

Facility: ANO-2	Scenario No.: 1 (Modified)	Op-Test No.: 2008-1	
Examiners: _____		Operators: _____	
_____		_____	
_____		_____	
Initial Conditions: 100% MOL, All Engineered Safety Features systems are in standby. Main Turbine turning gear motor tagged out. 2PCV-0231 jacked closed. RED Train Maintenance Week.			
Turnover: 100%. 250 EFPD. EOOS indicates 'Minimal Risk.' MTG will need to be jacked manually IAW OP-2106.009 Section 7.3. 2PCV-0231 jacked closed, manually control seal steam pressure. RED Train Maintenance Week. 'C' CCW pump will be removed from service for pump outboard bearing replacement.			
Event No.	Malf. No.	Event Type*	Event Description
1		N (CBOT)	Start 'B' Component Cooling Water pump 'B' and secure 'C' Component Cooling Water pump.
2	XRCCHAPCNT	I (ATC)	Pressurizer control channel pressure fails high.
3	2CV4652	C (ATC)	'B' normal spray valve sticks open
4	XSG2PT10411	I (CBOT)	'A' Steam Generator pressure safety channel fails low. Tech Spec for CRS.
5	SGATUBE	N (CBOT) R (ATC)	5 gpm tube leak on 'A' Steam Generator. Tech Spec for CRS
6	SGATUBE	M (ALL)	'A' Steam Generator tube leakage ramps up to 300 gpm over 10 minutes. Manual reactor trip criteria when greater than 44 gpm.
7	2K11_C2 2K11_C4	C (ATC)	Reverse rotation alarm for the reactor coolant pump attempted to stop.
8	XMSHDRPRS	I (CBOT)	Steam Dump and Bypass Control System fails to automatically open bypass and dump valves to control Steam Generator pressure.
9	2SI10A HPI2P89B	C (CBOT)	2P89A, 'A' High Pressure Safety Injection pump coupling failure (no discharge pressure). 2P89B, 'B' High Pressure Safety Injection pump fails to start automatically.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Scenario #1 Objectives

- 1) Evaluate individual ability to operate safety related equipment.
- 2) Evaluate individual response to a failure of a pressurizer pressure control channel failure.
- 3) Evaluate individual response to a failure of a pressurizer spray valve to automatically close.
- 4) Evaluate individual response to a small Pri-Sec leak.
- 5) Evaluate individual ability to perform a reduction in plant power.
- 6) Evaluate individual ability to mitigate a SGTR.
- 7) Evaluate individual response to a failure of a reactor coolant pump reverse rotation device.
- 8) Evaluate individual response to a failure of the steam dump and bypass control system.
- 9) Evaluate individual ability to monitor operation of emergency core cooling equipment.

SCENARIO #1 NARRATIVE

Simulator session begins with the plant at 100% power steady state. Main turbine generator turning gear is tagged out. Gland seal regulator, 2PCV0231 is jacked closed.

When the crew has completed their control room walk down and brief, the CBOT will start 'B' Component Cooling Water (CCW) Pump and secure 'C' Component Cooling Water Pump (CCW) using OP 2104.028 section 18.2.

After the 'B' CCW pump is placed in serve and 'C' CCW is secured and cued by lead examiner, the 'A' channel Pressurizer (PZR) control channel will fail high. This will result in both main spray valves to automatically open and both proportional heater banks to go to minimum fire. Actual PZR pressure will drop and will result in an automatic reactor trip, if actions are not taken to mitigate the event. The Control Room Supervisor (CRS) will enter Abnormal operating procedure OP 2203.028, PZR systems malfunctions will be entered. The CRS will direct selecting the opposite control channel. The ATC will report that one of the spray valves, 2CV4652 did not close. The CRS will direct the failed spray valve to be isolated.

After the 'B' PZR control channel is placed in service and 2CV 4652 is isolated and cued by lead examiner, 'A' Steam Generator safety channel pressure instrument, 2PT1041-1, will fail low. This will trip one of the four PPS trip channels for low SG pressure trip and MSIS. Alarms for MSIS pre-trip, RPS channel trip/pre-trip, and channel 'A' operator insert (2C03) trip and pre-trip lights will be lit. The CRS will refer to the ACA 2203.012D and tech specs 3.3.1.1, 3.3.2.1, 3.3.3.5 and 3.3.3.6 for guidance. The CBOT will place Channel 'A' PPS in bypass for point 11, SG pressure low, point 19, 'A' SG delta-P for EFAS 1, and point 20, 'B' SG delta-P for EFAS 2 for maintenance and trouble shooting. The crew will have one hour to place these points in bypass before exceeding the tech spec LCO.

After the 'A' PPS channel is placed in bypass and cued by lead examiner, a 5.0 gpm primary to secondary leak will start. The CRS will enter the primary to secondary leakage AOP, OP 2203.038. CBOR and CBOT will perform RCS Leak rate determinations. The CRS will enter Tech Spec 3.4.6.2. The CRS will direct the NLO's to control secondary contamination using standard attachment 19 and direct the chemists to sample the SG's for activity. The CRS will isolate steam to 'A' EFW pump from 'A' SG and enter TS 3.7.1.2. The crew will perform a plant shutdown.

SCENARIO #1 NARRATIVE (continued)

After the CBOR has completed the required reactivity manipulation and cued by lead examiner, a 300 gpm SGTR on 'A' SG will start with a ramp of 10 minutes. Secondary System Radiation Hi, SG tube leak detection Rate of change Hi, and SG tube leak detection leak rate Hi annunciators will alarm. The CBOR/ATC recognizes that the SGTR is greater than 44gpm. The CRS will direct the CBOR will manually trip the reactor.

Post trip, when PZR pressure drops less than 1400psia, the ATC should secure 'B' and 'D' RCP's and receive a reverse rotation alarm on 'B' RCP. The CRS will direct all RCP's to be secured. This will result in natural circulation conditions in the Reactor Coolant System.

Also post trip, the steam dump and bypass control system (SDBCS) main steam pressure instrument will fail low. This will result in SDBCS not automatically controlling main steam header pressure causing the main steam safety valves to lift on both Steam Generators. The CRS will direct the CBOT to manually control one of the bypass valves to the condenser to stop the offsite release from the ruptured steam generator.

The Crew will implement Standard Post Trip Actions (SPTA), OP 2202.001.

The CRS will diagnose a steam Generator tube rupture greater than charging pump capacity and enter EOP 2202.004, Steam Generator Tube Rupture (SGTR).

The CBOR will rapidly cool down the RCS to less than 535°F using the bypass valves to the condenser. The CBOT will override SW to CCW and ACW. The CBOT will isolate the 'A' SG using standard attachment 10 when RCS Thot is less than 535°F.

Post SIAS, the 'B' High Pressure Safety Injection (HPSI) pump Breaker will fail to start automatically (green train) and the 'A' high pressure safety injection pump will experience a failed coupling so it will not develop any discharge pressure. The CBOT will place the 'A' HPSI pump handswitch in Pull-to-Lock (PTL) and manually start the 'B' HPSI pump and/or manually start the 'C' HPSI pump on the Red train to satisfy the required HPSI flow requirements.

Simulator Instructions for Scenario 1

Reset simulator to MOL 100% power IC stead state.

Ensure that AACG is secured and annunciators clear.

Ensure hotwell level is ~80%.

Place MINIMAL RISK and RED Train Maintenance Week signs on 2C11.

Swing ESF equipment aligned to the RED train.

‘B’ CCP lead charging pump.

2PCV0231, Gland sealing steam pressure control valve failed closed.

T1, T2, T3 set to false.

T5 set to Reactor trip.

T6 set to SIAS1.

Event No.	Malf. No.	Value/ Ramp Time	Event Description
1		0.0	Place ‘B’ CCW pump in service, secure ‘C’ CCW pump.
2	XRCCHAPCNT Trigger = T1	2500	‘A’ PZR control channel fails HIGH.
3	CV4652 Trigger = T1	1.0 Ramp = 10 secs	‘B’ spray valve fails open;
4	XSG2PT10411 Trigger = T2	0	‘A’ Steam generator safety channel pressure transmitter fails low.
5	SGATUBE Trigger = T3	5.0	‘A’ SG primary-secondary leak.
6	SGATUBE CUED	300 RAMP= 10 MIN	‘A’ Steam Generator Tube Rupture (300 gpm ramped over 10 Minutes).
7	RCP2P32AREV RCP2P32BREV Trigger = T5	TRUE	When ‘A’ or ‘B’ RCP secured, reverse rotation annunciator will alarm.
8	XMSHDRPRS Trigger = T5	650	SDBCS main steam header pressure fails low.
9	2SI10 A HPI2P89B Trigger = T6	0.0 TRUE	‘A’ HPSI pump coupling failure. ‘B’ HPSI pump fails to automatically start on SIAS.

Simulator Operator CUEs

At T=0 CBOT will place 'B' CCW pump inservice and secure 'C' CCW pump.

CUE: Report as AO that 'B' CCW pump has been vented at 2CCW-1029 and a solid stream of water was observed.

CUE: 'B' CCW pump discharge pressure is 127 psig (if high pressure alarm present) or 107 psig (if high pressure alarm not present).

Cued by Trigger T1 'A' PZR pressure control channel fails High.
lead
examiner

Cue: Report that I & C planner will begin planning work on failed pressure instrument.

Trigger T1 PZR 'B' main spray valve fails to close when opened

Cued by Trigger T2 'A' Steam Generator Pressure safety channel fails low.
lead
examiner

Cue: Report that I & C planner will begin planning work on failed pressure instrument.

Cued by Trigger T3 'A' Steam Generator 5 gpm tube leak.
lead
examiner

Cue: As Auxiliary Operator, report that standard attachment 19, control of secondary contamination is in progress.

Cue: When notified of requirement to sample SG's as Chemist, after 15 minutes report that the sample analysis is in progress and that when frisking sample 'A' SG countrate was higher than 'B' SG.

The CRS will direct the NLO's to and direct the chemists to sample the SG's for activity.

Cued by Raise 'A' SG tube leak to 500 gpm ramped over 10 minutes. This will
lead result in a manual reactor trip.
examiner

Cue: As Auxiliary operator, report that actions for standard attachment 10 for 'A' steam generator isolation outside the control room actions have been completed.

Tripping 'A' Trigger T5 Reverse rotation alarm when pump is secured. This will result in
or 'B' securing all reactor coolant pumps.
Reactor
Coolant
Pump

Reactor Trip Trigger T5

Steam dump and bypass control system pressure input will fail low. This results in no automatic response to control main steam pressure post reactor trip.

SIAS1 Trigger T6

2SI10 is closed. This will result in 'A' HPSI pump not developing discharge pressure.

'B' HPSI pump will not start automatically must be manually started.

Cue: As waste control operator report that the coupling on 'A' HPSI pump is damaged and separated from the motor.

Op-Test No.: 1			Scenario No.: 1			Event No.: 1		
Event Description: CBOT places 'B' component cooling water pump in service and secures 'C' component cooling water pump.								
Time	Position	Applicant's Actions or Behavior						
	CRS	Direct the CBOT to place 'B' CCW pump in service and secure 'C' CCW pump.						
	CBOT	Review OP 2104.028 section 8.2.						
	CBOT	Will perform the following: <ul style="list-style-type: none"> • Verify open 2P-33C/B Suction Crossover (2CV-5221). • Verify open 2P-33C/B Discharge Crossover (2CV-5232). • Direct AO to throttle open 2P-33B Casing Vent (2CCW-1029). • Place 2P-33B handswitch (2HS-5228) to START. • Observe the following: <ul style="list-style-type: none"> ○ Normal flow 1000 to 3000 gpm (2FIS-5202) ○ 2P-33B discharge pressure 100 to 120 psig (2PI-5234) • Place 2P-33C handswitch (2HS-5234) in Pull To Lock. 						
Termination criteria: When 'B' CCW pump is placed in service and 'C' CCW is secured or at lead examiner's discretion.								

Op-Test No.: 1			Scenario No.: 1			Event No.: 2		
Event Description: Channel '1' Pressurizer Pressure instrument will fail High.								
Time	Position	Applicant's Actions or Behavior						
	ATC	Announce annunciator 2K10-E6 Pressurizer Pressure Control Channel 1 Pressure HI / LO alarm is due to High pressure.						
	CRS	<p>Refer to PZR Systems Malfunctions AOP 2203.028 and direct board operators actions.</p> <p>Refer to TS 3.2.8 if pressure below 2025 to 2275 psia.</p> <p>Could direct placing SDBCS valves in manual closed</p>						
	ATC	<p>Compare channels and determine Channel 1 failed High.</p> <p>Place PZR Pressure Channel Select switch (2HS-4626) to Channel 2.</p> <p>Restore heaters to automatic control, if secured.</p> <p>Verify that PZR heaters respond as designed.</p> <p>Verify that 'B' PZR spray valve closed.</p> <p>Announce that 'A' PZR spray valve did not close as expected.</p>						
	CBOT	Place SDBCS Master controller in AUTO local and adjust set-point to 1000 psia.						
Termination Criteria: PZR pressure control selected to channel 2 in auto control or at lead examiner's discretion.								

Op-Test No.: 1			Scenario No.: 1			Event No.: 3		
Event Description: 2CV4652, 'B' spray valve sticks OPEN.								
Time		Position		Applicant's Actions or Behavior				
		ATC		Announce 2CV4652 did not close.				
		CRS		Refer to PZR Systems Malfunctions AOP 2203.028 and direct board operators actions. Direct ATC to close 2CV4652 per the AOP. Direct the ATC to close 2CV4652 isolation valve.				
		ATC		Attempt to close 2CV4652 by placing the control switch to MAN and rotating the hand switch to the OPEN direction for 1 second then after waiting 5 seconds rotating the hand switch to the CLOSE position. Report that 2CV4652 did not close.				
		ATC		Close 2CV4652 isolation valves by rotation hand switch to CLOSE. Report that Pressurizer Pressure is restoring to set point.				
Termination Criteria: When 2CV4652 is isolated or at lead examiner's discretion.								

Op-Test No.: 1			Scenario No.: 1			Event No.: 4		
Event Description: 'A' Steam Generator pressure transmitter, 2PT1041-1, on Channel 'A' fails low.								
Time	Position	Applicant's Actions or Behavior						
	ATC	Announce annunciators: 2K04-A4 CH A RPS/ESF/PRETRIP/TRIP 2K04-B3 PPS Channel TRIP 2K04-E4 MSIS PRETRIP Compare all safety channels four channels and report 2PI-1041-1 has failed low.						
	CRS	Implement Annunciator Corrective Action AOP 2203.012D.						
	ATC	Report A SG low pressure pretrip/trip on PPS insert.						
	CBOT	Compare all four channels and report 2PI-1041-1 indicates zero.						
	CRS	Enter Tech Spec 3.3.1.1 and 3.3.2.1, 3.3.3.5 and 3.3.3.6.						
	CBOT	Place the following channels in bypass on Channel A: A SG PRESS low (Bistable 11) A SG ΔP - EFAS 1 (Bistable 19) A SG ΔP - EFAS 2 (Bistable 20)						
	ATC	Verify annunciator 2K04-C3 PPS CHANNEL BYPASSED Verify correct channels in bypass.						
	CRS	Contact maintenance/PS liaison.						
Termination Criteria: Affected channel points placed in bypass or at lead examiner's discretion.								

Op-Test No.: 1			Scenario No.: 1			Event No.: 5		
Event Description: 5.0 GPM primary to secondary leak on 'A' SG. The CRS will enter the primary to secondary leakage AOP, OP 2203.038. Crew will perform a plant shutdown								
Time	Position	Applicant's Actions or Behavior						
	ATC	Announce annunciators: <ul style="list-style-type: none"> • 2K11-A10 Sec Sys Radiation Hi • 2K11-J8 SG Tube Leak Detection Rate of Change Hi • 2K11-K8 SG Tube Leak Detection Trouble/LKRT Hi 						
	CRS	Implement AOP 2203.038, PRI-SEC leakage and perform the following: Direct CBO's to perform RCS leak rates Enter TS 3.4.6.2 Direct AO to perform standard attachment 19, control of secondary contamination Direct the chemists to sample the SG's for activity Direct CBOT to isolate steam to 'A' EFW pump from 'A' SG and enter Tech Spec 3.7.1.2 Determine Action level 3 of AOP 2203.038 is applicable and a shutdown to less than 50% in one hour and to be in mode 3 within 2 hours is applicable. Direct CBOR to perform a plant shutdown using normal boration method.						
	CBOT	Close 2CV 1000-1, steam from 'A' SG to 'A' EFW pump. Announce 2K04-F2 annunciator as expected due to INOP of 2P7A.						

Op-Test No.: 1	Scenario No.: 1	Event No.: 5
Event Description: 5.0 GPM primary to secondary leak on 'A' SG. The CRS will enter the primary to secondary leakage AOP, OP 2203.038. Crew will perform a plant shutdown		
	ATC	<p>Perform a plant shutdown</p> <p>Use reactivity plans to determine the amount of boron required.</p> <p>Adjust turbine load to maintain Tave within 2°F of Tref.</p> <p>Insert CEA's as directed by reactivity plan.</p> <p>AOP requires a 2 hour shutdown to Mode 3.</p> <p>The CRS may determine a rapid plant shutdown of 1 hour to be in Mode 3 is more conservative and this decision is acceptable.</p>
Termination criteria: When reactivity manipulations are satisfied or at the discretion of the lead examiner.		

Op-Test No.: 1			Scenario No.: 1			Event No.: 6		
<p>Event Description: 300 gpm Tube Rupture on 'A' Steam Generator ramped over 10 Minutes. This will result in a manual reactor trip, SIAS and CCAS actuations. Crew will perform a natural circulation cool down of the RCS and manually Isolate 'A' SG.</p>								
Time		Position		Applicant's Actions or Behavior				
		ATC		<p>Report that PZR level is lowering Start all back up CCP's or report that they are running. Isolate Letdown as required.</p>				
		CRS		<p>Recognize SGTR is greater than 44 gpm and meets the AOP trip criteria. Direct the CBOR to manually trip the reactor</p>				
		ATC		<p>Manually trip the reactor.</p>				
		CRS		<p>Implement Standard Post Trip Actions, track safety functions, and direct board operators actions.</p>				
		ATC		<p>Check reactivity control: Reactor power decreasing. All CEAs inserted.</p>				
		CBOT		<p>Check maintenance of vital auxiliaries: Main turbine tripped. Generator output and exciter breakers open. All 4160v and 6900 v Non-Vital busses energized. All 4160v and 480v vital AC bus energized. All 125v vital DC bus energized.</p>				

Op-Test No.: 1			Scenario No.: 1			Event No.: 6								
Event Description: 300 gpm Tube Rupture on 'A' Steam Generator ramped over 10 Minutes. This will result in a manual reactor trip, SIAS and CCAS actuations. Crew will perform a cool down of the RCS and manually Isolate 'A' SG.														
Time	Position	Applicant's Actions or Behavior												
	CBOR	Check inventory control: PZR level 10 to 80%. Trending from set point. Report SIAS actuated or manually actuate and verify all PZR heaters off when PZR level less than 29%.												
	CBOR	Check RCS pressure control: RCS pressure 1800 to 2250 psia. Trend from set point Secure Two RCP's when RCS pressure is less than 1400 psia. Place spray valve for secured RCPs in manual closed. Verify SIAS when pressure less than 1650 psia. (See event 7 for actions on reverse rotation alarm.)												
	CBOR	Check core heat removal by forced circulation: RCP 's running Loop Δ T less than 10° F. RCS MTS 30° F or greater. Service water pump suction aligned to Lake. Component cooling water aligned to RCPs.												
	CBOT	Restore SW to ACW per Exhibit 5. (NOTE: This action requires several minutes) Check SIAS actuated. Maintain SW pressure greater than 85 psig.												

Op-Test No.: 1			Scenario No.: 1			Event No.: 6								
<p>Event Description: 300 gpm Tube Rupture on 'A' Steam Generator ramped over 10 Minutes. This will result in a manual reactor trip, SIAS and CCAS actuations. Crew will perform a cool down of the RCS and manually Isolate 'A' SG.</p>														
Time	Position	Applicant's Actions or Behavior												
	CBOT	<p>Check RCS Heat Removal: Report SG levels and main feed water is in RTO. Report feed water line intact. Report SG pressures. Report that SG pressure is high and SDBCS is not responding in AUTO. (See event 8 for actions due to SDBCS failure)</p>												
	CBOR	<p>Check CNTMT parameters: Temperature less than 140° F. Pressure less than 16 psia. Status of radiation alarms: CAMS (2K10-B6) NOT in alarm Area radiation (2K11-B10) NOT in alarm Process liquid (2K11-C10) NOT in alarm Secondary Sys Radiation Hi (2K11-A10) IN ALARM</p>												
	CBOT	<p>Will open 2CV0233, bypass around 2PCV0231 which is simulated closed to match condition of valve at plant. This is in response to low gland seal pressure.</p>												
	CRS	<p>Notify SM to perform the following: SE report to control room. Announce reactor trip on plant page. Refer to Tech Specs and EALs.</p>												

Op-Test No.: 1		Scenario No.: 1	Event No.: 6
Event Description: 300 gpm Tube Rupture on 'A' Steam Generator ramped over 10 Minutes. This will result in a manual reactor trip, SIAS and CCAS actuations. Crew will perform a cool down of the RCS and manually Isolate 'A' SG.			
	CRS	Direct CBOs to acknowledge all control room annunciators and announce all significant alarms. Diagnose Steam Generator Tube Rupture	
	CRS	Implement Steam Generator Tube Rupture procedure and open place keeping page.	
	ALL	Perform crew brief and review floating steps.	
	CRS	Determine applicable floating steps: <ul style="list-style-type: none">Commence natural circulation using bypass valves to the condenser cool down to less than 535° F Thot.HPSI Override Criteria.	
	CRS	Direct the following actions: Commence cool down to less than 535° F Thot. Inform SM to contact Chemistry to sample both SG for activity. Determine ruptured SG Perform post-SIAS actions: Verify Safety Injection flow to RCS: Isolate 'A' SG when RCS Thot is less than 535°F Verify HPSI override criteria met: <ul style="list-style-type: none">RCS MTS 30°F or greater.PZR level greater than 29% and controlled.RVLMS LVL 03 or higher elevation indicates WET.At least ONE intact SG available for Heat Removal Level 10 to 90% with FW available.	

