Facility: SONGS Scenario No.: 1 Op-Test No: 1

Examiners: T. Stetka Operators: SRO-1
H. Bundy RO-CO
SURROGATE-ACO

Initial Conditions: 70% reactor power Middle of Core Life, 2HPSI 18 OOS, 2PI0351-1 Containment NR pressure Failed Channel A , Channel A high Containment pressure trip bypassed

Turnover: 70% power 285 EFPD CCW Train B in service.

Event No.	Malf. No.	Event Type*	Event Description
1		N-ACO R-CO	**T+5** Raise power
2	SG03A RLP2	I-ACO	**T+15** 2PT1023-1 Fails low (SG E088 pressure Protection Channel A) Reactor Protection System Failure/Loss of Vital Inverter AOI **SO23-13-18**
3	ED11 RLP3	I-ALL	**T+25** Loss of all Control Room Annunciators **SO23-13-22**
3	RC10B RLP3	I-CO	**T+27** TE0111Y RCS cold leg Temperature input to RRS Fails high, Pressurizer level set point 1 input failure.
4	RLP4		**T+35** Small Earthquake, Earthquake AOI **SO23-13-3**
5	CC03B RLP4	C-ACO	**T+35** CCW train B pipe rupture Loss of CCW/SWC AOI **SO23-13-7**
6	RC07 RLP5		**T+50** RCP 2P003 seized shaft Reactor Trip
6	RC03 RLP5	M-ALL	Reactor Trip Small Break LOCA
7	RP01A EC08E RLP1	C-CO	SIAS HPSI 17 Fail to Start of only available HPSI pump. HPSI 19 OC Trip
8			EOI Actions starting with LOCA procedure SO23-12-3..

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

Objectives:

- Evaluate the crew's ability to raise reactor power and control RCS temperature.
- The crew should recognize and respond to a failure of Steam Generator Pressure instrument.
- Respond to a Loss of Annunciators
- Evaluate the crew's response to a failure of an input to the Pressurizer Level Controller set point and control Pressurizer level.
- Evaluate the crew's response to a seismic event.
- Evaluate the crew's response to a loss of Component Cooling Water caused by a rupture of a Critical loop.
- Evaluate the crew's response to a Loss of Coolant Accident complicated by failure of the HPSI pump to start.
- Evaluate the crew's restoration of RCS subcooling.

Critical Tasks
CO
Manually control Pressurizer level.
Manually start HPSI pump after SIAS to provide adequate HPSI flow.

ACO
Transfer NCL to train A to prevent damage to RCP and Reactor Trip.
Cooldown to restore Core Exit Sat. margin to greater than 20°F

Core Damage Risk related events:
Event 5 Operator Action 19
6 Important Risk Accident
7 Operator Action 47

DYNAMIC NRC # 1
MACHINE OPERATOR'S INSTRUCTIONS

USER: NRCDYN IC: 61-70% POWER M OF CYCLE DYNAMIC NRC # 1 SETUP RLP: 1 CCW ALIGNED TO TRAIN B					
RLPs/STEPS	TYPE	MALF #	DESCRIPTION	DEM VALUE	INITIATING PARAMETER
1(1)	OVER	MP-018	HPSI PUMP MP-018 OOS FOR BOW	MAG TAGS	STARTUP OF SETUP RLP
1(2)	OVER	PI-0351-1	PI-0351-1 CHANNEL A CONTAINMENT NR PRESSURE IND. FAILURE	BYPASSES	STARTUP OF SETUP RLP
1(3)	MF	RP01A	HPSI PUMP MP-017 AUTO START FAILURE	TRUE	STARTUP OF SETUP RLP
1(4)	MF	EC08E	LOSS OF HPSI 19	TRUE	SIAS

RLPs/STEPS	TYPE	MALF #	DESCRIPTION	DEM VALUE	RAMP	DELAY
2(1)	MF	SG03A	SG E-088 PRESSURE TRANSMITTER PT-1023-1 FAILS LOW	0%	2 MINS	2 SECS
2(2)	OVER	PPS BYPASSES	PPS DOOR OPEN ALARM LO SG-2 PRESS HI SG-1 DP EFAS 1 HI SG-2 DP EFAS 2 PPS DOOR OPEN ALARM CLEARS	TRUE		5 SECS 10 SECS 15 SECS 20 SECS
3(1)	MF	ED11	LOSS OF ANNUNCIATORS	TRUE		
3(2)	MF	RC10B	RCS COLD LEG TEMP TE-0111Y FAILS HIGH	100%	2 MINS	3 MINS
4(1 - 5)	MF	SIESMIC	SMALL SIESMIC EVENTS			
4(5)	MF	CC03B	CCW TRAIN B PIPE RUPTURE	100		
4(6)	OVER	SIESMIC	CLEAR SIESMIC ALARM	DELETE		40 SECS
5(1)	MF	RC07	RCP MP-003 SHAFT SEIZURE	TRUE		
5(2)	MF	RC03	RCS LEAK INSIDE CONTAINMENT	10%	5 MINS	RX TRIP

(0) INDICATES THE SUB STEP OF THE INDICATED RLP.

Op-Test No.: 1 Scenario No.: 1 Event No.: 1 Page 4 of 15

Event Description: Raise reactor power
CO Reactivity Manipulation
ACO Normal Evolution

Time	Position	Applicant's Actions or Behavior
		T+ 5
	SRO	Direct raising power.
	CO	RAISE RCS temperature by dilution per SO23-3-2.2 Makeup Operations, Section for Dilution Makeup Mode.
	CO	● Selects HS 0210 Make Up Mode Selector to Dilution Mode. ● Opens FV9253 Blended Makeup valve to VCT. ● Verifies PMW Controller controls flowrate.
	ACO	RAISE Turbine load, as necessary, to maintain Tc within the normal operating band of the chart in Attachment 3 of SO23-5-1.7, Power Operations.
		End of event.

Comments:

Op-Test No.: 1 Scenario No.: 1 Event No.: 2 Page 5 of 15

Event Description: Steam Generator # 2 EO88 2PT1023-1 Fails low pressure Protection Channel A.
ACO Instrument Failure

Time	Position	Applicant's Actions or Behavior
		CUE: Machine Operator contact evaluators at **T+14** to verify execution of **RLP#2 at T+ 15**
		CUE: Machine Operator execute **RLP #2 (1)** (SG03A) per Lead Examiner
		Alarms 56A51 SG2 E088 PRESS LO PRETRIP 56A54 SG1 E089 PRESS > SG2 E088 PRETRIP 56A41 SG2 E088 PRESS LO CHANNEL TRIP 56A44 SG1 E089 PRESS > SG2 E088 ESFAS CH TRIP Indications 2PI1023A1 lowering (Channel A SGE088 Press.) Pretrip and Trip lights on channel A PPS ROM
	CO	Refers to ARP for 56A41 SG2 E088 PRESS LO CHANNEL TRIP
	SRO	Enter SO23-13-18 Reactor Protection System Failure/Loss of Vital Inverter AOI
	ACO	Determine 2PI1023A1 is the only failed instrument
	SRO	Determine A Single Functional Unit has FAILED.
		Note Tech Specs impacted 1 hr to place in bypass 3.3.1, 3.3.3
	SRO	Request placing in bypass on Channel A: S/G 2 Pressure - Low(RPS) S/G 1 ΔP (EFAS 1) S/G 2 ΔP (EFAS 2)
		Cue: Machine Operator execute **RLP #2 (2)** to bypass the above trips.
	CO	Verify correct bypasses installed on correct channel

		End of event.

Op-Test No.: 1 Scenario No.: 1 Event No.: 3 Page 6 of 15

Event Description: Loss of All Control Room Annunciators with TE0111Y RCS Cold Leg Temperature Fails high, RRS input to Pressurizer level control level set point 1.
CO & ACO Component Failure
CO Instrument Failure
CO Critical Task

Time	Position	Applicant's Actions or Behavior (Event 3)
		CUE: **Machine Operator** contact evaluators at **T+24** to verify execution of **RLP#3 at T+ 25**
		CUE: Machine Operator execute RLP #3 (1) per Lead Examiner
	CO	Respond to Alarm 50C01 Loss of Annunciator
		CUE: if requested to investigate 2L040 Annunciator Panel for Fire report no Fire.
	CO/ACO	Test All Annunciators
	CO/ACO	Report all Annunciators have failed
	CO	Secure Dilution ● Selects HS 0210 Make Up Mode Selector to Auto or Manual Mode. ● Closes FV9253 Blended Makeup valve to VCT. ● Verifies PMW flow stops.
	SRO	Direct Monitoring Plant Parameters per Loss of all Control Room Annunciators SO23-13-22 Att. 3
	SRO	Contact Electrical Maint. to assist with troubleshooting.
	SRO	Request CO to Report D5 bus Voltage

Time	Position	Applicant's Actions or Behavior (Event 3)
	CO	Reports Bus Voltage normal
	SRO	Request outside operator to verify normal D5 alignment and check status of D5P4 Breaker 74
		CUE: if requested to get the status of the 2L040 DC Power and Power Normal lights are all extinguished.
		Indications 2TI011AY rising Min. letdown Max charging
	CO	(Actions Directed by ARP 50A05 Tave HI) Depress the "A/M" Button on 2LIC-0110, PZR Level Controller, to place PZR level control in MANUAL.
	CO	Stop Charging Pumps to match Letdown flow as closely as possible.
	CO	Adjust 2(3)LIC-0110, PZR Level Controller, to match Letdown and Charging flows.
	CO	***Manually control pressurizer level***
		CUE: Machine Operator report 2D5P4 Breaker 74 open not tripped, cleaning crew in the area and worker reports accidental contact with breaker.
	SRO	Request the outside operator to reclose 2D5P4 Breaker 74
		CUE: Machine Operator remove malfunction ED11 and report 2D5P4 Breaker 74 is closed
	CO	Determine T111AY has failed by comparing temperature instruments.
	CO	Change LIC-0110 to level set point 2 and return to automatic

Time	Position	Applicant's Actions or Behavior (Event 3)
	CO	Checks Annunciators that are in alarm and verifies actions per ARPs.
		End of event.

Comment:

Op-Test No.: 1 Scenario No.: 1 Event No.: 4 Page 9 of 15

Event Description: Seismic Event
Abnormal Event - All

Time	Position	Applicant's Actions or Behavior
		CUE: **Machine Operator** contact evaluators at **T+34** to verify execution of **RLP#4 at T+ 35**
		CUE: Machine Operator execute RLP #4 (1-5) per Lead Examiner
		Alarms 61C21 Seismic Recording System Activated
		CUE: Floor Operator report ground motion.
		CUE*:* Machine Operator Unit 1 SCFH Calls to report ground motion felt.
	ACO	Reviews ARP 61C21 and informs the SRO that it directs entry into SO23-13-3, Earthquake.
	SRO	Enter Earthquake AOI SO23-13-3 and determine the alarm is valid
	SRO	Direct Attachment 4 to be performed
		Cue : Machine Operator when the Floor Operator is requested to perform Attachment 4 then remove seismic alarm 64A21 and have floor operator return a completed copy of attachment 4 of SO23-13-3.
		End of event.

Comments:

Op-Test No.: 1 Scenario No.: 1 Event No.: 5 Page 10 of 15

Event Description: CCW Train B pipe rupture
ACO component
ACO critical task

Time	Position	Applicant's Actions or Behavior (Event 5)
		CUE: **Malfunction on timer from RLP#4 5 min ramp** **T+ 35**
		Alarms 64A08 CCW Pump Train B Disch Press lo 64A29 CCW Surge Tank Train B Level HI/LO 64A50 CCW Hx Train B Outlet Press LO 56C58 Safety Eqpt Bldg Sump Level HI-HI 57C56 Safety Eqpt Bldg Train B Flooding Indications 2LI6499-2 T004 surge tank level lowering
	SRO	Enter SO23-13-7 Loss of CCW/SWC
	SRO	Directs transfer of CCW Non Critical Loop to Train A CCW
	ACO	***Transfer NCL to train A to prevent damage to RCP and Reactor Trip.*** ● Start 2P024. ● Open 2HV6212 and 2HV6218. ● Verify 2HV6213 and 2HV6219 close.
	SRO	Directs transfer of Letdown Heat Exchanger to Train A CCW
	ACO	Transfer of Letdown Heat Exchanger to Train A CCW ● Close 2HV6522B/A ● Open 2HV6593B/A
	SRO	Direct stopping of CCW Pump P025
		Note Tech Specs impacted 72 hrs to restore to Operable CCW 3.7.7
		End of event.

Time	Position	Applicant's Actions or Behavior (Event 5)

Comments:

Op-Test No.: 1 Scenario No.: 1 Event No.: 6 Page 12 of 15

Event Description: RCP P003 seized shaft and Small break LOCA, Stardard Post Trip Actions

Time	Position	Applicant's Actions or Behavior (Event 7)
		CUE: **Machine Operator** contact evaluators at **T+49** to verify execution of **RLP#5 at T+ 50**
		CUE: Machine Operator execute RLP #5 (1) Machine Operator verify RC03 is active upon reactor trip and ramping to 10%
		Alarms 56C06 OC trip P003 56A35 Containment Press Hi Pretrip 56A55 Containment Sump Level Hi Hi 56A56 Containment Sump Level Hi 57C10 Containment Radiation hi Indications 2LI5839 Containment Sump level rising 2RE7848 Rad Hi
	SRO/CO	**Reactivity Control** criteria satisfied.
	SRO/ACO	**Vital Auxiliaries** criteria satisfied.
	SRO/CO	**RCS Inventory Control** criteria not satisfied because Pressurizer level is not recovering.
	SRO/CO	**RCS Pressure Control** criteria not satisfied because pressure is low and not recovering.
	SRO/CO	**Core Heat Removal** criteria not satisfied because no RCPs operating. **Note** may be satisfied prior to CIAS.
	SRO/ACO	**RCS Heat Removal** criteria satisfied.

Time	Position	Applicant's Actions or Behavior (Event 7)
	SRO/CO	**VERIFY Containment Isolation** criteria not satisfied because Containment pressure is above 1.5 psig and Containment Area Rad. Monitors in alarm.
	SRO/CO	**Containment Temperature, Pressure and Combustible Gas Control** criteria not satisfied because Containment average temperature >120 °F and Containment pressure > 1.5 psig.
	SRO	**DIAGNOSE Event in Progress**, using the Diagnostic chart from SO23-12-1, as a LOCA and go to SO23-12-3 Loss of Coolant Accident.

Comments:

Op-Test No.: 1 Scenario No.: 1 Event No.: 7 Page 14 of 15

Event Description: Failure of the only HPSI pump with CCW to start
CO Component failure
CO Critical Task

Time	Position	Applicant's Actions or Behavior
		Note Triggered by SIAS
		Alarms 57B21 Safety Inj Pump Train B OC Indications FI-0311, FI-0321, FI-0331, and FI-0341 HPSI flow instruments indicate zero flow when RCS pressure is below shutoff head of the HPSI pumps
	CO	Recognize HPSI pump 17 Failed to start and HPSI 19 failed on a SIAS
	CO	***Manually start HPSI pump 17 after SIAS to provide adequate HPSI flow.***
	SRO	Direct Securing pumps cooled by CCW if Started by ESFAS signal if not needed to maintain a safety function.
		End of event.

Comments:

Op-Test No.: 1 Scenario No.: 1 Event No.: 8 Page 15 of 15

Event Description: Small break LOCA , LOCA procedure SO23-12-3
ACO Critical task

Time	Position	Applicant's Actions or Behavior (Event 8)
	SRO	Direct the STA to initiate Attachment 1, Safety Function Status Check of SO23-12-3, LOCA.
	SRO	VERIFY LOCA diagnosis, using Attachment 16, Break Identification Chart.
	CO	Report Natural Circulation conditions not met and determine the need to increase feeding and steaming.
	SRO	Directs the ACO to STOP unloaded Diesel Generators.
	ACO	STOP unloaded Diesel Generators.
	SRO	Direct ARO to perform Attachment 12, Non-Qualified Loads Restoration
	SRO	VERIFY SI pump flow - greater than minimum limits of Attachment 4, Minimum Expected SI Flowrates During Cold Leg Injection.
	SRO	Direct RCS Cooldown
	ACO	INITIATE RCS Cooldown
	ACO	***Cooldown to restore Core Exit Sat. margin to >20 °F***
		Terminate when Core Exit Sat. margin restored to greater than 20°F

Comments

Facility: SONGS Scenario No.: 2 Op-Test No.: 1

Examiners: T. Stetka Operators: SRO-2
SURROGATE-CO
H. Bundy RO-ACO

Initial Conditions: 100% reactor power Middle of Core Life, 2HPSI 18 OOS, 2PI0351-1 Containment NR pressure Failed Channel A , Channel A high Containment pressure trip bypassed

Turnover 100% power 285 EFPD CCW train B in service

Event No.	Malf. No.	Event Type*	Event Description
1	CV22B RLP9	C-CO	**T+5** 2P191 Charging pump trips
2	SG04A RLP10	I-ACO	**T+10** 2LT1106 SG 88 fails high.
3	RC17B RLP11	I-CO	**T+15** Pressurizer Press Trans Failure PT0102-2 low Reactor Protection System Failure/Loss of Vital Inverter AOI **SO23-13-18**
4	SG01B RLP12	C-ALL	**T+25** 6gpm tube leak on SG E089
5		R-CO N-ACO	**T+35** Plant shutdown per Reactor Coolant Leak AOI **SO23-13-14**
6	CC06B RLP13	C-ACO	**T+45** CCW Pump 25 trips on OC Loss of Component Cooling Water/Saltwater Cooling AOI **SO23-13-7**
7	Overrides RLP14	M-ALL	**T+50** Inadvertent MSIS
7	MS01A RLP14		**Reactor Trip** Main Steam Safety Valve Failure PSV8401
8			Functional Recovery SO23-12-9

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

Objectives

- Evaluate the crew's response to the loss of a charging pump
- The crew should recognize and respond to a failure of Condenser Vacuum instrument
- The crew should recognize and respond to a failure of 1E Wide Range Pressurizer Pressure Instrument.
- Evaluate the crew's response to an RCS leak.
- Evaluate the crew's ability to lower reactor and turbine power.
- The crew should recognize and respond to a loss of a CCW Pump.
- Evaluate the crew's response to and recovery from an Excessive Steam Demand Event and a Steam Generator Tube Rupture.

