minutes.

Initiating Cue:

As acting Recovery Manager, dose projections and meteorological information were just handed to you. Complete a Notification of General Emergency short form and make Protective Action Recommendations.

THIS IS A TIME CRITICAL JPM

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
*_____1.	Use (EIP-2-007) Attachments 1, 2, and 3 to formulate Protective Action Recommendations (PARs).	Start Time begins when the JPM Task Conditions / Cues is handed to the candidate **START TIME:** _____ Candidate requested copy of EIP-2-007, Protective Action Recommendations. Candidate may or may not request a copy of EIP-2-006, Notifications	_____	CUE: When requested, provide a copy of EIP-2-007 & EIP-2-006 to candidate.
*_____2.	Determines PARs are required.	Candidate determined that a PAR is required using Attachment 2, PAR Flowchart Block 1.	_____	
*_____3.	Protective Action Recommendations must be developed within 15 minutes of receipt of data.	**Candidate completed GE Short Form that matches answer key using Attachment 3 Block 1 and dose assessment and meteorological data.** **TERMINATION TIME:** _____ Must be completed in 15 minutes or less **Time to complete:** _____	_____	**Current Date/Time and Message Number are not required for Satisfactory performance. This information is computer generated.**

Terminating Cue: Notification of General Emergency short form completed.

^ Denotes <u>Sequence Critical</u>
(<u>must</u> be performed after previous step marked ^)

ANSWER KEY

PAR BLOCK # _____1_____

Notification of General Emergency

Time/Date:	Current time / date	Message:

This is River Bend Station

A General Emergency was declared at

Declaration time	on	Declaration date	for

AG 1-2
VALID reading on one or more radiation monitors in Table R1 that exceeds or is expected to exceed GENERAL EMERGENCY reading for greater than or equal to 15 minutes

Wind from ___330___ Deg.   At ___2.1___ MPH

○ No Release   PAR Reference Scenario No.: | 5 |

○ Release BELOW federally approved operating limits

☒ Release ABOVE federally approved operating limits

Authorized by:		Title:	

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant has experienced a loss of offsite power. Div III D/G did not start. RCIC tripped on over speed. Main steam tunnel temperature is above 200 deg. F. The Main plant exhaust activity level has been reading greater than the General Emergency level for 15 minutes.

Initiating Cues: As acting Recovery Manager, dose projections and meteorological information were just handed to you. Complete a Notification of General Emergency short form and make Protective Action Recommendations.

THIS IS A TIME CRITICAL JPM

DOSE ASSESSMENT for Emergency Containment Venting

DOSE RATE CALCULATIONS

TEDE Dose (REM):		CDE Dose (REM) Thyroid:	
Site Boundary	3.95E1	Site Boundary	6.02E-1
2 Miles	6.49E0	2 Miles	1.06E-1
5 Miles	9.08E-1	5 Miles	2.44E-2
10 Miles	2.02E-1	10 Miles	7.55E-3

Meteorological Data

Wind Speed	2.1 mph	Wind Direction	330 deg.
Delta T	-0.8^{o}F	Stability Class	D

JPM Task Conditions/Cues
(Operator Copy)

PAR   BLOCK   #   _____

Notification of General Emergency

Time/Date: Current time / date   Message:

This is River Bend Station

A General Emergency was declared at

Declaration time	on	Declaration date	for

AG 1-2
VALID reading on one or more radiation monitors in Table R1 that exceeds or is expected to exceed GENERAL EMERGENCY reading for greater than or equal to 15 minutes

Wind from_____ Deg.   At_____ MPH

O No Release   PAR Reference Scenario No.:

O Release BELOW federally approved operating limits

O Release ABOVE federally approved operating limits

Authorized by: Title:

JOB PERFORMANCE MEASURE

Entergy

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

Defeat RWCU Level 2 and SLC Isolation Interlocks

REASON FOR REVISION:

D 2010 NRC Exam JPM	**C1**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-14-2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9-14-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Defeat RWCU Level 2 and SLC Isolation Interlocks

TASK REFERENCE:	200087005001

K/A REFERENCE & RATING:	223002 A4.03 3.6 / 3.5

TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room	X	Simulator		In-Plant	

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SAFETY FUNCTION	5

SIMULATOR SETUP SHEET

Task Description:

Required Power:

IC No.:

Notes: NONE: This JPM is performed in the control room.

DATA SHEET

References for Development:	EOP-005 ENCLOSURE 4
Required Materials:	EOP-005 ENCLOSURE 4
Required Plant Condition:	ANY
Task Standard	All four jumper locations identified.
Applicable Objectives:	HLO-516, Obj. 1
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

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Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions: The plant is in an ATWS condition and the turbine has tripped. Reactor pressure is <u>not</u> stable.

Initiating Cue: The CRS has directed you to install EOP-005 Enclosure 4 to defeat RWCU level 2 and SLC isolations.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 1. 3.1 OBTAIN EOP-0005 ENCL 4 jumper kit from the Control Room Emergency Locker.	Jumper kit No. 4 obtained from the Control Room Emergency Locker	____	
2. 3.1.1 INSPECT kit for 4 jumpers	Inspected for four jumpers	____	CUE: Inform the candidate that the four jumpers are obtained.
3. 3.2 DEFEAT the SLC Pump A isolation interlock as follows:		N/A	
4. 3.2.1 Location: H13-P623 Affected Terminal Board: TB0033	Located TB0033 in P623	____	TB0033 is in H13-P623 right side of panel, 1st column of terminal boards from panel door, 3rd terminal board from top.
* 5. 3.2.1.1 Jumper No. 1 JUMPER Terminal 1 on TB0033 to Terminal 2 on TB0033	Terminal 1 on TB0033 and Terminal 2 on TB0033 properly identified for jumper placement	____	CUE: Inform the candidate that the jumper is installed.
6 3.3 DEFEAT the SLC Pump B isolation interlock as follows:		N/A	

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____7	3.3.1 Location: H13-P622 Affected Terminal Board: TB0030	Located TB0030 in P622	_____	TB0030 is in H13-P622 right side of panel, 2nd column of terminal boards from the panel door, 6th terminal board from top.
*_____8	3.3.1.1 Jumper No. 2 JUMPER Terminal 1 on TB0030 to Terminal 2 on TB0030	Terminal 1 on TB0030 and Terminal 2 on TB0030 properly identified for jumper placement.	_____	CUE: Inform the candidate that the jumper is installed.
_____9	3.4 DEFEAT the RWCU RPV Water Level 2 isolation interlocks as follows:		N/A	
_____10	3.4.1 Location: H13-P691 Bay A Affected Terminal Board: TB0023	Located TB0023 in P691 Bay A	_____	Right side of bay, 2nd column of terminal boards from bay door, 3rd terminal board from top
*_____11	3.4.1.1 Jumper No. 3 JUMPER Terminal 12 on TB0023 to Terminal 13 on TB0023	Terminal 12 on TB0023 and Terminal 13 on TB0023 properly identified for jumper placement.	_____	CUE: Inform the candidate that the jumper is installed.
_____12	3.4.2 Location: H13-P692 Bay A Affected Terminal Board: TB0014	Located TB0014 in P692 Bay A	_____	Right side of bay, 2nd column of terminal boards from bay door, 6th terminal board from top

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
*_____ 13	3.4.2.1 Jumper No. 4 JUMPER Terminal 10 on TB0014 to Terminal 11 on TB0014	Terminal 10 on TB0014 and Terminal 11 on TB0014 properly identified for jumper placement.	_____	CUE: Inform the candidate that the jumper is installed.
_____ 14	3.5 Return RWCU to service as directed by the CRS	Requested direction from the CRS	_____	CUE: Inform the candidate that another operator will return RWCU to service.

Terminating Cue: Four jumpers installed per EOP-005 enclosure #4

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

          Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant is in an ATWS condition and the turbine has tripped. Reactor pressure is <u>not</u> stable.

Initiating Cues: The CRS has directed you to install EOP-005 Enclosure 4 to defeat RWCU level 2 and SLC isolations.

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

Stuck open SRV fuse removal, SRV B21-F051B

REASON FOR REVISION:

D 2010 NRC Exam JPM	**C2**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-14-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	9-14-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Stuck open SRV fuse removal, SRV B21-F051B

TASK REFERENCE:	400059004001, 400061004001

K/A REFERENCE & RATING:	239002 K2.01 2.8/3.2 239002 K4.08 3.6/3.7 239002 K5.01 3.4/3.5 239002 A4.01 4.4/4.4

TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room	X	Simulator		In-Plant	

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SAFETY FUNCTION	3

SIMULATOR SETUP SHEET

Task Description:

Required Power:

IC No.:

Notes: NONE: This JPM is performed in the control room.

DATA SHEET

References for Development: AOP-0035, Safety Relief Valve Stuck Open

Required Materials: AOP-0035 Attachment 1, Safety Relief Valves Solenoid Circuit Fuses.

Required Plant Condition: ANY

Task Standard   Fuses required to be removed have been properly identified.

Applicable Objectives: RLP-OPS-AOP035 OBJ 7

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

SRV B21-F051B has opened.
- Reactor pressure is normal
- Immediate operator actions for AOP-0035 have been completed.
- Reactor power is steady at 89%.
- Attempts to close B21-RV-F051B from panels H13-P601 and H13-P631 have been unsuccessful.

Initiating Cue:

The CRS has directed you to deenergize the solenoids of SRV B21-RV-F051B, by pulling the applicable fuses listed in Attachment 1, Safety Relief Valves Solenoid Circuit Fuses of AOP-0035.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1.	5.6 IF the SRV is still open, THEN deenergize the solenoids by pulling the applicable fuses listed in Attachment 1, Safety Relief Valves Solenoid Circuit Fuses.		N/A	
_____ 2.	5.6 Locate H13-P628 Bay A	Panel P628 Bay A has been properly located.	_____	H13-P628 Bay A, is located south end control room, west side.
*_____ 3.	5.6 Remove fuse B21C-F81A on fuse block 9H13	Fuse B21C-F81A has been properly identified for removal.	_____	**CUE**: Inform the candidate that the fuse has been removed.
*_____ 4.	5.6 Remove fuse B21C-F82A on fuse block 9H14	Fuse B21C-F82A has been properly identified for removal.	_____	**CUE:** Inform the candidate that the fuse has been removed. If requested, after the fuses have been removed, The ATC operator reports SRV B21-F051B is still open.
_____ 5.	5.6 Locate H13-P631 Bay A	Panel P631 Bay A has been properly located.	_____	H13-P631 Bay A, is located south end control room, east side.
*_____ 6	5.6 Remove fuse B21C-F81B on fuse block 9H13	Fuse B21C-F81B has been properly identified for removal.	_____	**CUE**: Inform the candidate that the fuse has been removed.

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
* 7	5.6 Remove fuse B21C-F82B on fuse block 9H14	Fuse B21C-F82B has been properly identified for removal.	_____	**CUE:** Inform the candidate that the fuse has been removed. If requested after the fuses have been removed, The ATC operator announces SRV B21-F051B has closed.

Terminating Cue: Four fuses for SRV B21-F051B removed per AOP-0035

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: SRV B21-F051B has opened.
- Reactor pressure is normal
- Immediate operator actions for AOP-0035 have been completed.
- Reactor power is steady at 89%.
- Attempts to close B21-RV-F051B from panels H13-P601 and H13-P631 have been unsuccessful.

Initiating Cues: The CRS has directed you to deenergize the solenoids of SRV B21-RV-F051B, by pulling the applicable fuses listed in Attachment 1, Safety Relief Valves Solenoid Circuit Fuses of AOP-0035.

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

LINE UP FIRE WATER PROTECTION SYSTEM FOR RPV INJECTION

REASON FOR REVISION:

D 2010 NRC Exam JPM	**P1**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-14-2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9-14-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	LINE UP FIRE WATER PROTECTION SYSTEM FOR RPV INJECTION EOP-005 ENCLOSURE 7

TASK REFERENCE:	286001005004

K/A REFERENCE & RATING:	286000	K1.03	2.9 / 3.0

TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room		Simulator		In-Plant	x

COMPLETION TIME:	20 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SAFETY FUNCTION	8

SIMULATOR SETUP SHEET

Task Description:

Required Power:

IC No.:

Notes: NONE: This JPM is performed in the plant.

DATA SHEET

References for Development: EOP-005 Enclosure 7

Required Materials: EOP-005 Enclosure 7

Required Plant Condition: ANY

Task Standard   Simulated opening the four required valves to inject with fire water.

Applicable Objectives: HLO-516 Objective 1

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

> **Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.**

Read to the Operator:

> I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

> While operating at 100 percent power the plant has experienced a scram. RCIC and HPCS have tripped, and efforts are in progress to restore RCIC. The diesel-powered fire water pumps are running. RHR A is in suppression pool cooling and RHR B is secured.

Initiating Cue:

> The CRS has directed you to perform EOP-005 Enclosure 7 INJECTION INTO RPV WITH FIRE SYSTEM step 3.6 for the Fuel Building and Auxiliary Building ONLY.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1.	3.6 OPEN (UNLOCK if necessary) the following Fire Protection/Service Water Inlet Valves.		N/A	
(Fuel Bldg EL 74 ft. SW corner each side of Check Valve SWP-V973)				
* _____ 2.	3.6.1 FPW-V396, ISOLATION VALVE FOR SWP BACKUP TO FUEL BLDG HOSE RACKS	Opened FPW-V396 by turning the handwheel in the counterclockwise direction until valve motion stopped.	_____	CUE: Valve motion has stopped at the open backseat and the valve stem is fully extended.
* _____ 3.	3.6.2 SWP-V971, DIV 2 STBY SWP TO FUEL BLDG FIRE PROT ISOL VLV	Unlocked and opened SWP-V971 by turning the handwheel in the counterclockwise direction until valve motion stopped.	_____	CUE: Valve motion has stopped at the open backseat and the valve stem is fully extended.
(Aux. Bldg EL 100 ft. crescent area NE corner each side of Check Valve SWP-V964)				
* _____ 4.	3.6.1 FPW-V321, SWP BACKUP TO RB AND AUX BLDG HOSE RACKS ISOLATION VALVE	Opened FPW-V321 by turning the handwheel in the counterclockwise direction until valve motion stopped.	_____	CUE: Valve motion has stopped at the open backseat and the valve stem is fully extended.
* _____ 5.	3.6.2 SWP-V968, SVCE WTR TO FIRE PROTECTION MAN ISOL VLV	Unlocked and opened SWP-V968 by turning the handwheel in the counterclockwise direction until valve motion stopped.	_____	CUE: Valve motion has stopped at the open backseat and the valve stem is fully extended..

Terminating Cue: Four FPW to SWP valves have been opened per EOP-005 Enclosure 7

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: While operating at 100 percent power the plant has experienced a scram.
RCIC and HPCS have tripped, and efforts are in progress to restore
RCIC. The diesel-powered fire water pumps are running. RHR A is in
suppression pool cooling and RHR B is secured.

Initiating Cues: The CRS has directed you to perform EOP-005 Enclosure 7 INJECTION
INTO RPV WITH FIRE SYSTEM step 3.6 for the Fuel Building and
Auxiliary Building ONLY.