Op-Test No.: 1			Scenario No.: 1			Event No.: 6		
<p>Event Description: 300 gpm Tube Rupture on 'A' Steam Generator ramped over 10 Minutes. This will result in a manual reactor trip, SIAS and CCAS actuations. Crew will perform a cool down of the RCS and manually Isolate 'A' SG.</p>								
Time		Position		Applicant's Actions or Behavior				
<u>Critical Step</u>		ATC		RCS cool down to less than 535°F T-hot : (floating step)				
		ATC		Reset low SG set points. Commence RCS depressurization to maintain RCS MTS 30 to 45° (When HPSI overridden) Take manual control of SDBCS bypass valves to condenser (2CV0302/2CV0303) Place ALL ADV Permissive switches in OFF. Verify EFW feeding SGs. Secure running MFW pump. Close ALL MFW Block valves. Record and plot cool down on Attachments 1 and 8.				
		ATC /CBOT		Verify Safety Injection flow to RCS: Check HPSI flow using Exhibit 2. (SEE event 9 on actions due to HPSI failures) Check LPSI flow using Exhibit 3.				

Event Description: 300 gpm Tube Rupture on 'A' Steam Generator ramped over 10 Minutes. This will result in a manual reactor trip, SIAS and CCAS actuations. Crew will perform a cool down of the RCS and manually Isolate 'A' SG.

Time	Position	Applicant's Actions or Behavior
	CBOT	Perform post-SIAS actions: SW pumps running on each loop. EDG SW outlet valves open. SW pump suction aligned to Lake. Report all non-vital buses energized. Verify SG sample valves open.
<u>Critical Step</u>	CBOT	Use Attachment 10 to isolate Ruptured SG
	ATC / CBOT	OVERRIDE HPSI: Throttle HPSI flow OR place HPSI pumps in PTL as needed to control RCS pressure, inventory, and heat removal.

Termination criteria: RCS Cool down to less than 535°F and 'A' SG isolated or at examiners discretion.

Op-Test No.: 1			Scenario No.: 1			Event No.: 7		
Event Description: Reverse rotation alarm when Reactor Coolant Pump 'A' or 'B' secured which results in securing all reactor coolant pumps.								
Time	Position	Applicant's Actions or Behavior						
	ATC	Announces 2K11-C2 or 2K11-C4 annunciator for reverse rotation of associated reactor coolant pump.						
	CRS	Refers to annunciator corrective actions OP 2203.012K and directs ATC to secure ALL Reactor Coolant Pumps.						
	ATC	Secures remaining reactor coolant pumps and places associated spray valves to Manual. Verifies pumps secured (amperages, delta 'P' and Green light for associated breaker lit).						
Termination criteria: When ALL RCP's are secured or at discretion of lead examiner.								

Op-Test No.: 1			Scenario No.: 1			Event No.: 8		
Event Description: Steam Dump and Bypass Control System fails to automatically open bypass and dump valves to control Steam Generator pressure.								
Time		Position		Applicant's Actions or Behavior				
		CBOT		Recognize and announce that SDBCS is NOT maintaining steam Generator pressure.				
		CRS		Direct CBOT to manually control Steam Generator pressure by either taking manual control of a SDBCS bypass valve or place the SDBCS master controller in manual and adjust output to open SDBCS bypass valve(s) to maintain Steam Generator pressure 950 to 1000 psia.				
		CBOT		Manually control SDBCS valves to control Steam Generator pressure.				
Termination criteria: SDBCS is controlled manually or at the discretion of the lead examiner.								

Op-Test No.: 1			Scenario No.: 1			Event No.: 9		
Event Description: 2P89B, 'B' High Pressure Safety Injection pump (HPSI) fails to auto-start and 'A' High Pressure Safety Injection Pump fails to develop discharge pressure.								
Time		Position		Applicant's Actions or Behavior				
		CBOT		Recognizes and announces failure of 'B' HPSI pump to automatically start. Announces failure of 'A' HPSI				
		CRS		Direct CBOT start 'C' HPSI pump (2P89C) and/or start 'B' HPSI pump (2P89B). Direct WCO to investigate 'A' HPSI pump operation.				
<u>Critical Step</u>		CBOT		On 2C17, took hand switch for 'A' HPSI pump (2P89A) to pull-to-lock and took hand switch for 'C' HPSI pump (2P89C) to start and verified discharge pressure (if pressure < 1450psia, verified flow to RCS). AND/OR On 2C16, took hand switch for 'B' HPSI pump (2P89B) to start and verified discharge pressure (if pressure < 1450psia, verified flow to RCS).				
Critical Part is to either start 2P89B or Start 2P89C.								
Termination criteria: When 'B' HPSI pump is started or when 'C' HPSI pump is started or at the discretion of the lead examiner.								

Facility: ANO-2	Scenario No.: 2 (Modified)	Op-Test No.: 2008-1	
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Examiners:	Operators:		
Initial Conditions: 85% MOL, All Engineered Safety Features systems are in standby. Main Turbine turning gear motor tagged out. 2PCV-0231 jacked closed. 'A' MFP offline to repair Electro-Hydraulic leak. RED Train Maintenance Week.			
Turnover: 85%. 250 EFPD. EOOS indicates 'Acceptable Risk (9.3)'. MTG will need to be jacked manually IAW OP-2106.009 Section 7.3. 2PCV-0231 jacked closed, manually control seal steam pressure. 'A' Main feed pump Electro-Hydraulic leak repaired and ready to be placed in service. OP 2106.007 is complete up to section 10.0 for placing 'A' MFP in service. RED Train Maintenance Week.			
Event No.	Malf. No.	Event Type*	Event Description
1		N (CBOT)	Place 'A' Main Feed Pump in service.
2	XFW2TE0361	I (CBOT)	Temperature indicator to Main Feed Pump oil cooler fails low.
3	CVC2P36BFAL	C (ATC)	'B' Coolant Charging Pump motor fault. TRM for CRS.
4	NOT USED		
5	CEA24DROP	N (CBOT) R (ATC)	Control Element Assembly #24 drops to bottom of core. Tech Spec for CRS.
6	500LOSE500 500LOSE161	M (ALL)	Loss of Off-Site Power.
7	MTGTRPLOCKO RPSRXMAN RPSRXAUTO	C (ATC)	Main turbine lockout. Failure of the reactor protection system to automatically or manually trip the reactor. Tech Spec for CRS.
8	EDGDG1OIL CV0332	C (CBOT)	Loss of both Emergency Feed Water pumps resulting in loss of all Feed water to steam generators.
9	Loss of instrument air	C (ATC)	Loss of instrument air results in using upstream atmospheric dump valve isolation valves to control steaming rate.
* (N)ormal, (R)eactivity, (I)nstrument, (C)omponent, (M)ajor			

Scenario #2 Objectives

- 1) Evaluate individual ability to place a main feed pump in service.
- 2) Evaluate individual response to a failure of main feed pump lube oil temperature instrument.
- 3) Evaluate individual response to a failure of a coolant charging pump.
- 4) Evaluate individual response to a dropped control element assembly.
- 5) Evaluate individual ability to perform a reduction in plant power.
- 6) Evaluate individual ability to mitigate a loss of off site power.
- 7) Evaluate individual response to a failure of Reactor Protection System to trip the reactor.
- 8) Evaluate individual ability to mitigate a loss of all feed water.
- 9) Evaluate individual response to a loss of instrument air.

SCENARIO #2 NARRATIVE

Simulator session begins with the plant at 85% power steady state due to taking 'A' Main feed pump (MFP) out of service to repair an Electro-hydraulic fluid leak on the Low Pressure steam admission valve.

When the crew has completed their control room walk down and brief, the CBOT will place 'A' MFP in service using OP 2106.007 section 10.0.

When 'A' MFP has been placed in service and at the lead examiner's cue, the temperature transmitter to the MFP lube oil cooling control valve will fail closed. This will result in actual MFP lube oil temperature rising. Annunciators on 2K03 D8, E8, D11, E11 will alarm. If action is not taken, the crew will be directed to manually trip the MFP's due to high bearing temperature and manually trip the reactor. The CRS will direct the CBOT to take manual control of the temperature controller to maintain MFP bearing temperature.

When MFP lube oil temperature is being controlled manually and at the lead examiner's cue, 'B' Coolant Charging Pump (CCP) will trip. The CRS will enter AOP 2203.036, Loss of Charging. The CRS will direct the ATC to manually start a standby CCP. CRS will enter TRM 3.1.2.4 due to only no CCP available on the green train. CRS will direct the ATC to place CCP's in a configuration that would allow exiting the TRM.

When a backup CCP has been started and at the lead examiner's cue, CEA #24 will drop into the core. The crew will enter AOP 2203.003 to mitigate the event.

When ATC has completed the required reactivity manipulation and at the lead examiner's cue, a main turbine trip will occur which will trip the reactor on HIGH Pressurizer pressure if not immediately manually tripped. The Reactor Protection System will not trip the reactor, either manually or automatically. The ATC will trip the reactor by pushing the manual Diverse Scram System push DSS, button. The CRS will recognize this is Tech Spec 3.0.3. The crew will enter SPTA's and assess safety functions.

Upon reactor trip, a loss of off site power will occur. The crew will perform SPTA's to determine which safety functions are met and diagnose the event. Due to a loss of off site power and a leak in the instrument air system a loss of instrument air occurs which results in using the upstream atmospheric dump valve Motor Operated Valve to control steam generator pressure due to the Air operated valve failing open. When the RED train vital bus undervoltage times out 2DG1 will start but soon trip due to a loss of lube oil which will result in de-energizing Red vital power buss 2A3 and 2B5. The loss of 2A3 will prevent 2P7B from starting, losing one of the Emergency Feed Water Pumps.

When an Emergency Feed Water Actuation Signal (EFAS) occurs and 'A' emergency feed water pump attempts to start automatically start, an overspeed trip of the turbine will occur. This will result in a loss of all feed water to the steam generators. The CRS will direct that at least one RCP in each loop are secured and Steam Generator blowdown is isolated from both steam generators. When standard post trip actions, SPTA's, are complete, the CRS will diagnose and enter the Loss of Feed EOP OP2202.006. The CBOT will manually start the Alternate AC Generator from 2C14 and energize 2A3, vital 4160 bus or open the Service water valve from the #1 EDG and start #1 EDG. Once 2A3 is energized the CBOT will manually start the emergency feed water pump, 2P7B, from 2C17 and align feed to both steam generators using the Emergency Feed water valves.

When the loss of off site power event occurs, a loss of instrument air will occur due to loss of power to the instrument air compressors and a leak in the system which will require the crew to manually operate the upstream atmospheric dump valves using the motor operated valves.

Simulator Instructions for Scenario 2

Reset simulator to MOL 85% power IC steady state, xenon at equilibrium.
 Ensure that AACG is secured and annunciators clear.
 Ensure hotwell level is ~80%.
 Ensure 'B' CCP is in service and 'C' CCP is aligned to RED side.
 'A' MFP is idling and procedure OP 2106.007 is complete up to section 10.0
 Condensate recircs are in manual and throttled to maintain 650-750psig.
 Place Acceptable Risk (9.3) and RED Train Maintenance Week signs on 2C11.
 T1, T2, T3, T4, T5 set to false.
 T6 set to Reactor Trip
 T7 set to EWS_EFAS1 (EFAS channel 1 actuates)
 T8 set to P54R08CS (2DG1 output breaker closes)

Event No.	Malf. No.	Value/ Ramp Time	Event Description
1			Place 'A' Main Feed Pump in service
2	XFW2TE0361 Trigger T1	0.0	Main Feed Pump lube oil temperature instrument input to controller fails low.
3	CVC2P36BFAL Trigger T2	TRUE	'B' Coolant Charging Pump trips.
4	NOT USED		
5	CEA24DROP Trigger T4	0"	Control Element Assembly #24 drops to bottom of core.
6	500LOSE500 500LOSE161 Trigger T6	TRUE	Loss of Off-Site Power. Delay = 5 seconds
7	MTGLOCKOUT Trigger T5 RPSRXMAN RPSRXAUTO	TRUE TRUE	Main turbine lockout. Failure of the reactor protection system to automatically or manually trip the reactor. Tech Spec for CRS.
8	EDGDG1OIL Trigger=T7 CV0332 Trigger T8	TRUE 0"	#1Emergency Diesel Generator trips due to loss of lube on start. 2P7A, 'A' Emergency Feed Water Pump overspeed trip on start.

Simulator Instructions for Scenario 2			
9	Loss of instrument air Trigger T6	55	Loss of instrument air

At T=0

‘A’ Main Feed Pump will be placed in service.

Cue: respond as Auxiliary Operator to directions for local inspections during normal startup of Main feed pump.

CUED by Trigger T1 Main Feed Pump lube oil temperature instrument input to controller
Lead fails low
Examiner (Note takes about two minutes before temperature alarms come in.)

Cue: Report that temperature control valve is closed (if CBOT has not taken manual control and opened the valve) and temperatures are rising (zoom in with camera to PMS indications for actual temperature). Report that MFP’s are operating normally except for bearing temperature.

CUED by Trigger T2 ‘B’ Coolant Charging Pump trips.
Lead
Examiner

Cue: Report that the breaker for ‘B’ Coolant Charging Pump is in a ‘tripped free’ condition.

Cue: If asked report that the motor for ‘B’ Coolant Charging Pump is hot to touch and the paint is discolored, but no fire or smoke is evident.

Cue: Report that a solid stream of water was observed when venting the suction to ‘B’ Coolant Charging Pump from 2CVC-1099/1100.

Cue: Report that seal water pump is running for requested charging pump and has been for 35 minutes.

CUED by Trigger T4 CEA 24 Drops to bottom of core.
Lead
Examiner

Cue: As I & C department report that a crew has been sent to the CEDMCS room to investigate cause of CEA 24 dropping. (Note the CEA will not be recovered during this scenario)

CUED by Trigger T5 Main turbine lockout.
Lead
Examiner

Failure of the reactor protection system to automatically or manually trip the reactor.

On Reactor Trigger T6 Loss of 161KV and 500KV power.
Trip

Cue: report as dispatcher that the loss of off site power was due to Switchyard relay issues and expects to be restored in 72 hours.

NOTE: if asked as Auxiliary Operator to control 'B' SG pressure locally in MSIV room insert the following REMOTE functions: MSCV1054; value = YES; MSCV1052LSP; value insert desired setpoint.

#1 EDG Trigger T7 #1 EDG trips on loss of lube oil.
start

Cue: As Auxiliary Operator, report that the oil supply line upstream of the lube oil filter has a cracked weld. The oil has been absorbed with oil wipes.

EFAS-1 Trigger T7 'A' EFW pump over speed trip.

Cue: As Waste Control Operator, report that the over speed trip device has been damaged and cannot be reset without repair.

Cue: As CRSA, report that direction has been given to remove danger tags and to energize the LTOP isolation valves.

Loss of off Trigger T6 Loss of instrument air.
site power

Op-Test No.: 1			Scenario No.: 2			Event No.: 1		
Event Description: Place 'A' main feed pump in service.								
Time	Position	Applicant's Actions or Behavior						
	CBOT	Review OP2106.007, MFP and FWCS operations.						
	CRS	Place 'A' MFP on line using section 10 of OP 2106.007						
	CBOT	<p>Perform the following:</p> <ul style="list-style-type: none"> • Verify Main Feedwater Pump Startup section completed through step 9.19. • Verify Condensate header pressure 650 to 750 psig. • Verify S/G levels and flows stable enough to place second MFWP on line. • Verify selected MFWP flow maintained ~ 1 gal/1 rpm at all times. • Slowly raise oncoming pump speed until pump speed controller demand matches Speed tracking Demand for respective FWCS. • Place speed controller for this pump in Automatic. • Close selected MFWP Recirc • Adjust MFWP/CNDP Recirc Auto Close setpoint for both MFWP recirc valve controllers (pg 3 of controller) to ~ 850 psig: <ul style="list-style-type: none"> ○ 2FIC-0742 ○ 2FIC-0735 • Place HIC for affected MFWP Recircs in AUTO. • Place HICs for Condensate Recircs in AUTO. 						
Termination criteria: When 'A' Main feed pump is in automatic or at the discretion of the lead examiner.								

Op-Test No.: 1			Scenario No.: 2			Event No.: 2		
Event Description: 2TE0361, Main Feed pump lube oil temperature input to oil cooler controller fails 2TIC-5283 closed.								
Time	Position	Applicant's Actions or Behavior						
	CBOT	<p>Announce annunciators 2K03-E8/E11 Turbine bearing Metal Temperature High. 2K03-D8/D11 Turbine Bearing Oil Temperature High.</p> <p>Report that 2TE-0374('A' MFP) and 2TE-0371('B' MFP) are > 135°F and trending up. Also Report that bearing metal temperatures are also trending up.</p> <p>Report that MFP Lube Oil TEMP Controller (2TIC-5283) has zero output.</p>						
	CRS	<p>Implement to annunciator corrective action OP 2203.012C for:</p> <p>2K03-E8/E11 Turbine bearing Metal Temperature High.</p> <p>2K03-D8/D11 Turbine Bearing Oil Temperature High.</p> <p>Direct Auxiliary Operator to investigate lube oil controller and lube oil temperatures locally.</p> <p>Direct CBOT to manually control MFP lube oil temperature.</p>						
	CBOT	<p>Take manual control of controller and control MFP lube oil temperature less than 135°F. (NOTE: controller is reverse indicating (OPEN demand is to the left and CLOSE demand is to right)</p> <p>Report that PMS point T0371 has failed low. (P&ID M-2216 sh2, E7 & M-2234 SH 1, G-2)</p>						
	CRS	<p>Contact maintenance/Work Week Manager to investigate failed transmitter.</p>						
<p>Termination criteria: When MFP lube oil temperature is controlled in automatic and stable or at discretion of lead examiner.</p>								

Op-Test No.: 1			Scenario No.: 2			Event No.: 3		
Event Description: 'B' Coolant Charging Pump (CCP) trips.								
Time	Position	Applicant's Actions or Behavior						
	ATC	Announce Charging low flow alarm. Announce that 'B' CCP has tripped and both red and green lights are out.						
	CRS	Enter 2203.036, Loss charging and direct the following actions: Direct ACT to verify suction and discharge path. Direct ATC to start backup CCP. Verify that a charging leak does not exist.						
	ATC	Verify VCT outlet is open. Verify 2CV4840-2 is open. Start 'A' CCP. Verify ~44gpm charging header flow. Verify proper charging header pressure. Verify no charging leaks exist (Tank levels & radiation levels stable)						
	CRS	Direct Waste Control Operator to vent the suction of 'B' CCP. Refer to ACA 2K12 C2 Pumps not available from independent busses. Refer to TRM 3.1.2.4 and enter 72 hour plant shutdown action. Direct ATC to place 'C' CCP on the GREEN side.						
	CBOT	Place 'C' CCP on the GREEN side by moving operating switch to Green side and placing in AUTOMATIC.						
Termination criteria: When backup CCP started, TRM entered and 'C' CCP transferred to the GREEN side or at discretion of lead examiner.								

Op-Test No.: 1			Scenario No.: 2			Event No.: 4		
Event Description: Event not used.								

Op-Test No.: 1 Scenario No.: 2 Event No.: 5		
Event Description: CEA #24 drops to the bottom of core.		
	ALL	<p>Announce "CEAC 1/2 CEA DEVIATION" annunciator (2K04-J5/J6) in alarm.</p> <p>Announce 2K10 CEA alarms</p> <p>Announce that ONLY CEA #24 has dropped to the bottom the core.</p>
	CRS	<p>Enter CEA malfunction AOP 2203.003</p> <p>Verify Reactor startup not in progress.</p> <p>Verify the CEA deviation is an INWARD deviation > 19".</p> <p>Direct the following:</p> <ul style="list-style-type: none"> • Adjust Turbine load to match TAVE within 2°F of TREF. • Check RCS TC 542 to 554.7°F • Check RCS pressure 2025 to 2275 psia. • Commence power reduction within 15 minutes to maintain within ACCEPTABLE region of Attachment A, Required Power Reduction After CEA Deviation. • Notify I&C to commence CEA troubleshooting. • Refer to TS 3.1.3.1.c, CEA Position. (if CEA group placed on hold bus) • Perform SDM checks by notifying Reactor Engineering of CEA misalignment or inoperability and request assistance in determining SDM. • Refer to TS 3.1.1.1, Shutdown Margin, Tavg > 200°F • ENTER to TS 3.1.3.1.d, CEA Position (due to misalignment from group) • Maintain ASI -0.27 to +0.27 • ENTER TS 3.2.3, Azimuthal Tilt - TQ. • Check CEA pulse counter and CEAC position indication agree within 5 inches for ALL CEAs. • Declare COLSS Power Operating Limits for LPD and DNBR inoperable refer to TS 3.2.1.b, Linear Heat Rate and ENTER 3.2.4.c, DNBR Margin. • Perform ATTACHMENT C, DNBR/LPD TECH SPEC LOG every 15 minutes until COLSS Power Operating Limits for LPD and DNBR are operable. • Notify appropriate Plant Management and Reactor Engineering to evaluate core power distribution.