Critical Tasks

CO
Perform HPSI throttle stop

ACO
Prevent PTS
Restore CCW to the ECCS Equipment to prevent damage and loss.

Core Damage Risk related events:
Event 4 Operator Action 26
6 Operator Action 19

DYNAMIC NRC # 2
MACHINE OPERATOR'S INSTRUCTIONS

USER: NRCDYN IC:100% POWER M OF CYCLE DYNAMIC NRC #2 SETUP RLP: 8 CCW ALIGNED TO TRAIN B					
RLPs/STEPS	TYPE	MALF #	DESCRIPTION	DEM VALUE	INITIATING PARAMETER
8(1)	OVER	MP-018	HPSI PUMP MP-018 OOS FOR BOW	MAG TAGS	STARTUP OF SETUP RLP
8(2)	OVER	PI-0351-1	PI-0351-1 CHANNEL A CONTAINMENT NR PRESSURE IND. FAILURE	BYPASSES	STARTUP OF SETUP RLP

RLPs/STEPS	TYPE	MALF #	DESCRIPTION	DEM VALUE	RAMP	DELAY
9(1)	MF	CV22B	CHARGING PUMP MP-191 OC/GRD	TRUE		
9(2)	OVER	MP-191	CHARGING PUMP MP-191 BREAKER RACKED-OUT ON TRAIN B	RACKED OUT (3)		
10(1)	MF	SG04A	STEAM GENERATOR LEVEL LT 1106 FAILURE	100		
10(2)	RF	RX54	SG E088 Control channel to LT1121	2		
11(1)	MF	RC17B	PZR PRESSURE INSTRUMENT PT-0102-2 FAILS LOW	0%	5 MINS	
11(2)	OVER	PPS BYPASSES	PPS DOOR OPEN ALARM PZR PRESS LO BYPASS PPS DOOR ALARM CLEARS	TRUE TRUE DELETE	5 SECS 10 SECS	
12(1)	MF	SG01B	SG E-089 TUBE RUPTURE (6 GPM)	1%		
13(1)	MF	CC06B & C	CCW PUMP MP-025 TRIPS ON OC	TRUE		
13(2)	OVER	MP-025	CCW PUMP MP-025 BREAKER RACK-OUT AND KIRK KEY TRANSFERRED TO TRAIN A	3		
14(1)	OVER	MSIS	INADVERTENT MSIS	TRUE		
14(2)	MF	MS01A	MAIN STEAM SAFETY PSV-8401 FAILS OPEN (E-088)	35%		RX TRIP

(0) INDICATES THE SUB STEP OF THE INDICATED RLP.

Op-Test No.: 1 Scenario No.: 2 Event No.: 1 Page 4 of 14

Event Description: 2P191 Charging pump trips.
CO Component

Time	Position	Applicant's Actions or Behavior
		CUE: **Machine Operator** contact evaluators at **T+4** to verify execution of **RLP#9 at T+5**
		CUE: **Machine Operator** execute RLP#9 (1)
		Alarms 58A12 Charging Header Flow lo 58A43 Charging Pump P191 Train B OC Indications Charging Flow goes to Zero
	CO	Determine the running charging pump tripped
	CO	Start one of the remaining charging pumps
	CO	Review ARP SO23-15-58A for 58A43 alarm Charging Pump P191 Train B OC
	SRO	Request outside operator to investigate 2P191 Trip
		CUE: Machine Operator report the solid state device tripped 2P191 (little white button is extended)
		CUE: Machine Operator if requested to rack out 2P191 breaker execute RLP#9 (2)
		End of event.

Comments

Op-Test No.: 1 Scenario No.: 2 Event No.: 2 Page 5 of 14

Event Description: SG 88 Level LT 1106 fails high
ACO Instrument

Time	Position	Applicant's Actions or Behavior
		CUE: Machine Operator contact evaluators at **T+9** to verify execution **of RLP#10 at T+10**
		CUE: **Machine Operator** execute RLP#10 (1)
		Alarms 52A01 SG 88 level HI/LO 52A02 SG 88 Level deviation Indications SG E088 level rising
	ACO	Take manual control of SG E088 level
	CO	Review ARP for alarm 52A02 SG 88 Level deviation.
	ACO	Determine LT1106 has failed.
	SRO	Request ARO change FWCS #2 to selected level #2 (LT1121)
		CUE Machine Operator Remote Function RX54 to 2 Report to SRO FWCS #2 to selected level #2
	SRO	Direct return to automatic FW control when level and setpoint are matched.
	ACO	Restore FWCS to auto by verifying orange pointer, actual level, and black and white pointer, setpoint, are matched.
		End of event.

Op-Test No.: 1 Scenario No.: 2 Event No.: 3 Page 6 of 14

Event Description: Pressurizer Press Trans Failure PT0102-2 low
CO Instrument

Time	Position	Applicant's Actions or Behavior (Event 3)
		CUE: **Machine Operator** contact evaluators at **T+14** to verify execution of **RLP#11 at T+ 15**
		CUE: **Machine Operator** execute RLP#11 (1)
		Alarms 56A06 PZR Press Lo Channel Trip 56A16 PZR Press Lo Pretrip 56B45 RCS Subcooled Margin Lo Indications 2PI 0102A2 pressure lowering 2PI0102B pressure lowering PPS ROM Trip and Pre Trip lights Channel 2 QSPDS Channel B low subcooling
	CO	Review ARP for 56A06 PZR Press Lo Channel Trip.
		Review ARP for 56B45 RCS Subcooled Margin Lo.
	SRO	Enters SO23-13-18, Reactor Protection System Failure/Loss of Vital Inverter AOI .
	CO	Determine 2PI 0102A2 is the only failed RPS instrument Note input to LIC103 has also failed.
	SRO	Determine A Single Functional Unit has failed.
		Note Tech Specs impacted 1 hr to place in bypass 3.3.1, 3.3.5
	SRO	Request placing in bypass on Channel B: Pressurizer Pressure - Low - (RPS) Pressurizer Pressure - Low - (SIAS/CCAS)

Time	Position	Applicant's Actions or Behavior (Event 3)
		CUE: **Machine Operator** When Requested to bypass Channel B pressurizer pressure execute RLP#11 (2) to bypass the above. Report back that the Channel B Pressurizer Pressure has been bypassed
		End of event.

Op-Test No.: 1 Scenario No.: 2 Event No.: 4 Page 8 of 14

Event Description: Steam Generator tube leak on SG E089

Time	Position	Applicant's Actions or Behavior (Event 4)
		CUE: **Machine Operator** contact evaluators at **T+24** to verify execution of **RLP#12 at T+ 25**
		CUE: **Machine Operator** execute RLP#12 (1)
		Alarm 60A46 Secondary Radiation Hi Indications 2RE7818 (condenser) radiation levels rising. 2RE7870 (condenser) radiation levels rising. 2RE7874B1 (MSL) radiation levels rising. 2RE6753 (SG Blowdown) radiation levels rising. Letdown flow lowers about 7gpm
	CO	Reviews ARP for alarm 60A46 Secondary Radiation Hi
	SRO	Enters SO23-13-14, Reactor Coolant Leak AOI
	SRO	Determine the leakage is within the Charging Pump capacity and CVCS makeup
	SRO	Initiate SO23-3-3.37 RCS Water Inventory Balance.
	SRO	REQUEST Chemistry to confirm and quantify Steam Generator Tube leak.
	SRO	Initiates Att. 1 of SO23-13-14 to evaluate SG leakage by directing the ARO or STA to perform Att. 1
		CUE: Floor Operator If requested to evaluate leak rate report 6gpm or 8640gpd

Time	Position	Applicant's Actions or Behavior (Event 4)
		CUE: Machine Operator 10 min after sample is requested, call back and report "per frisker it appears that SG E089 has higher activity than SG E088.
		N**ote** Tech Specs impacted 4 hr to reduce leakage to within limits 3.4.13 6 hr to be in MODE 3 3.4.13.
	SRO	Determine SG E089 is the affected SG by reviewing Rad. Monitor indications.
	SRO	Direct a rapid down power to 35% due to Leak rate exceeding a 60 gpd change in one hour per SO23-5-1.7 Power Operations.
		End of event.

Op-Test No.: 1 Scenario No.: 2 Event No.: 2 Page 10 of 14

Event Description: Plant shutdown

CO Reactivity
ACO Normal

Time	Position	Applicant's Actions or Behavior
		T+35
	SRO	Direct performance of SO23-13-14 Att. 3 to min. contamination during a SG Tube Leak.
	ACO	Perform of SO23-13-14 Att. 3 to min. contamination during a SG Tube Leak
	CO	Begin boration
	ACO	Reduce Turbine load and maintain Tc within the Tech Spec Band
		End of event.

Comments:

Op-Test No.: 1 Scenario No.: 2 Event No.: 6 Page 11 of 14

Event Description: CCW Pump 25 trips on OC
ACO Component

Time	Position	Applicant's Actions or Behavior
		CUE: **Machine Operator** contact evaluators at **T+44** to verify execution of **RLP#13 at T+ 45**
		CUE: **Machine Operator** execute RLP#13 (1)
		Alarms 64A22 CCW Pump Train B OC 56C34 RCP P001 CCW Flow lo 56C36 RCP P003 CCW Flow lo 56C38 RCP P004 CCW Flow lo 56C40 RCP P002 CCW Flow lo Indications 2P025 hand switch bright green light
	ACO	Report 2P025 has tripped and refer to ARP for 64A22 CCW Pump Train B OC.
	SRO	Direct Starting 2P026 (per ARP 64A22) **OR** Ensure that 2P024 is running and direct transfer of NCL and LDHX to train A (Per AOI)
	ACO	Start 2P026 if Directed **OR** Transfer NCL and LDHX if directed train A
	SRO	Direct outside operator to determine the breaker status
		CUE: Machine Operator 186 relay and 151N relay actuated on 2AO608 for 2P025 train B no other signs of distress.
		CUE: If requested to rack out 2A0608 **delay until 2P026 is started** by crew.
		End of event.

Op-Test No.: 1 Scenario No.: 2 Event No.: 7 Page 12 of 14

Event Description: Inadvertent MSIS with a stuck open SG E088 safety.

ACO Component
ACO Critical Task

Time	Position	Applicant's Actions or Behavior (Event 7)
		CUE: **Machine Operator** contact evaluators at **T+49** to verify execution of **RLP#14 at T+ 50**
		CUE: **Machine Operator** execute RLP#14 (1)
		Alarms 52A20 MSIV HV-8205 Trouble 52A30 MSIV HV-8204 Trouble 50A05 T AVG HI 50A07 SBCS Demand Present 56A15 PZR Press Hi Pretrip Indications Hand Switches for MSIVs closed lights lit
	ALL	Trip the Reactor and enter SO23-12-1 SPTA
	SRO/CO	**Reactivity Control** criteria satisfied.
	SRO/ACO	**Vital Auxiliaries** criteria satisfied.
	SRO/CO	**RCS Inventory Control** criteria - not satisfied because level is not trending up.
	SRO/CO	**RCS Pressure Control** criteria not satisfied because pressure is not controlled.
	ACO	If Alarms 64A8, 18, and 28 are in then Start 2P026 ***Restore CCW to the ECCS Equipment to prevent damage and loss.*** (May have been performed earlier)
	SRO/CO	**Core Heat Removal** criteria satisfied.

Time	Position	Applicant's Actions or Behavior (Event 7)
	SRO/ACO	**RCS Heat Removal** criteria not satisfied because Tc is low and SG pressure is low .
		CUE: **Machine Operator** When contacted for status of SG Safeties Report that the north end [E088] has a safety valve with steam coming out of it.
	SRO/CO	**VERIFY Containment Isolation** criteria not satisfied because of Secondary Radiation alarms..
	SRO/CO	**Containment Temperature, Pressure and Combustible Gas Control** criteria satisfied.
	SRO	**DIAGNOSE Event in Progress**, using the Diagnostic chart from SO23-12-1, as a SGTR and ESDE go to SO23-12-9
		Note: If SG level lowers to 10% wide range level then the PTS actions from Event 8 may be performed in the SPTAs
Comments		

Op-Test No.: 1 Scenario No.: 2 Event No.: 8 Page 14 of 14

Event Description: SO23-12-9 Functional Recovery actions.

CO Critical Task
ACO Critical task

Time	Position	Applicant's Actions or Behavior
	SRO	Direct the STA to Initiate Attachment 1, Safety Function Status Check per SO23-12-9, Functional Recovery.
	SRO	Direct HPSI Throttle Stop FS 7
	CO	***Perform HPSI throttle stop***
	SRO	Direct the ACO to stop unloaded Diesel Generators.
	ACO	Stop unloaded Diesel Generators
	SRO	Direct ACO to initiate attachment 2, FS-27 establish stable RCS temperature during ESDE
	ACO	***Prevent PTS*** by initiating attachment 2, FS-27, establish stable RCS temperature during ESDE @ 10% Level Position ADV 10% open in manual for least affected S/G @ 5% Level Set least affected S/G ADV at P_{sat} for lowest T_C and place in auto· @ Initial Dry Out Adjust least affected S/G ADV at P_{sat} for lowest T_C attained as S/G boils dry.
		Terminate scenario when the RCS is stable and HPSI throttle stop has been performed.

Facility: SONGS Scenario No.: 3 Op-Test No.: 1

Examiners: H. Bundy Operators: SRO-3
T. Stetka SRO-1-CO
T. Stetka SRO-2-ACO

Initial Conditions: 100% reactor power Middle of Core Life,, 2HPSI 18 OOS, 2PI0351-1 Containment NR pressure Failed Channel A , Channel A high Containment pressure trip bypassed

Turnover: 100% power 285 EFPD CCW train B in service

Event No.	Malf. No.	Event Type*	Event Description
1	NI08E RLP18	I-CO	**T+ 5** Linear Amplifier Failure Ch 1 Middle detector amplifier failed low. Reactor Protection System Failure/Loss of Vital Inverter **SO23-13-18**
2	ED03A RLP19	C-ALL	**T+ 15** Loss of 2A04 Bus
3	RX11A RLP20	I-ACO	**T+25** 2MP062 Main Feedwater Pump Speed failure
4		R-CO N-ACO	**T+ 35** Down power due to Tech Spec LCO 3.0.3
4	FW17A RLP21	C-ACO	Initiate when down power started Input to 2FV1121 Main Feedwater Regulating Valve fails
5	MS03A RPL22	M-ALL	**T+ 45** Steam line break inside containment SG E089
5	CS03B RLP17	C-CO	**SIAS** Loss of Containment Spray Pump P013
6			Excessive Steam Demand Event SO23-12-5 and Functional Recovery SO23-12-9

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

Objectives:

- The crew should recognize and respond to a failure of Excore NI.
- Evaluate the crew's response to the loss of a 1E 4kv bus.
- Evaluate the crew's ability to lower reactor and turbine power.
- The crew should recognize and respond to an input failure to Main Feedwater Reg. Valve.
- Evaluate the crew's response to an ESDE inside containment without Containment Spray.
- The crew should recognize and respond to a loss of Containment Spray Pump.

Critical Tasks:
CO
Perform HPSI throttle stop.

ACO
Control SG level on line to prevent Reactor trip.
Prevent PTS

Core Damage Risk related events:
Event 2 Operator Action 9

DYNAMIC NRC # 3
MACHINE OPERATOR'S INSTRUCTIONS

USER: NRCDYN IC:100% POWER M OF CYCLE DYNAMIC NRC #3 SETUP RLP: 18 CCW ALIGNED TO TRAIN B					
RLPs/STEPS	TYPE	MALF #	DESCRIPTION	DEM VALUE	INITIATING PARAMETER
17(1)	OVER	MP-018	HPSI PUMP MP-018 OOS FOR BOW	MAG TAGS	STARTUP OF SETUP RLP
17(2)	OVER	PI-0351-1	PI-0351-1 CHANNEL A CONTAINMENT NR PRESSURE IND. FAILURE	BYPASSES	STARTUP OF SETUP RLP
17(3)	MF	CS03B	LOSS OF CONTAINMENT SPRAY PUMP MP-013	TRUE	SIAS A & B

RLPs/STEPS	TYPE	MALF #	DESCRIPTION	DEM VALUE	RAMP	DELAY
18(1)	MF	NI08E	CHANNEL 1 LINEAR AMPLIFIER MIDDLE DETECTOR FAILURE	0%		
18(2)	OVER	PPS BYPASSES	PPS DOOR OPEN ALARM HI LIN POWER HI LOCAL POWER LOW DNBR LOSS OF LOAD PPS DOOR OPEN ALARM CLEARS	TRUE TRUE TRUE TRUE TRUE DELETE		5 SECS 10 SECS 15 SECS 20 SECS 25 SECS
19(1)	MF	ED03A	LOSS OF 4KV EMERGENCY BUS 2A04	TRUE		
20(1)	MF	RX11A	MFWP P062 (K006) SPEED FAILURE	0		
21(1)	MF	RX09A	INPUT TO 2FV1121 MAIN FEEDWATER REGULATING VALVE FAILS	83		
22(1)	MF	MS03B	MAIN STEAM LINE BREAK INSIDE CONTAINMENT E-089	1 to 3%	15 MINS	

(0) INDICATES THE SUB STEP OF THE INDICATED RLP.