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

Restore RPS B Normal Power Supply

REASON FOR REVISION:

D 2010 NRC Exam JPM	**P2**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-14-2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9-14-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Restore RPS B Normal Power Supply

TASK REFERENCE:	212004001004

K/A REFERENCE & RATING:	212000 K1.04, 3.4/3.6 212000 K2.01, 3.2/3.3 212000 A1.01, 2.8/2.9 212000 A2.01, 3.7/3.9

TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room		Simulator		In-Plant	X

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	Yes

SAFETY FUNCTION	7

SIMULATOR SETUP SHEET

Task Description:

Required Power:

IC No.:

Notes: NONE: This JPM is performed in the plant.

DATA SHEET

References for Development: SOP-0079, Reactor Protection System

Required Materials: SOP-0079, Reactor Protection System Section 5.3

Required Plant Condition: Any

Task Standard   RPS M/G set running at rated voltage

Applicable Objectives: RLP-STM-0508   OBJ 3f

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

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Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

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Read to the Operator:

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Initial Conditions:

The plant is at 100% power. Electrical maintenance has completed work on the RPS B MG set generator output breaker. RPS B Bus is being supplied from the Alternate Power Supply.

Initiating Cue:

The CRS has directed you to restore the B RPS MG set and close the appropriate breakers to make RPS Bus B ready to transfer to the Normal Supply, in accordance with SOP-0079, Reactor Protection System.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1.	5.3.1.1 At NHS-MCC10B, close BKR 1C, REACTOR PROT SYSTEM MOTOR GENERATOR SET	Closed NHS-MCC10B Breaker 1C by moving handle all the way to left.	_____	**CUE:** Breaker BKR 1C is closed.
* _____ 2.	5.3.1.2.1 At MG Set Panel C71-S001B, depress the MOTOR ON pushbutton while observing the Motor Generator Set output voltmeter	MOTOR ON pushbutton depressed as motor generator comes up to proper voltage.	_____	**CUE:** MG status lights above motor control pushbuttons are Green light OFF Red light ON AND Generator Output voltage is rising.
_____ 3.	5.3.1.2.2 IF the Motor Generator Set output voltmeter does not increase to and stabilize at >123.5 volts	Verify Motor Generator Set output voltmeter stabilizes at ≥ 123.5 volts.	_____	**CUE:** 15 minutes have elapsed and MG Set output voltmeter indicates 110 volts.
* _____ 4.	5.3.1.2.2 **ALTERNATE PATH** THEN depress the Motor Generator Set MOTOR ON pushbutton to reset the over excitation trip and allow the Motor Generator Set to self-excite.	MOTOR ON pushbutton depressed to reset the over excitation trip and allow the Motor Generator Set to self-excite.	_____	**CUE:** MG Set output voltmeter indicates 125 volts.
* _____ 5.	5.3.1.3 WHEN the MG Set output voltmeter is ≥ 123.5 volts, THEN at C71-S001B, close the Generator Output Breaker.	Generator Output Breaker on C71-S001B closed by moving it to the upper position.	_____	**CUE:** Generator Output Breaker is in the UP position.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
*_____6.	5.3.1.4 Close C71-S003B, MG SET LOAD BREAKER	EPA Breaker C71-S003B closed by rotating breaker lever to the ON (fully counter-clockwise) position	_____	**CUE:** EPA Breaker C71-S003B EPA OUTPUT red light ON: POWER SUPPLY OUTPUT - Red light ON
*_____7.	5.3.1.5 Close C71-S003D, RPS BUS B NORMAL SUPPLY Breaker.	EPA Breaker C71-S003D closed by rotating breaker lever to the ON (fully counter-clockwise) position	_____	**CUE:** EPA Breaker C71-S003D EPA OUTPUT red light ON EPA INPUT - Red light ON
_____8.	5.3.1.6 Verify targets are reset on all EPA breakers	Verified targets on EPA breakers C71-S003B and D are reset	_____	**CUE:** All targets on EPA Breakers are reset.

Terminating Cue: RPS MG Set B running with power available to transfer RPS B Bus to the Normal Supply.

RJPM-NRC-D10-P2   *** Denotes <u>Critical Step</u>**   **Page 7 of 9**
^ Denotes <u>Sequence Critical</u>
(**<u>must</u> be performed after previous step marked ^**)

<u>VERIFICATION OF COMPLETION</u>

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

<u>Follow-up Questions:</u>

<u>Follow-up Question Response:</u>

Time to complete JPM: _____ minutes

Comments / Feedback:

<u>RESULT:</u>   **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions:

The plant is at 100% power. Electrical maintenance has completed work on the RPS B MG set generator output breaker. RPS B Bus is being supplied from the Alternate Power Supply.

Initiating Cues:

The CRS has directed you to restore the B RPS MG set and close the appropriate breakers to make RPS Bus B ready to transfer to the Normal Supply, in accordance with SOP-0079, Reactor Protection System.

JOB PERFORMANCE MEASURE

Entergy

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

MANUALLY STARTUP RHR "B" IN SUPPRESSION POOL COOLING FROM THE REMOTE SHUTDOWN PANEL

REASON FOR REVISION:

D 2010 NRC Exam JPM	**P3**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-9-2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9-9-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Manually Startup RHR "B" in Suppression Pool Cooling from the Remote Shutdown Panel

TASK REFERENCE:	400075004001

K/A REFERENCE & RATING:	219000	K1.01, 3.8/3.9
		K3.01, 3.9/4.1
		K6.06, 3.7/3.7
		A1.01, 4.0/4.0
		A1.02, 3.5/3.5
		A1.08, 3.7/3.6
		A4.01, 3.8/3.7
		A4.02, 3.7/3.5
		A4.07, 3.5/3.4
	295016	AK2.01, 4.4/4.5
		AK2.02, 4.0/4.1
		AA1.07, 4.2/4.3
		AA2.04, 3.9/4.1
		AA2.07, 3.2/3.4

TESTING METHOD:	Simulate Performance	X			Actual Performance	
	Control Room		Simulator		In-Plant	X

COMPLETION TIME:	12 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SAFETY FUNCTION:	5

SIMULATOR SETUP SHEET

Task Description:

Required Power:

IC No.:

Notes: NONE: This JPM is performed in the plant.

DATA SHEET

References for Development:	AOP-0031, Shutdown From Outside the Main Control Room
Required Materials:	AOP-0031, Shutdown From Outside the Main Control Room, Step 5.15
Required Plant Condition:	Any
Task Standard	Simulated placing RHR B in the suppression pool cooling mode from RSS-PNL102
Applicable Objectives:	RLP-OPS-AOP031, Obj. 4 and 6 RLP-OPS-0200, Obj. 3, 11 and 12
Safety Related Task:	(If K/A less than 3.0)
Control Manipulations:	N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

The Control Room has been evacuated. The Reactor is in Hot Shutdown and control has been established at the Remote Shutdown Panel. There has been no fire. Reactor pressure is under control with SRV's.

Initiating Cue:

The CRS has directed you to place RHR "B" in Suppression Pool Cooling using AOP-0031, Shutdown From Outside the Main Control Room, Step 5.15. Standby Service water pumps B and D are in service.

PERFORMANCE STEP *[SOP/ARP Step]*	STANDARD	S/U	COMMENTS
_____ 1.	5.15.1 Verify the RHR Heat Exchangers are being supplied by either Normal or Standby Service Water		<u>N/A</u>	**CUE:** RHR Heat Exchangers are being supplied by Standby Service Water per cue sheet.
* _____ 2.	5.15.2 Throttle E12-F068B, RHR HX B SVCE WTR RTN open to establish required flow <u>not</u> to exceed 5800 gpm as indicated on SWP-FI64B, SSW RHR HX B FLOW.	E12-F068B, RHR HX A SVCE WTR RTN throttled open.	_____	**CUE:** RHR "B" HX flow is 5500 gpm RED light ON GREEN light ON
* _____ 3.	5.15.3 Start E12-C002B, RHR PUMP B and perform the following:	E12-C002B, RHR PUMP B has been started.	_____	**CUE:** RED light ON GREEN light OFF
* _____ 4.	5.15.3.1 Open E12-F024B, RHR PUMP B TEST RTN TO SUP PL.	Control switch for E12-F024B, RHR PUMP B TEST RTN TO SUP PL placed in the open position.	_____	**CUE:** RED light ON GREEN light OFF
_____ 5.	5.15.3.2 At ENS-SWG01B, check pump running amps are less than or equal to 91 amps	At ENS-SWG01B, pump running amps verified less than or equal to 91 amps	_____	**CUE:** RHR B running amps are 80 amps

* Denotes <u>Critical Step</u>
^ Denotes <u>Sequence Critical</u>
(**<u>must</u> be performed after previous step marked ^**)

PERFORMANCE STEP *[SOP/ARP Step]*	STANDARD	S/U	COMMENTS
_____ 6.	5.15.4 Perform the following: 1. On EHS-MCC2E open the following breakers: • Bkr 6A, E12-F073A HEAT EXCH A VENT SUPPR POOL VALVE • Bkr 6B, E12-F074A HEAT EXCH A VENT SUPPR POOL VALVE 2. Verify the following valves are closed: 1) In AUX Bldg 95' NW crescent area, E12-MOVF073A, RHR A HX DN STREAM VENT VALVE		<u>N/A</u>	CUE: Inform the candidate that this step will be completed by a building operator. Inform the candidate that step 5.15.4 is complete.
*_____ 7.	5.15.5 WHEN RHR flow exceeds 1100 gpm, THEN close E12-F064B, RHR PUMP B MIN FLOW TO SUP PL.	E12-F064B, RHR PUMP B MIN FLOW TO SUP PL verified closed.	_____	**CUE:** RHR flow is 5000 gpm RED light OFF GREEN light ON
_____ 8.	Throttle E12-F048B, RHR HX B BYPASS VALVE closed to obtain the desired cooling.	Control switch for E12-F048B, RHR HX B BYPASS VALVE placed in the closed position.	_____	**CUE:** RED light OFF GREEN light ON
_____ 8.	Record data on Attachment 3, Suppression Pool Water Temperature/Level Data		_____	**CUE:** Another operator is recording Data

Terminating Cue: .RHR "B" is in Suppression Pool Cooling per AOP-0031, Shutdown From Outside the Main Control Room, Step 5.15

<u>VERIFICATION OF COMPLETION</u>

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

<u>Follow-up Questions:</u>

<u>Follow-up Question Response:</u>

Time to complete JPM: _____ minutes

Comments / Feedback:

<u>RESULT:</u>   **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The Control Room has been evacuated. The Reactor is in Hot Shutdown and control has been established at the Remote Shutdown Panel. There has been no fire. Reactor pressure is under control with SRV's.

Initiating Cues: The CRS has directed you to place RHR "B" in Suppression Pool Cooling using AOP-0031, Shutdown From Outside the Main Control Room, Step 5.15. Standby Service water pumps B and D are in service.

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

SHIFT STATOR COOLING WATER PUMPS

REASON FOR REVISION:

D 2010 NRC Exam JPM	**S1**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-8-2010
Technical Review (SME)	KCN	Date
Tim Venable	0130	9-8-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Shift stator cooling water pumps

TASK REFERENCE:	253010001001

K/A REFERENCE & RATING:	245000 A4.03 2.7 / 2.8

TESTING METHOD:	Simulate Performance				Actual Performance	**X**
	Control Room		Simulator	**X**	In-Plant	

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	Yes

SAFETY FUNCTION	4

SIMULATOR SETUP SHEET

Task Description: Alternate Stator Cooling Water Pumps

Required Power: Any

IC No.:   177

Notes:

DATA SHEET

References for Development: SOP-020

Required Materials: SOP-020

Required Plant Condition: None

Task Standard   Returned to the previously running pump, following pump rotation due to out of spec parameters.

Applicable Objectives: RLP-STM-0123 Objective 3, 4 and 7

Safety Related Task: NO

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

Stator Cooling Water Pump "A" is operating with normal system pressure and flow. The turbine building operator has verified that B Stator cooling water pump is ready to start.

Initiating Cue:

The CRS directs you to shift Stator Cooling Water pumps in accordance with SOP-020 section 5.2

PERFORMANCE STEP *[SOP/ARP Step]*	STANDARD	S/U	COMMENTS
*_____ 1.	5.2.1 Depress idle GMC-SCPM-B, STATOR CLG WTR PUMP B START Pushbutton.	START pushbutton for GMC-SCPM-B depressed	_____	GMC-SCPM-B red light ON green light OFF
_____ 2.	5.2.2 Depress previously running GMC-SCPM-A, STATOR CLG WTR PUMP A STOP Pushbutton.	STOP pushbutton for GMC-SCPM-A depressed	_____	GMC-SCPM-A red light OFF green light ON
*_____ 3.	5.2.3 At H13-P870, observe pressure on GMC-PIEPR-15, STATOR COOLING WATER PRESS. IF pressure does not stabilize at greater than 60 psig, THEN immediately return to original pump configuration.	STATOR COOLING WATER PRESS on GMC-PIEPR-15 determined to be less than 60 psig.	_____	
*_____ 4.	5.2.1 **ALTERNATE PATH** Depress idle GMC-SCPM-A, STATOR CLG WTR PUMP A START Pushbutton.	START pushbutton for GMC-SCPM-A depressed	_____	GMC-SCPM-A red light ON green light OFF

PERFORMANCE STEP *[SOP/ARP Step]*		STANDARD	S/U	COMMENTS
_____5.	5.2.2 Depress previously running GMC-SCPM-B, STATOR CLG WTR PUMP B STOP Pushbutton.	STOP pushbutton for GMC-SCPM-B depressed	_____	GMC-SCPM-B red light OFF green light ON

Terminating Cue: Stator Cooling Water Pump "A" is operating with normal system pressure and flow.

RJPM-NRC-D10-S1   *** Denotes <u>Critical Step</u>**   **Page 7 of 9**
^ Denotes <u>Sequence Critical</u>
(**<u>must</u> be performed after previous step marked ^**)

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: Stator Cooling Water Pump "A" is operating with normal system pressure and flow. The turbine building operator has verified that B Stator cooling water pump is ready to start.

Initiating Cues: The CRS directs you to shift Stator Cooling Water pumps in accordance with SOP-020 section 5.2

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

MANUALLY START LPCS - SUPPRESSION POOL TO SUPPRESSION POOL

REASON FOR REVISION:

D 2010 NRC Exam JPM	**S2**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-8-2010
Technical Review (SME)	KCN	Date
Tim Venable	0130	9-8-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Manually Start LPCS – Suppression Pool to Suppression Pool

TASK REFERENCE:	203007001001

K/A REFERENCE & RATING:	209001	A2.01	3.4/ 3.4
		A3.01	3.6/ 3.6
		A3.04	3.7/ 3.6
		A4.01	3.8/ 3.6
		A4.11	3.7/ 3.6

TESTING METHOD:	Simulate Performance				Actual Performance	**X**
	Control Room		Simulator	**X**	In-Plant	

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	Yes

ALTERNATE PATH (FAULTED):	Yes

SAFETY FUNCTION	2

SIMULATOR SETUP SHEET

Task Description: Manually Start LPCS-Suppression Pool to Suppression Pool

Required Power: Any

IC No.:   180

Notes: LPCS pump will trip when flow increases to approximately 4000 GPM

Build a trigger event with ADFLPCS .> 420 to a Trigger (420 #/sec = 3000 gpm)

Attach that Trigger to LPCS001(LPCS Pump Trip), no time delay or ramp

DATA SHEET

References for Development: SOP-0032, Low Pressure Core Spray (Sys#205)

Required Materials: SOP-0032, Low Pressure Core Spray (Sys#205)
section 4.2

Required Plant Condition: None

Task Standard   Started LPCS pump, responded to a pump trip and placed the system into standby lineup.