Op-Test No.: 1		Scenario No.: 2	Event No.: 5
Event Description: CEA #24 drops to the bottom of core.			
	CBOT	Reduce turbine load to make Tave – Tref mismatch less than 2°F.	
	ATC	<p>Check Tc within tech spec limits using CPC PID 5, 6, 160, or 161.</p> <p>Check Pressurizer pressure controlling approximately at setpoint.</p> <p>Commence power reduction using reactivity plan (downpower to ~60%)</p> <p>Commence normal boration using exhibit.</p> <p>Reduce turbine load to keep Tave and Tref within 2°F during downpower.</p> <p>Monitor ASI and insert group 6 CEAs to maintain ASI approximately at power dependant ESI and per reactivity plan.</p>	
	CBOT	Perform ATTACHMENT C, DNBR/LPD TECH SPEC LOG every 15 minutes until COLSS Power Operating Limits for LPD and DNBR are operable.	
Termination criteria: When CBOR has completed reactivity manipulations or at discretion of lead examiner.			

Op-Test No.: 1			Scenario No.: 2			Event No.: 7		
Event Description: Main turbine lockout and Reactor Protection System failure to trip the reactor either manually or automatically								
Time	Position	Applicant's Actions or Behavior						
	CBOT	Announces that the main turbine has tripped.						
	ATC	Announces the reactor did not trip.						
	CRS	Directs the ATC to manually trip the reactor.						
<u>CRITICAL STEP</u>	ATC	Attempts to manually trip the reactor from 2C03 pushbuttons. Depresses the Diverse Scram System (DSS) trip button on 2C03. Announces that the reactor has tripped.						
	CRS	Recognizes that Technical Specification 3.0.3 should be entered due to failure of RPS to automatically trip.						
Termination criteria: When Reactor Trip is completed or at lead examiner's discretion.								

Op-Test No.: 1 Scenario No.: 2 Event No.: 6		
Event Description: Loss of off site power.		
Time	Position	Applicant's Actions or Behavior
	CRS	Enter SPTA's, assess safety functions and direct contingency actions.
	ATC	Check reactivity control: Reactor power decreasing. All CEAs inserted.
	CBOT	Check maintenance of vital auxiliaries: Main turbine tripped. Generator output and exciter breakers open. All 4160v and 6900 v Non-Vital busses NOT energized. All 4160v and 480v vital AC bus NOT energized. (see event 8) All 125v vital DC bus energized.
	ATC	Check inventory control: PZR level 16 to 80%. Trend to set point.
	ATC	Check RCS pressure control: RCS pressure 1800 to 2300 psia. Trend to set point

Op-Test No.: 1 Scenario No.: 2 Event No.: 6		
Event Description: Loss of off site power.		
	ATC	All RCP's secured Take PZR spray valves to manual and closed.
	CBOT	Check RCS Heat Removal: Report SG levels Main feed water is secured. Manually actuate EFW. (See event 8) Report SG pressures are lowering. Shut both MSIV's due to 2CV 0400 and 2CV 0460, Main Steam to the moisture separator reheaters, have no power and are open.
	CBOR	Check CNTMT parameters: Temperature less than 140° F. Pressure less than 16 psia. Status of radiation alarms: CAMS (2K10-B6) NOT in alarm Area radiation (2K11-B10) NOT in alarm Process liquid (2K11-C10) NOT in alarm Secondary Sys Radiation Hi (2K11-A10) NOT in alarm

Op-Test No.: 1			Scenario No.: 2			Event No.: 6		
Event Description: Loss of off site power.								
		CRS	Notify SM to perform the following: SE report to control room. Refer to EAL classification procedure OP 1903.010. Announce reactor trip on plant page. Refer to Tech Specs, 3.0.3 due to no emergency feedwater available and 3.8.1.1 action C					
Termination criteria: CRS has diagnosed a Loss of All Feed event and transitions to EOP or at discretion of lead examiner.								

Op-Test No.: 1			Scenario No.: 2			Event No.: 8		
Event Description: Failure of 2DG1 and overspeed trip of 'A' Emergency Feed Water Pump, 2P7A.								
Time	Position	Applicant's Actions or Behavior						
	CRS	Enter Loss of All Feed water EOP 2202.006 Direct the following from the Loss of All Feed water EOP: Close Steam Generator blowdown valves. Direct CRSA to remove danger tags and energize the LTOP isolation valves. Refer to Standard attachment 11 and direct the CBOT to manually start the Alternate AC Generator and energize 2A3. Direct the CBOT to manually start 2P7B and restore feed water to both steam generators at < 150 GPM for five minutes or until level rise is observed.						
	CBOT	Close Steam Generator blowdown valves.						
<u>Critical Step</u>	CBOT	Manually starts the Alternate AC Generator and energizes 2A3.						
<u>Critical Step</u>	CBOT	Manually starts 'B' Emergency Feed Pump and restores feed water to both steam generators.						
Termination criteria: When Emergency Feed water is established to both Steam Generators or at the discretion of the lead examiner.								

Op-Test No.: 1			Scenario No.: 2			Event No.: 9		
Event Description: Loss of Instrument air.								
		CRS	Direct ATC to manually control Steam Generator pressures less than the Main Steam Safety Setting (~1100 psia) Control PZR pressure less than 2400 psia using auxiliary spray.					
		ATC	Monitor and control Steam generator pressures less than main steam safety valve lift set point (~1100 psia) using upstream atmospheric dump valve isolation motor operated valves. Control PZR pressure using auxiliary spray less than 2400 psia.					
Termination criteria: When ATC has control of steam generator pressure and pressurizer pressure or at discretion of lead examiner.								

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 002 DATE: _____SYSTEM/DUTY AREA: A4 Emergency PlanTASK: Determine Emergency Action LevelJTA#: ANO-SM-EOPAOP-EMERG-301KA VALUE RO: 2.3 SRO: 4.1 KA REFERENCE: 2.4.41APPROVED FOR ADMINISTRATION TO: RO: _____ SRO: XTASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform LAB: _____POSITION EVALUATED: RO: _____ SRO: X

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE(S): OP 1903.010

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

- A plant trip has occurred 1 hour ago due to a loss of all feedwater.
- Feedwater flow can not be restored to either Steam Generator.
- Steam Generator levels are:
 - "A" S/G = 47" wide range
 - "B" S/G = 52" wide range.
- The crew has initiated Once Thru Cooling using the ECCS Vents.
- RCS leakage is estimated to be 875 gpm.
- Containment temperature, pressure and sump level are rapidly rising.
- SIAS, CCAS and CIAS have actuated.
- Valid High Range Containment Radiation Monitors readings indicate 25 R/hr.

TASK STANDARD:

Declared a Site Area Emergency based on EAL 6.9, Loss of Both S/Gs as a Heat Removal Method

TASK PERFORMANCE AIDS: OP 1903.010

SIMULATOR SETUP: N/A

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIATING CUE:**

As Shift Manager, determine the EAL classification based on the given plant conditions.

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	1.	Review E-Plan procedure 1903.010 to determine classification.	Review 1903.010 index and EAL classification tabs.	N/A SAT UNSAT
(C)	4.	Reviewed EAL 6.9., Site Area Emergency based Loss of Both S/Gs as a Heat Removal Method	Site Area Emergency declared based Loss of Both S/Gs as a Heat Removal Method	N/A SAT UNSAT
END				

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER's COPY****INITIAL PLANT CONDITIONS**

- A plant trip has occurred 1 hour ago due to a loss of all feedwater.
- Feedwater flow can not be restored to either Steam Generator.
- Steam Generator levels are:
 - "A" S/G = 47" wide range
 - "B" S/G = 52" wide range.
- The crew has initiated Once Thru Cooling using the ECCS Vents.
- RCS leakage is estimated to be 875 gpm.
- Containment temperature, pressure and sump level are rapidly rising.
- SIAS, CCAS and CIAS have actuated.
- Valid High Range Containment Radiation Monitors readings indicate 25 R/hr.

INITIATING CUE:

As Shift Manager, determine the EAL classification based on the given plant conditions.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE's COPY****INITIAL PLANT CONDITIONS**

- A plant trip has occurred 1 hour ago due to a loss of all feedwater.
- Feedwater flow can not be restored to either Steam Generator.
- Steam Generator levels are:
 - "A" S/G = 47" wide range
 - "B" S/G = 52" wide range.
- The crew has initiated Once Thru Cooling using the ECCS Vents.
- RCS leakage is estimated to be 875 gpm.
- Containment temperature, pressure and sump level are rapidly rising.
- SIAS, CCAS and CIAS have actuated.
- Valid High Range Containment Radiation Monitors readings indicate 25 R/hr.

INITIATING CUE:

As Shift Manager, determine the EAL classification based on the given plant conditions.

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 001 DATE: _____SYSTEM/DUTY AREA: A.3: Radiation ControlTASK: Review and approve Containment Purge Gaseous ReleaseJTA#: ANOSROADMINNORM189KA VALUE RO: 2.5 SRO: 3.4 KA REFERENCE: 2.3.9APPROVED FOR ADMINISTRATION TO: RO: _____ SRO: XTASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform CLASSROOM: Perform

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE(S): OP 2104.033

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIAL PLANT CONDITIONS**

Plant is in Mode 5.

Today's date is 03/10/2005.

Chemistry has completed Containment atmosphere radioactivity analysis.

Purge Exhaust Filter Unit doors have been verified closed and dogged.

Initial flow from 2RITS-8233, Containment Purge, is 8.5 SCFM.

Initial count rate on 2RITS-8233, Containment Purge, is 60 cpm.

Initial CAM's Particulate reading is 1084 CPM and Gaseous is 928 CPM.

Current four hour average CAM's Particulate reading is 2452 CPM and Gaseous is 1921 CPM.

Last test reading run-time from engineering programs group is 7532.5 hrs.

Current run-time reading from 2B85-C7 is 8284.9 hrs.

A reactor Operator has completed the request and containment purge verification section of OP 2104.033 Supplement 1.

TASK STANDARD:

Four of the following Five errors must be identified:

- Since data recorded in step 1.4.5 was incorrect the filter run-time should have been given to Engineering programs for evaluation.
- Step 4.3 calculated count rate limits are wrong.
- Step 4.4 since current CAMS radiation readings exceed the calculated limits, the permit should have been resubmitted to chemistry.
- Step 4.8 2RITS-8233 set point is recorded incorrectly.
- Potentiometer dial set point circled is incorrect due to recording the set point incorrectly; this results in a non-conservative trip value for 2RITS-8233.

AND

The release permit must not be approved, but returned to chemistry for reanalysis.

TASK PERFORMANCE AIDS: A marked-up copy of Supplement 1 Containment Purge Gaseous Release Permit through section 4 and chemistry release data.

SIMULATOR SETUP: NA

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIATING CUE:**

The Shift Manager directs "Review and approve OP-2104.033 supplement 1, Containment Purge Gaseous Release Permit using the completed supplement and chemistry report. Identify at LEAST 4 errors in the supplement."

START TIME: _____

<u>PERFORMANCECHECKLIST</u>		<u>STANDARD</u>	<u>CIRCLE ONE</u>	
EXAMINER'S NOTE: Provide a marked-up copy of OP 2104.033 Supplement 1.				
	1.	Perform supervisor review for approval of the Containment purge gaseous release permit and determine errors.	Reviews the containment purge gaseous release permit. N/A	
EXAMINER'S NOTE: The following list identify errors in the supplement 1 provided. The acceptance criterion is given in the task standard. Examinee must identify 4 of the 5 errors.				
(C)	2.	<ul style="list-style-type: none"> Data recorded in section 1.4.5 was incorrect the filter run-time should have been given to Engineering programs for evaluation. Step 4.3 calculated count rate limits are wrong. Step 4.4 since current CAMS radiation readings exceed the allowable limits, the permit should have been resubmitted to chemistry. Step 4.8 2RITS-8233 set point is recorded incorrectly. Potentiometer dial set point circled is incorrect due to recording the set point incorrectly; this results in a non-conservative trip value for 2RITS-8233. 	<ul style="list-style-type: none"> Filter run-time is beyond 720 hrs; this should be evaluated by engineering programs before proceeding with release. Calculated count rate limits were given to be particulate 542 CPM and gaseous 464 CPM but should have been Particulate 2168 CPM and gaseous 1856 CPM. The Purge permit should be resubmitted to chemistry but the steps were marked as NA due current radiation readings exceeding calculated limits. Set point for 2RITS-8233 is recorded as 15000 CPM not 150 CPM as specified in Chemistry report. Potentiometer dial set point should be 1E3 = 3.84, but 1E4 = 5.68 is circled. 	N/A SAT UNSAT
EXAMINER'S NOTE: The Examinee should discuss that the release will be resubmitted to chemistry and Engineering programs should evaluate the runtime on the exhaust filter.				
(C)	3.	The release should not be approved and should be resubmitted to chemistry.	Would not approve the release to begin. N/A SAT UNSAT	
END				

STOP TIME: _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER's COPY****INITIAL PLANT CONDITIONS**

- Plant is in Mode 5.
- Today's date is 03/10/2005.
- Chemistry has completed Containment atmosphere radioactivity analysis.
- Purge Exhaust Filter Unit doors have been verified closed and dogged.
- Initial flow from 2RITS-8233, Containment Purge, is 8.5 SCFM.
- Initial count rate on 2RITS-8233, Containment Purge, is 60cpm.
- Initial CAM's Particulate reading is 1084 CPM and Gaseous is 928 CPM.
- Current four hour average CAM's Particulate reading is 2452 CPM and Gaseous is 1921 CPM.
- Last test reading run-time from engineering programs group is 7532.5 hrs.
- Current run-time reading from 2B85-C7 is 8284.9 hrs.
- A reactor Operator has completed the request and containment purge verification section of OP 2104.033 Supplement 1.

Initiating CUE:

The Shift Manager directs "Review and approve OP-2104.033 supplement 1, Containment Purge Gaseous Release Permit using the completed supplement and chemistry report. Identify at LEAST 4 errors in the supplement."

List any errors identified below:

Can this release permit be approved given the initial condition information? _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE's COPY****INITIAL PLANT CONDITIONS**

- Plant is in Mode 5.
- Today's date is 03/10/2005.
- Chemistry has completed Containment atmosphere radioactivity analysis.
- Purge Exhaust Filter Unit doors have been verified closed and dogged.
- Initial flow from 2RITS-8233, Containment Purge, is 8.5 SCFM.
- Initial count rate on 2RITS-8233, Containment Purge, is 60cpm.
- Initial CAM's Particulate reading is 1084 CPM and Gaseous is 928 CPM.
- Current four hour average CAM's Particulate reading is 2452 CPM and Gaseous is 1921 CPM.
- Last test reading run-time from engineering programs group is 7532.5 hrs.
- Current run-time reading from 2B85-C7 is 8284.9 hrs.
- A reactor Operator has completed the request and containment purge verification section of OP 2104.033 Supplement 1.

Initiating CUE:

The Shift Manager directs "Review and approve OP-2104.033 supplement 1, Containment Purge Gaseous Release Permit using the completed supplement and chemistry report. Identify at LEAST 4 errors in the supplement."

List any errors identified below:

Can this release permit be approved given the initial condition information? _____

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 001 DATE: _____SYSTEM/DUTY AREA: Conduct of Operations (A.2)TASK: Supervisory review of maintenance activitiesJTA#: ANO-SRO-ADMIN-NORM-48KA VALUE RO: 2.1 SRO: 3.1 KA REFERENCE: 2.2.19APPROVED FOR ADMINISTRATION TO: RO: _____ SRO: XTASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform Classroom: PerformPOSITION EVALUATED: RO: _____ SRO: X

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ Classroom: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 10 MinutesREFERENCE(S): 1025.003, Conduct of Maintenance

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

Maintenance work order 00087000-01 has been completed on the Loop 2 Service Water Return from the Containment Cooling Coils, 2VCC-2C/D radiation monitor 2RE-1513-2.

- The clearance has been removed.
- There are currently no Equipment Status Log (ESL) entries.

TASK STANDARD:

Identified 3 of the following 4 errors.

- 1) 2SW-1514A 'Restoration' position is listed as CLOSED when required to be OPEN.
- 2) 2SW-1514C 'Restoration' position is listed as OPEN when required to be CLOSED.
- 3) 2SW-1514L 'Restoration' position is listed as OPEN when required to be CLOSED.
- 4) 2SW-1514L Restorer and Verifier initials are the same.

TASK PERFORMANCE AIDS:

Marked up copy of form 1025.003C, Maintenance Configuration Tracking Log

Copy of OP 2104.019 Attachment D.

SIMULATOR SETUP:

NA

EXAMINER'S NOTES:

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIATING CUE:**

CRS/SM directs: "Perform an Operations verification of the given 1025.003C form, Maintenance Configuration Tracking Log following maintenance on Loop 2 Service Water Return from the Containment Cooling Coils, 2VCC-2C/D Radiation Monitor 2RE-1513-2. Review the form and identify at LEAST 3 errors."

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
Evaluator's Note: Provide examinee with a copy of 1025.003, Maintenance Configuration Tracking Log Sheet.				
	1.	Review the Maintenance Configuration Tracking Log Sheet	Examinee reviewed the Maintenance Configuration Tracking Log Sheet and compared it to the normal lineup in 2104.029, Attachment D.	N/A SAT UNSAT
(C)	2.	Identified 3 of the 4 errors.	Identified 3 of the following 4 errors. 1) 2SW-1514A 'Restoration' position is listed as CLOSED when required to be OPEN. 2) 2SW-1514C 'Restoration' position is listed as OPEN when required to be CLOSED. 3) 2SW-1514L 'Restoration' position is listed as OPEN when required to be CLOSED. 4) 2SW-1514L Restorer and Verifier initials are the same.	N/A SAT UNSAT
END				

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER'S COPY****JPM INITIAL TASK CONDITIONS:**

Given the following Plant conditions:

- Maintenance work order 00087000-01 has been completed on the Loop 2 Service Water Return from the Containment Cooling Coils, 2VCC-2C/D Radiation Monitor 2RE-1513-2.
- The clearance has been removed.
- There are currently no Equipment Status Log (ESL) entries.

INITIATING CUE:

CRS/SM directs: "Perform an Operations verification of the given 1025.003C form, Maintenance Configuration Tracking Log following maintenance on Loop 2 Service Water Return from the Containment Cooling Coils, 2VCC-2C/D Radiation Monitor 2RE-1513-2. Review the form and identify at LEAST 3 errors."

List any errors identified below:

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE'S COPY****JPM INITIAL TASK CONDITIONS:**

Given the following Plant conditions:

- Maintenance work order 00087000-01 has been completed on the Loop 2 Service Water Return from the Containment Cooling Coils, 2VCC-2C/D Radiation Monitor 2RE-1513-2.
- The clearance has been removed.
- There are currently no Equipment Status Log (ESL) entries.

INITIATING CUE:

CRS/SM directs: "Perform an Operations verification of the given 1025.003C form, Maintenance Configuration Tracking Log following maintenance on Loop 2 Service Water Return from the Containment Cooling Coils, 2VCC-2C/D Radiation Monitor 2RE-1513-2. Review the form and identify at LEAST 3 errors."

List any errors identified below:

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 002 DATE: _____SYSTEM/DUTY AREA: Conduct of Operations (A.1)TASK: Calculate Time to Boil using computer programJTA#: ANO2RONORM4KA VALUE RO: 3.9 SRO: 4.0 KA REFERENCE: 2.1.23APPROVED FOR ADMINISTRATION TO: RO: _____ SRO: XTASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform Classroom: PerformPOSITION EVALUATED: RO: _____ SRO: X

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ Classroom: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 10 MinutesREFERENCE(S): 1015.008 Attachment E

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

Plant shutdown for repair of Steam Generator Tube Leak. Making preparations for draining the RCS to 24 inches above the bottom of the hotleg to install nozzle dams. PZR level is 40%.

Time after shutdown = 35 hours; one (1) PZR code safety valve is removed; PZR manway is installed;

ECCS vent valves are de-energized OPEN; NO RCP seal work inprogress; NO RCS cold or hot leg openings;

RCS Temperature is 115°F.

TASK STANDARD:

Identify Three (3) of the following four (4) errors in the original Time to boil calculation :

1) 2 code safety valves were recorded as removed and only one was removed in initial conditions.

2) Initial RCS water level was recorded as 42" above the bottom of the hot leg instead of the correct 24".

3) Current RCS temperature was recorded as 80°F instead of 115°F as stated in the initial conditions.

4) Time after shutdown was recorded as 3 days 5 hours instead of the correct 1 day and 11 hours (35 hours).

AND

Identify that the RCS cannot be drained to reduced inventory due to TTTCU is less than 2 hours.

TASK PERFORMANCE AIDS:

1015.008 attachment E, Computer operational with the current revision of LOSDC2 installed.

(SP-94-C-0001-01, Rev. 13), set up shortcut to program on the desktop.

SIMULATOR SETUP:

NA

EXAMINER'S NOTES:

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIATING CUE:**

CRS/SM directs: "Perform a supervisory review of the given time to boil and time to core uncover calculation using LOSDC2 program and identify at LEAST 3 errors and determine if conditions are met to drain the RCS to reduced inventory."

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	1.	Compare time to boil (TTB) calculation using LOSDC2 program.	Computer program independently run and calculations compared to	N/A SAT UNSAT
(C)	2.	Identified 3 of the 4 errors	1) 2 code safety valves were recorded as removed instead of 1 code safety valve removed. 2) Initial RCS water level was recorded as 42" above the bottom of the hot leg instead of the correct 24". 3) Current RCS temperature was recorded as 80°F instead of the correct 115°F. 4) Time after shutdown was recorded as 3 days 5 hours instead of the correct 1 day 11 hours (35 hours).	N/A SAT UNSAT
(C)	3.	Determined that the actual Time until core uncover: is less than 2 hours	Determined that the RCS cannot be drained to reduced inventory.	N/A SAT UNSAT
EXAMINER'S NOTE:				
Prompt the Examinee that the file should not be printed or saved.				
END				

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER'S COPY****JPM INITIAL TASK CONDITIONS:**

Given the following Plant conditions:

- Plant shutdown for repair of Steam Generator Tube Leak.
- Making preparations for draining the RCS to 24 inches above the bottom of the hot leg to install nozzle dams.
- PZR level is 40%.
- Time after shutdown = 35 hours;
- One (1) PZR code safety valve is removed;
- PZR manway is installed;
- ECCS vent valves are de-energized OPEN;
- NO RCP seal work in progress;
- NO RCS cold or hot leg openings;
- RCS Temperature is 115°F.