Op-Test No.: 1 Scenario No.: 3 Event No.: 1 Page 4 of 11

Event Description: Linear Amplifier Failure Ch 1 Middle detector fail low **SO23-13-18**

CO Instrument Failure

Time	Position	Applicant's Actions or Behavior
		CUE: **Machine Operator** contact evaluators at **T+4** to verify execution of **RLP#18 at T+ 5**
		Cue: Machine Operator execute RLP#18 (1)
		Alarms 56B06 PPS Channel 1 Trouble 56A03 Local Power Level Hi Channel Trip 56A04 DNBR Lo Channel Trip 56A13 LOCAL Power Density Hi Pretrip 56A14 DNBR Lo RPS Pretrip Indications Channel A 2JR0002A1 Cal. Lin Pwr. Mid scale. 2JR0002B1 Lin Pwr Mid scale.
	CO	Respond to alarms and identify 2JR0002A1 and 2JR0002B1 failed on channel A
	SRO	Enter SO23-13-18 Reactor Protection System Failure/Loss of Vital Inverter
	SRO	Determine A Single Functional Unit has failed.
		Note Tech Spec impacted 1 hr to place in bypass LCO 3.3.1
	SRO	Request the following bypasses installed on channel A Linear Power Level - High Local Power Density - High DNBR - Low Loss of Load
		Cue: Machine Operator execute RLP#18 (2) to bypass the above.

		End of Event.

Appendix D Operator Actions Form ES-D-2

Op-Test No.: 1 Scenario No.: 3 Event No.: 2 Page 5 of 11

Event Description: __Loss of Vital 4kv bus 2A04

Component All

Time	Position	Applicant's Actions or Behavior
		CUE: **Machine Operator** contact evaluators at **T+14** to verify execution of **RLP#19 at T+ 15**
		CUE: Machine Operator execute RLP#19 (1)
		Alarms 63B14 Unit 2 Non 1E UPS Trouble 63B25 2A04 Supply Bkr 2A0418 OC 63B05 2A04 Voltage Lo 63B06 2B04 Voltage Lo Numerous other alarms due to loss of power to equipment. Indications No voltage on the 4kv bus 2A04
	ACO	Place 2G002 Train A Emergency Diesel Generator in Maint. Lockout. Note: EDG will trip when placed in Maint. Lockout.
	ACO	ARP indicates Unit is in 3.0.3 Tech Spec due to 2 1E Battery chargers OOS.
	CO	Place CVCS blended makeup selector switch in manual to prevent dilution.
		Cue: Machine Operator When asked to investigate as the outside operator report the smell of smoke and the 150 and 151 and 186 protection relays actuated and strong smell of smoke.
		Cue: Machine Operator When asked to investigate as maintenance report bus damage that will require a clearance to investigate and repair, no possibility of returning to service without repairs.
		Cue: Machine Operator If requested to place temporary Battery Chargers in service report cleared for Maintenance.
		End of Event.

Comments:

Appendix D Operator Actions Form ES-D-2

Op-Test No.: 1 Scenario No.: 3 Event No.: 3 Page 6 of 11

Event Description: Main Feedwater Pump P062 (K006) Speed input fails low
ACO instrument

Time	Position	Applicant's Actions or Behavior
		CUE: **Machine Operator** contact evaluators at **T+24** to verify execution **of RLP#20 at T+ 25**
		CUE: Machine Operator execute RLP#20 (1)
		Alarms 52A01 SG88 level HI/LO 52A06 SG89 level HI/LO 53A20 MFWP MINI FLOW VALVE OPEN 53A28 MFWP P062 FLOW LO Indications MP62 K006 speed lowering MP63 K005 speed increasing
	SRO	Determine K006 speed is failing by the output of both FWCS outputs increasing.
	SRO	Direct the ACO to take manual control of K006 speed
	ACO	Take manual control of K006 speed with EAP and raise speed
	SRO	Discuss actions if the plant trips to prevent trip of both FW pumps on high discharge pressure
		End of Event.

Comments:

Op-Test No.: 1 Scenario No.: 3 Event No.: 4 Page 7 of 11

Event Description: Tech Spec LCO 3.0.3 plant shutdown and 2FV1121 Feedwater Regulating Valve input failure.
CO Reactivity
ACO Normal
ACO Component
ACO Critical Task

Time	Position	Applicant's Actions or Behavior
		CUE: Floor Operator as the Shift Manager direct down power at T+35
	SRO	Reviews the guidelines of SO23-5-1.7 Power Operations to do the down power.
	SRO	Directs plant shutdown to comply with Tech Specs
		CUE: Machine Operator execute RLP#21
	CO	Starts boration with BAMU gravity feed valves or the RWST suction valve
	ACO	Reduces Turbine load to maintain RCS temp.

		Alarms 52A01 SG2 E088 Level HI/LO Indications FIC1121 valve demand lowering 2FV1106 closing 2FV1106 Closed light on 2FIC1121 FWCS Master Controller 2FIC 1121 compensated level red pen rising
	ACO	Take manual control of 2FV1121 Feedwater Reg. Valve.
	ACO	***Control SG. level on line to prevent Reactor trip.***
		End of Event.

Comments:

Op-Test No.: 1 Scenario No.: 3 Event No.: 5 Page 8 of 11

Event Description: Main Steam Line Break in Containment.

Time	Position	Applicant's Actions or Behavior (Event 5)
		CUE: Machine Operator contact evaluators at **T+44 to** verify execution of **RLP#22 at T+45**
		CUE: Machine Operator execute RLP#22 (1)
		Alarms 60A03 Containment/FHB Temperature High 56A17 Containment Pressure Hi ESFAS Pretrip 56A35 Containment Pressure Hi Pretrip Indications 2TJR9899 points 2&3 in alarm Containment pressure instruments rising
	CO	Report containment parameter trends
	SRO	Direct Reactor Trip
	CO/ACO	Manually trip the reactor

Time	Position	Applicant's Actions or Behavior (Event 5)
	SRO/CO	**Reactivity Control** criteria satisfied
		Note When SIAS is actuated Containment Spray Pump trips.
		Alarms 57B23 Containment Spray Pump P013 OC Indications Bright Stop light on hand switch for P013 No Spray flow after CSAS
	CO	Report the failure of P013
	CO	Report no Spray Flow after CSAS

Time	Position	Applicant's Actions or Behavior (Event 5)
	SRO/ACO	**Vital Auxiliaries** criteria satisfied:
	SRO/CO	**RCS Inventory Control** criteria - not satisfied because Pressurizer level is not rising.
	SRO/CO	**RCS Pressure Control** criteria not satisfied because Pressurizer Pressure is low.
	SRO/CO	**Core Heat Removal** criteria not satisfied because all RCPs are secured. **Note** may be satisfied prior to CIAS.
	SRO/ACO ACO	**RCS Heat Removal** criteria not satisfied because SG pressure is low: ***Close Feedwater block valve to prevent overfilling Steam Generator***
	SRO/CO	**VERIFY Containment Isolation** criteria not satisfied because Containment pressure is high.
	SRO/CO	**Containment Temperature, Pressure and Combustible Gas Control** criteria not satisfied because Containment pressure and temperature are high.
	SRO	**DIAGNOSE Event in Progress** , using the Diagnostic chart from SO23-12-1as an ESDE go to SO23-12-5

Comments:

Op-Test No.: 1 Scenario No.: 3 Event No.: 6 Page 10 of 11

Event Description: Excessive Steam Demand Event SO23-12-5 and Functional Recovery SO23-12-9
CO Critical Task
ACO Critical Task

Time	Position	Applicant's Actions or Behavior (Event 6)
	SRO	Direct performance of Att. 2 FS7 HPSI Throttle stop
	SRO	Direct performance of the Safety Function Status Check Att. 1
	SRO	Confirm ESDE diagnosis
	SRO	Request Chemistry to Sample both Steam Generators
		CUE: **Machine Operator** If the sample valves are not overridden and opened then report to SRO no sample flow.
	STA	Report Failure of Containment Pressure and Temperature Control due to no Containment Spray flow and only 2 ECUs operating.
	SRO	Rediagnose ESDE Announce going to SO23-12-9 Functional Recovery Procedure
	SRO	Direct CO to perform SO23-12-9 Attachment 10
	SRO	Direct the STA to Initiate Attachment 1, Safety Function Status Check
	SRO	Direct the ACO to stop unloaded Diesel Generators

Time	Position	Applicant's Actions or Behavior (Event 6)
	SRO	Direct ACO to initiate attachment 29, Isolation of S/G with ESDE and Direct attachment 2, FS-27 establish stable RCS temperature during ESDE
	ACO	***Prevent PTS*** by initiate attachment 2, FS-27, establish stable RCS temperature during ESDE. @ 10% Level Position ADV 10% open for least affected S/G @ 5% Level Set least affected S/G ADV at P_{sat} for lowest T_C. @ Initial Dry Out Adjust least affected S/G ADV at P_{sat} for lowest T_C attained as S/G boils dry.
	CO	***Perform HPSI Throttle Stop*** by initiate attachment 2, FS-7 HPSI Throttle Stop.
		Terminate the Scenario after RCS temperature is controlled and HPSI throttle stop met.

Comments

Facility: San Onofre 2 & 3		Date of Examination: 09/25/00
Examination Level (circle one): RO / SRO		Operating Test Number: 1
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	**Shift Staffing J173A [K/A 2.1.3 (3.0)]**	**Determine Proper Crew Complement**
	Plant Data Evaluation J053S [K/A 2.1.23 (3.9)]	Calculate the Time Until Shutdown Cooling is Required
A.2	Equipment Control N167A [K/A 2.2.13 (3.6)]	Disable a Nuisance Annunciator
A.3	**Radiation Controls N166A [K/A 2.3.10 (2.9)]**	**Determine Dose Rates and Contaminated Areas on HP Survey Map**
A.4	Emergency Plan J157A [K/A 2.4.39 (3.3)]	Perform Siren and PA Coordination During Emergency Plan Implementation

Facility: San Onofre 2 & 3 Date of Examination: 09/25/00
Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test Number: 1

B.1 Control Room Systems

System / JPM Title		Type Code*	Safety Function
a. AC	Transfer 2A04 from the Bus Tie to the Reserve Auxiliary Transformer	D, S	**6** J054S
b. ESFAS	Perform RAS Actuation Verification	D, S, A	**2** J113FS
c. **MSS/AFW**	Perform Affected SG Isolation During SGTR	M, S, A	**4** J094FS
d. RHR	Perform Actions for a Loss of Shutdown Cooling	N, S, L	**4** N152S
e. CVCS	Perform an Emergency Boration	D, S, A	**1** J025FS
f. RPS	Restore a Bypassed RPS Channel to Service	D, S	**7** J143S
g. CSS	Terminate Containment Spray	N, S, A	**5** J049FS

B.2 Facility Walk-Through

a. FPS	Perform the Duties of the Unit 2 CO Following Control Room Evacuation	D, R	**8** J004
b. PZR PCS	**Perform Manual Auxiliary Spray Actions in the Penetration Building**	**N**	**3 N148**
c. CRDS	Locally Perform ATWS Actions	D, R	**1** J021

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

Facility: San Onofre 2 & 3		Date of Examination: 09/25/00
Examination Level (circle one): RO / SRO(U)		Operating Test Number: 1
Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Parameter Verification N169A [K/A 2.1.20 (4.2)]	Determine Required Boron Concentration for Cooldown to Mode 5
	Surveillance Verification N170A [K/A 2.1.12 (4.0)]	Verify Equipment Operability
A.2	Equipment Control N167A [K/A 2.2.13 (3.8)]	Disable a Nuisance Annunciator
A.3	**Radiation Controls N166A [K/A 2.3.10 (3.3)]**	**Determine Dose Rates and Contaminated Areas on HP Survey Map**
A.4	Emergency Plan J126S [K/A 2.4.44 (4.0)]	Determine Protective Action Recommendations

Facility: San Onofre 2 & 3 Date of Examination: 09/25/00 Exam Level (circle one): RO / SRO(I) / SRO(U) Operating Test Number: 1			
B.1 Control Room Systems			
System / JPM Title		Type Code*	Safety Function
a.			
b. ESFAS	Perform RAS Actuation Verification	D, S, A	**2** J113FS
c.			
d. RHR	Perform Actions for a Loss of Shutdown Cooling	N, S, L	**4** N152S
e.			
f.			
g. CSS	Terminate Containment Spray	N, S, A	**5** J049FS
B.2 Facility Walk-Through			
a. FPS	Perform the Duties of the CRS Following Control Room Evacuation	D	**8** J019
b. CRDS	Locally Perform ATWS Actions	D, R	**1** J021
c.			
* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA			

JPM INFORMATION SHEET

JPM NUMBER

J173A

INITIAL PLANT CONDITIONS

Unit 2 is in Mode 5 and Unit 3 is in Mode 1 at 100% power.

The following people are inside the Protected Area as members of the oncoming shift operating crew:

Joe:	Shift Manager	Sam:	PPEO
Bill:	CRS	Sally:	PPEO
Tom:	CRS	Ron:	PPEO
Andy:	CO	Al:	PEO
Arnie:	CO	Mary:	PEO
Dave:	ACO	Bob:	STA

TASK TO BE PERFORMED

Determine if each individual crew position meets the minimum "administrative" manning requirements for shift relief.

JOB PERFORMANCE MEASURE J173A

SUGGESTED TESTING ENVIRONMENT:	**PLANT**	X	**SIMULATOR**	X
ACTUAL TESTING ENVIRONMENT:	**PLANT**		**SIMULATOR**	
ACTUAL TESTING METHOD:	**PERFORMED**		**SIMULATED**	

OPERATOR'S NAME: _____
(Print)

The operator's performance was evaluated against the standards contained in this JPM and is determined to be:

SATISFACTORY: _____

UNSATISFACTORY: _____

DOCUMENTATION

J173A

JPM LEVEL: RO/SRO

ESTIMATED TIME TO COMPLETE: 10 minutes

TIME CRITICAL JPM: NO **CRITICAL TIME:** N/A

POSITION: CO/ACO

TASK SYS ID: 3212

TASK DESCRIPTION:

Describe the guidelines and administrative requirements for operations shift relief.

KA NUMBER: 2.1.3

KA VALUES: **RO** 3.0 **SRO** 3.4

10CFR55.45 APPLICABILITY: 12

REFERENCES:

SO23-0-46, Conduct of Operations, Rev. 1, TCN 1-4.

AUTHOR:	K. Rauch	**DATE:**	08/30/00
OPERATIONS REVIEW:	R. Clement	**DATE:**	09/04/00
APPROVED BY:	W. Lyke	**DATE:**	09/05/00

MODIFICATION HISTORY

REV	DESCRIPTION OF CHANGE	MODIFIED BY	DATE MODIFIED	SOL APPROVAL
0	New			

SET-UP

Provide the examinee with a copy of Section 6.25, Shift Manning of SO23-0-46, Conduct of Operations, when requested.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
NOTE: Provide the examinee with a copy of Section 6.25, Shift Manning of SO23-0-46, Conduct of Operations, when requested.				
1	Obtain a copy SO23-0-46, Conduct of Operations	Obtains a copy of SO23-0-46, Conduct of Operations, Section 6.25.		Start Time: _____
2*	Review administrative requirement for Shift Manager manning.	Determines that the minimum administrative manning for Shift Manager **is** satisfied.		
3*	Review administrative requirement for Control Room Supervisor manning.	Determines that the minimum administrative manning for Control Room Supervisor **is** satisfied.		
4*	Review administrative requirement for CO/ACO manning.	Determines that the minimum administrative manning for CO/ACO **is NOT** satisfied.		
5*	Review administrative requirement for Primary Qualified NPEO manning.	Determines that the minimum administrative manning for Primary Qualified NPEO **is NOT** satisfied.		
6*	Review administrative requirement for STA manning.	Determines that the minimum administrative manning for STA **is** satisfied. **TERMINATING CUE:** **This JPM is complete.**		Stop Time: _____