Applicable Objectives: RLP-STM-205 Obj #5 and 10

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

LPCS is in a normal Standby Lineup.

Initiating Cue:

The CRS has directed you to manually start the LPCS System @ 5000 gpm Suppression Pool to Suppression Pool, per SOP-0032 section 4.2, to place load on the diesel generator.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
4.2.1 ____ 1. Notify Radiation Protection of impending system operation.		____	**Cue:** RP Notified
4.2.2 * ____ 2. Start E21-C001, LPCS PUMP and perform the following.	Pump breaker handle placed to the close position, Pump Running, red & white light only.	____	
4.2.2.1 ____ 3. Check LPCS pump current is less than 157 amps as indicated on E21-C001, LPCS MOTOR AMPS.	Amps verified less than 157.	____	
4.2.2.2 * ____ 4. Verify E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL is open	Verified that E21-F011indicates full open, red light on	____	
4.2.2.3 ____ 5. Check Annunciator P601-19A-F07, DIV 1 ADS LOGIC LPCS/LPCI OPR PERMISSIVE alarms.	Verified Annunciator P601-19A-F07, DIV 1 ADS LOGIC LPCS/LPCI OPR PERMISSIVE alarms.	____	

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
*_____6.	4.2.3 Open E21-F012, LPCS TEST RETURN VLV TO SUPPRESSION POOL	Placed and held the control switch for, E21-F012, to OPEN, red light on, green light off	_____	
_____7.	4.2.4 WHEN flow rises above 875 gpm, THEN verify E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL closes	Verified that E21-F011, stroked full closed, Green light only	_____	
_____8.	**ALTERNATE PATH** Respond to the LPCS pump Trip by referring to ARP-601-21-C08 and SOP-0032, Section 6.	Implemented ARP-601-21-C08, SOP-0032 Section 6 and Notifies CRS	_____	CUE: After the candidate has referenced the ARP, as CRS direct operator to secure lineup per SOP-0032 section 6.0. and that another operator will perform the ARP actions.
_____9	6.1 Verify adequate core cooling is assured by two independent indications.	Verified normal reactor water level	_____	
*_____10	6.4.1 Close E21-F012, LPCS TEST RETURN VLV TO SUPPRESSION POOL	Placed the switch control for E21-F012 to CLOSE, red light off green light on	_____	

RJPM-NRC-D10-S2   *** Denotes <u>Critical Step</u>**   **Page 7 of 10**
^ Denotes <u>Sequence Critical</u>
(<u>must</u> be performed after previous step marked ^)

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____11.	4.2.1 Verify Close E21-F005, LPCS INJECT ISOL VALVE.	Verified red light off green light on	_____	
_____12.	6.5 When flow lowers below 875 gpm, then verify E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL opens	Verified E21-F011, LPCS MIN FLOW VLV TO SUPPRESSION POOL opens, red light off ,green light on.	_____	If Valve does not OPEN, Operator to take action per procedure
_____13.	6.6 If E21-C002, LPCS/RHR DIV I LINE FILL PUMP is not running, than start E21-C002	Verified E21-C002 running, red light only	_____	

Terminating Cue: LPCS is shutdown per SOP-0032

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: LPCS is in a normal Standby Lineup.

Initiating Cues: The CRS has directed you to manually start the LPCS System @ 5000 gpm Suppression Pool to Suppression Pool, per SOP-0032 section 4.2, to place load on the diesel generator.

**RIVER
BEND STATION**

Number: ***RJPM-NRC-D10-S3**
Revision: **01**
Page 1 of 15

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

START DRYWELL LOW VOLUME PURGE

REASON FOR REVISION:

D 2010 NRC Exam JPM	**S3**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-8-2010
Technical Review (SME)	KCN	Date
Scott Shultz	0176	9-8-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Start Drywell Low Volume Purge per SOP-059

TASK REFERENCE:	222015001001

K/A REFERENCE & RATING:	261000	A4.03	3.0 / 3.0

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	Yes

SAFETY FUNCTION	9

SIMULATOR SETUP SHEET

Task Description: Start Drywell Low Volume Purge per SOP-0059

Required Power: Mode 4 or 5

IC No.:   179

Notes: Set up an event trigger as follows:
ZDI2(437) != 0
DI_HVR-FN13   d 20   f stop

DATA SHEET

References for Development: SOP-0059

Required Materials: SOP-0059

Required Plant Condition: Mode 4 or 5

Task Standard   Low volume purge in service. Responded to the trip and placed high volume purge into service.

Applicable Objectives: RLP-STM-0403 Objective 2 and 6

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **<u>Critical Steps</u>**, failure to successfully complete a **<u>Critical Step</u>** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

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Read to the Operator:

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Initial Conditions: The plant is shutdown in Mode 4. The initial drywell entry will be performed on this shift. RP has requested the drywell to be purged for 1 hour prior to entry.

Initiating Cue: The CRS directs you to purge the drywell per SOP-0059 section 5.8. Steps 5.8.1 and 5.8.2 have been completed.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
NOTE: Steps 5.8.1 and 5.8.2 have been completed.			
_____ 1. 5.8.3 Verify the following dampers are open: • HVR-AOD164, UP STREAM ISOL SUPPLY • HVR-AOD143, DN STREAM ISOL SUPPLY • HVR-AOD214, AUX/CONTMT BLDG EXH ISOL • HVR-AOD262, AUX/CONTMT BLDG EXH ISOL	Verified: HVR-AOD164 red light ON green light OFF HVR-AOD143 red light ON green light OFF HVR-AOD214 red light ON green light OFF HVR-AOD262 red light ON green light OFF	_____	
* _____ 2. 5.8.4 Open the following valves: • HVR-AOV165, CONTMT SPLY OUTBD ISOL • HVR-AOV123, CONTMT SPLY INBD ISOL • HVR-AOV125 & 126, DW PURGE BACKUP ISOL • HVR-AOV147 & 148, DW PURGE ISOL • HVR-AOV128, CONTMT RTN INBD ISOL • HVR-AOV166, CONTMT RTN OUTBD ISOL • HVR-AOD225, CONTMT/DW PURGE EXH ISOL	HVR-AOV165 control switch placed to open HVR-AOV123 control switch placed to open HVR-AOV125 & 126 control switch placed to open HVR-AOV147 & 148 control switch placed to open HVR-AOV128 control switch placed to open HVR-AOV166 control switch placed to open HVR-AOD225 control switch placed to open	_____	• HVR-AOV165 red light ON green light OFF • HVR-AOV123 red light ON green light OFF • HVR-AOV125 & 126 red lights ON green light OFF • HVR-AOV147 & 148 red lights ON green light OFF • HVR-AOV128 red light ON green light OFF • HVR-AOV166 red light ON green light OFF • HVR-AOD225 red light ON green light OFF

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____3.	5.8.5 Place HVR-FN14, CONTMT PURGE FLT EXH FAN to START and verify the following: • HVR-AOD238, CONTMT PURGE FLT SUCT opens. • HVR-AOD240, CONTMT FLT EXH FAN SUCT opens.	Control switch for HVR-FN14 placed in the START position.	_____	HVR-FN14 red light ON green light OFF HVR-AOD238 red light ON green light OFF HVR-AOD240 red light ON green light OFF
*_____4.	5.8.6 Place HVR-FN13, LOW VOL CONTMT PURGE to START and verify HVR-AOD236, LOW VOL FAN DISCH opens.	Control switch for HVR-FN13 placed in the START position.	_____	HVR-FN13 red light ON green light OFF HVR-AOD236 red light ON green light OFF
*_____5.	**ALTERNATE PATH** Recognize and report the trip of HVR-FN14.	Report has been made to the CRS	_____	**CUE:** As the CRS, direct the candidate to secure the drywell low volume purge starting at step 5.8.9 and start drywell high volume purge per SOP-059 section 5.7 using GTS-FN1A.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
*_____ 6.	5.8.9 Place HVR-FN14, CONTMT PURGE FLT EXH FAN to STOP and verify the following dampers close: • HVR-AOD238, CONTMT PURGE FLT SUCT • HVR-AOD240, CONTMT FLT EXH FAN SUCT	Control switch for HVR-FN14 placed in the STOP position.	_____	HVR-FN14 red light OFF green light ON HVR-AOD238 red light OFF green light ON HVR-AOD240 red light OFF green light ON
_____ 7.	5.8.10 Verify HVR-FN15, FLT6 DECAY HEAT REMOVAL starts and the following dampers open: • HVR-AOD239, DECAY HEAT REMOVAL INTK • HVR-AOD241, DECAY HEAT REMOVAL DISCH	Recognized that decay heat removal fan did not start.	N/A	NOTE Decay heat fan will not auto start due to the suction damper open for less than 60 seconds. CUE: Acknowledge report that fan did not start.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____8.	5.8.11 Close the following valves: • HVR-AOV165, CONTMT SPLY OUTBD ISOL • HVR-AOV123, CONTMT SPLY INBD ISOL • HVR-AOV125 & 126, DW PURGE BACKUP ISOL • HVR-AOV147 & 148, DW PURGE ISOL • HVR-AOV128, CONTMT RTN INBD ISOL • HVR-AOV166, CONTMT RTN OUTBD ISOL	HVR-AOV165 control switch placed to closed HVR-AOV123 control switch placed to closed HVR-AOV125 & 126 control switch placed to closed HVR-AOV147 & 148 control switch placed to closed HVR-AOV128 control switch placed to closed HVR-AOV166 control switch placed to closed	_____	• HVR-AOV165 red light OFF green light ON • HVR-AOV123 red light OFF green light ON • HVR-AOV125 & 126 red light OFF green light ON • HVR-AOV147 & 148 red light OFF green light ON • HVR-AOV128 red light OFF green light ON • HVR-AOV166red light OFF green light ON
*_____9.	5.8.12 Place administrative controls on the following control switches: • HVR-AOV125 & 126, DW PURGE BACKUP ISOL • HVR-AOV147 & 148, DW PURGE ISOL	This step is N/A in mode 4	N/A	

* Denotes <u>Critical Step</u>
^ Denotes <u>Sequence Critical</u>
(<u>**must**</u> **be performed after previous step marked ^)**

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 10.	5.8.13 Close the following valves and install administrative controls: • HVR-AOV125-V1, DRYWELL SPLY OUTBD ISOL • HVR-AOV126-V1, DRYWELL EXH AIR OUTBD ISOL • HVR-AOV147-V1, DRYWELL SPLY INBD ISOL • HVR-AOV148-V1, DRYWELL EXH AIR INBD ISOL	This step is N/A in mode 4	N/A	
_____ 11.	5.8.14 WHEN HVR-FN15, FLT6 DECAY HEAT REMOVAL has operated at least 30 minutes OR at the discretion of the OSM/CRS, THEN place Filter Train Decay Heat Removal in standby by performing the following: 1. Place HVR-FN15, FLT6 DECAY HEAT REMOVAL in STOP. 2. Verify HVR-AOD239, DECAY HEAT REMOVAL INTK closes. 3. Verify HVR-AOD241, DECAY HEAT REMOVAL DISCH closes. 4. Place HVR-FN15, FLT6 DECAY HEAT REMOVAL in AUTO.	Step is N/A.	N/A	NOTE Decay heat fan will not auto start due to the suction damper open for less than 60 seconds.

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
*_____ 12.	5.8.15 Close HVR-AOD225, CONTMT/DW PURGE EXH ISOL.	HVR-AOD225 control switch has been placed to the closed position	_____	HVR-AOD225 green light ON red light OFF.
_____ 13	5.7.1 Release administrative controls and open the following valves: • HVR-AOV125-V1, DRYWELL SPLY OUTBD ISOL • HVR-AOV126-V1, DRYWELL EXH AIR OUTBD ISOL • HVR-AOV147-V1, DRYWELL SPLY INBD ISOL • HVR-AOV148-V1, DRYWELL EXH AIR INBD ISOL	This step is N/A in mode 4	N/A	
_____ 14	5.7.2 Release administrative controls on the following control switches: • HVR-AOV125 & 126, DW PURGE BACKUP ISOL • HVR-AOV147 & 148, DW PURGE ISOL	This step is N/A in mode 4.	N/A	
_____ 15	5.7.3 Verify the following dampers are open: • HVR-AOD164, UP STREAM ISOL SUPPLY • HVR-AOD143, DN STREAM ISOL SUPPLY	Verified proper component alignment	_____	HVR-AOD164 red light ON green light OFF HVR-AOD143 red light ON green light OFF

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* ____16 5.7.4 Open the following dampers and valves: • HVR-AOV165, CONTMT SPLY OUTBD ISOL • HVR-AOV123, CONTMT SPLY INBD ISOL • HVR-AOV125 & 126, DW PURGE BACKUP ISOL • HVR-AOV147 & 148, DW PURGE ISOL • HVR-AOV128, CONTMT RTN INBD ISOL • HVR-AOV166, CONTMT RTN OUTBD ISOL • HVR-AOD245, CONTMT PURGE TO SGT • HVR-AOD162, CONTMT PURGE TO SGT	HVR-AOV165 control switch placed to open HVR-AOV123 control switch placed to open HVR-AOV125 & 126 control switch placed to open HVR-AOV147 & 148 control switch placed to open HVR-AOV128 control switch placed to open HVR-AOV166 control switch placed to open HVR-AOD245 control switch placed to open HVR-AOD162 control switch placed to open.	____	• HVR-AOV165 red light ON green light OFF • HVR-AOV123 red light ON green light OFF • HVR-AOV125 & 126 red light ON green light OFF • HVR-AOV147 & 148 red light ON green light OFF • HVR-AOV128 red light ON green light OFF • HVR-AOV166 red light ON green light OFF • HVR-AOD245 red light ON green light OFF • HVR-AOD162 red light ON green light OFF
* ____17 5.7.5 Start GTS-FN1A, SGT EXH FAN A by depressing the START Pushbutton and verify the following: 1. GTS-AOD1A, SGT FILTER A SUCT ISOL opens. 2. GTS-FN1A, SGT EXH FAN A) starts. 3. GTS-AOD3A, SGT EXH FAN A) DISCH opens.	Start pushbutton has been depressed and held until GTS-AOD1A has fully opened and the GTS fan has started.	____	GTS-AOD1A red light ON green light OFF GTS-FN1A red light ON green light OFF GTS-AOD3A red light ON green light OFF

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 18	5.7.6 IF an Annulus Mixing System Initiation is received, THEN take action in accordance with the associated annunciator Alarm Response Procedures.		<u>N/A</u>	NOTE: Annulus Mixing System should not initiate.
* _____ 19	5.7.7 Place HVR-FN8, HIGH VOL CONTMT/DW PURGE to START and verify HVR-AOD244, HIGH VOL FAN DISCH opens.	HVR-FN8 control switch has been placed to the START position.	_____	HVR-FN8 red light ON green light OFF HVR-AOD244 red light ON green light OFF
_____ 20	5.7.8 At AB 141 ft el, EJS-SWG2A(B), 480 V STANDBY SWITCHGEAR, verify breaker EJS-ACB033(073), GTS-H1A(B) is closed.	Candidate has dispatched an operator to verify breaker is in the closed position.	_____	**CUE:** As the building operator accept the direction to verify the breaker position and report that the breaker is closed.
_____ 21	5.7.9 Verify proper filter operation by observing the following differential pressure and radiation indications: • GTS-FLT1A(B), SGT FILTER TRAIN local component differential pressure instruments • RMS-RE21A&B, CONTMT PURGE ISOL • RMS-RE103, SGT FILTER EXH RAD MONITOR	Candidate has dispatched an operator to verify proper local component differential pressure instruments. Candidate has verified that radiation indications are normal on RE-21A&B and 103.	_____	**CUE:** As the building operator accept the direction to verify proper local component differential pressure instruments. Radiation monitors have a color status of GREEN.