INITIATING CUE:

CRS/SM directs: "CRS/SM directs: "Perform a supervisory review of the given time to boil and time to core uncover calculation using LOSDC2 program and identify at LEAST 3 errors and determine if conditions are met to drain the RCS to reduced inventory."

Do not print data or save LOSCD2 file.

List the errors identified below:

Can the RCS be drained to reduced inventory given the initial condition information? _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE'S COPY****JPM INITIAL TASK CONDITIONS:**

Given the following Plant conditions:

- Plant shutdown for repair of Steam Generator Tube Leak.
- Making preparations for draining the RCS to 24 inches above the bottom of the hot leg to install nozzle dams.
- PZR level is 40%.
- Time after shutdown = 35 hours;
- One (1) PZR code safety valve is removed;
- PZR manway is installed;
- ECCS vent valves are de-energized OPEN;
- NO RCP seal work in progress;
- NO RCS cold or hot leg openings;
- RCS Temperature is 115°F.

CRS/SM directs: "CRS/SM directs: "Perform a supervisory review of the given time to boil and time to core uncover calculation using LOSDC2 program and identify at LEAST 3 errors and determine if conditions are met to drain the RCS to reduced inventory."

Do not print data or save LOSDC2 file.

List any errors identified below:

Can the RCS be drained to reduced inventory given the initial condition information? _____

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 000 DATE: _____SYSTEM/DUTY AREA: A1a Conduct of OperationsTASK: Perform Transferring Unit Auxiliaries from SU3 or Unit Aux to SU2JTA#: ANOROELECDNORM-026KA VALUE RO: 3.4 SRO: 3.8 KA REFERENCE: 2.1.32APPROVED FOR ADMINISTRATION TO: RO: _____ SRO: XTASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: Perform SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE(S): OP 2107.001 Attachment P

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**JPM INITIAL TASK CONDITIONS:**

Mode 4; 250 EFPD. All ESF systems are in normal alignment.

Startup Transformer #3 is supplying all AC electrical busses.

'A', 'C' and 'B' Condensate Pump are running for post maintenance testing and 'D' Condensate Pump is in pull to lock.

'B' Circulating Water Pump is running and 'A' Circulating Water Pump is in pull to lock.

'B' and 'D' Reactor Coolant Pumps are running and 'A' and 'C' Reactor Coolant Pumps are secured.

Auto-transformer is out of service for the next 12 hours due to emergency forced outage. design engineering expects to finish evaluation in the next 8 hours.

Unit 1 is at 100% and all busses energized from their Unit Auxiliary Transformer and with no equipment out of service.

Unit 1 SU#2 feeder to A1(A111) is in normal after stop.

SU#2 Voltage Regulator is NOT in voltage reduction mode.

2H2 loading is 4MVA, 2H1 loading is 5 MVA

Data from Feeder breaker 2A112: Vab = 4102VAC; Vbc=4150VAC; Vca=4120VAC

Data from Feeder breaker 2A113: Ia=1810amps; Ib=1820amps; Ic=1810amps

Data from Feeder breaker 2A212: Vab = 4102VAC; Vbc=4150VAC; Vca=4120VAC

Data from Feeder breaker 2A213: Ia=1600amps, Ib=1610amps;Ic=1620amps

TASK STANDARD: Identify at least 4 of the following 5 errors in OP 2107.001 section 11.0:

- 1) Procedure step 11.6 was marked as NA when the initial conditions stated that the auto-transformer was out of service.
- 2) Procedure step 11.8.1 was marked as complete when the initial conditions stated that the auto-transformer was out of service.
- 3) Procedure step 11.8.2 was marked as complete when initial conditions stated that unit 1 breaker A111 (A1) was not in pull to lock but in normal after stop.
- 4) Procedure step 11.8.3 was marked as complete when initial conditions stated that 3 condensate pumps were running.
- 5) Procedure step 11.8.5 was marked as complete when the loading of 2A1 and 2A2 exceeded the limit and precaution value for 4160VAC winding loading of 21 MVA with forced air and oil available (Calculation done on Attachment 'P' is correct)

And

Identified the error that SU#2 can not be placed in service in current configuration.

TASK PERFORMANCE AIDS: OP 2107.001 limits and precautions (section 5), completed section 11.0, and completed Attachment 'P'.

SIMULATOR SETUP: N/A.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIATING CUE:**

The SM directs, "Maintenance on Startup transformer #3 is planned and must be removed from service. Startup #2 must be placed in service with load shed BYPASSED. OP 2107.001 section 11.0 has been completed up to step 11.8.6. Step 11.7 of OP 2107.001 is NOT applicable. Perform verification of steps completed, identify at LEAST 4 errors and determine if Startup transformer #2 may be placed in service." Current Plant Conditions are the same as the initial plant conditions.

START TIME: _____

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	1.	Reviewed procedure OP 2107.001 section 11.0 and Attachment 'P' for errors.	Identified 4 of the following 5 errors: <ol style="list-style-type: none"> 1) Procedure step 11.6 was marked as NA when the initial conditions stated that the auto-transformer was out of service. 2) Procedure step 11.8.1 was marked as complete when the initial conditions stated that the auto-transformer was out of service. 3) Procedure step 11.8.2 was marked as complete when initial conditions stated that unit 1 breaker A111 (A1) was not in pull to lock but in normal after stop. 4) Procedure step 11.8.3 was marked as complete when initial conditions stated that 3 condensate pumps were running. 5) Procedure step 11.8.5 was marked as complete when the loading of 2A1 and 2A2 exceeded the limit and precaution value for 4160VAC winding loading of 21 MVA with forced air and oil available (Calculation done on Attachment 'P' is correct) 	N/A SAT UNSAT
(C)	2.	Determined that SU#2 availability.	Determined that and that SU#2 could not be placed in service in current configuration.	N/A SAT UNSAT
END				

STOP TIME: _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER's COPY****INITIAL PLANT CONDITIONS**

- Mode 4; 250 EFPD. All ESF systems are in normal alignment.
- Startup Transformer #3 is supplying all AC electrical busses.
- 'A', 'C' and 'B' Condensate Pump are running for post maintenance testing and 'D' Condensate Pump is in pull to lock.
- 'B' Circulating Water Pump is running and 'A' Circulating Water Pump is in pull to lock.
- 'B' and 'D' Reactor Coolant Pumps are running and 'A' and 'C' Reactor Coolant Pumps are secured.
- Auto-transformer is out of service for the next 12 hours due to emergency forced outage, design engineering expects to finish evaluation in the next 8 hours.
- Unit 1 is at 100% and all busses energized from their Unit Auxiliary Transformer and with no equipment out of service.
- Unit 1 SU#2 feeder to A1 (A111) is in normal after stop.
- SU#2 Voltage Regulator is NOT in voltage reduction mode.
- 2H2 loading is 4MVA, 2H1 loading is 5 MVA
- Data from Feeder breaker 2A112: $V_{ab} = 4102\text{VAC}$; $V_{bc} = 4150\text{VAC}$; $V_{ca} = 4120\text{VAC}$
- Data from Feeder breaker 2A113: $I_a = 1810\text{amps}$; $I_b = 1820\text{amps}$; $I_c = 1810\text{amps}$
- Data from Feeder breaker 2A212: $V_{ab} = 4102\text{VAC}$; $V_{bc} = 4150\text{VAC}$; $V_{ca} = 4120\text{VAC}$
- Data from Feeder breaker 2A213: $I_a = 1600\text{amps}$, $I_b = 1610\text{amps}$; $I_c = 1620\text{amps}$

Initiating CUE:

The SM directs, "Maintenance on Startup transformer #3 is planned and must be removed from service. Startup #2 must be placed in service with load shed BYPASSED. OP 2107.001 section 11.0 has been completed up to step 11.8.6. Perform verification of steps completed, identify at LEAST 4 errors and determine if Startup transformer #2 may be placed in service." Current Plant Conditions are the same as the initial plant conditions.

List any errors identified below:

Can Startup Transformer #2 be placed in service given the initial condition information? _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE's COPY****INITIAL PLANT CONDITIONS**

- Mode 4; 250 EFPD. All ESF systems are in normal alignment.
- Startup Transformer #3 is supplying all AC electrical busses.
- 'A', 'C' and 'B' Condensate Pump are running for post maintenance testing and 'D' Condensate Pump is in pull to lock.
- 'B' Circulating Water Pump is running and 'A' Circulating Water Pump is in pull to lock.
- 'B' and 'D' Reactor Coolant Pumps are running and 'A' and 'C' Reactor Coolant Pumps are secured.
- Auto-transformer is out of service for the next 12 hours due to emergency forced outage, design engineering expects to finish evaluation in the next 8 hours.
- Unit 1 is at 100% and all busses energized from their Unit Auxiliary Transformer and with no equipment out of service.
- Unit 1 SU#2 feeder to A1 (A111) is in normal after stop.
- SU#2 Voltage Regulator is NOT in voltage reduction mode.
- 2H2 loading is 4MVA, 2H1 loading is 5 MVA
- Data from Feeder breaker 2A112: $V_{ab} = 4102\text{VAC}$; $V_{bc} = 4150\text{VAC}$; $V_{ca} = 4120\text{VAC}$
- Data from Feeder breaker 2A113: $I_a = 1810\text{amps}$; $I_b = 1820\text{amps}$; $I_c = 1810\text{amps}$
- Data from Feeder breaker 2A212: $V_{ab} = 4102\text{VAC}$; $V_{bc} = 4150\text{VAC}$; $V_{ca} = 4120\text{VAC}$
- Data from Feeder breaker 2A213: $I_a = 1600\text{amps}$, $I_b = 1610\text{amps}$; $I_c = 1620\text{amps}$

Initiating CUE:

The SM directs, "Maintenance on Startup transformer #3 is planned and must be removed from service. Startup #2 must be placed in service with load shed BYPASSED. OP 2107.001 section 11.0 has been completed up to step 11.8.6. Perform verification of steps completed, identify at LEAST 4 errors and determine if Startup transformer #2 may be placed in service." Current Plant Conditions are the same as the initial plant conditions.

List any errors identified below:

Can Startup Transformer #2 be placed in service given the initial condition information? _____

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 001 DATE: _____SYSTEM/DUTY AREA: A.3: Radiation ControlTASK: Complete a Containment Purge Gaseous ReleaseJTA#: ANO2ROGRWNORM10KA VALUE RO: 2.5 SRO: 3.4 KA REFERENCE: 2.3.9APPROVED FOR ADMINISTRATION TO: RO: X SRO: _____TASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform CLASSROOM: Perform

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE(S): OP 2104.033 Supplement 1 Rev. 043-02-0

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIAL PLANT CONDITIONS**

Plant is in Mode 5.

Today's date is 3/10/2005.

Chemistry has completed Containment atmosphere radioactivity analysis.

Initial flow from 2RITS-8233, Containment Purge, is 8.5 SCFM.

Initial count rate on 2RITS-8233, Containment Purge, is 60 cpm.

Initial CAM's Particulate reading is 1084 CPM and Gaseous is 928 CPM.

Current four hour averaged CAM's Particulate reading is 1142 CPM and Gaseous is 1012 CPM.

Last test reading run-time from engineering programs group is 7532.5 hrs.

Current run-time reading from 2B85-C7 is 8284.9 hrs.

Purge Exhaust Filter Unit doors have been verified closed and dogged.

Plant heating is not required to be aligned to containment.

No other Gaseous Release is in progress.

TASK STANDARD:

Correctly complete applicable portions of Supplement 1 of Containment Purge Gaseous Release Permit and determined

that 2RITS8233 operable.

TASK PERFORMANCE AIDS: A partially marked-up copy of Supplement 1 Containment Purge Gaseous Release

Permit through section 4 and chemistry release data.

SIMULATOR SETUP: NA

ADMINISTRATIVE JOB PERFORMANCE MEASURE**Initiating CUE:**

The CRS directs "Complete purge system verification section of OP 2104.033 supplement 1, Containment Purge Gaseous Release Permit".

- Step 4.7 has already been completed.
- When completing Step 4.8, only need to determine setpoint.

START TIME: _____

<u>PERFORMANCECHECKLIST</u>			<u>STANDARD</u>	<u>CIRCLE ONE</u>
	1. (Step 4.1)	Recorded initial CAM's readings from initial data.	Records Particulate reading is 1084 CPM and Gaseous is 928 CPM from initial data.	N/A SAT UNSAT
	2. (Step 4.2)	Record current CAM's readings from initial data.	Records Particulate reading is 1142 CPM and Gaseous is 1012 CPM from initial data.	N/A SAT UNSAT
	3. (Step 4.3)	Calculate allowable count rate limits (both particulate and gaseous).	Calculates allowable limits for particulate to be Particulate – 2168 CPM Gaseous – 1856CPM \pm 15 CPM.	N/A SAT UNSAT
(C)	4. (Step 4.4)	NA's Step 4.4	Determines that current count rates are less than allowable limits and NA's step 4.4.	N/A SAT UNSAT
	5. (Step 4.5)	Verify no other gaseous release is in progress.	Verify no other gaseous release is in progress from initial data.	N/A SAT UNSAT
	6. (Step 4.6)	Verify Plant is in mode 4 or 5.	Verified plant is in mode 5 from initial data.	N/A SAT UNSAT
	7. (Step 4.7)	Verified functionality of radiation monitor/purge valves. Step 4.7 is already completed as stated in the initial conditions.	Verified functionality of radiation monitor/purge valves. Step 4.7 is already completed.	N/A SAT UNSAT
(C)	8. (Step 4.8)	Determines setpoint to be 150 CPM.	From chemist preliminary report determines 2RITS8233 setpoint to be 150 CPM.	N/A SAT UNSAT
(C)	9. (Step 4.8)	Determines dial setpoint to be 3.84.	From table determines setpoint to be 3.84 since preliminary report determined setpoint to be <1000 CPM.	N/A SAT UNSAT
	10. (Step 4.9)	Contact CRS to have independent verifications completed. Examiner's CUE: Independent verification complete, check off step 4.9 as complete.	Contacted CRS to designate someone to independently verify steps per 4.9.	N/A SAT UNSAT
(C)	11. (Step 4.10)	Declare 2RITS-8233 operable and give form to shift manager for approval.	Declare 2RITS-8233 operable and give form to shift manager for approval.	N/A SAT UNSAT
END				

STOP TIME: _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER's COPY****INITIAL PLANT CONDITIONS**

- Plant is in Mode 5.
- Today's date is 3/10/2005.
- Chemistry has completed Containment atmosphere radioactivity analysis.
- Initial flow from 2RITS-8233, Containment Purge, is 8.5 SCFM.
- Initial count rate on 2RITS-8233, Containment Purge, is 60 cpm.
- Initial CAM's Particulate reading is 1084 CPM and Gaseous is 928 CPM.
- Current four hour averaged CAM's Particulate reading is 1142 CPM and Gaseous is 1012 CPM.
- Last test reading run-time from engineering programs group is 7532.5 hrs.
- Current run-time reading from 2B85-C7 is 8284.9 hrs.
- Purge Exhaust Filter Unit doors have been verified closed and dogged.
- Plant heating is not required to be aligned to containment.
- No other Gaseous Release is in progress.

Initiating CUE:

The CRS directs "Complete purge system verification section of OP 2104.033 supplement 1, Containment Purge Gaseous Release Permit".

- Step 4.7 has already been completed.
- When completing Step 4.8, only need to determine setpoint.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE's COPY****INITIAL PLANT CONDITIONS**

- Plant is in Mode 5.
- Today's date is 3/10/2005 (use 2005 dates given in release permit also).
- Chemistry has completed Containment atmosphere radioactivity analysis.
- Initial flow from 2RITS-8233, Containment Purge, is 8.5 SCFM.
- Initial count rate on 2RITS-8233, Containment Purge, is 60 cpm.
- Initial CAM's Particulate reading is 1084 CPM and Gaseous is 928 CPM.
- Current four hour averaged CAM's Particulate reading is 1142 CPM and Gaseous is 1012 CPM.
- Last test reading run-time from engineering programs group is 7532.5 hrs.
- Current run-time reading from 2B85-C7 is 8284.9 hrs.
- Plant heating is not required to be aligned to containment.
- No other Gaseous Release is in progress.

Initiating CUE:

The CRS directs "Complete purge system verification section of OP 2104.033 supplement 1, Containment Purge Gaseous Release Permit".

- Step 4.7 has already been completed.
- When completing Step 4.8, only need to determine setpoint.

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 001 DATE: _____SYSTEM/DUTY AREA: Equipment Control (A.2)TASK: Review Hold Card Authorization Form and Hold Card Record Sheet for errors

JTA#: _____

KA VALUE RO: 3.6 SRO: 3.8 KA REFERENCE: 2.2.13APPROVED FOR ADMINISTRATION TO: RO: X SRO: _____TASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform Classroom: Perform

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ Classroom: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE(S): EN-OP-102 and EN-OP-102-01

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS: Plant is at 100% power. 2F-6C is being tagged out for cleaning and the Computerized Tagging System is not available.

TASK STANDARD: Identify at least two of four errors on the Clearance Installation Authorization Form. Errors include: (1) sequence wrong, should tag the handswitch and open the breaker before closing pump discharge valve and suction valve; (2) no 'NO TAG' entry made requiring review of the Special Instructions; (3) Preparer did not sign "Prepared" blank Attachment 9.2.; (4) Category E Valve 2SW-3C should be retored to LOCKED OPEN instead of just OPEN on the Tag sheet Attachment 9.3

TASK PERFORMANCE AIDS: EN-OP-102, EN-OP-102-01 attachments 9.2, 9.3, and 9.10, P&ID M2210, Sheet 1, E2005 Sheet 1

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIATING CUE:**

The SM/CRS directs, "The eSOMS Clearance Module is Unavailable. Perform a Technical Review of the Manual Clearance, EN-OP-102-01 attachments 9.2 and 9.3 for 'C' Service water pump discharge strainer (2F-6C) cleaning and identify at LEAST two errors made by the Clearance Preparer."

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
<u>EXAMINER'S NOTE:</u>				
Examinee may be able to identify two of four errors without reviewing EN-OP-102, Protective Tagging Control procedure.				
	1.	Review EN-OP-102, Protective and Caution Tagging.	Reviewed at least the following sections of EN-OP-102: Section 5.25, section 5.3 and Attachments 9.2, 9.3 and 9.10.	N/A SAT UNSAT
	2.	Verified that the Tag number, Clearance number, and purpose for the clearance were correct.	Reviewed the first section of the clearance Installation Authorization Form and determined that the Tag number, Clearance number, and purpose for the clearance were correct.	N/A SAT UNSAT
C	3.	Identify that "Prepared By" signature is not completed.	Identified that no name or signature had been provided in the "Prepared By" blank on Attachment 9.2.	N/A SAT UNSAT
C	4.	Identify that there was not a 'NO TAG' entry made that required review of the Special Instructions.	Identified that a placement instructions and Hazards entry were identified (attachment 9.2) but a 'NO TAG' entry was not made (attachment 9.3) that required a review of the special instructions.	N/A SAT UNSAT
	5.	Verify boundary isolations selected provide adequate plant and personnel safety for the work activity listed.	Reviewed appropriate P&IDs and Electrical prints to verify boundary isolations selected provide adequate plant and personnel safety for the work activity listed.	N/A SAT UNSAT

ADMINISTRATIVE JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
C	6.	Identify sequence for installing the Hold Cards is incorrect.	Reviewed sequence for Clearance installation on Tag out Tags sheet (Attachment 9.2). Identified that the Handswitch and the Breaker should have been placed in the Pull-to-Lock and Racked Down position respectively before the pump was isolated by the discharge and suction valves to prevent pump damage (attachment 9.3).	N/A SAT UNSAT
C	7.	Identifies that Service Water Pump Discharge Isolation valve 2SW-3C Restoration Position should be "Locked Open" instead of just "Open".	Reviewed the restoration position for clearance removal on the Tag out Tags sheet (Attachment 9.2) and determines that 2SW-3C is a Category "E" valve and should be restored to "Locked Open" instead of just "Open".	
EXAMINER'S NOTE				
If examinee asks about the Danger Tags, they have been printed exactly as the information appears on Clearance Installation Authorization Form.				
END				

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER'S COPY****JPM INITIAL TASK CONDITIONS:**

Plant is at 100% power. 2F-6C is being tagged out for cleaning and the eSOMS Clearance Module is Unavailable.

INITIATING CUE:

The SM/CRS directs, "The eSOMS Clearance Module is Unavailable. Perform a Technical Review of the Manual Clearance, EN-OP-102-01 attachments 9.2 and 9.3 for 'C' Service water pump discharge strainer (2F-6C) cleaning and identify at LEAST two errors made by the Clearance Preparer."

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE'S COPY****JPM INITIAL TASK CONDITIONS:**

Plant is at 100% power. 2F-6C is being tagged out for cleaning and the eSOMS Clearance Module is Unavailable.

INITIATING CUE:

The SM/CRS directs, "The eSOMS Clearance Module is Unavailable. Perform a Technical Review of the Manual Clearance, EN-OP-102-01 attachments 9.2 and 9.3 for 'C' Service water pump discharge strainer (2F-6C) cleaning and identify at LEAST two errors made by the Clearance Preparer."