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REV 0, 08/29/00

Operations

JPM CH

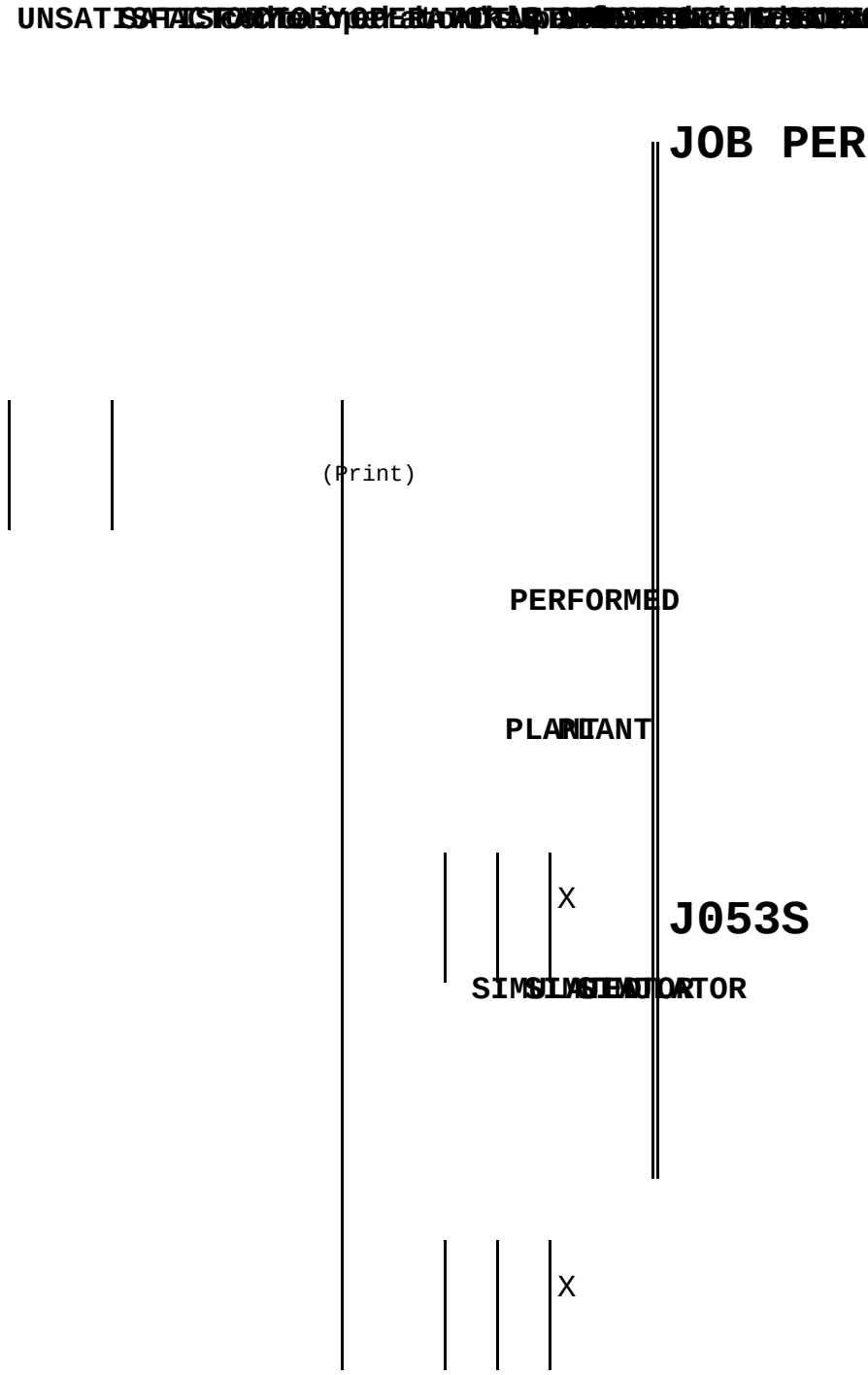
JPM INFO

INITIAL PLANT CONDITION

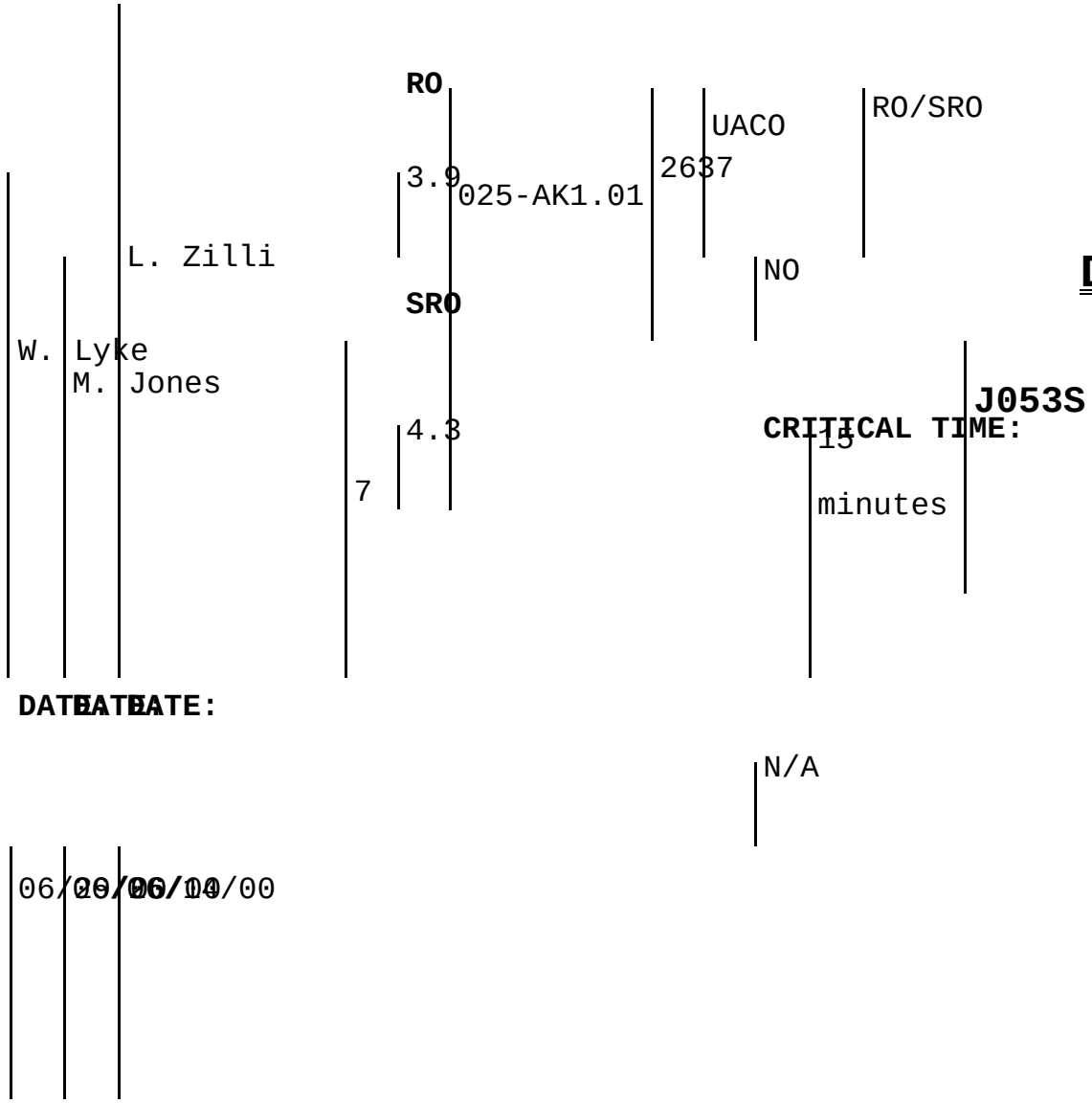
TASK TO BE PERFORMED

JPM NUMBER

54 J053S



55


RO
3.9
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L. Zilli
NO
SRO
W. Lyke
M. Jones
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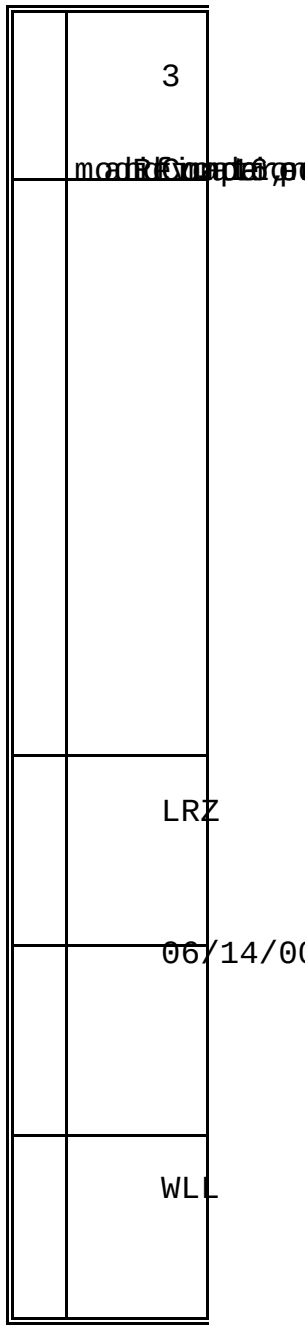
7
J053S
CRITICAL TIME:
15
minutes
N/A
06/20/00
06/14/00

56

MODIFI…

REV	DESCRIPTION O…	MODIFIED BY	MODIFIED DATE	APPROVAL SOL
1	[illegible]	RR	09/20/93	MJK
1-1	[illegible]	HJW	04/01/94	N/A
1-2	[illegible]	HJW	09/30/94	N/A
1-3	[illegible]	HJW	10/27/95	N/A
2	[illegible]	SGA	6/18/97	KHR
2-1	[illegible]	JJM	10/01/99	WLL



58

SET-UP

JPM: J053S **TITLE:** Determine the time until Shutdown Cooling is required.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-12-7, Loss of Forced Circulation/Loss of Offsite Power, Attachment 9. **CUE: Once you have identified the appropriate instrumentation the examiner will supply you with the value the instrument is reading.**			
1	Verify T-120/T-121 the only current feedwater source to S/G's.	Verifies T-120/T-121 the only current feedwater source to S/G's.		Start Time: _____
	CUE: T-120/T-121 are the only current Feedwater Sources to the S/G's.			
2	Verify T-120 level indication - available.	Observes 2LI-4357B, CONDENSATE STORAGE TANK LEVEL 2T120(W) on CR52/53.		
	CUE: LI-4357B indicates 13.4%.			
3*	Determine T-120 inventory from Table 1, Condensate Storage Tank Inventory.	Determines T-120 inventory to be **60,270 gallons**.		
4	Verify T-121 level indication - available.	Observes 2LI-4356B, CONDENSATE STORAGE TANK LEVEL 2T121 **or** 2LI-3204-1, CONDENSATE STORAGE TK 2T-121 LEVEL, **and/or** 2LI-3204-2, CONDENSATE STORAGE TK 2T-121 LEVEL on CR52/53.		
	CUE: LI-3204-1 and LI-3204-2 indicate 94%.			
5*	Determine T-121 inventory from Table 1, Condensate Storage Tank Inventory.	Determines T-121 inventory to be **139,748 gallons**.		

JPM: J053S **TITLE:** Determine the time until Shutdown Cooling is required.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
6*	Determine total Feedwater Source inventory.	Determines total condensate inventory to be **200,018 gallons**.		
7*	Determine Net Available Feedwater for decay heat removal.	Determines condensate inventory available for decay heat removal to be **145,018 gallons**.		
8	Determine the number of hours the reactor has been shutdown.	The reactor was shutdown four (4) hours ago.		
9*	Using Figure 1: Remaining Time S/G's Available for Heat Sink determine time remaining until Shutdown Cooling required for decay heat removal.	Determines time Steam Generators remain available for a heat sink and Shutdown Cooling will be required to be **11 to 13 hours**. **TERMINATING CUE:** **This JPM is complete.**		Stop Time: _____

62

COMPLETED BY: **DATE:**

REV 3, 06/14/00

Operations [illegible]

JPM CH

63

"POINT HEATER LEVEL HI/LO",

JPM INFO

INITIAL PLANT CONDITIONS

TASK TO BE PERFORMED

JPM NUMBER

J167A

REV 0, 06/20/00

JOB PER

(Print)

65

PERFORMED

PLANT

X

J167A

SIMULATOR

Page 65 of 8

X

REV 0, 06/20/00

APPROVED FOR ... TIME TO COMPLETE ...
"POINT HEATER LEVEL HI/LO", Rev.

DOCUMENT

J167A

RO 3.6 | 2.2.13 | 2266 | UACO | RO/SRO

SRO 3.8 | 3 | NO

L. Zilli

W. Lyke

M. Jones

CRITICAL TIME: 20 minutes

N/A

DATE: **DATE:** **DATE:**

06/20/00 06/19/00 06/19/00

66

67

	0	REV
	New	
		DESCRIPTION C
		MODIFI
		MODIFIED BY
		MODIFIED DATE
		APPROVAL SOL

SET-UP

68

JPM: J167A **TITLE:** Disable a Nuisance Annunciator.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-6-29, Operation of Annunciators and Indicators and SO23-15-53.A, 53A46 2nd Point Heater Level HI/LO, when located. **CUE: The alarm is not a result of any maintenance or planned testing.**			
1	Locate the Step in SO23-6-29 that applies to this alarm.	Locates Step 6.3.4 in SO23-6-29.		Start Time: _____
2	Tailboard the Compensatory Actions from the associated ARP with the responsible operator.	Identifies the requirement to monitor 2ME-039 Second Point Heater Level every four (4) hours with the responsible operator.		
	CUE: The tailboard for Compensatory Actions from the associated ARP is complete.			
3*	Disable the alarm inputs.	Determines disabling of the alarm inputs is required.		
	CUE: The annunciator inputs have been disabled. The Electrician informs you that full reflash capability is no longer available.			
4	Evaluate for compensatory actions per Step 6.3.8.	Evaluates for compensatory actions per Step 6.3.8.		
	NOTE: JPM terminates at Step 5 for the ROs and Step 6 for the SROs.			

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
5*	Determine that equipment serviced by the alarm is still in service.	Determines that another 2nd Point Heater Level Switch is serviced by this annunciator and full reflash capability is no longer available, therefore, an ACA sticker is required. **TERMINATING CUE:** **This JPM is complete for the RO examinee.**		Stop Time: _____
6*	Request the SRO Operations Supervisor review the associated ARP to determine if any compensatory actions are required.	Requests the SRO Operations Supervisor review the associated ARP and determines that 2nd Point heater levels will have to be monitored every four (4) hours. **TERMINATING CUE:** **This JPM is complete for the SRO examinee.**		Stop Time: _____

71

COMPLETED BY: ______ **DATE:** ______

Operations [illegible]

JPM CH

72

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

73 J157A

UNSATISFACTORY

JOB PER

(Print)

74

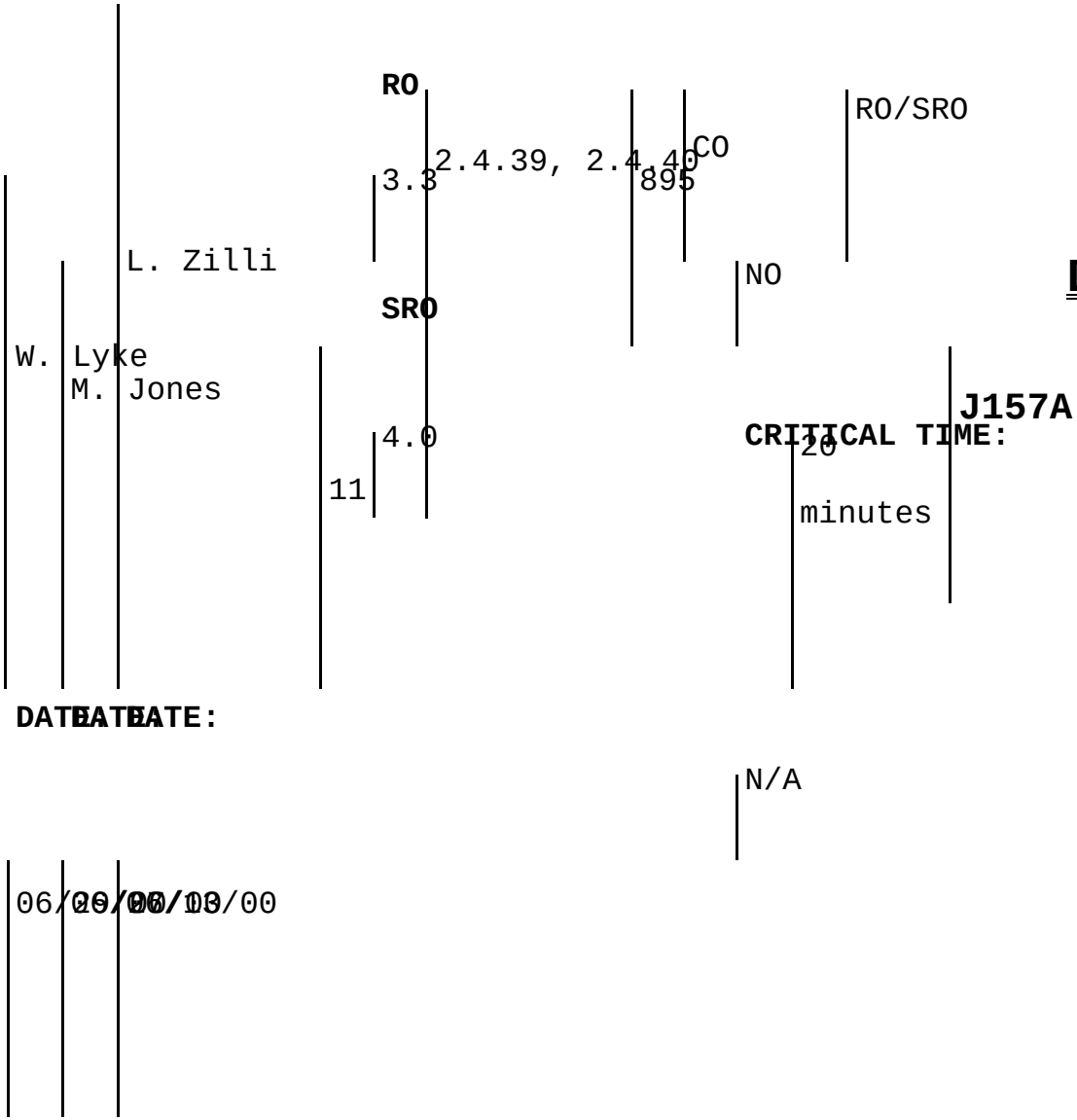
PERFORMED

PLANT

X

J157A

SIMULATOR


RO
2.4.39, 2.4.40
CO
RO/SRO
3.3
895
L. Zilli
NO
SRO
W. Lyke
M. Jones
J157A
4.0
CRITICAL TIME:
20
11
minutes
N/A
06/20/00
06/13/00

75

76

REV	DESCRIPTION
1	MODIFI

MODIFIED BY	MODIFIED DATE	APPROVAL
LRZ	06/	WLL SOL

REV 1, 6/13/00

77

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-VIII-30, Units 2/3 Operations Leader Duties. **CUE: The Siren/PA process is <u>not</u> being coordinated from outside the Control Room.**			
1*	Prepare the Site PA message using Attachment 1.	Prepares the Site PA message using Attachment 1 and the information provided by the Shift Manager (EC).		Start Time: _____
2*	Announce the message <u>once</u> over the Site PA system.	Makes the announcement by reading the message <u>once</u> over the Site PA system by depressing the SITE PA button(s) on 2CR65 **and** depressing the button on the handset **or** dial 429 on any Control Room phone.		
3*	Hold down the PA Tone Generator "Siren All" button on the phone turret until the "Kill" button illuminates.	Holds down the PA Tone Generator "Siren All" button on the phone turret until the "Kill" button/light illuminates (approximately 1-4 seconds).		
	NOTE: The PA Tone Generator will time out and stop after 60 seconds and the "Kill" button/light will extinguish. **CUE: The "Kill" button is illuminated. After 60 seconds the "Kill" light has extinguished.**			
4*	Press the Emergency Evacuation Siren START pushbutton (HS-7890-1) on CR 57.	Presses the Emergency Evacuation Siren START pushbutton (HS-7890-1) on CR 57.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
5*	After a 60 second run, press the Emergency Evacuation Siren Stop pushbutton.	After a 60 second run, presses the Emergency Evacuation Siren Stop pushbutton on CR 57.		
6	Ensure all sirens are secured.	Ensures all sirens are secured by checking with plant personnel.		
	CUE: All sirens are secured.			
7*	Repeat the PA announcement from Attachment 1 <u>two</u> times.	Repeats the PA announcement from Attachment 1 by reading the message two (2) times over the Site PA system by depressing the SITE PA button(s) on 2CR65 **and** depressing the button on the handset **or** dial 429 on any Control Room phone.		
	CUE: The Emergency Coordinator directs you to make a perimeter PA announcement for beach evacuation.			
8*	Make a Perimeter PA announcement for beach evacuation.	Makes the Perimeter PA announcement for beach evacuation by reading the announcement from Step 3.0 of Attachment 1 twice over the Perimeter PA handset in the Shift Manager’s office.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
9	Inform the Shift Manager (EC) when complete.	Informs the Shift Manager (EC) that the sirens have been sounded, and the Site and Beach Evacuation PA announcements have been completed. **TERMINATING CUE:** **This JPM is complete.**		Stop Time: _____

81

COMPLETED BY: **DATE:**

Operations [illegible]

JPM CH

82

Remove the 1E 4 kV Bus Tie from Service on 2A04.