Terminating Cue: Drywell High Volume Purge is in service with GTS-FN1A and HVR-FN8

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant is shutdown in Mode 4. The initial drywell entry will be performed on this shift. RP has requested the drywell to be purged for 1 hour prior to entry.

Initiating Cues: The CRS directs you to purge the drywell per SOP-059 section 5.8. Steps 5.8.1 and 5.8.2 have been completed.

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

SHIFT CONTROL ROD DRIVE PUMPS

REASON FOR REVISION:

D 2010 NRC Exam JPM	**S4**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-8-2010
Technical Review (SME)	KCN	Date
Scott Dallas	1385	9-8-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Shift Control Rod Drive pumps

TASK REFERENCE:	201007001001

K/A REFERENCE & RATING:	201001	A1.01	3.1/2.9	A1.02	2.9/2.9
	201001	A1.03	2.9/2.8	A3.02	2.8/2.8
	201001	A3.03	2.7/2.7	A3.04	2.8/2.7
	201001	A4.01	3.1/ 3.1	A4.04	3.1/ 3.0

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	Yes

SAFETY FUNCTION	1

SIMULATOR SETUP SHEET

Task Description: Shift Control Rod Drive Pumps

Required Power: Any

IC No.:   179

Notes:

DATA SHEET

References for Development: SOP-0002, Section 5.1

Required Materials: SOP-0002, Section 5.1

Required Plant Condition: None

Task Standard   Shift CRD pumps and respond to the tripped pump

Applicable Objectives: RLP-STM-052 Obj #4 and 6

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.

Read to the Operator:

I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions:

CRD Pump "B" is operating with normal system pressure and flow. "A" CRD pump is off.

Initiating Cue:

The CRS directs you to shift CRD pumps in accordance with SOP-0002, Section 5.1.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1.	5.1.1.1 Check that the oil level for CRD Pump A and its associated gear box is normal.	Directed the building operator check CRD pump oil levels	_____	**Cue:** The building operator reports that the CRD pump oil levels are normal
_____ 2.	5.1.1.2 Close C11-VF014A, CRD PMP A DISCH STOP CHECK VLV.	Directed the building operator to close C11-VF014A, CRD PMP A DISCH STOP CHECK VLV.	_____	**Cue:** The building operator reports that C11-VF014A, CRD PMP A DISCH STOP CHECK VLV is now closed
_____ 3.	5.1.1.3 Vent the CRD Pump A casing using C11-VF109A, CRD PUMP A CASING VENT VLV.	Directed the building operator to vent the CRD Pump A casing using C11-VF109A, CRD PUMP A CASING VENT VLV.	_____	**Cue:** The building operator reports that the CRD pump casing has been vented
* _____ 4.	5.1.1.4 Start C11-C001AP, CRD AUX OIL PUMP A.	Control switch for C11-C001AP, CRD AUX OIL PUMP A rotated to the start position	_____	Red light on green light off
_____ 5.	5.1.1.5 Verify white light comes on for C11-C001A, CRD PUMP A.	Verified that the white light is illuminated.	_____	White light on.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 6.	5.1.1.6 Start C11-C001A, CRD PUMP A <u>AND</u> immediately perform the following:	Control switch for C11-C001A, CRD PUMP A rotated to the start position	_____	Red light on green light off
7.	5.1.1.6. Slowly, open C11-VF014A, CRD PMP A DISCH STOP CHECK VLV.	Directed the building operator to slowly, open C11-VF014A, CRD PMP A DISCH STOP CHECK VLV.	_____	**Cue:** The building operator reports that the discharge valve has been slowly opened fully
8.	5.1.1.7 Verify CRD Pump A is operating properly.	Directed the building operator to verify proper operation.	_____	CUE: The building operator reports that all pumps checks are satisfactory.
9.	5.1.2. Check that CRD System flow has stabilized.	Verified proper flow on C11-R606, CRD HYDR FLOW.	_____	45gpm
10.	5.1.3.1 Close C11-VF014B, CRD PMP B DISCH STOP CHECK VLV.	Directed the building operator to close C11-VF014B, CRD PMP B DISCH STOP CHECK VLV.	_____	CUE: Report as the building operator that C11-VF014B, CRD PMP B DISCH STOP CHECK VLV is closed.

RJPM-NRC-D10-S4   *** Denotes <u>Critical Step</u>**   **Page 7 of 11**
^ Denotes <u>Sequence Critical</u>
(<u>must</u> be performed after previous step marked ^)

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 11.	5.1.3.2. Stop C11-C001B, CRD PUMP B.	Placed the control switch for C11-C001B, CRD PUMP B to stop.	_____	Red light OFF and green light ON.
* _____ 12.	**ALTERNATE PATH** C11-C001B, CRD PUMP B trips	Recognized and reported to the CRS that the CRD pump has tripped	_____	White light off, amber and green lights on. CUE: As the CRS direct the candidate to restore CRD-P1B discharge path, then start CRD-P1B per the ARP-P601-22 –A01 guidance.
_____ 13	5.1.5 Slowly reopen C11-VF014B, CRD PMP B DISCH STOP CHECK VLV for the pump which was stopped	Directed the building operator to slowly open C11-VF014B, CRD PMP B DISCH STOP CHECK VLV	_____	CUE: Report as the building operator that C11-VF014B, CRD PMP B DISCH STOP CHECK VLV is fully open.
_____ 14	1.(ARP-H13-P601/22/A01) At H13-P601, start the standby CRD Pump as follows:		N/A	
* _____ 15	1.a Start Standby CRD Pump Aux Oil Pump C11-C001BP, CRD AUX OIL PUMP B.	Placed the control switch for C11-C001BP, CRD AUX OIL PUMP B to start	_____	Red light ON green light OFF
_____ 16	1.b Place Flow Controller C11-R600 to MANUAL	Placed Flow Controller C11-R600 to MANUAL	_____	

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 17	1.c Close C11-R600, CRD HYDRAULICS FLOW CONTROLLER C11-F001A/B.	Depressed the close push button to close C11-R600, CRD HYDRAULICS FLOW CONTROLLER C11-F001A/B.	_____	
_____ 18	1.d Verify White Control Power Light on for CRD Pump to be started.	Verified the white Control Power Light on for CRD Pump B to be started.	_____	
* _____ 19	1.e Start Standby Pump C11-C001B, CRD PUMP B.	Placed the control switch for C11-C001B, CRD PUMP B to start.	_____	Red light ON green light OFF
_____ 20	1.f Verify amps return to normal of less than 45 amps.	Verified amps return to normal of less than 45 amps.	_____	
_____ 21	1.g WHEN system flow drops below 45 gpm as indicated on C11-R606, CRD HYDR FLOW, THEN slowly throttle open Flow Controller C11-R600 to achieve 45 gpm.	After system flow has dropped below 45 gpm slowly throttled open Flow Controller C11-R600 with the open push button to achieve 45 gpm.	_____	
* _____ 22	1.h WHEN Flow Controller C11-R600 setpoint is nulled out, THEN place to AUTO.	After flow controller C11-R600 setpoint is nulled out, placed into AUTO.	_____	

Terminating Cue: CRD-P1B restored per ARP-P601-22.

<u>VERIFICATION OF COMPLETION</u>

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

<u>Follow-up Questions:</u>

<u>Follow-up Question Response:</u>

Time to complete JPM: _____ minutes

Comments / Feedback:

<u>RESULT:</u>   **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: CRD Pump "B" is operating with normal system pressure and . "A" CRD pump is off.

Initiating Cues: The CRS directs you to shift CRD pumps in accordance with SOP-0002, Section 5.1.

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

Restoration of Offsite Power

REASON FOR REVISION:

D 2010 NRC Exam JPM	**S5**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-9-2010
Technical Review (SME)	KCN	Date
Alfonso Croeze	0597	9-9-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Restoration of Offsite Power

TASK REFERENCE:	400014004001

K/A REFERENCE & RATING:	262001	K1.03	3.4/3.8		
	262001	A1.02	3.1/3.5		
	262001	A1.03	2.9/3.1	A1.05	3.2/3.5
	262001	A2.07	3.0/3.2	A4.05	3.3/3.3

TESTING METHOD:	Simulate Performance				Actual Performance	**X**
	Control Room		Simulator	**X**	In-Plant	

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	Yes

ALTERNATE PATH (FAULTED):	No

SAFETY FUNCTION	6

SIMULATOR SETUP SHEET

Task Description:

Required Power: Loss of Offsite Power

IC No.:   180

Notes:

DATA SHEET

References for Development: AOP-0004, Loss of Offsite Power

Required Materials: AOP-0004, Loss of Offsite Power, Section 5.16

Required Plant Condition: Plant shutdown, offsite power available, all three diesel generators running carrying their respective buses.

Task Standard   Power has been restored to NPS and NNS busses.

Applicable Objectives: RLP-HLO-523 Obj. 11 and 12

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to successfully complete a **Critical Step** requires the JPM to be evaluated as "Unsatisfactory". Comments describing the reason for failure are required in the comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not performed in the sequence described, appropriate cues other than described in the body of the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

> **Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.**

Read to the Operator:

> I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions: The plant experienced a Loss of Offsite Power approximately 6 hours ago due to a grid fault. All required immediate and subsequent actions were carried out. All three diesel generators started and are carrying their respective buses. All other plant equipment operated as designed. There are no faults within the plant electrical distribution system and all protective relays have been reset and documented. The System Operator has reported that offsite power is available at the switchyard and he is ready for restoration to the plant.

Initiating Cue: The CRS directs you to restore offsite power to the plant (NPS and NNS Buses) in accordance with AOP-0004, Loss of Offsite Power, Section 5.16. Steps 5.16.1 thru 5.16.5 have already been completed.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 1.	5.16.6 At H13-P870, depress the LOCKOUT Pushbutton for the following pumps:		N/A	
_____ 2.	5.16.6 CCS-P1A, TPCCW PUMP 1A	CCS-P1A LOCKOUT Pushbutton has been fully depressed	_____	CCS-P1A control power white light OFF
_____ 3	5.16.6 CCS-P1B, TPCCW PUMP 1B	CCS-P1B LOCKOUT Pushbutton has been fully depressed	_____	CCS-P1B control power white light OFF
_____ 4	5.16.6 CCS-P1C, TPCCW PUMP 1C	CCS-P1C LOCKOUT Pushbutton has been fully depressed	_____	CCS-P1C control power white light OFF
_____ 5	5.16.6 CCP-P1A, RPCCW PUMP 1A	CCP-P1A LOCKOUT Pushbutton has been fully depressed	_____	CCP-P1A control power white light OFF
_____ 6	5.16.6 CCP-P1B, RPCCW PUMP 1B	CCP-P1B LOCKOUT Pushbutton has been fully depressed	_____	CCP-P1B control power white light OFF
_____ 7	5.16.6 CCP-P1C, RPCCW PUMP 1C	CCP-P1C LOCKOUT Pushbutton has been fully depressed	_____	CCP-P1C control power white light OFF
_____ 8	5.16.6 GMC-SCPM-A, STATOR CLG WTR PUMP A	GMC-SCPM-A LOCKOUT Pushbutton has been fully depressed	_____	GMC-SCPM-A control power white light OFF
_____ 9	5.16.6 GMC-SCPM-B, STATOR CLG WTR PUMP B	GMC-SCPM-B LOCKOUT Pushbutton has been fully depressed	_____	GMC-SCPM-B control power white light OFF
_____ 10	5.16.6 TMB-HFPM-A, EHC PUMP A	TMB-HFPM-A LOCKOUT Pushbutton has been fully depressed	_____	TMB-HFPM-A control power white light OFF
_____ 11	5.16.6 TMB-HFPM-B, EHC PUMP B	TMB-HFPM-B LOCKOUT Pushbutton has been fully depressed	_____	TMB-HFPM-B control power white light OFF
_____ 12	5.16.7 At H13-P808, Harris Panel, verify lockout indication for the following pumps:		N/A	

RJPM-NRC-D10-S5   *** Denotes Critical Step**   **Page 6 of 12**
^ Denotes Sequence Critical
(**must** be performed after previous step marked **^**)

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
____ 13	5.16.7 SWC-P1A LOCKOUT	SWC-P1A has been selected and locked out.	____	SWC-P1A BLUE light ON and Lockout status light ON.
____ 14	5.16.7 SWC-P1B LOCKOUT	SWC-P1B has been selected and locked out.	____	SWC-P1B BLUE light ON and Lockout status light ON.
____ 15	5.16. SWC-P1C LOCKOUT	SWC-P1C has been selected and locked out.	____	SWC-P1C BLUE light ON and Lockout status light ON.
____ 16	5.16.7 SWP-P7A LOCKOUT	SWP-P7A has been selected and locked out.	____	SWP-P7A BLUE light ON and Lockout status light ON.
____ 17	5.16.7 SWP-P7B LOCKOUT	SWP-P7B has been selected and locked out.	____	SWP-P7B BLUE light ON and Lockout status light on.
____ 18	5.16.7 SWP-P7C LOCKOUT	SWP-P7C has been selected and locked out.	____	SWP-P7C BLUE light ON and Lockout status light ON.
____ 19	5.16.8 At H13-P680, close the Preferred Station Service Transformer supply breakers as follows:		N/A	
____ 20	5.16.8.1 Place PFD XFMR C & E SPLY SYNC SELECTOR SWITCH to N. BUS position.	Placed PFD XFMR C & E SPLY SYNC SELECTOR SWITCH to N. BUS position.	____	
* ____ 21	5.16.8.2 Close YWC-20620 to energize PFD STA SVCE XFMR C & E.	YWC-20620 CLOSE pushbutton has been depressed	____	YWC-20620 red light ON and green light OFF