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 001 DATE: _____SYSTEM/DUTY AREA: Conduct of Operations (A.1)TASK: Calculate Time to Boil using computer programJTA#: ANO2RONORM4KA VALUE RO: 3.9 SRO: 4.0 KA REFERENCE: 2.1.23APPROVED FOR ADMINISTRATION TO: RO: X SRO: _____TASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform Classroom: PerformPOSITION EVALUATED: RO: X SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ Classroom: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 10 MinutesREFERENCE(S): 1015.008 Attachment E

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

Plant shutdown for repair of Steam Generator Tube Leak. Making preparations for draining the RCS to 24 inches above the bottom of the hotleg to install nozzle dams. PZR level is 40%.

Time after shutdown = 50 hours; one (1) PZR code safety valve is removed; PZR manway is installed;

ECCS vent valves are de-energized OPEN; NO RCP seal work inprogress; NO RCS cold or hot leg openings;

RCS Temperature is 105°F.

TASK STANDARD:

Time to boil calculation(TTB) and time to core uncover (TTCU)calculated using the computer program and

Values calculated are TTB = 15 min ± 2 min and TTCU=2hrs 5 min 15 sec ± 5min.

TASK PERFORMANCE AIDS:

1015.008 attachment E, Computer operational with the current revision of LOSDC2 installed

(SP-94-C-0001-01, Rev. 13), set up shortcut to program on the desktop.

SIMULATOR SETUP:

NA

EXAMINER'S NOTES:

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIATING CUE:**

CRS/SM directs: "Perform 1015.008 Attachment E, Time to boiling/Core Uncovery Estimate, for the projected level using data given."

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	1.	Start a time to boil (TTB) calculation using LOSDC2 program.	Computer program started	N/A SAT UNSAT
	2.	Time since shutdown: 2days 2 hours	Recorded time 50 hours	N/A SAT UNSAT
	3.	Decay Heat Produced 12,765.59 BTU/Sec	Recorded decay heat 12,765.59 BTU/Sec	N/A SAT UNSAT
(C)	4.	Time until coolant boils: 15 min	Recorded to boil 15 min \pm 2 min	N/A SAT UNSAT
(C)	5.	Time until core uncovery: 2 hours 5 min 15 sec	Recorded time to core uncovery 2 hours 5 min 15 sec \pm 5 min	N/A SAT UNSAT
	6.	Makeup rate: 86 gpm	Recorded makeup rate 86 gpm	N/A SAT UNSAT
	4.	Heat Up rate: 7.13 °F/min	Recorded heat up rate 7.13 °F/min	N/A SAT UNSAT
	5.	RCS eq. Press: 47.10 psia	Recorded RCS eq. Press 47.10 psia	N/A SAT UNSAT
	6.	Time until 10 F from bulk boiling: 13.6 min	Recorded time to 10° from bulk boiling 13.6 min	N/A SAT UNSAT
EXAMINER'S NOTE:				
Prompt the Examinee that the file should not be printed or saved.				
END				

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER'S COPY****JPM INITIAL TASK CONDITIONS:**

Given the following Plant conditions:

- Plant shutdown for repair of Steam Generator Tube Leak.
- Making preparations for draining the RCS to 24 inches above the bottom of the hot leg to install nozzle dams.
- PZR level is 40%.
- Time after shutdown = 50 hours;
- One (1) PZR code safety valve is removed;
- PZR manway is installed;
- ECCS vent valves are de-energized OPEN;
- NO RCP seal work in progress;
- NO RCS cold or hot leg openings;
- RCS Temperature is 105°F.
- Nozzle Dams are not installed.

INITIATING CUE:

CRS/SM directs; "Perform 1015.008 Attachment E, Time to boiling/Core Uncovery Estimate, for the projected level using data given." (Do not print data or save file.)

Record calculations below:

Time since shutdown: _____

Decay Heat Produced: _____

Time until coolant boils: _____

Time until core uncovery: _____

Makeup rate: _____

Heat Up rate: _____

RCS eq. Press: _____

Time until 10 °F from bulk boiling: _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE'S COPY****JPM INITIAL TASK CONDITIONS:**

Given the following Plant conditions:

- Plant shutdown for repair of Steam Generator Tube Leak.
- Making preparations for draining the RCS to 24 inches above the bottom of the hot leg to install nozzle dams.
- PZR level is 40% and open to atmosphere.
- Time after shutdown = 50 hours;
- One (1) PZR code safety valve is removed;
- PZR manway is installed;
- ECCS vent valves are de-energized OPEN;
- NO RCP seal work in progress;
- NO RCS cold or hot leg openings;
- RCS Temperature is 105°F.
- Nozzle Dams are not installed.

INITIATING CUE:

CRS/SM directs; "Perform 1015.008 Attachment E, Time to boiling/Core Uncovery Estimate, for the projected level using data given." (Do not print data or save file.)

Record calculations below:

Time since shutdown: _____

Decay Heat Produced: _____

Time until coolant boils: _____

Time until core uncovery: _____

Makeup rate: _____

Heat Up rate: _____

RCS eq. Press: _____

Time until 10 °F from bulk boiling: _____

ADMINISTRATIVE JOB PERFORMANCE MEASUREUNIT: 2 REV #: 000 DATE: _____SYSTEM/DUTY AREA: A1a Conduct of OperationsTASK: Perform Transferring Unit Auxiliaries from SU3 or Unit Aux to SU2JTA#: ANOROELECDNORM-026KA VALUE RO: 3.4 SRO: 3.8 KA REFERENCE: 2.1.32

X

APPROVED FOR ADMINISTRATION TO: RO: _____ SRO: _____

TASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: X

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: Perform SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE(S): OP 2107.001 Attachment P

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

ADMINISTRATIVE JOB PERFORMANCE MEASURE

JPM INITIAL TASK CONDITIONS:

Mode 4; 250 EFPD. All ESF systems are in normal alignment.

Startup Transformer #3 is supplying all AC electrical busses.

Unit 1 is at 100% and all busses energized from their Unit Auxiliary Transformer.

2H2 loading is 4MVA, 2H1 loading is 5 MVA

Data from Feeder breaker 2A112: Vab = 4082VAC; Vbc=4050VAC; Vca=4102VAC

Data from Feeder breaker 2A113: Ia=1715amps; Ib=1717amps; Ic=1718amps

Data from Feeder breaker 2A212: Vab = 4082VAC; Vbc=4050VAC; Vca=4102VAC

Data from Feeder breaker 2A213: Ia=1480amps, Ib=1485amps;Ic=1483amps

TASK STANDARD: Calculate Startup #2 loading to be 22.57 MVA (21.1 MVA to 23 MVA is acceptable) and determine that

Startup #2 limits for forced oil and forced air cooling will be exceeded.

TASK PERFORMANCE AIDS: OP 2107.001 limits and precautions, step 11.8, and Attachment 'P'.

SIMULATOR SETUP: N/A.

ADMINISTRATIVE JOB PERFORMANCE MEASURE**INITIATING CUE:**

The CRS/SM directs, "Maintenance on Startup transformer #3 is planned and must be removed from service. Perform OP 2107.001 Step 11.8.5, "Determine if combined load on 2A1 and 2A2 are within limits of step 5.1.7 using Attachment P."

START TIME: _____

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	1.	Calculated average Voltage on 2A1.	Calculated average voltage on 2A1 to be 4.078KV (between 4.05KV and 4.10KV).	N/A SAT UNSAT
	2.	Calculate current on 2A1.	Calculated average current on 2A1 to be 1716.67amps (between 1712amps and 1720amps).	N/A SAT UNSAT
	3.	Calculated 2A1 loading	Calculated loading on 2A1 to be 12.11 MVA (from 12 MVA to 13 MVA is acceptable)	N/A SAT UNSAT
	4.	Calculated average Voltage on 2A2.	Calculated average voltage on 2A2 to be 4.078KV (between 4.05KV and 4.10KV).	N/A SAT UNSAT
	5.	Calculate current on 2A2.	Calculated current on 2A2 to be 1482.67 amps (between 1478amps and 1486amps).	N/A SAT UNSAT
	6.	Calculated 2A2 loading	Calculated loading on 2A2 to be 10.46 MVA (from 10 MVA to 11 MVA is acceptable)	N/A SAT UNSAT
(C)	7.	Total 4160 AC loading.	Calculated total 4160 AC loading to be 22.57 MVA (21.1 MVA to 23 MVA is acceptable).	N/A SAT UNSAT
(C)	8.	Compare calculated loading to limit and precaution step 5.1.7.	Determine that limits for SU#2 loading with Forced oil and air cooling will be exceeded.	N/A SAT UNSAT
END				

STOP TIME: _____

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINER's COPY****INITIAL PLANT CONDITIONS**

- Mode 4; 250 EFPD. All ESF systems are in normal alignment.
- Startup Transformer #3 is supplying all AC electrical busses.
- Unit 1 is at 100% and all busses energized from their Unit Auxiliary Transformer.
- 2H2 loading is 4MVA, 2H1 loading is 5 MVA
- Data from Feeder breaker 2A112: $V_{ab} = 4082\text{VAC}$; $V_{bc} = 4050\text{VAC}$; $V_{ca} = 4102\text{VAC}$
- Data from Feeder breaker 2A113: $I_a = 1715\text{amps}$; $I_b = 1717\text{amps}$; $I_c = 1718\text{amps}$
- Data from Feeder breaker 2A212: $V_{ab} = 4082\text{VAC}$; $V_{bc} = 4050\text{VAC}$; $V_{ca} = 4102\text{VAC}$
- Data from Feeder breaker 2A213: $I_a=1480\text{amps}$, $I_b=1485\text{amps}$; $I_c=1483\text{amps}$

Initiating CUE:

The CRS/SM directs, "Maintenance on Startup transformer #3 is planned and must be removed from service. Perform OP 2107.001 Step 11.8.5, "Determine if combined load on 2A1 and 2A2 are within limits of step 5.1.7 using Attachment P."

ADMINISTRATIVE JOB PERFORMANCE MEASURE**EXAMINEE's COPY****INITIAL PLANT CONDITIONS**

- Mode 4; 250 EFPD. All ESF systems are in normal alignment.
- Startup Transformer #3 is supplying all AC electrical busses.
- Unit 1 is at 100% and all busses energized from their Unit Auxiliary Transformer.
- 2H2 loading is 4MVA, 2H1 loading is 5 MVA
- Data from Feeder breaker 2A112: $V_{ab} = 4082\text{VAC}$; $V_{bc} = 4050\text{VAC}$; $V_{ca} = 4102\text{VAC}$
- Data from Feeder breaker 2A113: $I_a = 1715\text{amps}$; $I_b = 1717\text{amps}$; $I_c = 1718\text{amps}$
- Data from Feeder breaker 2A212: $V_{ab} = 4082\text{VAC}$; $V_{bc} = 4050\text{VAC}$; $V_{ca} = 4102\text{VAC}$
- Data from Feeder breaker 2A213: $I_a = 1480\text{amps}$, $I_b = 1485\text{amps}$; $I_c = 1483\text{amps}$

Initiating CUE:

The CRS/SM directs, "Maintenance on Startup transformer #3 is planned and must be removed from service. Perform OP 2107.001 Step 11.8.5, "Determine if combined load on 2A1 and 2A2 are within limits of step 5.1.7 using Attachment P."

JOB PERFORMANCE MEASUREUNIT: 2 REV #: 008 DATE: _____SYSTEM/DUTY AREA: AC Electrical Distribution SystemTASK: Perform backfeed of a non-vital bus (2A1 from 2A3) , Respond to a Loss of Offsite PowerJTA#: ANO2-RO-EOPAOP-EMER-32KA VALUE RO: 3.7 SRO: 4.1 KA REFERENCE: 062 A2.11APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: X OUTSIDE CR: _____ BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: XAPPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE(S): EOP 2202.007

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED
IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE
BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

JOB PERFORMANCE MEASURE

THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023

Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

A loss of offsite power has occurred. Both EDG's are operating supplying their respective busses.

EOP 2202.007 steps have been completed through step 30.

TASK STANDARD:

Non-vital bus 2A1 has been powered from vital bus 2A3.

TASK PERFORMANCE AIDS:

EOP 2202.007 steps 28 through 34.

SIMULATOR SETUP:

IC with loss of offsite power. Open feeder breakers for 2B 1, 2, 7. Close 2CV 0400 & 2CV0460.

Verify Remote function 4162A1strip value = TRUE is triggered. Complete SPTA's and EOP 2202.007 through step 31.

JOB PERFORMANCE MEASURE

INITIATING CUE:

The SM/CRS directs, "Back feed 2A1 from 2A3 using EOP 2202.007 beginning with step 31."

START TIME: _____

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	1 Step 31.A	Check 2A1 lockout relay reset.	On annunciator panel 2K01, verified 2K01-B7 "L.O. RELAY TRIP" for 2A1 in "slow flash" <u>OR</u> NOT illuminated.	N/A SAT UNSAT
	2 Step 31.B	Place "SU 2 to 2A1" (2A111) in PTL and verify breaker open.	On panel 2C10, placed 2A111 in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT
	3 Step 31.B	Place "Unit Aux to 2A1" (2A112) in PTL and verify breaker open.	On panel 2C10, placed 2A112 in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT
	4 Step 31.B	Place "SU 3 to 2A1" (2A113) in PTL and verify breaker open.	On panel 2C10, placed 2A113 in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT
(C)	5 Step 31.B	Place "2A1 to 2B3" (2A103) in PTL and verify breaker open.	On panel 2C10, placed 2A103 in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT
(C)	6 Step 31.B	Place "2A1 to 2B9" (2A109) in PTL and verify breaker open.	On panel 2C10, placed 2A109 in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT
	7 Step 31.C	Place condensate pump (2P2A) in PTL and verify breaker open.	On panel 2C02, placed 2P2A in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT
	8 Step 31.C	Place condensate pump (2P2C) in PTL and verify breaker open.	On panel 2C02, placed 2P2C in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	9 Step 31.C	Place heater drain pump (2P8A) in PTL and verify breaker open.	On panel 2C02, placed 2P8A in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT
	10 Step 31.C	Place auxiliary feed pump (2P75) in PTL and verify breaker open.	On panel 2C02, placed 2P75 in PTL. Observed green light ON; red light OFF over hand switch.	N/A SAT UNSAT
Examiner's note: Transition to back of control room to panel 2C22				
	11 Step 31.D	Place main chiller (2VCH-1A) handswitch (2HS-3810) in PTL and verify breaker open.	On panel 2C22, placed 2HS-3810 for 2VCH-1A in PTL. Observed green lights ON; red lights OFF over hand switch.	N/A SAT UNSAT
<u>EXAMINER'S NOTE:</u> Transition to front of control room panel 2C10 Provide the following cue when the need for local actions is identified: CUE: Local actions for EOP 2202.007 step 31.E using Attachment 24 have been completed.				
(C)	12 Step 33	Energize non-vital bus (2A1).	On panel 2C33, installed the synchronizer selector switch for 2A309 and placed switch in ON. Placed 2A3 supply breaker (2A309) to CLOSE. Observed red light ON; green light OFF over 2A309 hand switch.	N/A SAT UNSAT
(C)	13 Step 34	Check diesel generator load.	On panel 2C33, verified 2DG1 load < 2850 KW, whenever load is changed. Observed 2DG1 load on Wattmeter W2DG1 and verified or was aware of 2DG1 load change after energizing 2A1.	N/A SAT UNSAT
	14 Step 35	Energize non-vital 480v bus 2B1.	On panel 2C10, placed 2A1 to 2B1 Feeder (2A102) in CLOSE. Observed red light ON; green light OFF above hand switch.	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	15 Step 35	Energize non-vital 480v bus 2B7.	On panel 2C10, placed 2A1 to 2B7 Feeder (2A104) in CLOSE. Observed red light ON; green light OFF above hand switch.	N/A SAT UNSAT
Examiner's note: When 480VAC busses 2B1 and 2B7 are energized the JPM can be ended.				
END				

STOP TIME: _____

JOB PERFORMANCE MEASURE

EXAMINERS COPY:

JPM INITIAL TASK CONDITIONS:

A loss of offsite power has occurred. Both EDG's are operating supplying their respective busses. EOP 2202.007 steps have been completed through step 30.

INITIATING CUE:

The SM/CRS directs, "Back feed 2A1 from 2A3 using EOP 2202.007 beginning with step 31."

JOB PERFORMANCE MEASURE

EXAMINEES COPY:

JPM INITIAL TASK CONDITIONS:

A loss of offsite power has occurred. Both EDG's are operating supplying their respective busses. EOP 2202.007 steps have been completed through step 30.

INITIATING CUE:

The SM/CRS directs, "Back feed 2A1 from 2A3 using EOP 2202.007 beginning with step 31."

JOB PERFORMANCE MEASUREUNIT: 2 REV #: 001 DATE: _____SYSTEM/DUTY AREA: Pressurizer Pressure Control SystemTASK: Respond to Annunciator for LTOP valve misalignmentJTA#: ANO2-RO-PZR-OFFNORM-11KA VALUE RO: 3.8 SRO: 4.1 KA REFERENCE: 010 K4.03APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: X OUTSIDE CR: _____ BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: XAPPROXIMATE COMPLETION TIME IN MINUTES: 10 MinutesREFERENCE(S): OP 2203.012J

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

JOB PERFORMANCE MEASURE

THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023

Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

A loss of off site power has occurred.

A Natural Circulation Reactor Coolant System cool down is in progress.

**2K10-C4, Loop 1 LTOP Valve Align Incorrect and 2 K10-C5, Loop 2 LTOP Valve Align Incorrect
are in alarm.**

TASK STANDARD:

Placed both loop 1 and loop 2 LTOP's in service.

TASK PERFORMANCE AIDS:

OP 2203.012J, Annunciator 2K10 Corrective Action

SIMULATOR SETUP:

RCS and PZR cool down in progress.

RCS pressure less than 400 psia.

Power available to LTOP Isolation valves.

RCS Thot (both 2TIS4614-1 and 2TIS4714-2) indicate < 280°F

Annunciators 2K10 C4 and C5 are in alarm.

JOB PERFORMANCE MEASURE**INITIATING CUE:**

The Control Room Supervisor directs “Respond to annunciators 2K10-C4 and 2K10-C5 using OP 2203.012J.”

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
Examiner note: Valves may be opened in any order and either alarm window may be mitigated first.				
	1. (Step 2.1)	Determined misalignment not directed by a procedure step. Examiner's cue: CRS reports that RCS cool down is controlled by Natural Circulation cool down AOP.	Determined that the LTOP's should be in service for given conditions.	N/A SAT UNSAT
	2. (Step 2.2)	Determine RCS T-Hot temperature is less than 280°F.	Using PMS, SPDS or 2C04 control board indications determined that 2TIS-4614-1 is less than 280°F and N/A'd step to isolate LTOP's.	N/A SAT UNSAT
	3. (Step 2.3)	Determine RCS T-Hot temperature is less than 270°F.	Using PMS, SPDS or 2C04 control board indications determined that 2TIS-4614-1 is less than 270°F and implemented step.	N/A SAT UNSAT
(C)	4. (Step 2.3)	Opened 2CV-4730-1, LTOP isolation valve.	On 2C09, took hand switch for 2CV-4730-1 to clockwise direction and observed that Green light OFF and Red light ON.	N/A SAT UNSAT
(C)	5. (Step 2.3)	Opened 2CV-4741-1, LTOP isolation valve.	On 2C09, took hand switch for 2CV-4741-1 to clockwise direction and observed that Green light OFF and Red light ON.	N/A SAT UNSAT
(C)	6. (Step 2.3)	Opened 2CV-4731-2, LTOP isolation valve.	On 2C09, took hand switch for 2CV-4731-2 to clockwise direction and observed that Green light OFF and Red light ON.	N/A SAT UNSAT
(C)	7. (Step 2.3)	Opened 2CV-4740-2, LTOP isolation valve.	On 2C09, took hand switch for 2CV-4741-1 to clockwise direction and observed that Green light OFF and Red light ON.	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	8. (Step 3.1)	Verified Alarms 2K10-C4 and 2K10-C5 alarms cleared.	On 2K10, verified that alarm window C4 and C5 light are in 'slow flash' and acknowledged alarm lights to verify that alarm windows clear.	N/A SAT UNSAT
END				

JOB PERFORMANCE MEASURE

EXAMINERS COPY:

INITIAL CONDITIONS:

- A loss of off site power has occurred.
- A Natural Circulation Reactor Coolant System cool down is in progress.
- 2K10-C4, Loop 1 LTOP Valve Align Incorrect and 2 K10-C5, Loop 2 LTOP Valve Align Incorrect are in alarm.

INITIATING CUE:

The Control Room Supervisor directs "Respond to annunciators 2K10-C4 and 2K10-C5 using OP 2203.012J."

JOB PERFORMANCE MEASURE

EXAMINEES COPY:

INITIAL CONDITIONS:

- A loss of off site power has occurred.
- A Natural Circulation Reactor Coolant System cool down is in progress.
- 2K10-C4, Loop 1 LTOP Valve Align Incorrect and 2 K10-C5, Loop 2 LTOP Valve Align Incorrect are in alarm.

INITIATING CUE:

The Control Room Supervisor directs “Respond to annunciators 2K10-C4 and 2K10-C5 using OP 2203.012J.”

JOB PERFORMANCE MEASURE

UNIT: 2 REV #: 010 DATE: _____SYSTEM/DUTY AREA: Safety Injection SystemTASK: Perform a high pressure fill of a SIT (Alternate Success Path)JTA#: ANO2ROECCSNORM2KA VALUE RO: 3.3 SRO: 3.7 KA REFERENCE: 006 A2.03APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: X OUTSIDE CR: _____ BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 10 MinutesREFERENCE(S): OP-2104.001

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS: HPSI pump (2P89A) is running on minimum recirculation

TASK STANDARD: Safety Injection Tank (2T2B) level has been increased ~0.3% and fill is secured prior to 2T2B pressure exceeding 624psig (Hi Hi pressure) or level exceeding 89.5% (Hi Hi level)

THIS IS AN ALTERNATE SUCCESS PATH JPM

TASK PERFORMANCE AIDS: OP 2104.001 Section 8.0

SIMULATOR SETUP: SIT 'B' level low enough to accept a 0.3% water addition and Safety Injection Tank (2T2B) pressure is <608 psig.