JPM INF

INITIAL PLANT CONDITIO

TASK TO BE PERFORMED

JPM NUMBER

83

J054S

REV 1, 06/15/00

JOB PER

(Print)

84

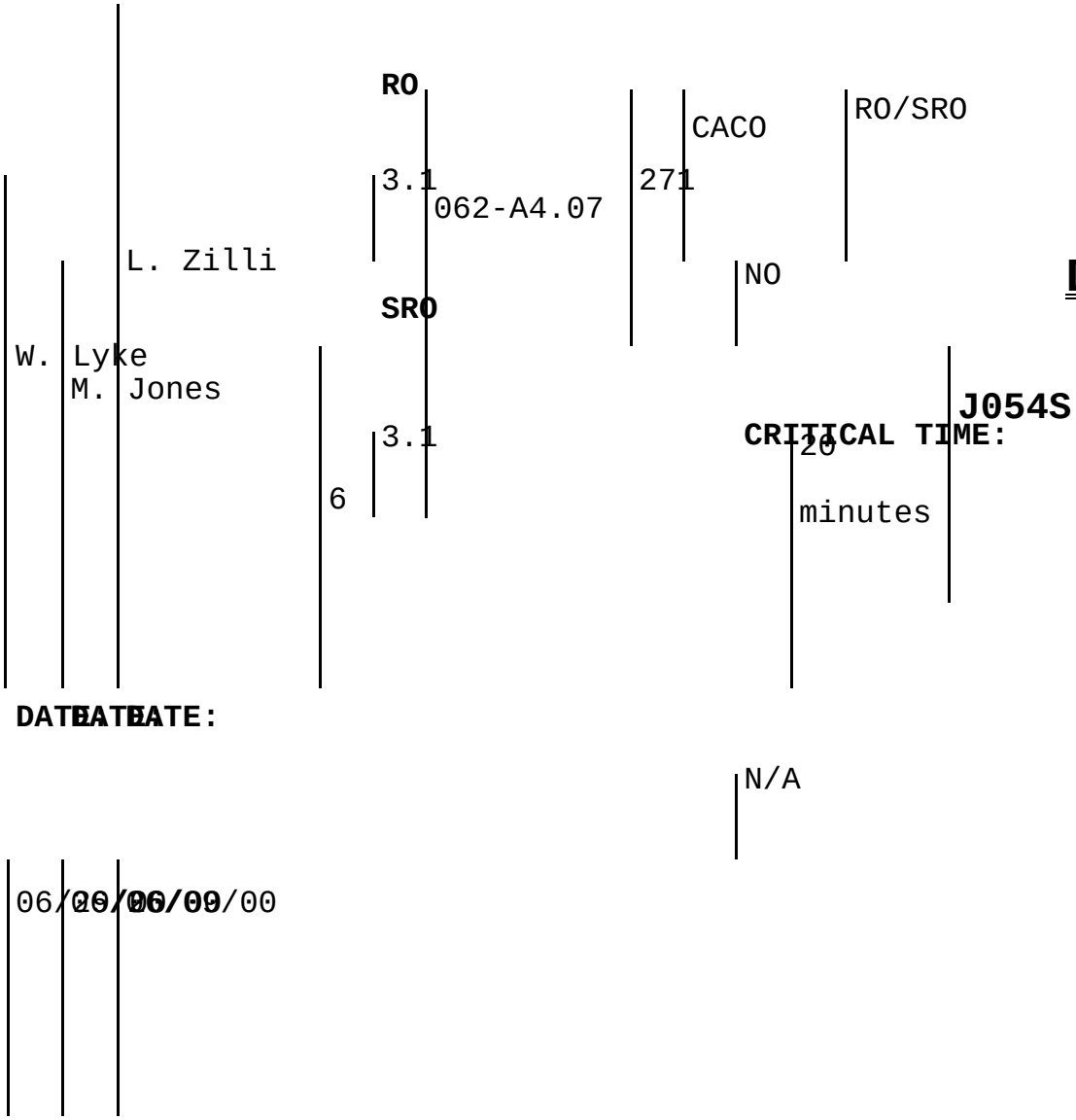
PERFORMED

PLANT

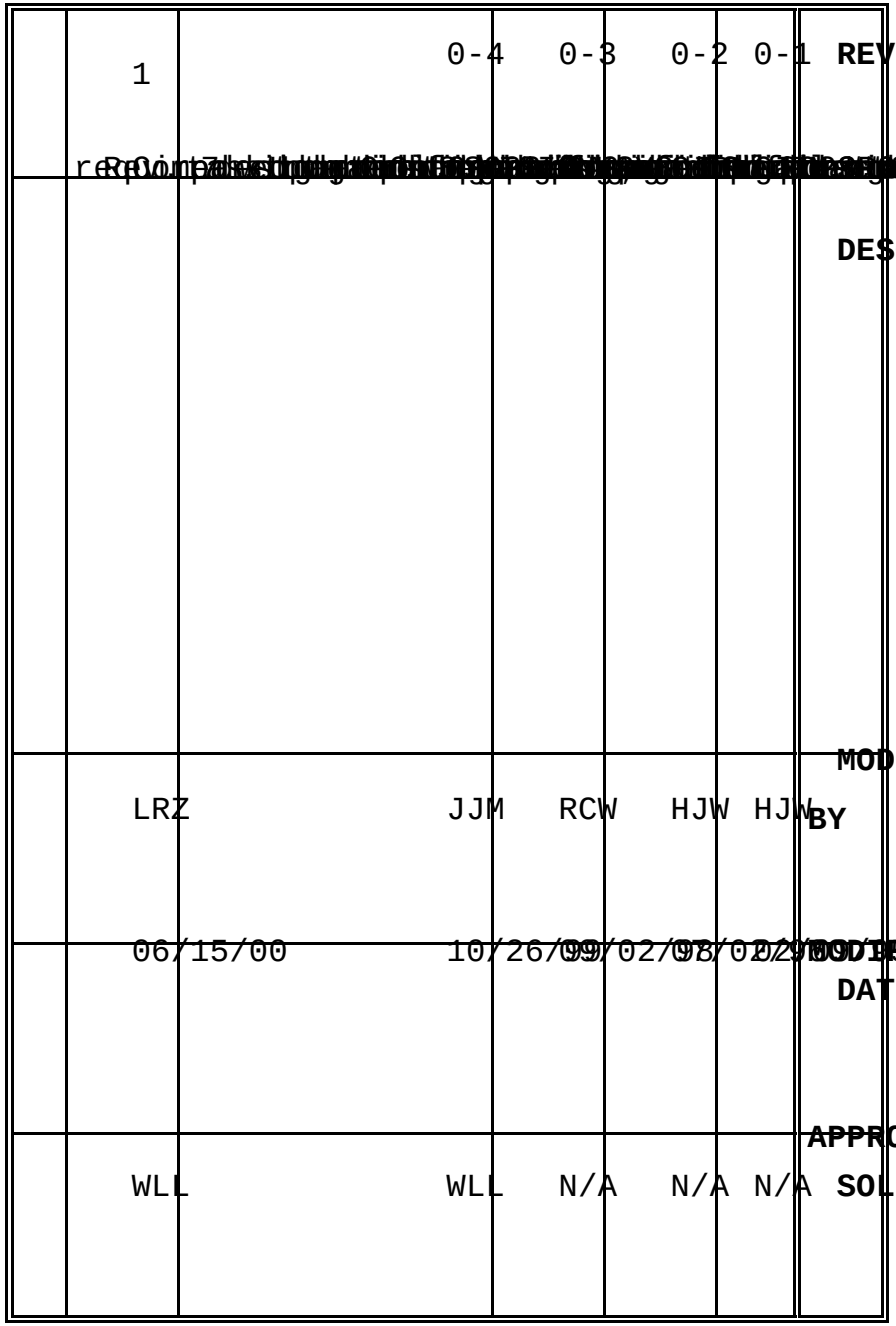
J054S

SIMULATOR

X


RO
3.1
062-A4.07
271
CACO
RO/SRO
L. Zilli
NO
SRO
W. Lyke
M. Jones
3.1
6
J054S
CRITICAL TIME:
20
minutes
N/A
06/20/00

85


1
0-4 0-3 0-2 0-1 REV
DESCRIPTION
MODIFI
MODIFIED BY
LRZ JJM RCW HJW HJW
06/15/00 10/26/99 09/02/98
MODIFIED DATE
APPROVAL
WLL WLL N/A N/A N/A SOL

86

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-6-2, Transferring of 4 kV Buses, when located. **CUE: The CRS has reviewed Technical Specification 3.8.1 and actions are being met.** **CUE: The Tailboard session between all participants is complete.**			
1	Verify the incoming 4160V source has normal voltage and is available for load.	Checks RSV AUX XFR 2XR1 MEGAWATTS meter 2JI-1606 **and/or** places sync circuit in service to verify incoming volts/Hz OK.		Start Time: _____
	CUE: The incoming 4 kV source has normal voltage and is available for load.			
2*	Place the synchroscope in service by placing the respective key operated Master Control switch to ON.	Places the synchroscope, 2/3SI-1627A, in service by placing key operated TRAIN A SYNC CKT CONTROL, 2HS-1627-1 ESF A SYNC MASTER Control switch to ON.		
3*	Place synchronizing circuit in service by depressing SYNC pushbutton for the Incoming Breaker.	Presses SYNC pushbutton for Incoming Breaker (identified from Attachment 1) RES AUX XFMR 2XR1 FDR BREAKER 2A0418, 2HS-1659-1.		
4	Verify breaker SYNC light illuminated.	Verifies breaker SYNC light illuminated on RES AUX XFMR 2XR1 FDR BREAKER 2A0418, 2HS-1659-1.		
5	Verify SYNC IN MODE light illuminated.	Verifies SYNC IN MODE light illuminated on TRAIN A SYNC CKT CONTROL, 2HS-1627-1 ESF A SYNC MASTER Control switch.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
6	Verify SYNC RELAY TROUBLE light off.	Verifies SYNC RELAY TROUBLE light off on TRAIN A SYNC CKT CONTROL, 2HS-1627-1 ESF A SYNC MASTER Control switch.		
7	Verify Incoming and Running voltages and frequencies matched.	Verifies Incoming and Running voltages matched on 2/3EI-1627A & 2/3EI-1627B and frequencies matched on 2/3SI-1627C & 2/3SI-1627D.		
8	Verify synchroscope moves to straight up (12 o'clock) position.	Verifies synchroscope 2/3SI-1627A moves to straight up (12 o'clock) position.		
9	Select the Bus Transfer Controls AUTO/MANUAL switch to MANUAL.	Ensures BUS TIE 2A04 TO 3A04 FDR BKR 2A0417 SELECTOR 2HS-1660B1 in MANUAL.		
10*	Close the Incoming breaker.	Depresses the CLOSE pushbutton on RES AUX XFMR 2XR1 FDR BREAKER 2A0418 2HS-1659-1.		
11	Verify the BUSES PARALLELED alarm.	Observes 63B55 2A04/3A04 BUSES PARALLELED alarm.		
12*	Open the running bus tie breaker manually.	Depresses the TRIP pushbutton on BUS TIE 2A04 TO 3A04 FDR BKR 2A0417 2HS-1660A-1.		
13	Open the opposite unit supply bus tie breaker.	Opens the Unit 3 supply bus tie breaker.		
CUE: The Unit 3 bus tie breaker is open.				

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
14*	Select the Bus Transfer Controls AUTO/MANUAL switch to AUTO for both units.	Selects BUS TIE 2A04 TO 3A04 FDR BKR 2A0417 SELECTOR 2HS-1660B1 to AUTO and requests the Unit 3 CO/ACO place the bus tie breaker Auto/Manual switch in AUTO.		
CUE: The Unit 3 bus tie breaker Auto/Manual switch is in AUTO.				
15	Remove the synchronizing circuit from service by depressing SYNC pushbutton for the Incoming breaker.	Presses SYNC pushbutton for Incoming Breaker RES AUX XFMR 2XR1 FDR BREAKER 2A0418, 2HS-1659-1.		
16	Remove the synchroscope from service by placing the respective key-operated Master Controls switch to OFF.	Removes the synchroscope, 2/3SI-1627A, from service by placing key operated TRAIN A SYNC CKT CONTROL, 2HS-1627-1 ESF A SYNC MASTER Control switch to OFF. **TERMINATING CUE:** **This JPM is complete.**		Stop Time: _____

91

COMPLETED BY: **DATE:**

Operations

JPM CH

92

[illegible]

JPM INFO

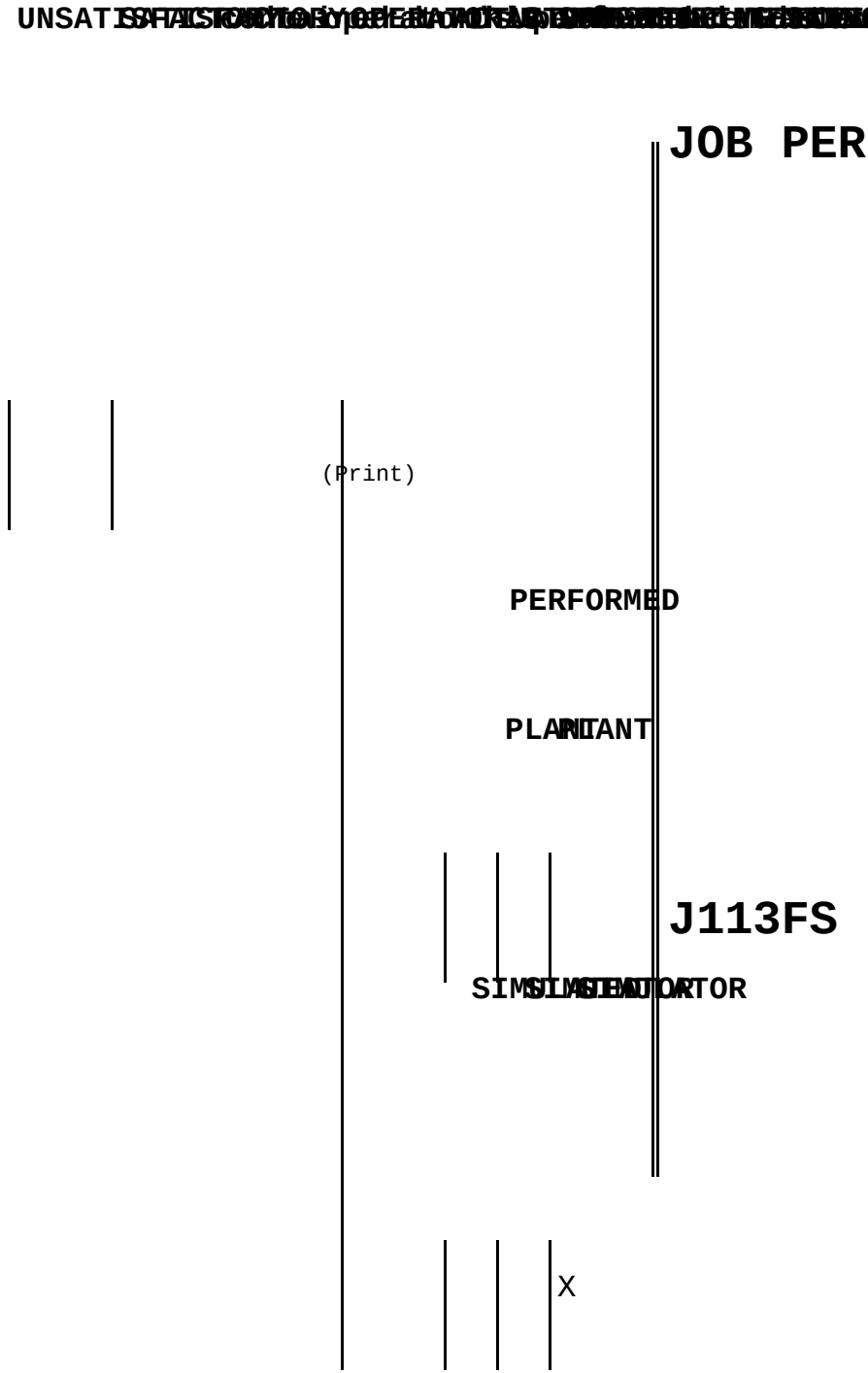
INITIAL PLANT CONDITIONS

TASK TO BE PERFORMED

JPM NUMBER

93

J113FS


UNSATISFACTORY
JOB PER
(Print)
PERFORMED
PLANT
J113FS
SIMULATOR
X

94

APPROVED FOR ... REVIEW ... CRITICAL ... TIME ... TO COMPLETE

DOCUMENT

RO | 4.2 | 011-EA1.11 | 2007 | UACO | RO/SRO
NO
SRO | 4.2 | 4, 5, 7

J113FS

CRITICAL TIME: 15 minutes

N/A

L. Zilli
W. Lyke
M. Jones

DATE: DATE: DATE:

06/09/00 06/14/00 06/14/00

96

	1	0-3	0-2	0-1	REV
	change				
					DESCRIPTION C
					MODIFI
	LRZ	JJM	HJW	SGA	MODIFIED BY
	06/14/00	10/21/99	09/09/97	06/20/97	MODIFIED DATE
	WLL	WLL	N/A	N/A	APPROVAL SOL

SET-UP

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-12-3, Loss of Coolant Accident, Attachment 6.			
1	Verify RAS conditions established by checking RWST level <19%.	Observes at least two (2) of the following; RWT 2T006 LEVEL LI-0305-1, 2, 3, **and/or** 4 RWST levels <19%.		Time Start: _____
2	Verify Containment Emergency Sump level >18' 4".	Observes CNTMT EMER SUMP LEVEL 2LI-9386-1 **or** 2LI-9389-2 >18' 4".		
	NOTE: The following four (4) valves can be opened in any order.			
3*	Ensure Containment Emergency Sump Outlet Valve, HV-9303, open.	Depresses OPEN pushbutton for CNTMT EMER SUMP OUTLET ISO VALVE, 2HV-9303.		
4*	Ensure Containment Emergency Sump Outlet Valve, HV-9305, open.	Depresses OPEN pushbutton for CNTMT EMER SUMP OUTLET ISO VALVE, 2HV-9305.		
5*	Ensure Containment Emergency Sump Outlet Valve, HV-9302, open.	Depresses OPEN pushbutton for CNTMT EMER SUMP OUTLET ISO VALVE, 2HV-9302.		
6*	Ensure Containment Emergency Sump Outlet Valve, HV-9304, open.	Depresses OPEN pushbutton for CNTMT EMER SUMP OUTLET ISO VALVE, 2HV-9304.		
7*	Ensure LPSI Pump P015 stopped.	Depresses SIAS OVERRIDE pushbutton and then STOP pushbutton for LPSI PUMP P015, 2HS-9390-1.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
8*	Ensure LPSI Pump P016 stopped.	Depresses SIAS OVERRIDE pushbutton and then STOP pushbutton for LPSI PUMP P016, 2HS-9391-2.		
	NOTE: The following four (4) valves can be closed in any order.			
9*	Ensure SI Pump & CNTMT Spray Pump mini-flow HV-9306 closed.	Closes SI Pump & CNTMT Spray Pump mini-flow Iso valve, 2HV-9306. (Key #9)		
10*	Ensure SI Pump & CNTMT Spray Pump mini-flow HV-9307 closed.	Closes SI Pump & CNTMT Spray Pump mini-flow Iso valve, 2HV-9307. (Key #10)		
11*	Ensure SI Pump & CNTMT Spray Pump mini-flow HV-9347 closed.	Closes SI Pump & CNTMT Spray Pump mini-flow Iso valve, 2HV-9347. (Key #24)		
12*	Ensure SI Pump & CNTMT Spray Pump mini-flow HV-9348 closed.	Closes SI Pump & CNTMT Spray Pump mini-flow Iso valve, 2HV-9348. (Key #25)		
13	Verify Containment Spray flow on each operating train >1625 gpm.	Observes Containment Spray Hdr No. 1 & No. 2 flow indicators 2FI-0338-1 and 2FI-0348-2 >1625 gpm.		
14	Verify Containment Emergency Sump level >18' 4" and RWST not required for borated water source.	Observes CNTMT EMER SUMP LEVEL 2LI-9386-1 OR 2LI-9389-2 >18' 4".		
	CUE: The RWST is not required for a borated water source. **NOTE: The RWST valves may be aligned in any order.**			

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
15*	Close RWST outlet Isolation valve HV-9300.	Inserts key and closes RWT 2T005 Outlet Iso Valve, 2HV-9300. (Key #8)		
16*	Close RWST outlet Isolation valve HV-9301.	Inserts key and closes RWT 2T005 Outlet Iso Valve, 2HV-9301. (Key #23)		
17	Verify HPSI Flow criteria: With Cold Leg Injection only: Total HPSI flow >160 gpm in any one loop per operating pump.	Observes HPSI FLOW TO COLD LEGS (any one (1) instrument) 2FI-0321-1, 2FI-0331-1, 2FI-0311-2, & 2FI-0341-2 to verify total HPSI flow >160 gpm in any one loop per operating pump.		
18	Close CCW to Letdown Heat Exchanger valve Train A 2HV-6293B/A and 2HV-6522B/A.	Depresses the CLOSE pushbutton for the in-service CCW CLA/B LTDN HX 2E062 Supply/Return valves, 2HV-6293B/A **or** 2HV-6522B/A. **TERMINATING CUE:** **This JPM is complete.**		Time Stop: _____

101

COMPLETED BY: [illegible] **DATE:** [illegible]

Operati[illegible]

JPM CH

JPM INF

INITIAL PLANT CONDITIO

TASK TO BE PERFORMED

JPM NUMBER

103 J094FS

UNSATISFACTORY PERFORMANCE

JOB PER

(Print)

104

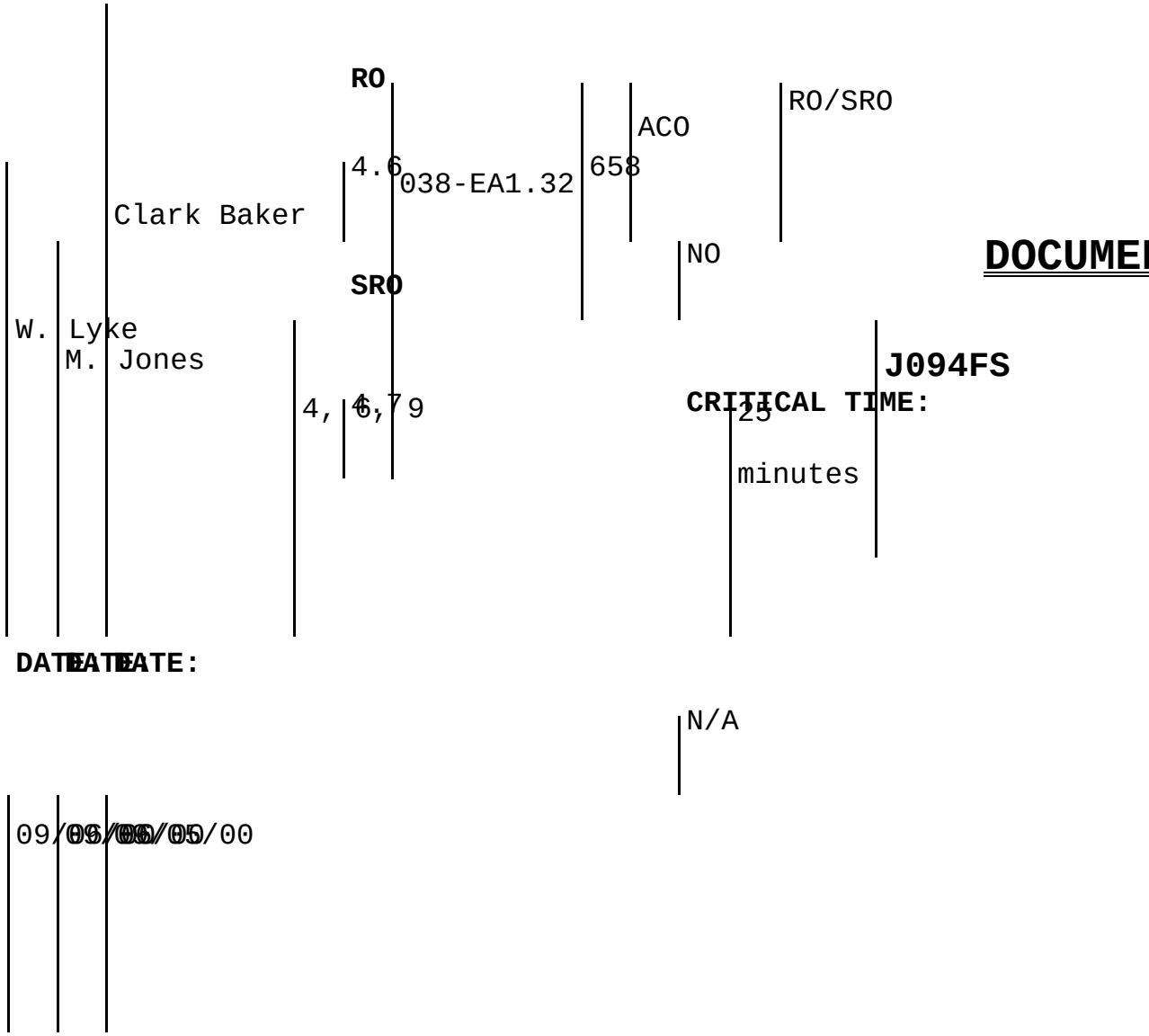
PERFORMED

PLANT

J094FS

SIMULATOR

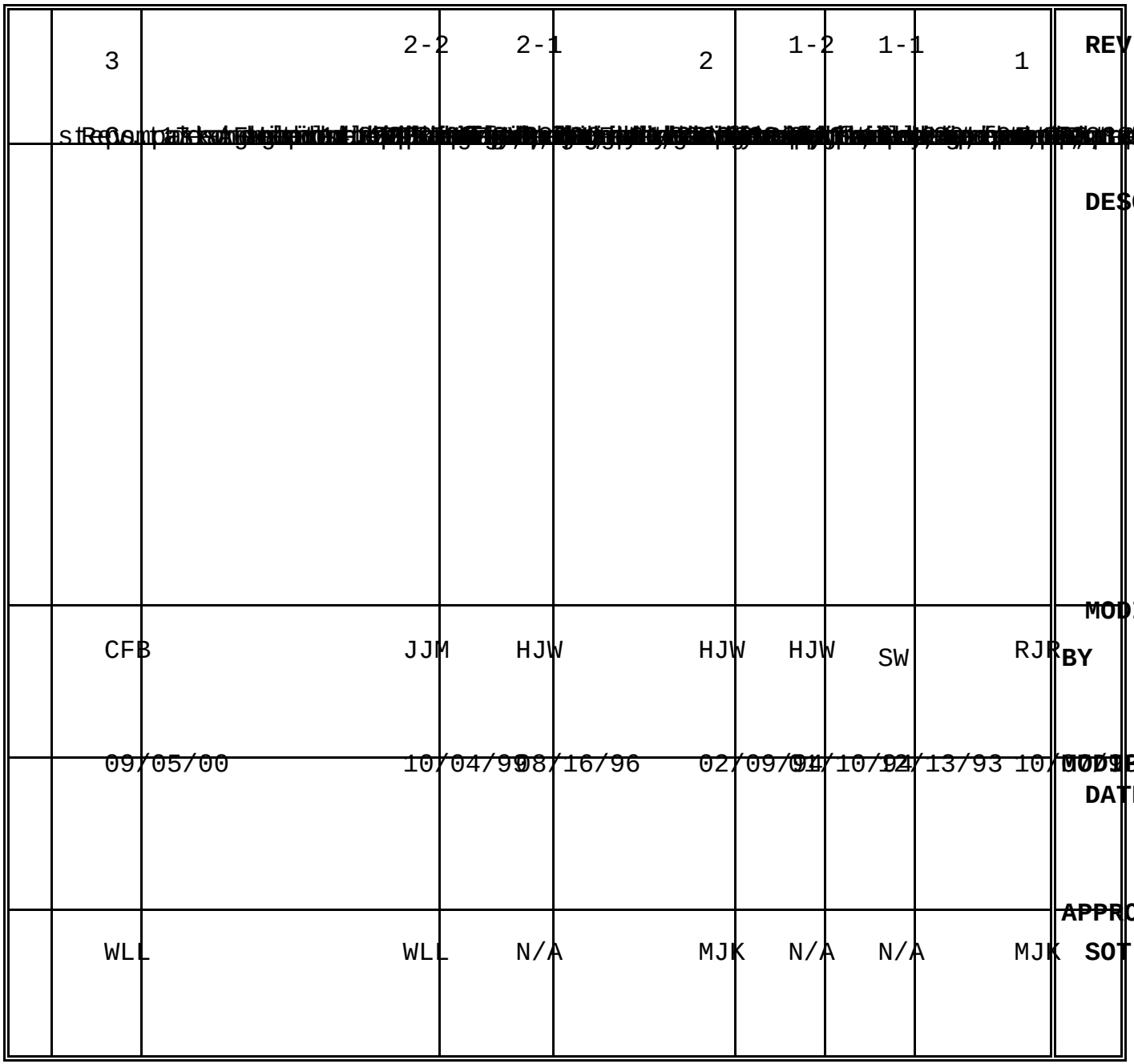
X



105

Page 105 of 12

106


3
2-2
2-1
2
1-2
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REV
DESCRIPTION
MODIFI
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CFB
JJM
HJW
HJW
HJW
SW
RJR
09/05/00
10/04/99
08/16/96
02/09/94
10/12/94
12/13/93
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MODIFIED DATE
APPROVAL
WLL
WLL
N/A
MJK
N/A
N/A
MJK
SOT

SET - U

107

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-12-4, Steam Generator Tube Rupture, when located.			
1	Identify appropriate procedure and step.	Identifies SO23-12-4, Steam Generator Tube Rupture, Step 14 to be performed.		Start Time: _____
2	VERIFY one S/G isolated.	Observes Control Board indications and determines that S/G E088 is isolated.		
	NOTE: The examinee may exit to the RNO column for any of the next four (4) steps.			
3	VERIFY Steam Line radiation level not rising.	Observes Main Steam Line Radiation Monitor 2RI-7874B1 and verifies it is not rising.		
	CUE: 2RI-7874B1, Main Steam Line Radiation Monitor, indicates a rising trend.			
4	VERIFY Blowdown radiation level not rising.	Observes Blowdown Radiation Monitor 2RR-6759 and verifies it is not rising.		
	CUE: 2RR-6759, Blowdown Radiation Monitor, indicates a rising trend.			
5	VERIFY Air Ejector radiation level not rising.	Observes Air Ejector Radiation Monitors 2RE-7818A and 2RE-7870-1 and verifies they are not rising.		
	CUE: 2RE-7818A and 2RE-7870-1, Air Ejector Radiation Monitor, indicate a rising trend.			

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
6	Evaluate S/G samples and VERIFY isolated S/G has highest activity levels.	Identifies Chemistry results that show E089 most affected S/G vs E088. Enters RNO to restore isolated S/G to service and isolate opposite S/G.		
	CUE: Chemistry reports E089 activity is 1.9E-2 μci/ml and E088 activity is 7.7E-3 μci/ml.			
	NOTE: The SBCS Interlock Setpoint is 6.5 inches of mercury absolute.			
7	VERIFY SBCS available - Condenser back pressure less than the SBCS interlock setpoint.	Observes Condenser back pressure on Condenser absolute pressure recorder **or** Condenser pressure instruments 2PI-3202A, 2PI-3383A, **or** 2PI-3395A.		
8	OPEN S/G E-088 MSIV Bypass, HV-8203.	Depresses OPEN/MODULATE pushbutton for SG 2E088 Main Steam Iso Valve Bypass and operates SG 2E088 2E089 Main Steam Iso Valve Bypass Control 2HV-8203/2HV-8202 to open 2HV-8203.		
9	Attempt to lower MSIV D/P to 85 psid for HV-8205.	Compares 2PI-1023A1 through A4, SG E088 Pressure, **with** 2PI-8207, Steam Pressure to MFWPT K006, **or** 2PI-8214, Steam Pressure to MFWPT K005, **or** 2PI-2050A/B/C/D Main Steam Before Stop Valves Selected Pressure **and** verifies differential pressure is $\leq$85 psid.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
10*	OPEN S/G E-088 MSIV, HV-8205.	Depresses both OPEN pushbuttons on Train A 2HS-8205 **and** Train B 2HS-8205 for SG E088 Main Steam Iso Valve.		
11	Establish RCS temperature control with SBCS on isolated S/G.	Establishes RCS temperature control with SBCS by adjusting the controller(s) to throttle 2HV-8423 and/or 2HV-8425 as required.		
12*	START Aux Feed Pump P-504.	Depresses START pushbutton on 2HS-4733-2, AFWP 2P504.		
13	Check E-088 level.	Observes E-088 level indicators on CR-52 >40% by observing 2LI-1123A1 through A4, SG E088 Downcomer Level.		
14*	OPEN Aux Feed to S/G E-088, 2HV-4714 or 2HV-4730.	Depresses OPEN pushbutton on **either** 2HV-4714, AFW to SG E088 Iso Valve **or** 2HV-4730, AFW to SG E088 Iso Valve.		
15*	THROTTLE Aux Feed Pump P-504 Discharge Valve 2HV-4712 to maintain AFW flow as necessary.	Depresses JOG OPEN or JOG CLOSE pushbutton on 2HV-4712, AFWP 2P504 to SG E088 Disch Valve to maintain AFW flow as necessary.		
16	Maintain E-088 level between 40% and 80% NR.	Maintains E-088 level between 40% and 80% NR by observing 2LI-1123A1 through A4, SG E088 Downcomer Level.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
17	Verify least affected Steam Generator available for continued heat removal.	Verifies least affected Steam Generator available for continued heat removal.		
18	Ensure RCS Th less than 530°F.	Ensures RCS Th less than 530°F by observing: • 2TI-0911X1, Loop 1 WR Th • 2TI-0921X2, Loop 2 WR Th		
19*	CLOSE S/G E-089 MSIV, 2HV-8204.	Depresses both CLOSE pushbuttons on Train A 2HV-8204 **or** Train B 2HV-8204, SG 2E089 Main Steam Iso Valve, and verifies 2HV-8204 closed at CR52 or CR57.		
20	VERIFY S/G E-089 MSIV Bypass, 2HV-8202 is closed.	Verifies green closed indicating light on 2HV-8202, SG 2E089 Main Steam Iso Valve Bypass.		
21	VERIFY S/G E-089 ADV, 2HV-8421 is closed.	Verifies green closed indicating light on 2HV-8421, SG 2E089 Atmospheric Dump Valve.		
22*	CLOSE S/G E-089 Main Feed Isolation, 2HV-4052.	Depresses both CLOSE pushbuttons on Train A 2HV-4052 **or** Train B 2HS-4052, FW to SG 2E089 Iso Valve, and verifies 2HV-4052 closed at CR52 or CR57.		
23	CLOSE Aux Feed to S/G E-089, 2HV-4731.	Ensures 2HV-4731, AFW to SG 2E089 Iso Valve, is CLOSED.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
24	CLOSE Aux Feed to S/G E-089, 2HV-4715.	Ensures 2HV-4715, AFW to SG 2E089 Iso Valve, is CLOSED.		
25*	CLOSE Main Steam to Aux Feed Pump Turbine, 2HV-8200.	Depresses OVERRIDE and CLOSE pushbuttons for 2HV-8200, Main Steam to AFWPT 2K007 SG 2E089 Iso Valve.		
26	CLOSE S/G E-089 Blowdown Isolation.	Ensures 2HV-4053-2, SG 2E089 Blowdown Iso Valve, is closed.		
27*	CLOSE S/G E-089 Steam Generator Water Sample Isolation, 2HV-4057.	Depresses CLOSE for 2HV-4057, SG 2E089 Water Sample Iso Valve.		
28*	STOP Aux Feed Pump P-141.	Depresses OVERRIDE and STOP pushbuttons for 2HS-4707-1, AFWP 2P141. **TERMINATION CUE:** **This JPM is Complete.**		Stop Time: _____