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 22	5.16.8.3 Place PFD XFMR C & E SPLY SYNC SELECTOR SWITCH to S. BUS position.	Placed PFD XFMR C & E SPLY SYNC SELECTOR SWITCH to S. BUS position.	_____	
* _____ 23	5.16.8.4 Close YWC-20610.	YWC-20610 CLOSE pushbutton has been depressed	_____	YWC-20610 red light ON and green light OFF
_____ 24	5.16.8.5 Place PFD XFMR C & E SPLY SYNC SELECTOR SWITCH to OFF.	Placed PFD XFMR C & E SPLY SYNC SELECTOR SWITCH to OFF	_____	
_____ 25	5.16.8.6 Place PFD XFMR D & F SPLY SYNC SELECTOR SWITCH to N. BUS position.	Placed PFD XFMR D & F SPLY SYNC SELECTOR SWITCH to N. BUS position	_____	
* _____ 26	5.16.8.7 Close YWC-20670 to energize PFD STA SVCE XFMR D & F.	YWC-20670 CLOSE pushbutton has been depressed	_____	YWC-20670 red light ON and green light OFF
_____ 27	5.16.8.8 Place PFD XFMR D & F SPLY SYNC SELECTOR SWITCH to ENJAY position.	Placed PFD XFMR D & F SPLY SYNC SELECTOR SWITCH to ENJAY position.	_____	
* _____ 28	5.16.8.9 Close YWC-20665.	YWC-20665 CLOSE pushbutton has been depressed	_____	YWC-20665 red light ON and green light OFF
_____ 29	5.16.8.10 Place PFD XFMR D & F SPLY SYNC SELECTOR SWITCH to OFF.	Placed PFD XFMR D & F SPLY SYNC SELECTOR SWITCH to OFF	_____	

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____ 30	5.16.9 At H13-P808, close the Preferred Station Transformer output breakers as follows:		N/A	
* _____ 31	5.16.9.1 Select 13.8 KV on BUS A SYNC CHECK DEFEAT Switch.	Selected 13.8 KV on BUS A SYNC CHECK DEFEAT Switch.	_____	
* _____ 32	5.16.9.2 Close NPS-ACB11, 13.8 KV PFD SUPPLY BRKR for NPS-SWG1	NPS-ACB11 CLOSE pushbutton has been depressed	_____	NPS-ACB11 red light ON and green light OFF
_____ 33	5.16.9.3 Select OFF on BUS A SYNC CHECK DEFEAT Switch.	Selected OFF on BUS A SYNC CHECK DEFEAT Switch.	_____	
* _____ 34	5.16.9.4 Select 4.16 KV on BUS A SYNC CHECK DEFEAT Switch.	Selected 4.16 KV on BUS A SYNC CHECK DEFEAT Switch.	_____	
* _____ 35	5.16.9.5 Close NNS-ACB07, 4160V PFD SUPPLY BRKR for NNS-SWG1A.	NNS-ACB07 CLOSE pushbutton has been depressed	_____	NNS-ACB07 red light ON and green light OFF
_____ 36	5.16.9.6 Select OFF on BUS A SYNC CHECK DEFEAT Switch.	Selected OFF on BUS A SYNC CHECK DEFEAT Switch.	_____	
* _____ 37	5.16.9.7 Select 13.8 KV on BUS B SYNC CHECK DEFEAT Switch.	Selected 13.8 KV on BUS B SYNC CHECK DEFEAT Switch.	_____	
* _____ 38	5.16.9.8 Close NPS-ACB27, 13.8 KV PFD SUPPLY BRKR for NPS-SWG1B.	NPS-ACB27 CLOSE pushbutton has been depressed	_____	NPS-ACB27 red light ON and green light OFF

PERFORMANCE STEP		STANDARD	S/U	COMMENTS
_____ 39	5.16.9.9 Select OFF on BUS B SYNC CHECK DEFEAT Switch.	Selected OFF on BUS B SYNC CHECK DEFEAT Switch.	_____	
* _____ 40	5.16.9.10 Select 4.16 KV on BUS B SYNC CHECK DEFEAT Switch.	Selected 4.16 KV on BUS B SYNC CHECK DEFEAT Switch.	_____	
* _____ 41	5.16.9.11 Close NNS-ACB15, 4160V PFD SUPPLY BRKR for NNS-SWG1B.	NNS-ACB15 CLOSE pushbutton has been depressed	_____	NNS-ACB15 red light ON and green light OFF
_____ 42	5.16.9.12 Select OFF on BUS B SYNC CHECK DEFEAT Switch.	Selected OFF on BUS B SYNC CHECK DEFEAT Switch.	_____	

Terminating Cue: Off site power has been restored to the NPS (13.8KV) and NNS (4.16KV) buses.

<u>VERIFICATION OF COMPLETION</u>

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

<u>Follow-up Questions:</u>

<u>Follow-up Question Response:</u>

Time to complete JPM: _____ minutes

Comments / Feedback:

<u>RESULT:</u>   **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: The plant experienced a Loss of Offsite Power approximately 6 hours ago due to a grid fault. All required immediate and subsequent actions were carried out. All three diesel generators started and are carrying their respective buses. All other plant equipment operated as designed. There are no faults within the plant electrical distribution system and all protective relays have been reset and documented. The System Operator has reported that offsite power is available at the switchyard and he is ready for restoration to the plant.

Initiating Cues: The CRS directs you to restore offsite power to the plant (NPS and NNS Buses) in accordance with AOP-0004, Loss of Offsite Power, Section 5.16. Steps 5.16.1 thru 5.16.5 have already been completed.

JOB PERFORMANCE MEASURE

TRAINING PROGRAM:

JOB PERFORMANCE MEASURE

LESSON PLAN:

Perform Rod Withdrawal Limiter Surveillance (>HPSP)

REASON FOR REVISION:

D 2010 NRC Exam JPM	**S6**

PREPARE / REVIEW:

John Hedgepeth	0069	8-24-2010
Preparer	KCN	Date
Angie Orgeron	1538	9-8-2010
Technical Review (SME)	KCN	Date
Scott Shultz	0176	9-8-2010
Operations Validation	KCN	Date

* Indexing Information

TASK DESCRIPTION:	Perform Rod Withdrawal Limiter Surveillance (>HPSP)

TASK REFERENCE:	214001002001

K/A REFERENCE & RATING:	201005 A3.03

TESTING METHOD:	Simulate Performance				Actual Performance	X
	Control Room		Simulator	X	In-Plant	

COMPLETION TIME:	10 min.

MAX TIME:	N/A

JOB LEVEL:	RO/SRO

TIME CRITICAL:	No

EIP CLASSIFICATION REQUIRED:	No

PSA RISK DOMINATE:	No

ALTERNATE PATH (FAULTED):	No

SAFETY FUNCTION	7

SIMULATOR SETUP SHEET

Task Description: Perform Rod Withdrawal Limiter Surveillance (>HPSP)

Required Power: Greater than the HPSP

IC No.:   177

Notes:

DATA SHEET

References for Development: STP-500-0704

Required Materials: STP-500-0704

Required Plant Condition: Greater than the HPSP

Task Standard   STP-500-0704 has been completed with reactor
power above the high power setpoint.

Applicable Objectives: RLP-STM-0500 Objective 4, 12 and 20

Safety Related Task: (If K/A less than 3.0)

Control Manipulations: N/A

Items marked with an "*" are required to be performed, and are **Critical Steps**, failure to
successfully complete a **Critical Step** requires the JPM to be evaluated as
"Unsatisfactory". Comments describing the reason for failure are required in the
comments section of the Verification of Completion sheet.

Items marked with an "^" are required to be performed in the sequence described, if not
performed in the sequence described, appropriate cues other than described in the body of
the JPM may be required to provide proper feedback.

If In-Plant or In the Control Room:

> **Caution the Operator NOT to MANIPULATE the controls, but make clear what they would do if this were not a simulated situation.**

Read to the Operator:

> I will explain the initial conditions, and provide initiating cues. I may provide cues during the performance of this JPM, and I may ask follow-up questions as part of this JPM. When you have completed the task successfully, the objective for this JPM will be satisfied, and you should inform me when you have completed this task.

Initial Conditions: Reactor power is above the HPSP.

Initiating Cue: The CRS has directed you to perform STP-500-0704 for control rod 16-17 per section 7.1 and 7.3

| Initial Position | 10 |
| Final Position | 14 |

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____1.	7.1.1. Verify the selected rod is in the start position recorded in Step 6.6. Record rod position.	Rod 16-17 verified to be in position 10	_____	Rod 16-17 selected and position 10 displayed
_____2.	7.1.2. On the ROD SELECT module, perform the following:		N/A	
_____3.	7.1.2.1 Deselect the rod.	Depressed the DESELECT pushbutton and then released.	_____	DESELECT pushbutton illuminated, then off.
*_____4.	7.1.2.2 Select the rod that corresponds to the rod coordinate position recorded in Step 6.6.	Rod 16-17 has been selected.	_____	Rod 16-17 selected and position 10 displayed
*_____5.	7.1.3. Withdraw the rod two notches in the notch withdrawal mode.	Withdraw pushbutton depressed.	_____	Rod motion from position 10 to position 14
_____6	7.1.4. Check Annunciator P680-07A-C01, CONTROL ROD WITHDRAWAL BLOCK alarms.	CONTROL ROD WITHDRAWAL BLOCK alarm silenced and acknowledged.	_____	CONTROL ROD WITHDRAWAL BLOCK alarm received.

	PERFORMANCE STEP	STANDARD	S/U	COMMENTS
* 7	7.1.5. Check the rod withdrawal limiter stops rod motion at the second notch by attempting to withdraw the rod a third notch and verifying the rod does not move.	Withdraw pushbutton depressed and verified no rod motion.	____	No change to rod position
____ 8	7.3.1. On the ROD SELECT module, perform the following:		N/A	
____ 9	7.3.1.1 Deselect the rod.	Depressed the DESELECT pushbutton and then released.	____	DESELECT pushbutton illuminated, then off.
____ 10	7.3.1.2 Select the rod that corresponds to the rod coordinate position recorded in Step 6.6.	Rod 16-17 has been selected.	____	Rod 16-17 selected and position 14 displayed
____ 11	7.3.2. Check Annunciator P680-07A-C01, CONTROL ROD WITHDRAWAL BLOCK is clear.	CONTROL ROD WITHDRAWAL BLOCK alarm has been reset.	____	CONTROL ROD WITHDRAWAL BLOCK alarm cleared.
____ 12	7.3.3. Verify the selected rod is in the final position recorded in Step 6.6. Record rod position	Verified that rod 16-17 is at position 14 and recorded.	____	Rod 16-17 is displayed at position 14

^ Denotes <u>Sequence Critical</u>
(**<u>must</u>** be performed after previous step marked ^)

PERFORMANCE STEP	STANDARD	S/U	COMMENTS
_____13 7.3.4. IF the rod is withdrawn to position 48, THEN perform a coupling check.	Recorded as N/A	_____	
_____14 7.3.5. Verify the rod recorded in Step 6.6 is in the final position recorded in Step 6.6.	Requested independent verification of rod position.	_____	**CUE:** Inform the candidate that the independent verification has been completed.
_____15 7.3.6. Notify the NCO of test completion.	Notified the NCO of test completion	_____	**CUE:** Accept the notification as the NCO
_____16 7.3.7. Notify the OSM/CRS of test completion.	Notified the OSM/CRS of test completion	_____	**CUE:** Accept the notification as the CRS

Terminating Cue: Rod Withdrawal Limiter verified per STP-500-0704

RJPM-NRC-D10-S6   *** Denotes <u>Critical Step</u>**   **Page 8 of 10**
^ Denotes <u>Sequence Critical</u>
(**<u>must</u> be performed after previous step marked ^**)

VERIFICATION OF COMPLETION

Operator: _____   SSN: _____

Evaluator: _____   KCN: _____

Date: _____   License (Circle one): RO / SRO   No. of Attempts: _____

Follow-up Questions:

Follow-up Question Response:

Time to complete JPM: _____ minutes

Comments / Feedback:

RESULT: **Satisfactory / Unsatisfactory**

Note: An "**Unsatisfactory**" requires comments and remedial training.

Evaluator's Signature: _____   Date: _____

JPM Task Conditions/Cues
(Operator Copy)

Initial Conditions: Reactor power is above the HPSP.

Initiating Cues: The CRS has directed you to perform STP-500-0704 for control rod
16-17 per section 7.1 and 7.3

Initial Position   10
Final Position   14

TRAINING PROGRAM:

SIMULATOR TRAINING

LESSON PLAN:

* **Master FWLCV fails closed / ATWS**

REASON FOR REVISION:

NRC 2010 exam

PREPARE / REVIEW:

Angie Orgeron	1538	8/26/2010
Preparer	KCN	Date
John Hedgepeth	0069	8/26/2010
Technical Review (SME)	KCN	Date
Tim Venable	0130	9/9/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

I. DESCRIPTION OF SCENARIO

This scenario begins with the plant in at 99% power in preparation for a rod sequence exchange. HPCS breaker functional and power reduction are scheduled for the shift.

Events for this scenario:
- Perform HPCS Pump Breaker Functional per SOP.
- Lower reactor power with control rods.
- Spurious RCIC Isolation. With failure to isolate.(Technical Specifications)
- B21-PTN078A RPV pressure transmitter fails high. (Technical Specifications)
- Stator Cooling Pump A trips, Stby pump fails to AUTO start requiring manual start.
- Second Stator Cooling Pump trips / Reactor Scram
- RPS Fails to Scram – All Signals
- FWS Master Controller output fails low after level is lowered
- Main Turbine Bypass Valves fail OPEN.