Setup overrides to deenergize the red and green lights for 2CV 5035-1 when the handswitch is taken to the open position and have the valve open 1%. HPSI pump (2P89A) is running on minimum recirculation. RCS PRESSURE > 1500psia.

Set trigger T4= 'si5035o' (triggered when 2HS5035-1 handswitch taken to OPEN).

T4 - CV50351 = 0.1; fail HPSI injection MOV partially open.

T4 - DO HS 5035 G = OFF Time delay = 2 sec; HPSI injection MOV green light off.

T4 - DO HS 5035 R = OFF Time delay =2 sec; HPSI injection MOV red light off.

JOB PERFORMANCE MEASURE**INITIATING CUE:**

The CRS directs, "Raise Safety Injection Tank (2T2B) level 0.3% using OP 2104.001, beginning with step 8.3."

START TIME: _____

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	1. Step 8.5.1	Open SIT (2T2B) Drain Valve (2SV-5021-1).	On panel 2C17, placed handswitch for 2SV-5021-1 to OPEN. Observed red light ON above handswitch.	N/A SAT UNSAT
(C)	2. Step 8.5.1	Open SIT (2T2A) Check Valve Bypass (2SV-5024).	On panel 2C33, placed handswitch for 2SV-5024 to OPEN. Observed red light ON above handswitch.	N/A SAT UNSAT
	3. Step 8.3	Monitor SIT level and pressure during fill.	While filling SIT B, monitored level to ensure level maintained < 87.9%. While filling SIT B, monitored SIT pressure closely to ensure pressure maintained < 624 psig.	N/A SAT UNSAT
(C)	4. Step 8.5.2	Throttle open HPSI Header 1 Injection to RCP B Discharge (2CV-5035-1).	On panel 2C17, throttled 2CV-5035-1 OPEN by placing handswitch to OPEN momentarily as required to establish an SIT fill rate. Observed red and green lights ON above handswitch. Observed SIT (2T2B) control board level instrument(s). <u>OR</u> Observed SIT (2T2B) level on PMS, or SPDS computer point/trend display.	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	5. Step 8.5.3.A	Attempts to close HPSI Header 1 Injection to RCP B Discharge valve.	On panel 2C17, placed handswitch for 2CV-5035-1 to CLOSE. Recognized that 2CV-5035-1 would NOT close and both red and green lights are deenergized.	N/A SAT UNSAT
(C)	6. Step 8.5.3.B Step 8.5.3.C	Stop the level increase in 2T2B SIT.	On panel 2C17, placed handswitch for A HPSI pump (2P-89A) in stop Observed 2P89A stopped. OR On panel 2C17 placed handswitch for SIT B Drain Valve (2SV-5021-1) to CLOSED. Observed green light ON above handswitch. OR On panel 2C33, placed handswitch for SIT B Check Valve Bypass (2SV-5024) to CLOSED. Observed green light ON above handswitch.	N/A SAT UNSAT
	7.	Inform CRS of failure of 2CV-5035-1 to close. <u>Examiner's Cue:</u> Acknowledge communication as CRS. Direct Examinee to secure from filling B SIT.	Informed CRS that 2CV-5035-1 failed to close.	N/A SAT UNSAT
	8. Step 8.5.3.B	Close SIT (2T2B) Drain Valve. (if not closed previously.)	On panel 2C17, placed handswitch for SIT B Drain Valve (2SV-5021-1) to CLOSE. Observed green light ON above handswitch.	N/A SAT UNSAT
	9. Step 8.5.3.C	Close SIT (2T2B) Check Valve Bypass. (if not closed previously.)	On panel 2C33, placed handswitch for SIT B Check Valve Bypass (2SV-5024) to CLOSE. Observed green light ON above handswitch.	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	10.	On panel 2K07, Alarms C3, SIT Press Hi Hi or C4 Level Hi Hi NOT received.	2T2B SIT High High Pressure alarm NOT received (SIT pressure > 624 psig) or High High level alarm NOT received (87.5%).	N/A SAT UNSAT
END				

STOP TIME: _____

JOB PERFORMANCE MEASURE

EXAMINER'S COPY

JPM INITIAL TASK CONDITIONS:

HPSI pump (2P89A) is running on minimum recirculation.

INITIATING CUE:

The CRS directs, "Raise Safety Injection Tank (2T2A) level 0.3% using OP 2104.001, beginning with step 8.3."

JOB PERFORMANCE MEASURE

EXAMINEE'S COPY

JPM INITIAL TASK CONDITIONS:

HPSI pump (2P89A) is running on minimum recirculation.

INITIATING CUE:

The CRS directs, "Raise Safety Injection Tank (2T2A) level 0.3% using OP 2104.001, beginning with step 8.3."

Job Performance Measure

UNIT: 2REV #: 007

DATE: _____

SYSTEM/DUTY AREA: Main Turbine Generator SystemTASK: Perform a Manual Synchronization of the Main Turbine Generator to the System
(Alternate Success Path)JTA#: ANO2-RO-TURBC-NORM-12KA VALUE RO: 2.9 SRO: 3.2 KA REFERENCE: 045 K3.01X XAPPROVED FOR ADMINISTRATION TO: RO: _____ SRO: _____
X

TASK LOCATION: INSIDE CR: _____ OUTSIDE CR: _____ BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PerformPLANT SITE: _____ SIMULATOR: _____ LAB: _____
_____ :

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: X
15 Minutes

APPROXIMATE COMPLETION TIME IN MINUTES: _____

REFERENCE(S): OP 2106.009

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED
IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total
Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE

Job Performance Measure

BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS: Plant startup is in progress. OP 2106.009 is completed through step
16.2.

TASK STANDARD: Turbine Generator tripped. Uncontrolled MTG load increase stopped.

TASK PERFORMANCE AIDS: OP 2106.009 Step 16.0

SIMULATOR SETUP: Startup in progress. Reactor power ~ 5%. Main transformer Cooling Group Breaker
Lineup is complete (ATT. E). Turbine first stage pressure feedback is in auto.

Trigger 1 to component malfunction 2CV0242 value = 1.00 ramp = 2:00 delay 10 sec; Trigger 2 to
component malfunction 2CV208 value = 1.00 ramp = 2:00 delay 10 sec; T1 set to ce4r9728 (BKR 5130) and T2
set to ce4r9731 (BKR 5134).

Job Performance Measure

INITIATING CUE:

The CRS directs, "Synchronize the Main Turbine Generator to the grid and load to about 50 Mwe using OP 2106.009 beginning with step 16.3."

START TIME: _____

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	1. step 16.3.1	Notify Pine Bluff Dispatcher of intent to sync to system. <u>POSITIVE CUE:</u> Pine Bluff dispatcher notified.	Using dedicated dispatcher telephone, notified Pine Bluff dispatcher of intent to sync to system.	N/A SAT UNSAT
(C)	2. step 16.3.2	Place synchronizing hand switch for <u>EITHER</u> Breaker 5130 <u>OR</u> Breaker 5134 to MANUAL. <u>POSITIVE CUE:</u> Hand switch 2HS-9727 <u>OR</u> 2HS-9730 in MANUAL.	On panel 2C01, placed synchronizing hand switch for <u>EITHER</u> Breaker 5130 (2HS-9727) <u>OR</u> Breaker 5134 (2HS-9730) in MANUAL. Observed <u>EITHER</u> hand switch 2HS-9727 <u>OR</u> 2HS-9730 in MANUAL.	N/A SAT UNSAT
(C)	3. step 16.3.3	Verify Synchroscope rotating slowly in the CLOCKWISE direction. <u>POSITIVE CUE:</u> Synchroscope rotating slowly in CLOCKWISE direction.	On panel 2C01, pressed INCREASE or DECREASE pushbutton on Load Selector until synchroscope is rotating slowly in CLOCKWISE direction. On panel 2C10, observed synchroscope rotating slowly in CLOCKWISE direction.	N/A SAT UNSAT

Job Performance Measure

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	4. step 16.3.4 16.3.5	<p>Verify Generator Voltage slightly higher than System Voltage <u>AND</u> check Generator Voltage phase to phase.</p> <p><u>POSITIVE CUE:</u> Voltage slightly higher than system voltage.</p>	<p>On panel 2C10, verified generator voltage slightly higher than system voltage.</p> <p><u>AND</u></p> <p>On panel 2C01, checked generator voltage phase to phase using installed indications and handswitch 2HS-9733.</p> <p>On panel 2C10, observed voltages on Incoming slightly higher than Running voltmeters.</p>	N/A SAT UNSAT
	5. step 16.3.6	<p>Announce to the control room the intention to synchronize to system.</p> <p><u>POSITIVE CUE:</u> Control room personnel notified.</p>	Announced to the control room the intention to synchronize to system.	N/A SAT UNSAT
	6. step 16.3.7 16.3.8	<p>Close Generator Output Breaker <u>and</u> check turbine picked up load.</p> <p><u>POSITIVE CUE:</u> Red light ON. Load increase indicated.</p>	<p>On panel 2C01, closed Generator Output Breaker selected so that Breaker CLOSES with synchroscope in the 12 O'CLOCK position.</p> <p>Observed load increase indicated on Load (2JI-9625) <u>OR</u> PMS or SPDS computers.</p> <p>On panel 2C01, observed breaker closed indication (red light ON, green light OFF) for operated breaker.</p> <p><u>OR</u></p> <p>On panel 2C10 mimic, observed red light ON and green light OFF for breaker just closed (5130 or 5134).</p>	N/A SAT UNSAT

Job Performance Measure

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	7. step 16.3.9	Adjust load to ~ 10 Mwe. <u>POSITIVE CUE:</u> Load ~ 10 Mwe.	On panel 2C01, adjusted load to ~ 10 Mwe by pressing INCREASE OR DECREASE pushbutton on Load Select. Observed load at ~ 10 Mwe as indicated on LOAD (2JI-9625) or on PMS or SPDS computers.	N/A SAT UNSAT
	8. step 16.3.10	Verify SDBCS response <u>POSITIVE CUE:</u> SDBCS valves are closing.	On panel 2C04, Verify 2CV0303 is responding to load increase by closing (HIC demand signal lowering).	N/A SAT UNSAT
	9. step 16.4	Select Load Rate Limit of ½ % per minute. <u>POSITIVE CUE:</u> ½ % per minute illuminated.	On panel 2C01, Verify Load Rate Limit of ½ % per minute light illuminated	N/A SAT UNSAT
EXAMINER'S AND SIMULATOR OPERATOR NOTE: Trigger T-1, #1 control valve opening if BRK5130 closed or Trigger T-2, #2 control valve opening if BRK5134 closed with 10 sec delay.				
(C)	10.	Recognize that turbine load is still increasing. <u>NEGATIVE CUE:</u> Turbine load is increasing uncontrollably.	On panel 2C01, observed turbine load still increasing on LOAD (2JI-9625) or on PMS or SPDS Computers.	N/A SAT UNSAT

Job Performance Measure

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	11.	<p>Attempts to lower load using decrease pushbutton</p> <p><u>AND/OR</u></p> <p>Manually trips Main Turbine Generator using trip pushbutton</p> <p><u>POSITIVE CUE:</u> Main Turbine Generator is tripped.</p> <p><u>NOTE:</u> Attempting to decrease load using the decrease pushbutton is not critical and does not need to be performed. Tripping the turbine is critical.</p>	<p>On panel 2C01, attempted to reduce turbine load using the decrease pushbutton</p> <p><u>AND/OR</u></p> <p>Manually tripped Main Turbine Generator by depressing the trip pushbutton.</p> <p>Verified MTG tripped, Generator Output Breakers open, Exciter Field Breaker open, all valves closed, and electrical loads shifted to SU #3.</p>	N/A SAT UNSAT
END				

STOP TIME: _____

Job Performance Measure

EXAMINER 'S COPY

JPM INITIAL TASK CONDITIONS:

Plant startup is in progress. OP 2106.009 is completed through step 16.2.

The CRS directs:

"Synchronize the Main Turbine Generator to the grid and load to about 50 MWe using OP 2106.009 beginning with step 16.3."

Job Performance Measure

EXAMINEE'S COPY

JPM INITIAL TASK CONDITIONS:

Plant startup is in progress. OP 2106.009 is completed through step 16.2.

The CRS directs:

"Synchronize the Main Turbine Generator to the grid and load to about 50 MWe using OP 2106.009 beginning with step 16.3."

JOB PERFORMANCE MEASURE

UNIT: 2 REV #: 000 DATE: _____SYSTEM/DUTY AREA: Containment PurgeTASK: Place Containment Purge in Continuous Ventilation ModeJTA#: ANO2RONORM11KA VALUE RO: 3.0 SRO: 3.1 KA REFERENCE: 029 K1.04APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: X OUTSIDE CR: _____ BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 20 MinutesREFERENCE (S): OP 2104.033

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

- Containment Purge has been completed.
- SPING 5 is in service
- Containment Purge charcoal filters have been sampled and are operable
- Control of the Containment Purge radiation monitor has been established per attachment 'B' of OP 2104.033.
- Containment Purge Radiation monitor, 2RITS 8233, is operable.

TASK STANDARD: Establish Containment Supply and Exhaust Flow per OP 2104.033 section 12.

ASK PERFORMANCE AIDS: OP 2104.033 Section 12

JOB PERFORMANCE MEASURE**INITIATING CUE:**

The SM/CRS directs, "Place the Containment Purge system in Containment Ventilation mode starting with step 12.4 of OP 2104.033."

START TIME: _____

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	1. Step 12.4.1	Verify both containment purge isolation valves 2CV-8283-1 and 2CV8285-1 are OPEN.	On 2 C17, placed key in Handswitch 2HS-8283-1 and rotated in Clockwise direction to OPEN. Verified Red light ON, Green light OFF above 2CV-8283-1. On 2 C17, placed key in Handswitch 2HS-8285-1 and rotated in Clockwise direction to OPEN. Verified Red light ON, Green light OFF above 2CV-8285-1	N/A SAT UNSAT
(C)	2. Step 12.4.1	Verify both containment purge isolation valves 2CV-8284-2 and 2CV8286-2 are OPEN.	On 2 C16, placed key in Handswitch 2HS-8284-2 and rotated in Clockwise direction to OPEN. Verified Red light ON, Green light OFF above 2CV-8284-2. On 2 C16, placed key in Handswitch 2HS-8286-2 and rotated in Clockwise direction to OPEN. Verified Red light ON, Green light OFF above 2CV-8286-2.	N/A SAT UNSAT
(C)	3. Step 12.4.2	Verify containment purge exhaust isolation valve 2CV-8291-1 is OPEN.	On 2 C17, placed key in Handswitch 2HS-8291-1 and rotated in Clockwise direction to OPEN. Verified Red light ON, Green light OFF above 2CV-8291-1.	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	4. Step 12.4.3	Verify containment purge supply isolation valve 2CV-8289-1 is OPEN.	On 2 C17, placed key in Handswitch 2HS-8289-1 and rotated in lockwise direction to OPEN. Verified Red light ON, Green light OFF above 2CV-8289-1.	N/A SAT UNSAT
(C)	5. Step 12.4.4	Place containment purge exhaust fan 2VEF-15 in AUTO. Examiner's NOTE: Red light will not come ON until 2VSF2 is started.	On 2C22, Rotated handswitch 2HS8255 clockwise into the AUTO position. Verified Red light ON and Green light OFF above 2VEF-15.	N/A SAT UNSAT
(C)	5. Step 12.4.5	Place containment purge supply fan 2VSF-2 in START.	On 2C22, Rotated handswitch 2HS8226 clockwise to the START position. Verified Red light ON and Green light OFF above 2VSF-2.	N/A SAT UNSAT
END				

STOP TIME: _____

JOB PERFORMANCE MEASURE

EXAMINER'S COPY

JPM INITIAL TASK CONDITIONS:

- Containment Purge has been completed.
- SPING 5 is in service
- Containment Purge charcoal filters have been sampled and are operable
- Control of the Containment Purge radiation monitor has been established per attachment 'B' of OP 2104.033.
- Containment Purge Radiation monitor, 2RITS 8233, is operable.

INITIATING CUE:

The SM/CRS directs, "Place the Containment Purge system in Containment Ventilation mode starting with step 12.4 of OP 2104.033."

JOB PERFORMANCE MEASURE

CANDIDATE'S COPY

JPM INITIAL TASK CONDITIONS:

- Containment Purge has been completed.
- SPING 5 is in service
- Containment Purge charcoal filters have been sampled and are operable
- Control of the Containment Purge radiation monitor has been established per attachment 'B' of OP 2104.033.
- Containment Purge Radiation monitor, 2RITS 8233, is operable.

INITIATING CUE:

The SM/CRS directs, "Place the Containment Purge system in Containment Ventilation mode starting with step 12.4 of OP 2104.033."

JOB PERFORMANCE MEASUREUNIT: 2 REV #: 00 DATE: _____SYSTEM/DUTY AREA: Abnormal/Emergency OperationsTASK: Manually actuate Control Room Ventilation ALTERNATE SUCCESS PATHJTA#: ANO2-RO-EOPAOP-EMERG-13KA VALUE RO: 2.9 SRO: 3.1 KA REFERENCE: 073 A301APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: X OUTSIDE CR: _____ BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 20 MinutesREFERENCE(S): OP 2104.007

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS: Annunciator 2K11 D-10, Process Gas Radiation HI/LO alarm and Annunciator 2K08 A-4 are in. A valid 2RITS-8750-1A is in alarm. ALTERNATE SUCCESS PATH JPM

TASK STANDARD: All Control room ventilation components have been actuated and 2VSF 9 secured and outside air damper has been closed and air reserve aligned.

TASK PERFORMANCE AIDS:

Marked up copy of OP 2104.007 section 7.0, Radiation and Chlorine detector alarm response actions. Steps 7.1 and 7.2 are complete.

SIMULATOR SETUP: Alarm 2K11 D10 in alarm. Control room ventilation radiation monitor above alarm setpoint.

Insert the following malfunctions:

XRI2RITS8750-1; value = 2000 (Control room radiation monitor in alarm)

X_RM8750; value = TRUE (Control room ventilation components will not actuate)

Insert the following overrides for 2C33:

Set Trigger 1=pj3s603a (handswitch for 2VSF9)

- T1 = DO_CI_8603_A; value = OFF
- T1= DO_CI_8603_R; value = OFF

JOB PERFORMANCE MEASURE**INITIATING CUE:**

The CRS directs, "Verify proper system actuation following 2K11 D10 control room radiation monitor in alarm. Perform actions in OP 2104.007 starting with step 7.1.2, Radiation and Chlorine alarm response actions."

START TIME: _____

PERFORMANCE CHECKLIST		STANDARDS		(Circle One)
<u>EXAMINERS NOTE:</u>				
Do not allow examinee to go to unit 1. Provide cue when determining unit 1 control room component status.				
	1. step 7.1.2	Verify Unit 1 control room is isolated. <u>Examiner's CUE:</u> Unit 1 control room supply damper CV7905 and Unit 1 control room return damper CV7907 have been closed.	On C141 on unit 1, verify CV7905 and CV7907 dampers are closed.	N/A SAT UNSAT
(C)	2. step 7.1.2	Verify unit 2 control room is isolated.	On 2C33, verify 2UCD 8683, unit 2 supply damper is closed by taking handswitch to the closed position and verifying green light is ON above handswitch. On 2C33, verify 2UCD 8685, unit 2 return damper is closed by taking handswitch to the closed position and verifying green light is ON above handswitch.	N/A SAT UNSAT
	3. step 7.1.3	Verify Unit 1 control room supply fans are stopped. <u>Examiner's CUE:</u> Unit 1 control room supply fans VSF8A and VSF8B handswitches are in stop and green lights ON.	At breaker B1544 on Unit 1, verify VSF-8A handswitch in stop and green light ON. At breaker B4161 on Unit 1, verify VSF-8B handswitch in stop and green light ON.	N/A SAT UNSAT
Examiner's note:				
Transition to back of control room to panel 2C22.				