113

COMPLETED BY **DATE**

JPM CH

Perform actions a

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

115

J152S

UNSATISFACTORY PERFORMANCE

JOB PER

(Print)

116

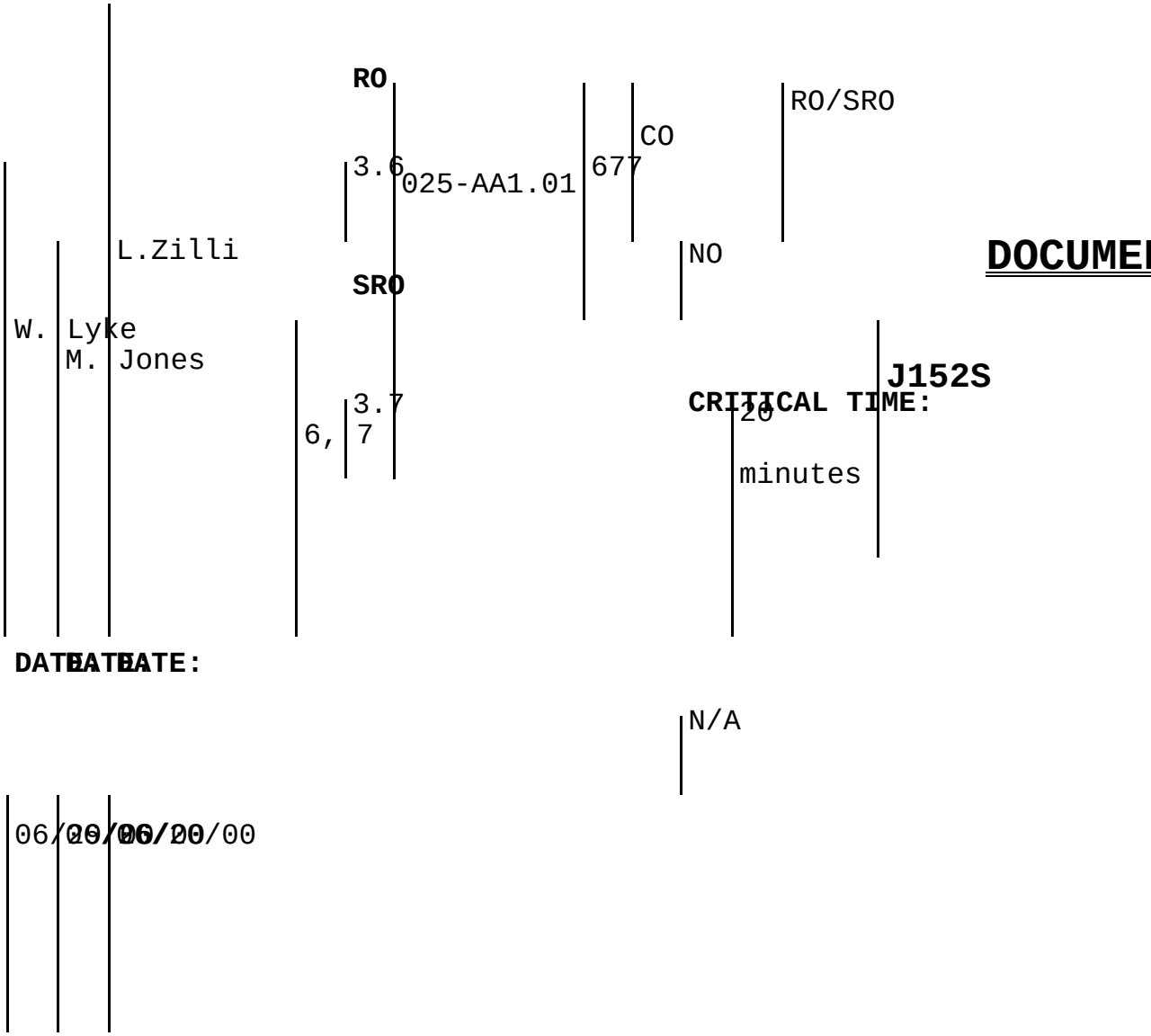
PERFORMED

PLANT

J152S

SIMULATOR

X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677
CO
RO/SRO
L.Zilli
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DOCUME
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W. Lyke
M. Jones
J152S
3.7
6, 7
CRITICAL TIME:
20
minutes
N/A

117

118

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		MODIFI
		MODIFIED BY
		MODIFIED DATE
		APPROVAL SOL

SET-UP

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-13-15, Loss of Shutdown Cooling, when identified.			
1	Identify correct procedure to use.	Identifies SO23-13-15, Loss of Shutdown Cooling as the correct procedure to use.		Start Time: _____
	CUE: There are no personnel in Containment, the Containment Equipment Hatch is closed, and the RCS is closed and pressurized.			
2	Initiate Attachment 4, Containment Closure/RCS Vent Checklist.	Initiates Containment closure and RCS monitoring.		
	CUE: Attachment 4, Containment Closure/RCS Vent Checklist is being performed by the ARO.			
3	Implement Attachment 1, RCS/SDCS Parameter Monitoring.	Implements Attachment 1, RCS/SDCS Parameter Monitoring.		
	CUE: Attachment 1, RCS/SDCS Parameter Monitoring is also being performed by the ARO.			
4	Ensure RCS dilutions stopped.	Ensures all RCS dilutions in progress are stopped.		
5	Verify RCS/SDCS parameters.	Verifies RCS/SDCS parameters by: • Verifying all SDCS/LTOP Isolation valves OPEN: HV-9339, HV-9336, HV-9377, HV-9378 • Verifying RCS level greater than or equal to 21 inches in the Hot Leg and NOT lowering on page 622 of QSPDS or CFMS		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
6*	Recognize that SDC flow is < 2300 gpm and the SDC pump START light is off and/or motor amperage is zero and go to the RNO column.	Recognizes that SDC flow is < 2300 gpm and the SDC pump START light is off and/or motor amperage is zero and goes to Step 5.		
7*	Recover SDC flow - Verify at least one SDC pump running.	Cannot verify that a SDC pump is running and refers to the RNO for 4 kV Buses A04 or A06 energized by the Diesel Generator. Exits main body of procedure to Attachment 8, Restoration of 1E Bus Voltage, Step 6.		
8a*	Load 4 kV Bus A06.	Ensures a CCW Pump started by checking CCW PUMP 2HS-6320-2 start light on and amps normal.		
8b*	Load 4 kV Bus A06.	Ensures a Salt Water Pump started on loop with running CCW Pump by checking SALTWATER PUMP 2P114 UNIT 3 INTAKE 2HS-6383-2 start light on and amps normal.		
8c	Load 4 kV Bus A06.	Ensures Intake Cooling Unit associated with operating SWC Pump started by checking SWTR PUMP 2P-114 ROOM VENT UNIT 2A372 UNIT 3 INTAKE 2ZL-9606-2 start light on.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
8d*	Load 4 kV Bus A06.	Starts the SDC Pump associated with the running CCW pump by DEPRESSING LPSI PUMP 2P-016 2HS-9391-2 START pushbutton.		
8e	Exit Attachment 8 and go to Step 5.b of SO23-13-15.	Exits Attachment 8 and goes to Step 5.b of SO23-13-15.		
9	Verify running SDC Pump amperage normal.	Verifies running SDC Pump amperage normal on LPSI PUMP 2P-016 2HS-9391-2 escutcheon.		
10	Recover SDC flow. Verify SDCS flow > 2300 gpm.	Verifies SDC flow by observing LPSI/SDC FLOW 2FI-0306 (or PMS display F306) is greater than 2300 gpm. **TERMINATING CUE:** **This JPM is complete.**		Stop Time: _____

123

COMPLETED BY: ______________ **DATE:** ______________

REV 0, 06/20/00

Operation

JPM CH

124

THIS IS A TIME CRITICAL JPM

from memory required [illegible]