II. TERMINAL OBJECTIVES

1. Establish safe and stable plant conditions following a Master FWLCV failure with ATWS per plant procedures.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
IC #__171__		**Power:** 99% **Core:** Xenon equilibrium **Equipment OOS:** A Normal Transformer **STPs Due:** NONE **LCOs:** None **Evolutions in progress:** Down Power for sequence exchange **Problem/Lit annunciators:** None	**STP:** None **GOP-0005**

V. GENERAL INSTRUCTIONS

Event Number	MFS-OR-REM-SCH	Expected Operator Actions
Simulator Setup		
	Malfunctions **RCIC007** RCIC INBD ISOL VLV, F063, FAILS TO CLOSE **GMC001B** GMC-P1B FAILURE TO AUTO START **RPS001A** RPS FAILS TO SCRAM - ALL SIGNALS **T1 RCIC009** SPURIOUS RCIC ISOLATION **T1 LO_E51-AS25-W** ON **T1 LO_E51-D2B3-A** ON **T1 P601_21A:D_1** FAIL ON **T2 B21005** RPV PRESS XMITTER, B21-PTN078A, FAILURE **T2 LO_C71-AS3A-1W** OFF **T2 LO_C71-AS3B-1W** OFF **T2 LO_C71-AS3C-1W** OFF **T2 LO_C71-AS3D-1W** OFF **T2 P680-5A:A_9** FAIL ON **T3 GMC002**A STATOR COOLING WATER PUMP A TRIP **T4 GMC002B** STATOR COOLING WATER PUMP B TRIP **T5 FWS004A** FW MASTER LEVEL CONTROLLER OUTPUT FAILS LO **T6 EHC002A** MAIN TURBINE BYPASS VALVES FAIL OPEN	

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
	EVENT TRIGGERS **T5** ZDI6(68) != 0 **T6** WIDE RANGE LEVEL < -100"		
Event 0	**RUN**	CREW:	Board walk down / Turnover.
Event 1 Perform HPCS Pump Breaker Functional per SOP.	**ROLE PLAY** As the reactor building operator, if requested report that all pre-start checks are complete and SAT.	SRO	Direct the UO to start the HPCS pump per SOP-0030 section 5.4 with suction lined up to the CST
	ROLE PLAY As the control building operator, if requested, report that the charging springs for HPCS pump motor breaker are charged.	UO	Perform HPCS Breaker Functional per SOP-0030
Event 2	Lower reactor power with control rods per the RCP	SRO	Direct the power reduction per the reactivity Control Plan step 02 and 03
		ATC	• Accept the direction for power reduction. • Insert control rods per the RCP
		ATC	• Repeat the rod movement steps as needed to complete step 02 and 03 of the RCP • Report completion of the power reduction
Event 3	**T1** Spurious RCIC isolation	UO	Recognize and report the RCIC isolation due to high differential steam flow

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
		SRO	• Accept the report • Refer to Tech. Specs. • Request back panel reading
		UO	• Refer to the Alarm Response Procedure • Retrieve the requested back panel information
Event 3 cont.	ROLE PLAY As the back panel operator when requested, report that trip unit E31-ESN683A and B reads 138 inches and the trip red LED is on.	UO	• Report the back panel reading to the CRS • Report that E51-F063 did not isolate per the ARP
		SRO	Direct the UO to perform AOP-0003 for the isolation signal Direct the UO to attempt to close E51-F063
		UO	• Closes E51-F063 manually. • Verifies that all other required isolation valves have closed per AOP-0003
		SRO	• Enters T.S. 3.5.3A and 3.3.6.1A • Notifies WMC to investigate the trip unit failure • Makes the required notifications per OSP-046
Event 4	T2 B21-PTN078A RPV pressure transmitter fails high.	ATC	• Recognize and report the failure of B21-PTN078A RPV pressure transmitter • Give the CRS a critical parameter report • Refer to ARP-P680-06-A5
	ROLE PLAY As the back panel operator when requested, report that B21-PTN678A reads 1250psig. All other channels read normal for this power level	SRO	• Accept the report • Refer to Tech. Specs. • Request back panel indication
		SRO	• Enters T.S. 3.3.1.1A • Contacts the WMC to investigate the transmitter failure

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
Event 5 Stator Cooling Pump A trips, Standby pump fails to AUTO start requiring manual start.	**T3** Stator Cooling Pump A trips	UO	• Recognize and report the trip of Stator cooling water pump A. • Recognize and report the failure of Stator cooling water pump B to auto start. • Manually start Stator cooling water pump B. • Refer to the Alarm Response procedure • Direct the turbine building operator to perform running checks on pump B
Event 5 cont.	**ROLE PLAY** As the turbine building operator, accept the direction to investigate the trip of Stator cooling water pump A and perform running checks on pump B	SRO	• Accept the report from the UO. • Direct manual start of Stator cooling water pump B if not completed by the UO. • Contact WMC to investigate the pump trip.
Event 6/7 Second Stator Cooling Pump trips / Reactor Scram RPS Fails to Scram – All Signals	T4 Stator Cooling Pump B trips	UO	Recognize and report the trip of Stator cooling water pump B
		ATC	Recognize and report that a turbine runback is in progress
		SRO	• Accept report from the UO / ATC • Direct the ATC to place the reactor mode switch to Shutdown due to the turbine runback
		ATC	• Place the mode switch to shutdown • Determine that all control rods did not fully insert • Arm and depress all four manual scram pushbuttons • Determine that all control rods did not fully insert • Arm and initiate Alternant Rod Insertion • Determine that all control rods did not fully insert • Give the CRS an ATWS report

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
Event 6/7 cont.		SRO	Enter EOP-1 and transition to EOP-1A RPV control ATWS Direct EOP-1A actions • ATC trip both reactor recirc pumps • UO terminate and prevent injection with HPCS • UO inhibit ADS • UO install EOP-5 enclosures 16 and 24 • ATC terminate injection with feedwater and lower reactor water level to -60" to -140" • UO initiate Standby liquid control system • UO install EOP-5 enclosures 14 and 10 • UO maximize CRD cooling water flow
		ATC	• Trip both reactor recirc pumps • Fully INSERT control rods by group • Terminate injection with feedwater and lower reactor water level to -60" to -140"
		UO	• Terminate and prevent injection with HPCS • Inhibit ADS • Install EOP-5 enclosures 16 and 24 • Initiate Standby liquid control system • Install EOP-5 enclosures 14 and 10 • Maximize CRD cooling water flow
Event 8 FWS Master Controller output fails low	T5 FWS Master Controller output fails low	ATC	• Recognize and report the failure of the master controller • Place Feedwater level control valves A, B and C into manual • Manually control reactor level within the given band of -60" to -140"

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
Event 8 cont.		SRO	Direct manual control of the feedwater level control valves
Event 9 Main Turbine Bypass Valves fail OPEN.	T6 Main Turbine Bypass Valves fail OPEN.	ATC	Recognize and report the turbine bypass valves have failed open and reactor pressure is lowering
		SRO	Direct the turbine building operator to secure the turbine bypass valve EHC pumps to close the bypass valves Direct the UO to close the MSIV's if reactor pressure lowers to 600#
When the Termination Criteria are met, and at the direction of the floor instructor	**FREEZE**		

VI.   TERMINATION CRITERIA:

The exercise should be terminated when the performance objectives have been achieved or the operators are unable to diagnose and respond effectively to the scenario.

The following conditions provide an indication of performance objective achievement for this scenario; Critical Tasks are indicated with an *:

- Level and Pressure control is established.

- * Rods Insertion has commenced

- *Terminate feed water injection to lower power

VII.   REFERENCES

A.   Plant Procedures

1. GOP-0005, Power Maneuvering

2. AOP-0001, Reactor Scram

3. AOP-0002, Turbine Trip

4. AOP-0003, Automatic Isolations

5. EOP-1, RPV Control

6. EOP-1A RPV Control ATWS

7. EOP-2, Primary Containment Control

Offgoing OSM:	Oncoming OSM:	Off-Going Shift

		Off-Going Shift
Offgoing OSM:	Oncoming OSM:	N D ☐ ☐
_____ _____ _____ _____ (Print) KCN (Print) KCN		Date

PART I - TO BE REVIEWED PRIOR TO ASSUMING THE SHIFT

UNIT STATUS <u>MODE   1</u>   RX POWER 99%

EVOLUTIONS (COMPLETED / IN PROGRESS / PLANNED); GENERAL INFORMATION

Preparing for down power for sequence exchange.

Complete breaker functional per SOP on the HPCS breaker. The pre-start checks have been completed satisfactory.

HPCS will be operable after the breaker functional

Continue with the scheduled down power per the RCP steps 02 and 03.

SIGNIFICANT LCO STATUS	EOOS STATUS
HPCS 3.5.1 condition B	10 GREEN

EQUIPMENT STATUS	PROTECTED EQUIPMENT
A Normal Transformer OOS	DIV III work week
	DIV I and RCIC

Night Orders   Standing Orders   Board Walkdown   Temp Alts

_____   _____
(Signature: Oncoming OSM Review Completed)   KCN

Entergy

TRAINING PROGRAM:

SIMULATOR TRAINING

LESSON PLAN:

* RWCU leak in the MST with failure to isolate

REASON FOR REVISION:

NRC 2010 exam

PREPARE / REVIEW:

Angie Orgeron	1538	8/26/2010
Preparer	KCN	Date
John Hedgepeth	0069	8/26/2010
Technical Review (SME)	KCN	Date
Tim Venable	0130	9/9/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

I. DESCRIPTION OF SCENARIO

This scenario begins with the plant in at 75% power in preparation tag out of FWS-P1C. STP-406-0201 FB filter train run is scheduled for the shift.

Events for this scenario:
- Perform STP-406-0201.
- Raise reactor power with recirc flow.
- Loss of NJS-LDC1K. (Technical Specifications)
- RMS-RE13A fails upscale. (Technical Specifications)
- HVC-AOD51A fails to isolate.
- Condensate pump 'A' trips
- RWCU system leak in the main steam tunnel
- G33-MOVF001 and F004 fail to automatically isolate. G33-MOVF001 can be manually closed.
- The main generator fails to trip on reverse power.

II. TERMINAL OBJECTIVES

1. Establish safe and stable plant conditions following a RWCU leak in the MST with failure to isolate per plant procedures.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
IC #_172__		**Power:** 75% **Core:** Xenon equilibrium **Equipment OOS:** FWS-P1C **STPs Due:** 406-0201 **LCOs:** None **Evolutions in progress:** Raise power **Problem/Lit annunciators:** None	**STP:** 406-0201 **GOP-0005**

V. GENERAL INSTRUCTIONS

Event Number	MFS-OR-REM-SCH	Expected Operator Actions
Simulator Setup		
	Malfunctions	
	WCS004 G33-MOVF004 FAILS TO CLOSE **WCS005** G33-MOVF001 FAILS TO CLOSE **MGEN003** MAIN GENERATOR REVERSE POWER RELAY FAILURE **LO_HVC-AOD51A-G** F = OFF **LO_HVC-AOD51A-R** F= ON **T1 ED004K** NJS-SWG1K BUS FAULT (480 VAC) **T2 RMS013A** MAIN CR LOCAL AIR INTAKE (RE13A) RAD MONIT **T3 CNM004A** CONDENSATE PUMP A TRIP **T4 WCS006** RWCU LEAK IN STEAM TUNNEL f = 50 r = 5:00 **T10 LO_HVC-AOD51A-G** F = ON **T10 LO_HVC-AOD51A-R** F= OFF D = 5sec **T11 G33MOVF001P** F = 0% R = 17sec **EVENT TRIGGERS** T10 ZDI2(595) != 0 T11 ZDI5(702) != 0	

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
Event 0	**RUN**	CREW:	Board walk down / Turnover.
Event 1 Perform STP-406-0201.	**ROLE PLAY** As EM accept the direction to obtain amp and voltage readings per the STP.	SRO	Direct the BOP to perform STP-406-0201 DIVISION I FUEL BUILDING HVAC CHARCOAL FILTER A OPERABILITY TEST
	ROLE PLAY As reactor building operator accept direction to perform running checks on the filter train	BOP	Perform STP-406-0201 DIVISION I FUEL BUILDING HVAC CHARCOAL FILTER A OPERABILITY TEST Report to the SRO that the filter train is in service per the STP.
Event 2 Raise reactor power with reactor recirculation flow.		SRO	Direct power ascension from 75% to 77% per GOP-005 by raising reactor recirc. flow.
		ATC	Accept direction for power ascension. • Raise reactor power with reactor recirculation flow. Report to the SRO when 77% power level is reached
Event 3 Loss of NJS-LDC1K (Technical Specification).	**T1**	BOP	Recognize and report Loss of NJS-LDC1K
		SRO	Accept report of NJS-LDC1K failure.
		BOP	Direct ACR operator to investigate the loss of NJS-LDC 1K.
	ROLE PLAY As the ACR operator when requested report that the supply breaker for NJS-LDC1K has an over current flag in and the 86 lock out device is tripped	SRO	Contact the WMC to investigate the fault on NJS-LDC1K Enter TRM 3.7.9.1 A Make required notifications per OSP-0046
	T2	BOP	Recognize and report the failure of RMS-RE13A

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
Event 4/5 RMS-RE13A fails upscale.(Technical Specification) HVC-AOD51A fails to isolate, but can be manually isolated.	**T2**	BOP	Refer to the Alarm response Procedure for the alarms received. Determine and report normal readings / status of RE13B
		SRO	Accept the failure report Assign the performance of AOP-003 Automatic Isolations to the BOP Enter Tech Spec 3.3.7.1 A and D
		BOP	Recognize and report the failure of HVC-AOD51A to close Close HVC-AOD51A per the AOP-003 or ARP actions. Verify all other isolations have occurred and report to the SRO.
		SRO	Enter Tech Spec 3.7.2 B (short term until AOD is closed) Contact WMC to investigate the failure of the radiation instrument and the failure to isolate.
Event 6 CONDENSATE PUMP A TRIP	**T3**	ATC	Recognize and report that Condensate pump 'A' has tripped. Give the SRO a critical parameter report
	ROLE PLAY As the control building operator accept the direction to investigate the condensate pump trip. As the turbine building operator accept the direction to investigate the condensate pump trip.	SRO	Accept the report Direct the ATC to perform AOP-006 Condensate and Feedwater failures Direct the ATC to verify pump shutdown per the SOP-007
		ATC	Close the 'A' condensate discharge valve.
Event 7/8/9	**T4**	BOP	Recognize and report high main steam tunnel

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
RWCU leak in the Main Steam Tunnel G33-MOVF004 fails to automatically isolate. G33-MOVF001 fails to automatically isolate but can be manually isolated. Main Generator reverse power relay fails.			temperature Obtain back panel reading for steam tunnel temperature
	ROLE PLAY As the back panel operator when requested report MST temperature for the insight file – AAA top 40	SRO	Enter EOP-003 Secondary Containment control when the main steam tunnel temperature reaches max normal temperature of 135 deg F. Direct the ATC to place the reactor mode switch to shutdown when the MST temperature reaches 200 deg F.
		ATC	Place the mode switch to shutdown Give the SRO a scram report
		SRO	Direct a reactor level band of -20" to 51" with condensate and feedwater Direct a pressure band of 500 to 1090 psig with bypass valves and steam line drains until the MSIVs close. Then direct pressure control with SRVs and RCIC Direct performance of AOP-0001 Reactor Scram and AOP-0002 Turbine Generator trip to the ATC
		BOP	Recognize and report MSIV isolation
		SRO	Direct performance of AOP-0003 Automatic Isolations to the BOP.
		BOP	Recognize and report the failure of G33-MOVF001 and F004 to isolate. Perform actions of AOP-0003 Automatic Isolations Attempt to close G33-MOVF001 and F004 Report that G33-MOVF001 did close butG33-MOVF004 did not
	ROLE PLAY As the back panel operator when requested report MST temperature for the insight file – AAA top 40	SRO	Direct BOP to obtain new reading for the MST temperature Direct the BOP to place RHR into suppression pool cooling mode of operation
		BOP	Inform the SRO or the new MST temperature

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
			Place RHR into suppression pool cooling
		ATC	Recognize and report that the generator did not trip on reverse power Perform action of AOP-002 Turbine generator trips
		SRO	Direct actions of AOP-002 if not already performed
When the Termination Criteria are met, and at the direction of the floor instructor	**FREEZE**		

VI. TERMINATION CRITERIA:

The exercise should be terminated when the performance objectives have been achieved or the operators are unable to diagnose and respond effectively to the scenario.