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	4. step 7.1.3	Verify Unit 2 control room supply fans are stopped.	On panel 2C22, took handswitch for 2VSF8A and 2VSF8B to stop and verified Green light ON above handswitch.	N/A SAT UNSAT
(C)	5. step 7.1.3	Verify Unit 2 control room exhaust fans are stopped.	On panel 2C22, took handswitch for 2VSF43A and 2VSF43B to stop and verified Green light ON above handswitch.	N/A SAT UNSAT
	6. step 7.1.3	Verify Unit 1 control room smoke exhaust fan is stopped. <u>Examiner's CUE:</u> Unit 1 control room smoke exhauster fan VEF43 handswitch is in stop and green light ON.	On unit 1 panel C19, verified VEF 43 fan in stop and green light ON.	N/A SAT UNSAT
<p align="center">Examiner's note:</p> <p align="center">Transition to front of control room to panel 2C33.</p>				
<p align="center">Examiner's Note:</p> <p align="center">The following is the alternate success path step.</p>				
	7. step 7.1.4	Verify 2VSF9 running with insufficient air flow.	<p>On panel 2C33 rotated handswitch for 2VSF9 to start.</p> <p>On panel 2C33 verified RED light ON above handswitch for 2VSF9.</p> <p>On panel 2C33 verified PCD-8607B red light ON.</p> <p>On panel 2C33 recognized low air flow by Amber light OFF and Red light OFF above 2VSF9 handswitch.</p>	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	8. step 7.1.5	<p>Close 2VSF9 outside Air damper 2PCD8607B.</p> <p>EXAMINER's CUE: When asked, report 2nd person verification of handswitch 2PCD8607B is complete.</p> <p>EXAMINER's CUE: When asked to go to Unit 1 and start VSF9, report that VSF 9 is running with proper discharge flow.</p>	<p>On panel 2C33 placed handswitch for 2PCD8607B to RESERVE.</p> <p>On panel 2C33, secured 2VSF 9 by taking handswitch to STOP.</p> <p>Contacts unit 1 to start VSF 9.</p>	N/A SAT UNSAT
<p align="center">EXAMINER's NOTE:</p> <p align="center">This JPM does not examine the examinee's use of Tech Specs, JPM can be ended at this step.</p>				
	10. step 7.1.5	Initiate condition report and determine tech spec applicability due to 2VSF 9 inoperability.	Discuss writing a condition report and entry into Tech Spec due to 2VSF9 inoperability. Attempt to access OP 2104.007 attachment B component/tech spec cross-reference, to determine tech spec applicability.	N/A SAT UNSAT
END				

STOP TIME: _____

JOB PERFORMANCE MEASURE**EXAMINER'S COPY****JPM INITIAL TASK CONDITIONS:**

Annunciator 2K11 D-10, Process Gas Radiation HI/LO alarm and Annunciator 2K08 A-4 are in. A valid control room radiation alarm, 2RITS-8750-1A, is in alarm and not bypassed.

INITIATING CUE:

The CRS directs, "Verify proper system actuation following 2K11 D10 control room radiation monitor in alarm. Perform actions in OP 2104.007 starting with step 7.1.2, Radiation and Chlorine alarm response actions."

JOB PERFORMANCE MEASURE**EXAMINEE'S COPY****JPM INITIAL TASK CONDITIONS:**

Annunciator 2K11 D-10, Process Gas Radiation HI/LO alarm and Annunciator 2K08 A-4 are in. A valid control room radiation alarm, 2RITS-8750-1A, is in alarm and not bypassed.

INITIATING CUE:

The CRS directs, "Verify proper system actuation following 2K11 D10 control room radiation monitor in alarm. Perform actions in OP 2104.007 starting with step 7.1.2, Radiation and Chlorine alarm response actions."

JOB PERFORMANCE MEASUREUNIT: 2 REV #: 09 DATE: _____SYSTEM/DUTY AREA: Abnormal/Emergency OperationsTASK: Secure Containment SprayJTA#: ANO2-RO-EOPAOP-EMERG-13KA VALUE RO: 3.2 SRO: 3.7 KA REFERENCE: 026 A2.03APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: X OUTSIDE CR: _____ BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE(S): OP 2202.003

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

JOB PERFORMANCE MEASURE**THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:**

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS: Containment spray actuation signal has actuated inadvertently and 2K04 D-1, CSAS ACT, is in Alarm. A WR has been written and I&C has corrected the problem. No testing is currently in progress. Tech Spec 3.3.2.1 has been entered.

TASK STANDARD: CSAS is reset and CSAS actuated components are secured.

TASK PERFORMANCE AIDS: EOP 2203.012D Annunciator 2K04 D1, CSAS ACT

SIMULATOR SETUP: Inadvertent containment spray actuated. Containment Temperature. < 140 ° F,
Pressure < 22.5 psia.

JOB PERFORMANCE MEASURE**INITIATING CUE:**

The CRS directs, "Reset CSAS and secure Containment Spray using ACA 2203.012D, for annunciator D1, section 2.0, CSAS ACT.

START TIME: _____

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	1. Step 2.1	Verify CSAS NOT valid.	Determined that Containment pressure less than 22.5 PSIA (PMS, SPDS or control board indication). Determined that Containment temperature less than 140°.	N/A SAT UNSAT
<u>EXAMINERS NOTE:</u> There is only one channel available on the simulator. Resetting 'B' trip path will reset all the other channels also.				
	2. Step 2.3	Place Spray Pumps in PTL. Examiner's CUE: CRS acknowledges TS entry into 3.0.3.	On panels' 2C16/17, placed handswitches for Containment Spray Pumps (2P35A and 2P35B) in Pull To Lock (PTL). Observed green lights ON above handswitches. Enter TS 3.0.3.	N/A SAT UNSAT
(C)	3. Step 2.6.1 2.6.2 2.6.3 2.6.4	Reset CSAS on 2C23. <u>Examiner's Note:</u> Give examinee Key #15 when asked.	On panel 2C23B, obtained key and placed it in trip path to be reset. Placed trip path key switch to UNLK. Depressed CSAS pushbutton for trip path. Verified Trip Path lights reset (on 2C03) (Not a critical item) Placed trip path key switch to LK.	N/A SAT UNSAT
<u>EXAMINERS NOTE:</u> There is only one channel available on the simulator. Resetting 2C40 actuation path will reset all the other channels also.				

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	3. Step 2.6.6 2.6.7	Reset CSAS on 2C40	On 2C40, depressed CSAS lockout reset pushbutton. On 2C40 verify reset lights are ON.	N/A SAT UNSAT
(C)	4. Step 2.6.8	Close Containment Spray Header Isolation Valves.	On panels' 2C16/17, placed handswitches for Containment Spray Header Isolation valves (2CV-5612-1 and 2CV-5613-2) in CLOSE. Observed green lights ON above handswitches.	N/A SAT UNSAT
(C)	5. Step 2.6.9	Stop Containment Spray Pumps.	On panels' 2C16/17, removed handswitches for Containment Spray Pumps (2P35A and 2P35B) from PTL and placed in normal after stop. Observed green lights ON above handswitches.	N/A SAT UNSAT
	6. Step 2.6.10	Exit Tech Spec 3.0.3. EXAMINER's CUE: Exiting Tech Spec 3.0.3 has been entered into the station log.	Notify CRS to exit tech spec 3.0.3 when both spray pumps are taken out of PTL.	N/A SAT UNSAT
END				

STOP TIME: _____

JOB PERFORMANCE MEASURE

EXAMINER'S COPY

JPM INITIAL TASK CONDITIONS:

Containment spray actuation signal has actuated inadvertently.
2K04 D-1, CSAS ACT, is in alarm.
A Work Request has been written and I&C has corrected the problem.
No Testing is currently in progress.
Tech Spec 3.3.2.1 has been entered.

INITIATING CUE:

The CRS directs, "Reset CSAS and secure Containment Spray using ACA 2203.012D, for annunciator D1, section 2.0, CSAS ACT.

JOB PERFORMANCE MEASURE

EXAMINEE'S COPY

JPM INITIAL TASK CONDITIONS:

Containment spray actuation signal has actuated inadvertently.
2K04 D-1, CSAS ACT, is in alarm.
A Work Request has been written and I&C has corrected the problem.
No Testing is currently in progress.
Tech Spec 3.3.2.1 has been entered.

INITIATING CUE:

The CRS directs, "Reset CSAS and secure Containment Spray using ACA 2203.012D, for annunciator D1, section 2.0, CSAS ACT.

JOB PERFORMANCE MEASUREUNIT: 2 REV #: 004 DATE: _____SYSTEM/DUTY AREA: Chemical and Volume Control SystemTASK: Perform Emergency Boration (Alternate Success Path)JTA#: ANO2-RO-EOPAOP-OFFNORM-193KA VALUE RO: 3.9 SRO: 3.7 KA REFERENCE: 004 A4.07APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: X OUTSIDE CR: _____ BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: _____ SIMULATOR: Perform LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 15 MinutesREFERENCE (S): OP 2203.032, OP 2103.015

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

JOB PERFORMANCE MEASURE

THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023

Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

Mode 3, A Shutdown Margin is calculated following a reactor trip.

TASK STANDARD:

**Greater than or equal to 40 gallons per minute boric acid solution being injected into the RCS using
BAM Pumps via Emergency Borate Valve (2CV-4916-2). This is an alternate success path JPM.**

TASK PERFORMANCE AIDS:

**AOP 2203.032 Steps 2 through 6. Copy of RHOBAL Shutdown margin, OP 2103.015 Worksheet 4,
showing SDM not met.**

SIMULATOR SETUP:

A Mode 3 IC will be set up for this JPM. Use CASE file JPM01.

The elements of this file are:

Trigger 5 = 2CV-4873-1a = 75%. 2CV-4873-1a (VCT Outlet) malfunction set to 75%;

Then overrides 2HS-4873-2 are set to false and 2HS-4873-3 set to false to turn lights off.

**This case file will simulate the VCT Outlet valve tripping its output breaker due to a motor fault as it
tries to shut.**

JOB PERFORMANCE MEASURE

INITIATING CUE:

The SM/CRS directs, "Review SDM calculation, OP 2103.015 worksheet 4 and perform actions as required."

PERFORMANCE CHECKLIST			STANDARD	(Circle One)
(C)	1.	Review SDM calculation and recognize SDM is not met for current conditions.	Recognize that SDM is not met and that emergency boration is required.	N/A SAT UNSAT
EXAMINERS NOTE: Examinee may review the instruction section of OP 2103.015 and then ask what method of emergency boration the CRS/SM recommends.				
EXAMINERS CUE: When the examinee determines emergency boration is required, provide the following information, even if the examinee does not ask for direction: "Borate using the BAM Tank Gravity Feed valves per AOP 2203.032 starting with step 2."				
	2. Step 2	Verify at least one Charging Pump (CCP) running with flow greater than 40 GPM. POSITIVE CUE: Red light(s) ON. Flow is greater than 40 gpm.	On Panel 2C09, verified CCP(s) running. Observed red light ON; green light OFF above at least one of the following handswitch(es): 2HS-4832-1, "A" CCP 2HS-4852-1, "C" CCP (red) 2HS-4853-2, "C" CCP (green) 2HS-4842-2, "B" CCP Observed flow greater than 40 gpm on Charging Header Flow (2FIS-4863).	N/A SAT UNSAT
	3. Step 3.A	Align Boric Acid Supply To CCP Suction. POSITIVE CUE: Red light(s) ON. NEGATIVE CUE: Green light(s) ON.	On Panel 2C09, opened BAMT Gravity Feed Valves 2CV-4920-1 and/or 2CV-4921-1 Observed red light ON and green light OFF above handswitch(es): <ul style="list-style-type: none"> 2HS-4920-1 for 2CV-4920-1 2HS-4921-1 for 2CV-4921-1 	N/A SAT UNSAT
EXAMINER'S NOTE: In the following step the VCT Outlet Valve will NOT close requiring an alternate success path.				

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARD	(Circle One)
	4. Step 4	Close Volume Control Tank (VCT) Outlet Valve (2CV-4873-1). POSITIVE CUE: Green light OFF. Red light OFF. NEGATIVE CUE: Red light ON.	On Panel 2C09, observed that 2CV-4873-1 did NOT go closed. Observed green light OFF; red light OFF above VCT Outlet Valve handswitch (2HS-4873-1).	N/A SAT UNSAT
(C)	5. Step 4.A	Start at least ONE BAM Pump. POSITIVE CUE: Red light ON. NEGATIVE CUE: Green light ON.	On Panel 2C09, start 2P39A and/or 2P39B. Observed RED light ON above the BAM pump started, 2HS-4919-2 (2P39A) or 2HS-4910-2 (2P39B).	N/A SAT UNSAT
(C)	6. Step 4.B	Open Emergency Borate From BAM Pumps Valve (2CV-4916-2). POSITIVE CUE: Red light ON. NEGATIVE CUE: Green light ON.	On Panel 2C09, opened 2CV-4916-2. Observed red light ON; green light OFF above Emergency Borate Valve, 2CV-4916-2.	N/A SAT UNSAT
	7. Step 4.C	Verify Boric Acid Makeup Flow Control Valve (2CV-4926) closed. POSITIVE CUE: Green light ON. NEGATIVE CUE: Red light ON.	On Panel 2C09, verified 2CV-4926 closed. Observed green light ON; red light OFF above Boric Acid Makeup Flow Controller (2FIC-4926).	N/A SAT UNSAT
	8. Step 5	Check Reactor Makeup Water Flow Control Valve (2CV-4927) or VCT Makeup Isol valve (2CV-4941) closed. POSITIVE CUE: Green light ON. NEGATIVE CUE: Red light ON.	On Panel 2C09, verified 2CV-4927 or 2CV-4941 closed. Observed green light ON; red light OFF above Reactor Makeup Water Flow Controller (2FIC-4927) or above 2CV-4941 handswitch.	N/A SAT UNSAT
	9. Step 6	Check Charging Header Flow (2FIS-4863) greater than 40 gpm. POSITIVE CUE: Flow is: 44 gpm (1 CCP) 88 gpm (2 CCP) 132 gpm (3 CCP)	On Panel 2C09 (upright portion), observed flow greater than 40 gpm on Charging Header Flow indicator (2FIS-4863).	N/A SAT UNSAT
END				

JOB PERFORMANCE MEASURE

EXAMINER COPY

JPM INITIAL TASK CONDITIONS:

Mode 3. A Shutdown Margin has been calculated following a reactor trip.

INITIATING CUE:

The SM/CRS directs, "Review SDM calculation, OP 2103.015 worksheet 4 and perform actions as required."

JOB PERFORMANCE MEASURE

EXAMINEE COPY

JPM INITIAL TASK CONDITIONS:

Mode 3. A Shutdown Margin has been calculated following a reactor trip.

INITIATING CUE:

The SM/CRS directs, "Review SDM calculation, OP 2103.015 worksheet 4 and perform actions as required."

PROC./WORK PLAN NO. 2103.015	PROCEDURE/WORK PLAN TITLE: REACTIVITY BALANCE CALCULATION	PAGE: 2 of 21 CHANGE: 035-04-0
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JOB PERFORMANCE MEASURE

UNIT: 2 REV #: 003 DATE: _____SYSTEM/DUTY AREA: Condensate and Feed Water SystemTASK: Align Condensate pump for start during a loss of all Feed Water eventJTA#: ANO2-RO-EOPAOP-EMER-28KA VALUE RO: 4.0 SRO: 3.9 KA REFERENCE: CE E06 EA1.1APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: _____ OUTSIDE CR: X BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: Simulate SIMULATOR: _____ LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 20 MinutesREFERENCE (S): OP 2202.006

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:

JOB PERFORMANCE MEASURE

The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.

JPM INITIAL TASK CONDITIONS:

1. Equipment Out OF Service:
 - 2P-7A for Outboard Pump Bearing Replacement.
2. The plant has tripped from 100% power due to an inadvertent CSAS.
3. Busses 2A1 & 2A3 are locked out due to fire in 2A3 feeder breaker (2A309).

TASK STANDARD: "D" Condensate Pump has been prepared for restart and the actions of 2202.006, Loss of Feedwater EOP through Step 16F has been completed.

TASK PERFORMANCE AIDS: OP 2202.006 Step 16

JOB PERFORMANCE MEASURE

INITIATING CUE:

The SM/CRS directs, "Prepare "D" Condensate Pump for start using OP 2202.006 Step 16 contingency actions."

START TIME: _____

PERFORMANCE CHECKLIST		STANDARDS		(Circle One)
<p align="center"><u>Transition Note:</u></p> <p align="center">Go to elevation 370' Turbine Building, east of the elevator, to the 2A-1 / 2 Bus area.</p> <p align="center"><u>Examiner's Note:</u></p> <p align="center">When in front of breaker, give picture of inside breaker cubicle (DC control power breaker).</p> <p align="center">The candidate may want to read MIS placard on the DC breaker. If so, show the candidate the close up picture of the DC Breaker.</p>				
(C)	1. Step 16.A	Locally open "DC CONTROL POWER" breakers in breaker cubicles 2A106. <u>Examiner's Cue:</u> Once the candidate has located the breaker cubicle, Show the picture of the inside of the 2A106 breaker cubicle Positive Cue: Molded Case DC Control Power breaker for 2A106 switch positioned down.	Points to the DC Control Power Molded Case Circuit Breaker. Positions the DC Control Power Breaker located in 2A106 in the down (open) position.	N/A SAT UNSAT
(C)	2. Step 16.A	Locally open "DC CONTROL POWER" breakers in breaker cubicle 2A205. <u>Examiner's Cue:</u> Once the candidate has located the breaker cubicle, Show the picture of the inside of the 2A205 breaker cubicle <u>Positive CUE:</u> Molded Case DC Control Power breaker for 2A205 switch positioned down.	Points to the DC Control Power Molded Case Circuit Breaker. Positions the DC Control Power Breaker located in 2A205 in the down (open) position.	N/A SAT UNSAT
(C)	3. Step 16.B	Verify Hotwell level greater than 38%. <u>Examiner's Cue:</u> Hotwell level is greater than 38%.	Hotwell is checked > 38% by observing the remote Hotwell level instrument above Breaker Cubicle 2A205. OR By Contacting the Control Room	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST		STANDARDS		(Circle One)
<u>Transition Note:</u> Go to elevation 335' Turbine Building, south of the Main Condenser on platform.				
(C)	4. Step 16.C	Verify both Condensate Pump Recirc valves closed. <u>Examiner's Cue:</u> Both Condensate Pump Recirc Valves indicate closed.	Both Condensate Pump Recirc Valves, 2CV0662 and 2CV-0663, are checked closed by observing valve position indication on valve stem. Indicator should be down and in contact with switch for both valves. OR By Contacting the Control Room	N/A SAT UNSAT
<u>TRANSITION NOTE:</u> Go to elevation 330' Turbine Building, west side walkway to check valve position locally.				
	5. Step 16.D	Verify both Main Feedwater Pump Recirc valves closed. <u>Examiner's Cue:</u> Both Main Feedwater Pump Recirc Valves indicate closed.	Both Main Feed water Pump Recirc Valves, 2CV-0741 and 2CV-0749, are checked closed by checking valve position locally. OR By Contacting the Control Room	N/A SAT UNSAT
<u>Transition Note</u> Go to elevation 330' Turbine Building, near southwest stairwell and west of the Condensate Pumps in the Turbine Building Basement to check valve position locally. <u>Examiner's Note:</u> The procedure being used does not specify which valves to use to isolate the SU/BD DI Pressure Regulating Control Valve. The Candidate could close 2CS-12 (throttled isolation upstream and this one valve would isolate the DI flow OR a combination of the inlet (2CS-57) and bypass (2CS-59) OR outlet (2CS-58) and bypass (2CS-59)				
	6. Step 16.E	Locally verify condensate to SU/BD DI isolated. <u>Examiner's Cue:</u> 2CS-12 is closed (if used) 2CS-58 is closed (if used) 2CS-57 is closed. (if used) 2CS-59 is closed. (if used)	The SU/BD DI is verified isolated locally by checking the manual isolation valves, 2CS-57 Inlet to pressure regulator, 2PCV4505, or 2CS-58 Outlet from pressure regulator 2PCV4505 and 2CS-59, regulator bypass, by rotating handwheel(s) in CW direction until resistance is felt. OR Close Combined Isolation 2CS-12 by rotating handwheel in CW direction until resistance is felt.	N/A SAT UNSAT
<u>Transition Note</u> Go to elevation 335' Turbine Building, southwest corner to check valve position locally. Candidate will need climb to platform for valve operation.				

JOB PERFORMANCE MEASURE

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
	7. Step 16.F	Locally open 'D' Condensate Pump Discharge Valve 10 turns. <u>Examiner's Cue:</u> 'D' Condensate Pump Discharge Valve is opened 10 turns.	The 'D' Condensate Pump Discharge Valve is rotated in CW direction until resistance is felt and then rotated in the CCW direction until valve is 10 turns open.	N/A SAT UNSAT
END				

STOP TIME: _____

JOB PERFORMANCE MEASURE**EXAMINER'S COPY****JPM INITIAL TASK CONDITIONS:**

1. Equipment Out OF Service:
 - 2P-7A for Outboard Pump Bearing Replacement.
2. The plant has tripped from 100% power due to an inadvertent CSAS.
3. Busses 2A1 & 2A3 are locked out due to fire in 2A3 feeder breaker (2A309).

INITIATING CUE:

The SM/CRS directs, "Prepare "D" Condensate Pump for start using OP 2202.006 Step 16 contingency actions."