The following conditions provide an indication of performance objective achievement for this scenario; Critical Tasks are indicated with an *:

- Level and Pressure control is established.

- * RWCU leak is isolated

- *Main turbine and generator are tripped

VII. REFERENCES

A. Plant Procedures

1. GOP-0005, Power Maneuvering
2. AOP-0001, Reactor Scram
3. AOP-0002, Turbine Trip
4. AOP-0003, Automatic Isolations
5. EOP-1, RPV Control
6. EOP-3, Secondary Containment Control

Offgoing OSM:		Oncoming OSM:		Off-Going Shift
				N D ☐ ☐
_____ (Print)	_____ KCN	_____ (Print)	_____ KCN	Date

PART I - TO BE REVIEWED PRIOR TO ASSUMING THE SHIFT

UNIT STATUS <u>MODE   1   RX POWER   75%   </u>

EVOLUTIONS (COMPLETED / IN PROGRESS / PLANNED); GENERAL INFORMATION

Perform STP-406-0201 DIVISION I FUEL BUILDING HVAC CHARCOAL FILTER A
OPERABILITY TEST. Section 6.0 has been completed
Raise reactor power per GOP-005 Power Maneuvering to 77% with the approved RCP.

SIGNIFICANT LCO STATUS	EOOS STATUS	
NONE	10	GREEN
	9.8	GREEN when the FWS pump is tagged
EQUIPMENT STATUS	PROTECTED EQUIPMENT	
FWS P1C is off and due to be tagged and drained this shift	DIV I work week	
A Normal Transformer OOS	DIV II protected	

Night Orders   Standing Orders   Board Walkdown   Temp Alts

_____   _____
(Signature: Oncoming OSM Review Completed)   KCN

Entergy

TRAINING PROGRAM:

SIMULATOR TRAINING

LESSON PLAN:

* Station Blackout with failure of SWP-AOV599

REASON FOR REVISION:

NRC 2010 exam

PREPARE / REVIEW:

Angie Orgeron	1538	8/26/2010
Preparer	KCN	Date
John Hedgepeth	0069	8/26/2010
Technical Review (SME)	KCN	Date
Tim Venable	0130	9/9/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

I. DESCRIPTION OF SCENARIO

This scenario begins with the plant in at 100% power in preparation for a control rod sequence exchange. RCIC is tagged out. Perform OSP-0101 section 4.11.3 for post maintenance test on the turning gear oil pump pressure switch. Perform STP-256-0202 DIVISION II STANDBY COOLING TOWER FANS OPERABILITY TEST
Events for this scenario:

- Perform OSP-0101 section 4.11.3
- Perform STP-256-02202.
- Loss of Extraction Steam to Feedwater Heater
- HVR-UC1A trips. (Technical Specifications)
- Control Rod 16-17 Drifts out (Technical Specifications).
- CCP Pump B trips, CCP Pump A fails to Auto start
- Station Blackout
- Loss of offsite power
  - o Div 1 DG trips
  - o Div 2 DG fails to start
- SWP-AOV599 fails to auto open.
- HPCS fails to automatically initiate *(Pump only, DG starts on LOP to required SWP-AOV599 actions).*

II. TERMINAL OBJECTIVES

1. Establish safe and stable plant conditions following a Station blackout per plant procedures.

IV. INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
IC #__174__		**Power:** 100% **Core:** Xenon equilibrium **Equipment OOS:** RCIC **STPs Due:** 256-0202 **LCOs:** RCIC **Evolutions in progress:** Lower power for rod sequence exchange **Problem/Lit annunciators:** None	**STP:** 256-0202 **GOP-0005** **OSP-0101**

V. GENERAL INSTRUCTIONS

Event Number	MFS-OR-REM-SCH	Expected Operator Actions
Simulator Setup	**Malfunctions** **E51MOVF010** BKR TRIP **E51MOVF022** BKR TRIP **E51MOVF031** BKR TRIP **E51MOVF045** BKR TRIP **E51MOVF078P** 100% **CCP004A** CCP-P1A FAILURE TO AUTO START **EDG002B** EDG B FAILURE TO START **SWP004** DIV 3 DG CW ISOL VLV, SWP*AOV599, FAILS TO AUTO **HPCS003** HPCS FAILS TO AUTO START **LO_E51-C002-G** OFF **LO_E51-LFP-G** OFF **LO_E51-RTTVP-G** OFF **T1 FWS012** LOSS OF EXTRACTION STEAM TO FEEDWATER HEATER **T2 LO_HVRUC1A-A** ON **T2 LO_HVRUC1A-G** OFF **T2 LO_HVRUC1A-R** OFF **T2 LO_HVR-E2-A** ON **T2 DI_HVR-UC1A SW** STOP **T2 P863_71A:F_3** FAIL ON **T2 P863_71A:H_3** FAIL ON **T3 CRDM1617** CONTROL ROD 16-17 DRIFTS OUT **T4 CCP001B** RPCCW PUMP B TRIP **T5 ED001** LOSS OF OFFSITE POWER **T5 EDG001A** DIV 1 DIESEL GENERATOR TRIP D = 20sec	

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
Event 0	**RUN**	CREW:	Board walk down / Turnover.
Event 1 Perform OSP-0101 Section 4.11.3		SRO	Direct the ATC to perform OSP-0101 section 4.11.3 as a post maintenance test for pressure switch replacement
		ATC	Perform OSP-0101 section 4.11.3 Report the completion of OSP-0101 section 4.11.3
Event 2 Perform STP-256-0202		SRO	Direct the BOP to perform STP-256-0202 DIVISION II STANDBY COOLING TOWER FANS OPERABILITY TEST (only for 1st bank of fans B,D,F,H,K)
		BOP	Perform STP-256-0202 DIVISION II STANDBY COOLING TOWER FANS OPERABILITY TEST Report to the CRS that the fans are in service per the STP.
Event 3 Loss of Extraction Steam to Feedwater Heater	**T1**	BOP	Recognize and report a loss of extraction steam to Feedwater heater 1A
		SRO	Direct the ATC to refer to AOP-007 for a Loss of feedwater heating Direct the BOP to refer to AOP-0024 for Stability control
		ATC	Refer to AOP-007 • Determine that a greater than 3% loss of feedwater heating has occurred • Lower reactor power to 80% with recirc flow
		BOP	Refer to AOP-0024 Determine that the monitored region has been entered as reactor power is lowered

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
		SRO	Contact the WMC to investigate the loss of feedwater heating Contact Reactor Engineering to take actions of AOP-007 and AOP-0024
Event 4 HVR-UC1A trips. (Technical Specifications)	**T2**	BOP	Recognize and report the trip of HVR-UC1A Refer to alarm response procedure
	ROLE PLAY When requested, as the reactor building operator report that there is an OC flag down for HVR-UC1A and the breaker indicates tripped.	SRO	Accept the report Direct the start of HVR-UC1C per the SOP
		BOP	Accept the direction to start HVR-UC1C • Start the standby HVR-UC1A(B)(C), CONTMT UNIT CLR A(B)(C) and verify the applicable cooling water valve HVN-TV5A(B)(HVN-TV122) opens. Report to the CRS when HVR-UC1C is started.
	ROLE PLAY As EM / FIN accept the request to investigate HVR-UC1A Inform the CRS not to depress the STOP pushbutton until the investigation is complete.	SRO	Enter Tech Spec 3.6.1.7 A
Event 5 Control Rod 16-17 Drifts out	**T3**	ATC	Recognize and report that control rod 16-17 is drifting out.
		SRO	Direct the ATC to take actions of AOP-0061 for Mis-positioned control rods

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
	ROLE PLAY When requested as the reactor building operator, report that control rod 16-17 has been isolated		
		ATC	Perform actions of AOP-061 • Select control rod 16-17 • Apply and maintain an insert signal to control rod 16-17 • Remove the insert signal when the control rod is at position 00 • Determine that the control rod continues to drift out • Apply and maintain an insert signal to control rod 16-17 Direct the reactor building operator to isolate control rod 16-17
		SRO	Enter Tech Spec 3.1.3 C when the control rod is isolated Contact reactor engineering for the drifting control rod
Event 6 CCP Pump B trips, CCP Pump A fails to Auto start	**T4**	BOP	Recognize and report the trip of CCP-P1B Start CCP-P1A per the ARP Refer to AOP-0011
	ROLE PLAY As the reactor building operator, report that nothing looks abnormal with B pump and post start checks are satisfactory for the A pump.	SRO	Accept the report for the tripped CCP pump Direct reference to AOP-0011
		ALL	Recognize and report the loss of offsite.

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
Event 7/8/9 Station Blackout Loss of offsite power Div 1 DG trips Div 2 DG fails to start SWP-AOV599 fails to auto open. HPCS fails to automatically initiate *(Pump only, DG starts on LOP to required SWP-AOV599 actions).*	T5	ALL	Recognize and report the loss of offsite.
		ATC	Place the reactor mode switch to Shutdown Give a scram report to the CRS
		BOP	Recognize and report the status of the emergency diesel generators • Div I started and tripped • Div II did not start Attempt to emergency start the Div II diesel generator
		SRO	Accept the scram report Enter EOP-001 RPV Control • Direct a level band of -20" to 51" with HPCS • Direct a pressure band of 500 to 1090 psig with SRV's Direct implementation of AOP-050
		BOP	Implement action of AOP-050 for station blackout • Verify SWP-P2C, STANDBY SERVICE WATER PUMP running. • Verify SWP-MOV40C, PUMP DISCH VALVE open. • Verify SWP-AOV599, STBY CLG TWR INLET, STATION BLACKOUT RETURN TO STBY COOLING TOWER open. • Dispatch an operator to attempt an emergency start of the Diesel Generators per Attachment 1

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	

		BOP	Recognize and report that the HPCS pump did not automatically start. Manually start the HPCS pump.
			• **Verify** Annunciator **P601-16A-G04**, HPCS INJECTION LINE PRESSURE LOW, is **not lit**.
			• Arm and depress **HPCS MANUAL INITIATION** Pushbutton.
			• Verify **HPCS PUMP running**.
			• Verify **E22-F004**, HPCS INJECT ISOL VALVE, **Opens**.
			• Verify HPCS **injection flow**.
			• Verify E22-F012, HPCS **MIN FLOW VALVE** TO SUPPRESSIONPOOL, **Closes**.
			• **WHEN DESIRED TO STOP INJECTION**
			     o If possible reset initiation by depressing E22A-S7
			     o Close E22-F004**, HPCS INJECT ISOL VALVE**
			Report that HPCS is running and injecting.

When the Termination Criteria are met, and at the direction of the	**FREEZE**		

VI. TERMINATION CRITERIA:

The exercise should be terminated when the performance objectives have been achieved or the operators are unable to diagnose and respond effectively to the scenario.

The following conditions provide an indication of performance objective achievement for this scenario; Critical Tasks are indicated with an *:

- Level and Pressure control is established.
- * Open SWP-AOV599
- *Main adequate core cooling with HPCS

VII. REFERENCES

A. Plant Procedures

1. GOP-0005, Power Maneuvering
2. AOP-0001, Reactor Scram
3. AOP-0002, Turbine Trip
4. AOP-0003, Automatic Isolations
5. AOP-0050, Station Blackout
6. EOP-1, RPV Control
7. EOP-2, Primary Containment Control

Offgoing OSM:		Oncoming OSM:		Off-Going Shift

				N	D

_____ _____ _____ _____

(Print)	KCN	(Print)	KCN	Date

PART I - TO BE REVIEWED PRIOR TO ASSUMING THE SHIFT

UNIT STATUS <u>MODE   1   RX POWER   100%   </u>

EVOLUTIONS (COMPLETED / IN PROGRESS / PLANNED); GENERAL INFORMATION

Perform OSP-0101 section 4.11.3 for post maintenance test on the turning gear oil pump pressure switch

Perform STP-256-0202 DIVISION II STANDBY COOLING TOWER FANS OPERABILITY TEST (only for 1st bank of fans B,D,F,H,K)

SIGNIFICANT LCO STATUS	EOOS STATUS
RCIC TS 3.5.3. A	8.6 YELLOW
EQUIPMENT STATUS	PROTECTED EQUIPMENT
RCIC tagged out for pump repairs	DIV III protected
	Non-Divisional work week

Night Orders   Standing Orders   Board Walkdown   Temp Alts

_____ _____

(Signature: Oncoming OSM Review Completed)   KCN

Entergy

TRAINING PROGRAM:

SIMULATOR TRAINING

LESSON PLAN:

* Loss of Feedwater with RCIC trip

REASON FOR REVISION:

NRC 2010 exam

PREPARE / REVIEW:

Angie Orgeron	1538	8/26/2010
Preparer	KCN	Date
John Hedgepeth	0069	8/26/2010
Technical Review (SME)	KCN	Date
Tim Venable	0130	9/9/2010
Operations Validation	KCN	Date
Facility Reviewer approval via ES-301-3		

* Indexing Information

I.   DESCRIPTION OF SCENARIO

This scenario begins with the plant at 50% power, plant startup in progress. GOP-001 step G.29. Remove RWCU F/D 'A' from service. Start HDL pumps and continue to raise reactor power
Events for this scenario:

- Start HDL Pumps A & C in Recirc mode.
- Raise power to 55% with control rods..
- Start RHR A in Suppression Pool Cooling mode per SOP-0031 to support system flush to reduce dose rates in pump room.
- RHR A trips. (Technical Specifications).
- Loss of Power to RPS Channel B
- CMS H2 analyzer failure (Technical Specifications)
- Condensate filter high differential pressure. Total loss of feedwater.
- Reactor Scram. ARI inserts rods.
- RCIC turbine trips, but can be manually reset for level control.