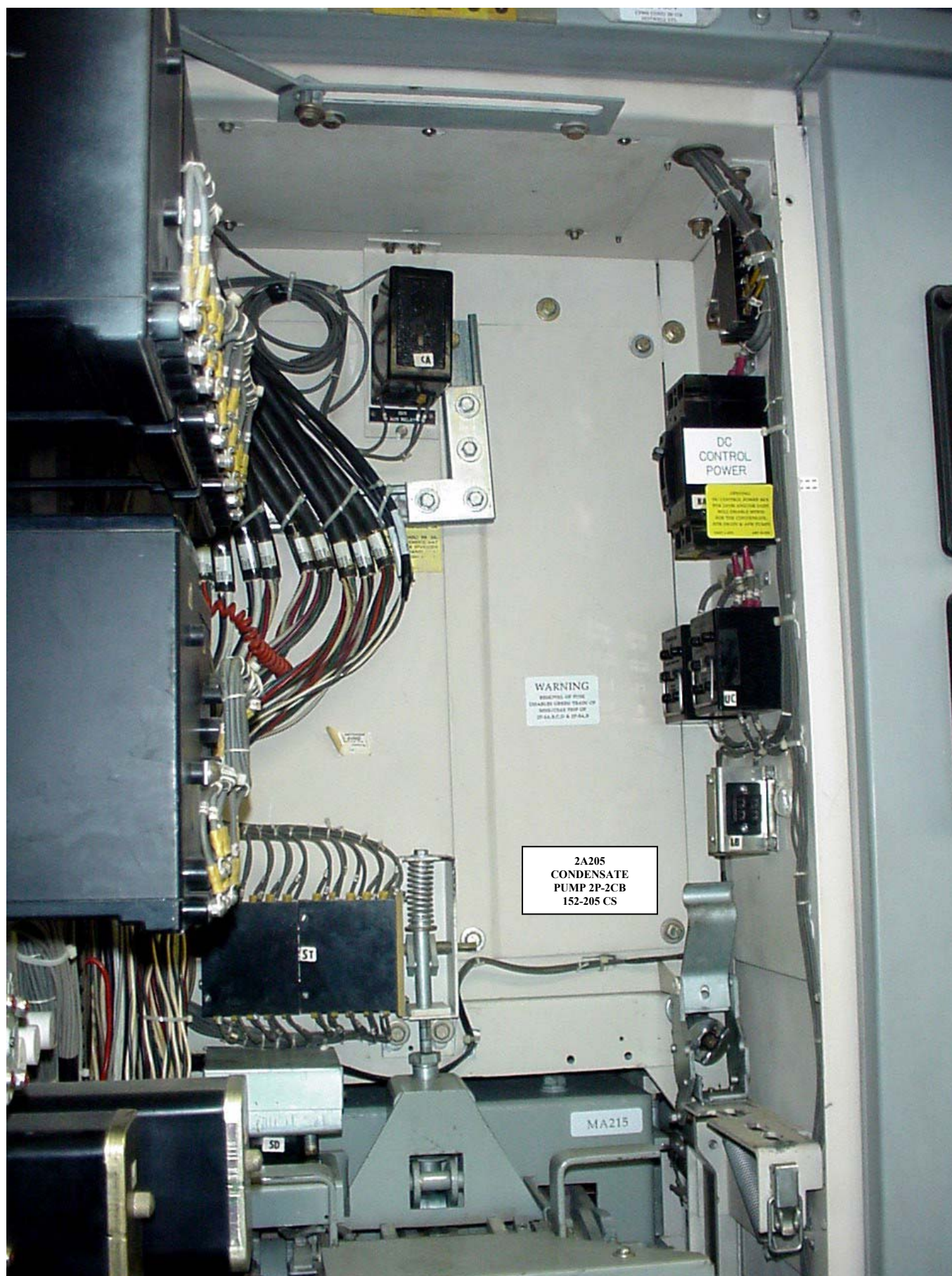
JOB PERFORMANCE MEASURE**CANDIDATE'S COPY****JPM INITIAL TASK CONDITIONS:**

1. Equipment Out OF Service:
 - 2P-7A for Outboard Pump Bearing Replacement.
2. The plant has tripped from 100% power due to an inadvertent CSAS.
3. Busses 2A1 & 2A3 are locked out due to fire in 2A3 feeder breaker (2A309).

INITIATING CUE:

The SM/CRS directs, "Prepare "D" Condensate Pump for start using OP 2202.006 Step 16 contingency actions."

JOB PERFORMANCE MEASURE



JOB PERFORMANCE MEASURE



JOB PERFORMANCE MEASURE



JOB PERFORMANCE MEASURE

UNIT: 2 REV #: 009 DATE: _____SYSTEM/DUTY AREA: Spent Fuel Pool Cooling SystemTASK: Perform service water emergency makeup to the SFP (with Loop 1 service water)JTA#: ANO2-WCO-SFP-EMER1KA VALUE RO: 3.1 SRO: 3.5 KA REFERENCE: 033 A2.03APPROVED FOR ADMINISTRATION TO: RO: X SRO: XTASK LOCATION: INSIDE CR: _____ OUTSIDE CR: X BOTH: _____

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: Simulate SIMULATOR: _____ LAB: _____

POSITION EVALUATED: RO: _____ SRO: _____

ACTUAL TESTING ENVIRONMENT: SIMULATOR: _____ PLANT SITE: _____ LAB: _____

TESTING METHOD: SIMULATE: _____ PERFORM: _____

APPROXIMATE COMPLETION TIME IN MINUTES: 20 MinutesREFERENCE (S): OP 2104.006

EXAMINEE'S NAME: _____ SSN: _____

EVALUATOR'S NAME: _____

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: _____ UNSATISFACTORY: _____

PERFORMANCE CHECKLIST COMMENTS:

Start Time _____ Stop Time _____ Total Time _____

SIGNED: _____ DATE: _____

SIGNATURE INDICATES THIS JPM HAS BEEN COMPARED TO ITS APPLICABLE PROCEDURE BY A QUALIFIED INDIVIDUAL (NOT THE EXAMINEE) AND IS CURRENT WITH THAT REVISION.

JOB PERFORMANCE MEASURE

THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:
The examiner shall review the "Briefing Checklist – System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.
JPM INITIAL TASK CONDITIONS:
The following conditions exist:
1. (2K11-K5) "FUEL POOL TEMP HI" and (2K11J-5) "FUEL POOL LEVEL LO" are in alarm.
2. Neither fuel pool cooling pump is available.
3. An operator is stationed at the spent fuel pool to monitor spent fuel pool level.
4. Local Fuel Pool level is reading 399 feet 2 inches.
5. 2P66 is aligned to the RWT and running.
TASK STANDARD:
1. Emergency SFP makeup from Loop 1 service water has been initiated.
TASK PERFORMANCE AIDS:
1. OP 2104.006 Section 14.2

JOB PERFORMANCE MEASURE

INITIATING CUE: The CRS provides the following direction:

"Align Loop 1 service water to provide emergency makeup to the spent fuel pool using OP 2104.006, Section 14.2."

START TIME: _____

PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
TRANSITION NOTE: Go to elevation 335' RAB, north end of hallway.				
	1. Step 14.2.1	Secure Spent Fuel Pool Purification Pump (2P66). Examiner's Cue: Green light ON, red light OFF.	Locally rotated 2P66 handswitch (2HS-5411) to STOP and released. Observed green light ON, red light OFF.	N/A SAT UNSAT
TRANSITION NOTE: Go to elevation 354' RAB, just north of the elevator, to the SFP valve gallery.				
(C)	2. Step 14.2.2	Verify Borated MU or RWT to 2P-66 (2FP-32) closed. Examiner's Cue: 2FP-32 stem is fully inserted and resistance is felt.	Closed 2FP-32 by turning handwheel clockwise and observing valve stem insertion until resistance felt.	N/A SAT UNSAT
TRANSITION NOTE: Go to elevation 335' RAB just off elevator (if local verification is performed)				
(C)	3. Step 14.2.2	Verify RWT Recirculation Isolation (2CV-5637-1) closed. Examiner's Cue: When Control Room is contacted, then Control room reports 2CV-5637-1 has been taken to Closed. Or After the Control Room Closes 2CV-5637-1, then 2CV-5637-1 is Closed (if local verification is performed)	Contacted Control Room to close 2CV-5637-1. And Locally at 2CV-5637-1, verify that valve stem is in the down (closed) position and closed limit switch is actuated after the valve is closed by the Control Room. (if local verification performed)	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

(C)	4. Step 14.2.2	<p>Verify RWT Recirculation Isolation (2CV-5638-2) closed.</p> <p><u>Examiner's Cue:</u></p> <p>When Control Room is contacted, then Control room reports 2CV-5638-2 has been taken to Closed.</p> <p>Or</p> <p>After the Control Room Closes 2CV-5638-2, then 2CV-5638-2 is Closed (if local verification is performed)</p>	<p>Contacted Control Room to close 2CV-5638-2.</p> <p>And</p> <p>Locally at 2CV-5638-2, verify that valve stem is in the down (closed) position and closed limit switch is actuated after the valve is closed by the Control Room. (if local verification performed)</p>	N/A SAT UNSAT
<p align="center"><u>TRANSITION NOTE:</u></p> <p align="center">Go to elevation 354' RAB, just north of the elevator, to the SFP valve gallery.</p>				
(C)	5. Step 14.2.3	<p>Open Borated MU, RWT, SW to Fuel Pool (2FP-31).</p> <p><u>Examiner's Cue:</u></p> <p>2FP-31 stem is fully extended.</p>	<p>Opened 2FP-31 by turning handwheel CCW.</p> <p>Observed valve stem fully withdrawn out of the valve.</p>	N/A SAT UNSAT
(C)	6. Step 14.2.4	<p>Open RWT to Fuel Pool Isolation (2FP-46).</p> <p><u>Examiner's Cue:</u></p> <p>2FP-46 stem is fully extended.</p>	<p>Opened 2FP-46 by turning handwheel CCW.</p> <p>Observed valve stem fully withdrawn out of the valve.</p>	N/A SAT UNSAT
<p align="center"><u>TRANSITION NOTE:</u></p> <p align="center">Go to elevation 335' RAB just off elevator.</p>				
(C)	7. Step 14.2.5	<p>Close SW Header 1 Telltale Drain (2SW-8401).</p> <p><u>Examiner's Cue:</u></p> <p>2SW-8401 has stem inserted into handwheel.</p>	<p>Closed 2SW-8401 by turning handwheel CW.</p> <p>Observed valve stem fully inserted into the valve.</p>	N/A SAT UNSAT
	8. Step 14.2.6	<p>Ensure position of 2SW-57 is logged in Category "E" Log.</p> <p><u>Examiner's Cue:</u></p> <p>Valve position is logged.</p>	<p>Logged position of 2SW-57 by:</p> <p>Using a plant telephone, Gaitronics, OR radio; contacted Control Room and directed entry in Category "E" Log.</p> <p><u>OR</u></p> <p>Ensured Category "E" log entry made upon completion of evolution.</p>	N/A SAT UNSAT

JOB PERFORMANCE MEASURE

(C)	9. Step 14.2.6	Open SW Header 1 Emergency Feed Isolation (2SW-57). <u>Examiner's Cue:</u> 2SW-57 valve stem is fully extended.	Unlocked locking device on 2SW-57 using category "E" valve key. Opened 2SW-57 by turning handwheel CCW. Observed valve stem fully withdrawn out of the valve.	N/A SAT UNSAT
	10. Step 14.2.7	Station an Operator to monitor SFP level in communication with Operator at SW Header 1 Emergency Feed Isolation to SF Pool (2SW-138) <u>Examiner's Cue:</u> Operator responds to radio communications.	Verified that an Operator was stationed to monitor SFP level in communication with Operator at SW Header 1 Emergency Feed Isolation to SF Pool (2SW-138)	N/A SAT UNSAT
<p align="center"><u>EXAMINERS NOTE:</u></p> <p>- Final valve position is at discretion of examinee to ensure level is raised / maintained.</p> <p>- Operator stationed to monitor SFP level in accordance with initial conditions.</p>				
(C)	11. Step 14.2.9	Throttle open SW Header 1 Emergency Feed Isolation to SF Pool (2SW-138). <u>Examiner's Cue:</u> Operator stationed at SFP reports level rising slowly.	Throttled open 2SW-138 by turning handwheel CCW. Observed valve stem withdrawn out of the valve commensurate with valves throttling.	N/A SAT UNSAT
END				

STOP TIME: _____

JOB PERFORMANCE MEASURE

Examiner's Copy

JPM INITIAL TASK CONDITIONS
The following conditions exist:
1. (2K11-K5) "FUEL POOL TEMP HI" and (2K11J-5) "FUEL POOL LEVEL LO" are in alarm.
2. Neither fuel pool cooling pump is available.
3. An operator is stationed at the spent fuel pool to monitor spent fuel pool level.
4. Local Fuel Pool level is reading 399 feet 2 inches.
5. 2P66 is aligned to the RWT and running.
INITIATING CUE:
The CRS provides the following direction:
"Align Loop 1 service water to provide emergency makeup to the spent fuel pool using OP 2104.006, Section 14.2."

JOB PERFORMANCE MEASURE

Examinee's Copy

JPM INITIAL TASK CONDITIONS
The following conditions exist:
1. (2K11-K5) "FUEL POOL TEMP HI" and (2K11J-5) "FUEL POOL LEVEL LO" are in alarm.
2. Neither fuel pool cooling pump is available.
3. An operator is stationed at the spent fuel pool to monitor spent fuel pool level.
4. Local Fuel Pool level is reading 399 feet 2 inches.
5. 2P66 is aligned to the RWT and running.
INITIATING CUE:
The CRS provides the following direction:
"Align Loop 1 service water to provide emergency makeup to the spent fuel pool using OP 2104.006, Section 14.2."

JOB PERFORMANCE MEASURE				
JPM#	A2JPM-NRC-AACGLS	REV	06	PAGE 1 of 8

SYSTEM/DUTY AREA: Diesel Generator System (Alternate Success Path)

TASK: Start up the AAC diesel generator manually locally during a Loss of Offsite Power

JTA #: ANO2-AO-AACDG-OFFNORM-18

KA VALUE RO: 3.9 SRO: 4.0 KA REFERENCE: 2.1.23

APPROVED FOR ADMINISTRATION TO: RO: X SRO: X

TASK LOCATION: INSIDE CR: OUTSIDE CR: X BOTH:

SUGGESTED TESTING ENVIRONMENT AND METHOD (PERFORM OR SIMULATE):

PLANT SITE: Simulate SIMULATOR: LAB:

POSITION EVALUATED: RO: SRO:

ACTUAL TESTING ENVIRONMENT: SIMULATOR: PLANT SITE: X LAB:

TESTING METHOD: SIMULATE: X PERFORM:

APPROXIMATE COMPLETION TIME IN MINUTES: 20 minutes

REFERENCE(S) OP 2104.037, Exhibit 1

EXAMINEE'S NAME: SSN:

EVALUATOR'S NAME: DATE:

THE EXAMINEE'S PERFORMANCE WAS EVALUATED AGAINST THE STANDARDS CONTAINED IN THIS JPM AND IS DETERMINED TO BE:

SATISFACTORY: UNSATISFACTORY:

PERFORMANCE CHECKLIST COMMENTS:

Start Time: Stop Time: Total Time:

Signature indicates this JPM has been compared to its applicable procedure by a qualified individual (not the examinee) and is current with that revision.

SIGNED: DATE:

JOB PERFORMANCE MEASURE					
JPM#	A2JPM-NRC-AACGLS	REV	06		PAGE 2 of 8

THE EXAMINER SHALL REVIEW THE FOLLOWING WITH THE EXAMINEE:
The examiner shall review the "Briefing Checklist - System Walkthrough" portion of OP 1064.023 Attachment 6 with the examinee.
This is an alternate success path JPM.
JPM INITIAL TASK CONDITIONS:
The following conditions exist:
1. The reactor has tripped due to a loss of off-site power.
2. Both emergency diesel generators are tied to their respective buses.
3. An attempt to start the AACDG from the Control Room to energize 4160v Non-vital bus 2A1 was unsuccessful.
4. The PC on 2C14 AND 2C435 have both failed
TASK STANDARD:
The AAC Diesel has been started and is at 4160 V and 900 rpm with the output breaker (2A-1001) closed. The 480V bus 2B16 has been powered from the AAC diesel generator.
TASK PERFORMANCE AIDS:
1. OP 2104.037 Exhibit 1

JOB PERFORMANCE MEASURE				
JPM#	A2JPM-NRC-AACGLS	REV	06	PAGE 3 of 8

INITIATING CUE:	
The CRS provides the following direction:	
1. Start the AAC Diesel Generator using OP 2104.037 Exhibit 1.	
2. Bring the unit up to rated speed and voltage carrying house loads.	
START TIME:	

<u>EXAMINER'S NOTE:</u>				
Provide examinee with copy of 2104.037, Exhibit 1				
If asked if 125 VDC is available, tell them that the indications for bus availability are as seen.				
PERFORMANCE CHECKLIST			STANDARDS	(Circle One)
(C)	1. (Step 1.1)	Place "Local/Remote" switch in LOCAL. (2HS-7118) <u>EXAMINER'S CUE:</u> "Local/Remote" switch indicates LOCAL.	On panel 2C-440, placed the "Local/Remote" switch in LOCAL. (2HS-7118)	N/A SAT UNSAT
<u>EXAMINER'S NOTE:</u>				
The failure of the AAC diesel to start by the local handswitch will cause the examinee to start the AAC diesel by an alternate means. There will be no change in AAC diesel generator frequency or noise level when the local start switch is taken to START.				
Provide the following cue after ≈ 35 seconds when the local start switch is taken to START. (35 seconds is the delay time to allow for the lube oil pressure to build up on the EDG)				
	2. (Step 1.2)	Start the AAC Diesel using the local start switch. (2HS-7117) <u>EXAMINER'S CUE:</u> The local start switch is in start, but the engine does not start.	On panel 2C-440 turned the local control switch CW to start.	N/A SAT UNSAT
<u>TRANSITION NOTE:</u>				
Go to the AAC diesel engine room.				
	3. (Step 2.1)	Open the pre-lube pump solenoid (2SV-7224) for >10 seconds. <u>EXAMINER'S CUE:</u> 2SV-7224 manual operating stem has been rotated and air noise is heard.	On the south side of the engine at the generator end, rotated the manual operator of 2SV-7224 CW to open for >10 seconds.	N/A SAT UNSAT

JOB PERFORMANCE MEASURE					
JPM#	A2JPM-NRC-AACGLS	REV	06		PAGE 4 of 8

(C)	4. (Step 2.2)	<p>Open EITHER of the air start solenoid valves: - 2SV-7222 <u>OR</u> - 2SV-7223</p> <p><u>EXAMINER'S CUE:</u> 2SV-7222 (2SV-7223) manual operating stem has been rotated and engine speed and noise level increases.</p>	<p>On the south side of the engine at the generator end, rotated the manual operator of one of the air start solenoid valves CW to open. 2SV-7222 <u>OR</u> 2SV-7223</p> <p>Looked for an increase in engine noise and/or discharge of oil and air from the air start motors.</p>	N/A SAT UNSAT
	5. (Step 2.3)	<p>Close the air start solenoid valve that was opened.</p> <p><u>EXAMINER'S CUE:</u> Manual operator rotated CCW to its original position.</p>	<p>On the south side of the engine at the generator end, rotated the manual operator for the air start solenoid valve CCW to close.</p>	N/A SAT UNSAT
	6. (Step 2.3)	<p>Close the pre-lube solenoid (2SV-7224).</p> <p><u>EXAMINER'S CUE:</u> No more air noise is heard.</p>	<p>After > 10 seconds on the south side of the engine at the generator end, rotated the manual operator of 2SV-7224 CCW to close.</p>	N/A SAT UNSAT
	7. (Step 3.0)	<p>Verify the AAC Diesel Generator is at rated speed and voltage.</p> <p><u>EXAMINER'S CUE:</u> Frequency indicates 60 Hz and voltage indicates 4160V.</p>	<p>On panel 2C-440, observed generator frequency at 60 Hz and voltage at 4160V.</p>	N/A SAT UNSAT

JOB PERFORMANCE MEASURE				
JPM#	A2JPM-NRC-AACGLS	REV	06	PAGE 5 of 8

EXAMINER'S NOTE:				
When the examinee inspects the condition of 2A-1001, provide the NEGATIVE CUE first to indicate that the breaker has not automatically closed. Once the action has been taken to close the breaker, provide the POSITIVE CUE .				
(C)	8. (Step 4.1)	Verify the AAC Generator Output Breaker (2A-1001) is CLOSED EXAMINER'S CUE: The green breaker OPEN light is lit. AND The white breaker spring charging light is lit. EXAMINER'S CUE: The Red breaker CLOSED light is lit.	Observed breaker position indication on the door of 2A-1001. Either open panel to manually operate the breaker OR use the hand switch on the front of the breaker cubicle. Pushed the mechanical breaker close push button on the inside of the cubicle door. OR Rotated breaker local hand switch for 2A-1001 to the CLOSE position on the front of the cubicle door.	N/A SAT UNSAT
TRANSITION NOTE:				
Go to the upstairs area of the switchgear room.				
	9. (Step 4.2)	Verify the London Feed to MCC 2B161 breaker 2B16-A1 is OPEN. EXAMINER'S CUE: Green OPEN light is lit on 2B16-A1 and mechanical position indicator showing green open	Verifies 2B16-A1 is Open. Observes the mechanical position indicator breaker for 2B16-A1 to show green open and the green breaker position indication light is lit.	N/A SAT UNSAT
	10. (Step 4.3)	Verify Load Center 2B16 Supply from the AAC diesel (2B16-B1) is CLOSED. EXAMINER'S CUE: Red CLOSED light is lit on 2B16-B1 and mechanical position indicator showing red closed.	Verifies 2B16-B1 is Open. Observes the mechanical position indicator breaker for 2B16-B1 to show red closed and the red breaker position indication light is lit.	N/A SAT UNSAT
END				

STOP TIME: _____

JOB PERFORMANCE MEASURE					
JPM#	A2JPM-NRC-AACGLS	REV	06		PAGE 6 of 8

Examiner's Copy

JPM INITIAL TASK CONDITIONS
The following conditions exist:
1. The reactor has tripped due to a loss of off-site power.
2. Both emergency diesel generators are tied to their respective buses.
3. An attempt to start the AACDG from the Control Room to energize 4160v Non-vital bus 2A1 was unsuccessful.
4. The PC on 2C14 AND 2C435 have both failed.
INITIATING CUE:
The CRS provides the following direction:
1. Start the AAC Diesel Generator using OP 2104.037 Exhibit 1.
2. Bring the unit up to rated speed and voltage carrying house loads.

JOB PERFORMANCE MEASURE					
JPM#	A2JPM-NRC-AACGLS	REV	06		PAGE 7 of 8

Examinee's Copy

JPM INITIAL TASK CONDITIONS
The following conditions exist:
1. The reactor has tripped due to a loss of off-site power.
2. Both emergency diesel generators are tied to their respective buses.
3. An attempt to start the AACDG from the Control Room to energize 4160v Non-vital bus 2A1 was unsuccessful.
4. The PC on 2C14 AND 2C435 have both failed.
INITIATING CUE:
The CRS provides the following direction:
1. Start the AAC Diesel Generator using OP 2104.037 Exhibit 1.
2. Bring the unit up to rated speed and voltage carrying house loads.