II.   TERMINAL OBJECTIVES

1. Establish safe and stable plant conditions following a loss of all feedwater per plant procedures.

IV.   INITIAL CONDITIONS/SHIFT TURNOVER

INITIAL CONDITION	TRAINING FOCUS	EQUIPMENT STATUS	REQUIRED DOCUMENTS
IC #_176_		**Power:** 50% **Core:** Xenon equilibrium **Equipment OOS:** **STPs Due:** none **LCOs:** **Evolutions in progress:** Continue plant start up **Problem/Lit annunciators:** None	**GOP-0001**

V. GENERAL INSTRUCTIONS

Event Number	MFS-OR-REM-SCH	Expected Operator Actions
Simulator Setup		
	Malfunctions	
	RPS001C RPS FAILS TO SCRAM - AUTO SIGNALS ONLY	
	T1 RHR002A	
	T2 RPS003B	
	T3 p808_83a:f_4 FAIL ON	
	T3 LO_CMSD1F1-A FAIL ON	
	T3 LO_CMSSOV33AA-G FAIL OFF	
	T3 LO_CMSSOV33AA-W FAIL OFF	
	T3 LO_CMSSOV33AA-R FAIL OFF	
	T3 LO_CMSSOV34A-G FAIL OFF	
	T3 LO_CMSSOV34A-W FAIL OFF	
	T3 LO_CMSSOV34A-R FAIL OFF	
	T3 LO_CMSSOV34C-G FAIL OFF	
	T3 LO_CMSSOV34C-W FAIL OFF	
	T3 LO_CMSSOV34C-R FAIL OFF	
	T4 CNM006 F=100% R-10:00min	
	T5 RCIC001	
	T6 MSSMOV111P F=60%	
	T6 MSSMOV112P F=60%	
	T7 E22MOVF004 Breaker trip	
	EVENT TRIGGERS	
	T5 RCIC TURBINE >75% SPEED	
	T6 DIV I MANUAL P/B DEPRESSED	
	T7 adihpmp > 350	

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
Event 0	**RUN**	CREW:	Board walk down / Turnover.
Event 1 Start HDL Pumps A & C in Recirc mode.		SRO	Direct the BOP operator to start HDL-P1A and C Heater Drain pumps in recirc mode per SOP-010
	ROLE PLAY When requested as the TB operator in form the BOP that steps 4.3.1.1 and 4.3.1.2 are complete	BOP	Accept the direction to start HDL pumps Direct the turbine building operator to: • Close HDL-LV4A, 3RD PT A HTR DRAIN VLV per Attachment 6 • Close HDL-LV4B, 3RD PT HTR B DRAIN VLV per Attachment 6 Verify the Htr Drain Pump Suction Valves are open: Verify the Heater Drain Pump Discharge Valves are closed: Open the Cooling Water Valves: Verify the Seal Water Valves are open:
	ROLE PLAY As the TB operator when requested report that step 4.3.6 is complete		Direct the turbine building operator to vent the Heater drain Pump Seal per step 4.3.6. Direct the turbine building operator to perform step 4.3.9
	ROLE PLAY As the TB operator when requested report that step 4.3.9 is complete		Direct the turbine building operator to perform step 4.3.15
	ROLE PLAY As the TB operator when requested report that step 4.3.15 is complete and the pump is not rotating As the TB operator when requested report that step 4.3.18 is complete		Open HDL-MOV58C, HTR DR PMP C VENT valve. Direct the turbine building operator to perform step 4.3.18 Direct the turbine building operator to perform step 4.3.23 Report to the SRO that HDL-P1A and C are running.

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
Event 2 Raise power to 55% with control rods.		SRO	Direct the ATC to raise reactor power with control rods per the reactivity control plan
		ATC	Accept the direction to raise power With draw control rods 20-37, 36-37, 36-21 and 20-21 from position 06 to position 12. Report completion to the SRO.
Event 3 Start RHR A in Suppression Pool Cooling mode per SOP-0031 to support system flush to reduce dose rates in pump room.		SRO	Direct the BOP to start RHR pump A in the suppression pool cooling mode per SOP-0031
		BOP	Accept the direction Start RHR-A in suppression pool cooling mode Report that RHR pump A is in the suppression pool cooling mode
Event 4 RHR A trips. (Technical Specifications)	T1	BOP	Recognize and report the RHR pump A has tripped
		SRO	Accept the report Direct the completion of the shutdown section of SOP-0031 Enter Tech Spec 3.5.1 A (ECCS) and 3.6.2.3 A (SPC) Contact WMC to investigate the trip of RHR pump A
		BOP	Report that RHR A is shutdown
Event 5 LOSS OF POWER TO RPS CHANNEL B	T2	ATC	Recognize and report the loss of RPS A
		SRO	Accept the report Direct the BOP to perform actions of AOP-0010 Loss of One RPS bus

Event Number	MFS-OR-REM-SCH	Expected Operator Actions	
		BOP	Perform actions of AOP-0010
Event 6 CMS H2 analyzer failure (Technical Specifications)	**T2**	BOP	Recognize and report the loss of power to CMS
		SRO	Accept the report Enter TRM 3.3.14 A Contact WMC to investigate CMS power loss.
Event 7 Condensate filter high differential pressure. Total loss of feedwater. Reactor Scram. ARI inserts rods.	**T3**	ATC	Recognize and report that condensate differential pressure is rising
	ROLE PLAY	SRO	Accept the report Direct the ATC to place the reactor mode switch to shutdown
		ATC	Place the reactor mode switch to S/D Recognize that ARI initiation is required Give the SRO a scram report that includes ARI inserted the control rods
		SRO	Accept the report Enter EOP-001 RPV control - Direct a level band to the BOP of -20" to 51" with RCIC and HPCS - Direct a pressure band the ATC of 500 to 1090 psig with bypass valves and steam line drains. Assign AOP-001, 002 and 006 actions to the ATC
Event 8 RCIC turbine trips, but can be manually reset for level control.		ATC	Recognize and report a loss of all high pressure feed at the P680 panel
		SRO	Direct the BOP to initiate RCIC
		BOP	Accept the direction Recognize and report the RCIC turbine has tripped

Event Number	MFS-OR-REM-SCH		Expected Operator Actions
		SRO	Accept the report that RCIC has tripped Direct the BOP to reset the RCIC turbine trip
	ROLE PLAY As the reactor building operator when requested inform the BOP that rcic has been reset	BOP	Accept the direction to reset RCIC Direct the Reactor building operator to reset the RCIC turbine Restart RCIC to maintain given level band
		BOP	Recognize and report that the High Pressure Core Spray injection valve breaker has tripped
		SRO	Contact Work Management Center about the High Pressure Core Spray injection valve.
Event 9 MSS-MOV111/112 fails to isolate causing uncontrolled pressure drop.		ATC	Recognize and report that reactor pressure is lowering due to unknown reasons
		SRO	Accept the report of reactor pressure lowering Direct the BOP and ATC to investigate the pressure loss.
		BOP / ATC	Recognize and report that the MSR steam supply valves did not respond as designed
		SRO	Direct the closure of MSS-MOV111 and 112 or MSIVs
When the Termination Criteria are met, and at the direction of the	**FREEZE**		

VI.   TERMINATION CRITERIA:

The exercise should be terminated when the performance objectives have been achieved or the operators are unable to diagnose and respond effectively to the scenario.

The following conditions provide an indication of performance objective achievement for this scenario; Critical Tasks are indicated with an *:

- Level and Pressure control is established.

- * RCIC reset and adequate core cooling maintained

- *Close the MSIVs or MSS-MOV111 /112 to avoid excess cooldown rate

VII. REFERENCES

A. **Plant Procedures**

    1. GOP-0001, Plant Startup

    2. AOP-0001, Reactor Scram

    3. AOP-0002, Turbine Trip

    4. AOP-0003, Automatic Isolations

    5. AOP-0010, Loss of One RPS Bus

    6. EOP-1, RPV Control

    7. EOP-2, Primary Containment Control

Offgoing OSM:		Oncoming OSM:		Off-Going Shift
				N D
_____ _____		_____ _____		☐ ☐
(Print)	KCN	(Print)	KCN	
				Date

PART I - TO BE REVIEWED PRIOR TO ASSUMING THE SHIFT

UNIT STATUS   <u>MODE</u>   1   <u>RX POWER</u>   50%

EVOLUTIONS (COMPLETED / IN PROGRESS / PLANNED); GENERAL INFORMATION

Plant startup in progress. GOP-0001 Step G.29.
2 FWS pumps in service
Start HDL Pumps A & C in Recirc mode
Raise power to 55% with control rods.
Start RHR A in Suppression Pool Cooling mode per SOP-0031 to support system flush to reduce dose rates in pump room.

SIGNIFICANT LCO STATUS	EOOS STATUS
None	10 GREEN

EQUIPMENT STATUS	PROTECTED EQUIPMENT
	Non- Divisional work week
	Div III is Protected

Night Orders   Standing Orders   Board Walkdown   Temp Alts

_____   _____
(Signature: Oncoming OSM Review Completed)   KCN

Facility:River Bend Station   Date of Examination: 12/3/2010   Operating Test No.:

	APPLICANTS															
	(ATC) RO ☒ SRO-I ☒ SRO-U ☐				(BOP) RO ☒ SRO-I ☒ SRO-U ☐				(SRO) RO ☐ SRO-I ☒ SRO-U ☒				RO ☐ SRO-I ☐ SRO-U ☐			
Competencies	SCENARIO				SCENARIO				SCENARIO				SCENARIO			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Interpret/Diagnose Events and Conditions	6,7,8,9		1,7	5,7	3,5,7		4,6,7,8,9	4,5,6,7,8,9	3,4,5,6,7,8,9		4,5,6,7,8,9	4,5,6,7,8,9				
Comply With and Use Procedures (1)	2,6,7,8,9		1,3,7	1,2,5,7	1,3,5,7		2,4,6,7,8,9	1,3,4,5,7,8,9	1,2,3,4,5,6,7,8,9		1,2,3,4,5,6,7,8,9	1,2,3,4,5,6,7,8,9				
Operate Control Boards (2)	2,6,7,8,9		1,3,7	1,2,5,7	1,3,5,7		2,4,6,7,8,9	1,3,4,5,7,8,9								
Communicate and Interact	2,6,7,8,9		1,3,7	1,2,5,7	1,3,5,7		2,4,6,7,8,9	1,3,4,5,6,7,8,9	1,2,3,4,5,6,7,8,9		1,2,3,4,5,6,7,8,9	1,2,3,4,5,6,7,8,9				
Demonstrate Supervisory Ability (3)									1,2,3,4,5,6,7,8,9		1,2,3,4,5,6,7,8,9	1,2,3,4,5,6,7,8,9				
Comply With and Use Tech. Specs. (3)									3,4		4,5	4,6				

Notes:
(1)   Includes Technical Specification compliance for an RO.
(2)   Optional for an SRO-U.
(3)   Only applicable to SROs.

Instructions:

Check the applicants' license type and enter one or more event numbers that will allow the examiners to evaluate every applicable competency for every applicant.

Rev 1

ES-301 **Transient and Event Checklist** **Form ES-301-5**

Facility: River Bend Station   Date of Exam: 12/3/2010   Operating Test No. Team:

APPLICANT	EVENT TYPE	1(Sc 4) CREW POSITION SRO	ATC	BOP	2 (Sc 1) CREW POSITION SRO	ATC	BOP	3 (Sc 3) CREW POSITION SRO	ATC	BOP	4 CREW POSITION SRO	ATC	BOP	TOTAL	MIN R	I	U
RO ☐ SRO-I ☒ I4, I2, I6 SRO-U ☐	RX								3					1	1	1	0
	NOR	1,3					1	1						4	1	1	1
	I/C	4,5,6,8,9					3,5,6	5						9	4	4	2
	MAJ	7					7	7						3	2	2	1
	TS	4,6												2	0	2	2
RO ☐ SRO-I ☒ I5,I3,I7 SRO-U ☐	RX		2											1	1	1	0
	NOR		1		1			1,2						4	1	1	1
	I/C		5		3,4,5,6,8,9			4,5,6,8,9						12	4	4	2
	MAJ		7		7			7						3	2	2	1
	TS				3,4			4,5						4	0	2	2
RO ☒ R5,R4,R6 SRO-I ☐ SRO-U ☐	RX					2								1	1	1	0
	NOR			1,3					2					3	1	1	1
	I/C			4,5,8,9		6,8,9				4,6,8,9				11	4	4	2
	MAJ			7	7					7				3	2	2	1
	TS													0	0	2	2
RO ☐ SRO-I ☐ SRO-U ☐	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.

2. Reactivity manipulations may be conducted under normal or *controlled* abnormal conditions (refer to Section D.5.d) but must be significant per Section C.2.a of Appendix D. (*) Reactivity and normal evolutions may be replaced with additional instrument or component malfunctions on a 1-for-1 basis.

3. Whenever practical, both instrument and component malfunctions should be included; only those that require verifiable actions that provide insight to the applicant's competence count toward the minimum requirements specified for the applicant's license level in the right-hand columns.

Facility: River Bend Station   Date of Exam: 12/3/2010   Operating Test No. Team:

APPLICANT	EVENT TYPE	1(Sc 4) SRO	ATC	BOP	2 (Sc 1) SRO	ATC	BOP	3 SRO	ATC	BOP	4 SRO	ATC	BOP	TOTAL	R	I	U
RO ☐ SRO-I ☐ SRO-U ☒ U1	RX													0	1	1	0
	NOR	1,3					1							3	1	1	1
	I/C	4,5,6,8,9					3,5,6							8	4	4	2
	MAJ	7					7							2	2	2	1
	TS	4,6												2	0	2	2
RO ☐ SRO-I ☒ I1 SRO-U ☐	RX		2											1	1	1	0
	NOR		1		1									2	1	1	1
	I/C		5		3,4,5,6,8,9									7	4	4	2
	MAJ		7		7									2	2	2	1
	TS				3,4									2	0	2	2
RO ☒ R1 SRO-I ☐ SRO-U ☐	RX					2								1	1	1	0
	NOR			1,3										2	1	1	1
	I/C			4,5,8,9		6,8,9								7	4	4	2
	MAJ			7		7								2	2	2	1
	TS													0	0	2	2
RO ☐ SRO-I ☐ SRO-U ☐	RX														1	1	0
	NOR														1	1	1
	I/C														4	4	2
	MAJ														2	2	1
	TS														0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.

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Facility: River Bend Station	Date of Exam: 12/3/2010	Operating Test No. Team:

APPLICANT	EVENT TYPE	Scenarios												TOTAL	MINIMUM(*)		
		1 (SC 4)			2 (Sc 1)			3			4						
		CREW POSITION			CREW POSITION			CREW POSITION			CREW POSITION						
		SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP	SRO	ATC	BOP		R	I	U
RO ☐ SRO-I ☐ SRO-U ☒ U2	RX													0	1	1	0
	NOR	1,3			1									3	1	1	1
	I/C	4,5,6,8,9			3,4,5,6,8,9									11	4	4	2
	MAJ	7			7									2	2	2	1
	TS	4,6			3,4									4	0	2	2
RO ☒ R2 SRO-I ☐ SRO-U ☐	RX		2											1	1	1	0
	NOR		1				1							2	1	1	1
	I/C		5				3,5,6							4	4	4	2
	MAJ		7				7							2	2	2	1
	TS													0	0	2	2
RO ☒ R3 SRO-I ☐ SRO-U ☐	RX					2								1	1	1	0
	NOR			1,3										2	1	1	1
	I/C			4,5,8,9		6,8,9								7	4	4	2
	MAJ			7		7								2	2	2	1
	TS													0	0	2	2
RO ☐ SRO-I ☐ SRO-U ☐	RX													0	1	1	0
	NOR													0	1	1	1
	I/C													0	4	4	2
	MAJ													0	2	2	1
	TS													0	0	2	2

Instructions:

1. Check the applicant level and enter the operating test number and Form ES-D-1 event numbers for each event type; TS are not applicable for RO applicants. ROs must serve in both the "at-the-controls (ATC)" and "balance-of-plant (BOP)" positions; Instant SROs must serve in both the SRO and the ATC positions, including at least two instrument or component (I/C) malfunctions and one major transient, in the ATC position. If an Instant SRO *additionally* serves in the BOP position, one I/C malfunction can be credited toward the two I/C malfunctions required for the ATC position.

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