JPM INFO

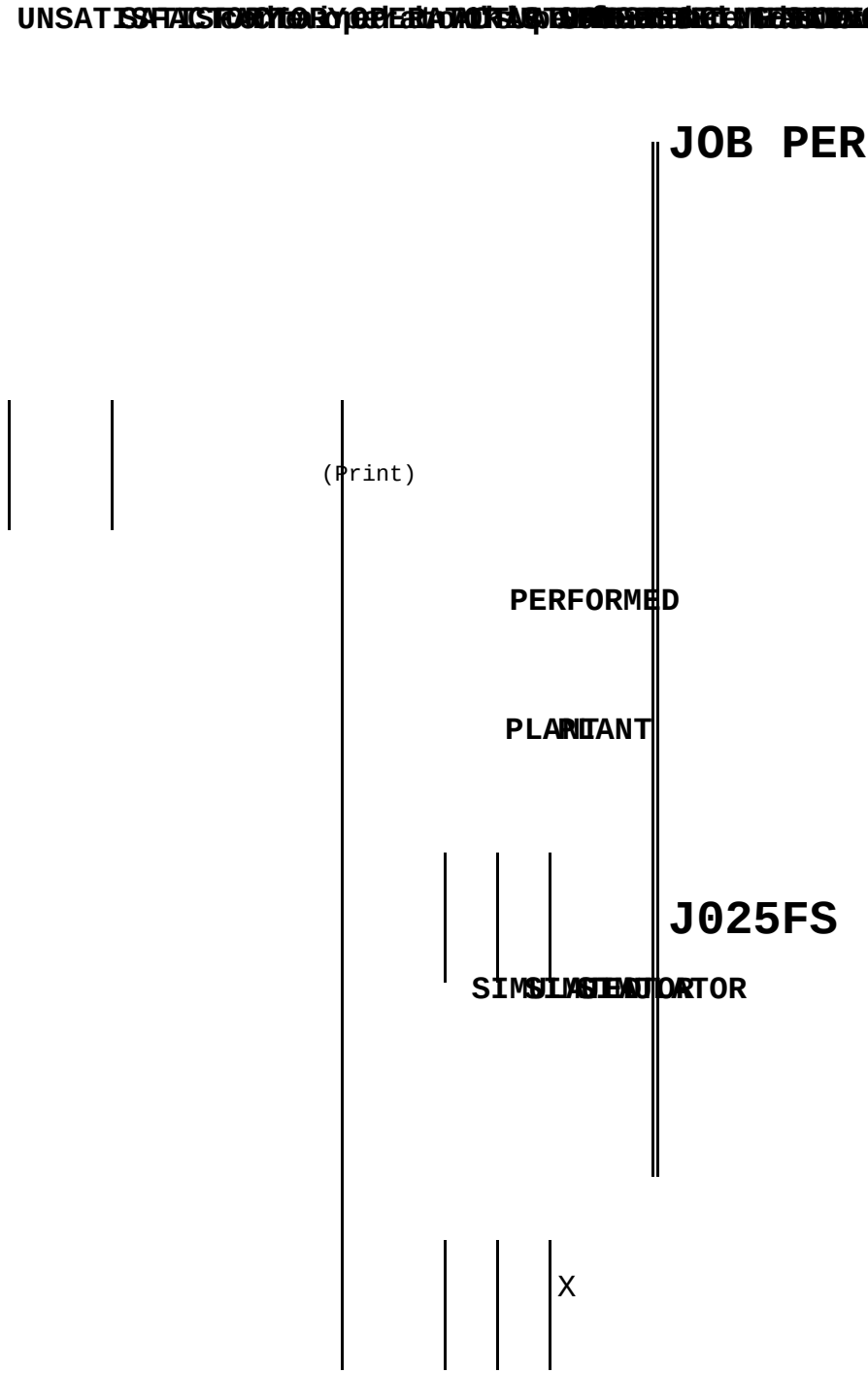
INITIAL PLANT CONDITION

TASK TO BE PERFORMED

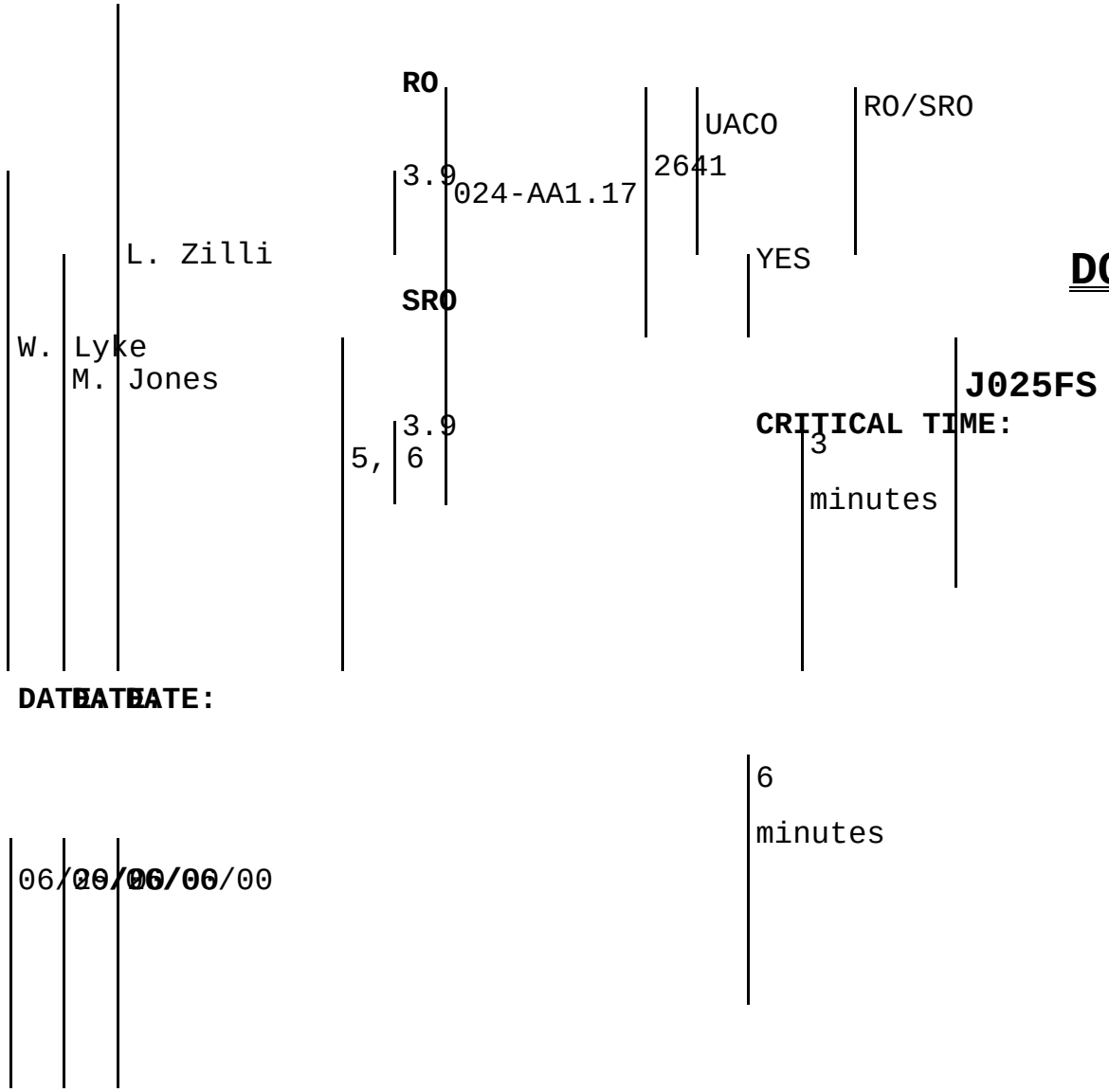
JPM NUMBER

125

J025FS



126


RO
3.9
024-AA1.17
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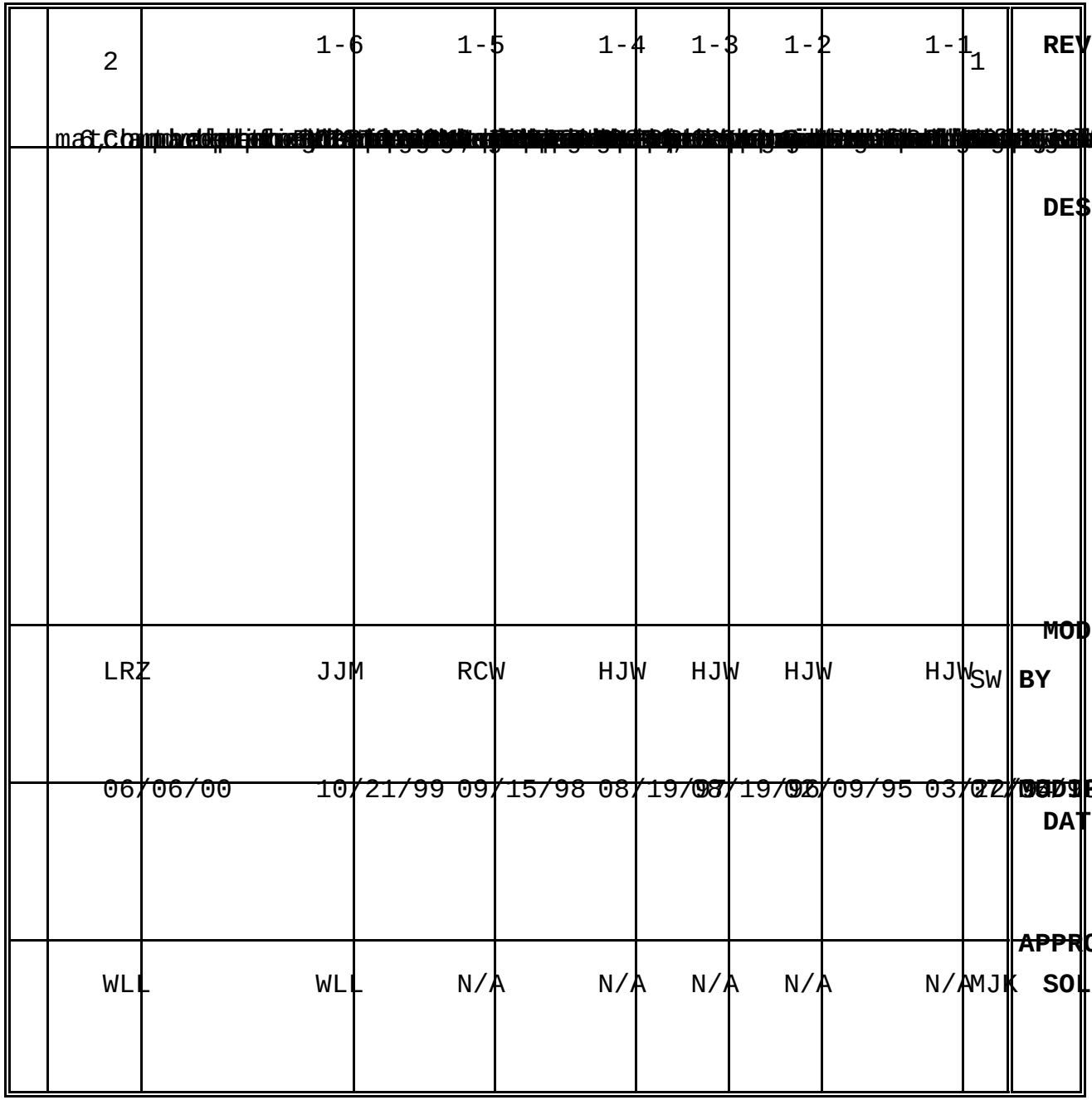
UACO
RO/SRO
L. Zilli
YES
SRO
W. Lyke
M. Jones
J025FS
3.9
5, 6
CRITICAL TIME:
3
minutes
6
minutes
06/00/00

128


REV
2
1-6
1-5
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1-2
1-1
1
DESCRIPTION
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JJM
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09/15/98
08/19/98
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08/09/95
03/22/95
APPROVAL
WLL
WLL
N/A
N/A
N/A
N/A
N/A
MJK
SOL

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	CUE: Steps do <u>not</u> need to be performed in order.			
1	Verify at least one Charging Pump is available.	Observes at least one charging pump 2-190, 2P-191, or 2P-192 operating on CR-58.		Start Time: _____
2	Place Makeup Mode Selector Switch in the MANUAL position.	Places Makeup Mode Selector Switch, 2HS-0210, in the MANUAL position.		
3	Start BAMU Pump P-175.	Depresses START pushbutton for P-175, BAMU Pump.		
	NOTE: P-175 and P-174 do not start. **NOTE: Opening either valve 2HV-9240 or 2HV-9235 admits boric acid to the RCS. Opening either valve satisfies the critical nature of the step.**			
4*	Open 2HV-9240 and 2HV-9235, BAMU Tank to Charging Pump Gravity Feed Valves.	Depresses OPEN on 2HV-9240, BAMU Tk 2T071 Gravity Feed Valve and 2HV-9235, BAMU Tk 2T072 Gravity Feed Valve.		
5*	Close 2LV-0227B, Volume Control Tank T-077 Outlet Valve.	Depresses MANUAL and CLOSE on 2LV-0227B, Volume Control Tank Outlet Block Valve.		Critical Time: _____
6	Ensure charging flow >40 gpm.	Observes Charging Flow Digital Display on 2UJI-0051G **or** Charging Flow indication 2FI-0212 on CR-58. **TERMINATION CUE:** **This JPM is complete.**		Stop Time: _____

131

COMPLETED BY: [illegible] **DATE:** [illegible]

REV 2, 06/06/00

Operatio[illegible]

JPM CH[illegible]

132

[illegible]

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

133

J143S

REV 1, 06/14/00

JOB PER

(Print)

134

PERFORMED

PLANT

J143S

SIMULATOR

X

APPROVED FOR ADMINISTRATION / DEVELOPED BY / REVIEWED BY (overlapping text)

RO 3.6 | 012-A4.03 | 608 | UACO | RO/SRO

L. Zilli

NO

DOCUMEN

SRO

W. Lyke

M. Jones

J143S

3.6 | 2, 6

CRITICAL TIME: 8 minutes

DATE: DATE: DATE:

N/A

06/29/00 06/14/00

136

MODIFI

REV	DESCRIPTION O	MODIFIED BY	MODIFIED DATE	APPROVAL SOL
1	[illegible]	LRZ	06/14/00	WLL

JPM: J143S **TITLE:** Return a Reactor Protective System Trip Channel to service.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-3-2.12, Reactor Protective System Operation, Section 6.2. **NOTE: The Trip Bypasses may be removed in any order.**			
1	Verify no trip signals are present.	Verifies the following annunciators, and their associated PPS Operator Module lights on 2UI-9149-1, are extinguished: • 56A03, LOCAL POWER LEVEL HI CHANNEL TRIP • 56A04, DNBR LO CHANNEL TRIP • 56A05, PZR PRESS HI CHANNEL TRIP		Start Time: _____
2*	Remove the Trip Bypass for LPD High by depressing the Bypass switch.	At 2UIK078, A Cabinet, depresses pushbutton #3, making sure the white light extinguishes.		
	NOTE: Show the cabinet mimic to the examinee. **CUE: The white light is off.**			
3*	Remove the Trip Bypass for DNBR Low by depressing the Bypass switch.	At 2UIK078, A Cabinet, depresses pushbutton #4, making sure the white light extinguishes.		
	NOTE: Provide the cabinet mimic to the examinee. **CUE: The white light is off.**			

JPM: J143S **TITLE:** Return a Reactor Protective System Trip Channel to service.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
4*	Remove the Trip Bypass for Pressurizer Pressure High by depressing the Bypass switch.	At 2UIK078, A Cabinet, depresses pushbutton #5, making sure the white light extinguishes.		
	NOTE: Provide the cabinet mimic to the examinee. **CUE: The white light is off.**			
5	Verify the Trip Channel Bypassed Annunciator 56A29 (Channel 1) is reset.	Verifies annunciator 56A29 is extinguished. **TERMINATING CUE:** **This JPM is complete.**		Stop Time: _____

140

COMPLETED BY: **DATE:**

REV 1, 06/14/00

Operations

JPM CH

141

[illegible]

JPM INFO

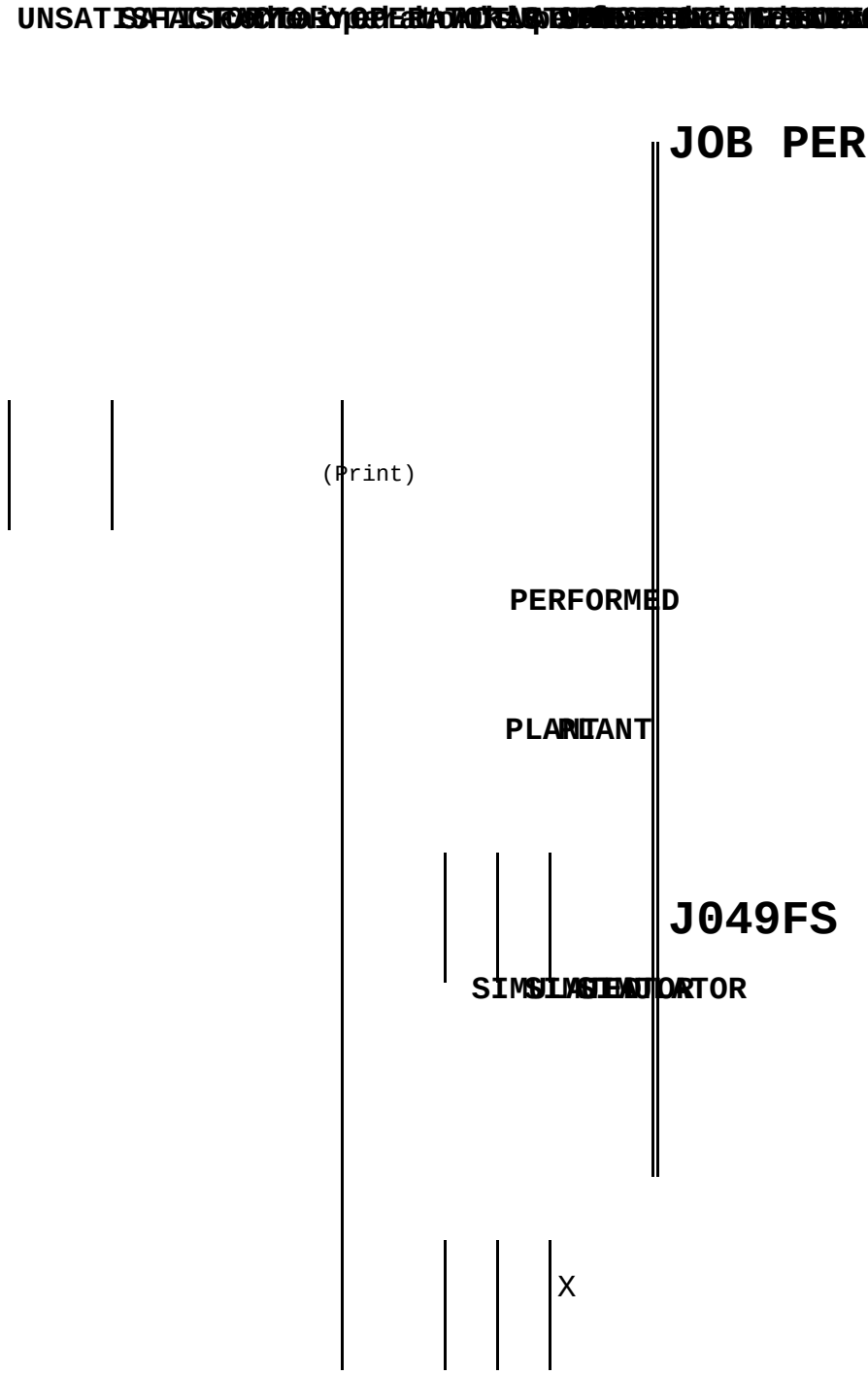
INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

142

J049FS


UNSATISFACTORY
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(Print)
PERFORMED
PLANT
J049FS
SIMULATOR
X

143

		RO				RO/SRO
					UACO	
		3.2	026-A2.08	2628		
	L. Zilli				NO	**DOCUME**
		SRO				
W. Lyke	M. Jones	6, 7, 8, & 12				**J049FS**
144		3.7			**CRITICAL TIME:**	15 minutes
DATE:	**DATE:**	**DATE:**				
						N/A
06/20/00	06/20/00	06/20/00				

	0	REV
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		DESCRIPTION C
		MODIFI
		MODIFIED BY
		MODIFIED DATE
		APPROVAL SOL

145

SET - UP

146

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-12-3, Loss of Coolant Accident, Attachment 2.			
1	Verify Containment pressure less than 14 psig, stable, and lowering.	Observes Containment Pressure NR indications 2PI-0351-1, 2, 3, & 4 on CR-57 **or** Containment Pressure WR indications 2PI-0352-1, 2, 3, & 4 on CR-57.		Start Time: _____
	CUE: Containment pressure is lowering.			
2	Verify at least 2 Containment Emergency Cooling Units operating.	Observes indicating lights for Containment Emergency Cooling Units (ECU): • 2E399 2HS-9953-1 on • 2E401 2HS-9947-1 off • 2E402 2HS-9955-2 off • 2E400 2HS-9939-2 off		
3*	With only Containment Emergency Cooling Unit E399 operating the RNO must be entered.	Recognizes that the AER column is not met and enters the RNO column due to only one Containment Emergency Cooling Unit operating.		
4	Ensure that CSAS is actuated.	Verifies that CSAS is actuated by observing annunciators 57A/B03 CSAS TRAIN A/B ACTUATION illuminated. Verifies Containment Spray pumps (2P012/2P013) operating and Containment Spray Header Control valves (2HV-9367 & 2HV-9368) open.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
5*	Close CCW to/from Letdown Heat Exchanger Valves.	Depresses the CLOSE pushbutton for Train B L/D HX valve CCW CLB LTDN HX 2E062 SUPPLY/RETURN VALVE 2HV-6522B/A.		
6*	Ensure that each Containment Spray Header flow is greater than 1625 gpm.	Observes Containment Spray Hdr No.1 & No.2 flow indicators 2FI-0338-1 and 2FI-0348-2.		
7*	Exits FS-13 and goes to FS-14, Transfer Charging Pump Suction.	Proceeds to Floating Step 14, Transfer Charging Pump Suction of SO23-12-3, LOCA.		
8	Verifies elapsed time from SIAS actuation greater than 1-1/2 hours.	Calculates per initial conditions state that 1-3/4 hours have elapsed.		
9	Verifies elapsed time from SIAS actuation less than 2 hours.	Calculates per initial conditions state that 1-3/4 hours have elapsed.		
10	Verify RWST level greater than 6%.	Observes RWT 2T006 Level, 2LI-0305-1 through 4.		
11	Ensure LV-0227C, RWST to Charging Pumps gravity feed valve open.	Verifies open 2LV-0227C, RWT 2T006 Gravity Feed Valve.		
12*	Override BAMU Pump 2P174.	Depresses the OVERRIDE pushbutton for BAMU Pump 2P174.		
13*	Stop BAMU Pump 2P174.	Depresses the STOP pushbutton for BAMU Pump 2P174.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
14*	Override BAMU Pump 2P175.	Depresses the OVERRIDE pushbutton for BAMU Pump 2P175.		
15*	Stop BAMU Pump 2P175.	Depresses the STOP pushbutton for BAMU Pump 2P175.		
16*	Override gravity feed valve 2HV-9235.	Depresses the OVERRIDE pushbutton for 2HV-9235, BAMU Tank 2T072 Gravity Feed Valve.		
17*	Close gravity feed valve 2HV-9235.	Depresses the CLOSE pushbutton for 2HV-9235, BAMU Tank 2T072 Gravity Feed Valve.		
18*	Override gravity feed valve 2HV-9240.	Depresses the OVERRIDE pushbutton for 2HV-9240, BAMU Tank 2T071 Gravity Feed Valve.		
19*	Close gravity feed valve 2HV-9240.	Depresses the CLOSE pushbutton for 2HV-9240, BAMU Tank 2T071 Gravity Feed Valve.		
20*	Override the emergency boration isolation valve 2HV-9247.	Depresses the OVERRIDE pushbutton for 2HV-9247, Emergency Boration Block Valve.		
21*	Close emergency boration isolation valve 2HV-9247.	Depresses the CLOSE pushbutton for 2HV-9247, Emergency Boration Block Valve.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
22	Ensure the Volume Control Tank Outlet Valve 2LV-0227B is closed.	Verifies 2LV-0227B, Volume Control Tank Outlet Block Valve is closed. **TERMINATING CUE:** **This JPM is complete.**		Stop time: _____

151

Operatio[illegible]

JPM CH

152

[illegible]

THIS IS A TIME CRITICAL JPM

JPM INFO

INITIAL PLANT CONDITIONS

TASK TO BE PERFORMED

JPM NUMBER

J004

153

REV 3, 06/13/00

JOB PER

(Print)

154

PERFORMED

PLANT

X

J004

SIMULATOR

APPROVED FOR ... [illegible]

RO

RO/SRO

3.7

068-AA1.10

63025

CO

L. Zilli

YES

SRO

DOCUMEN

W. Lyke

M. Jones

1004

6, 8, 12

3.9

CRITICAL TIME:

12

minutes

155

DATE: DATE: DATE:

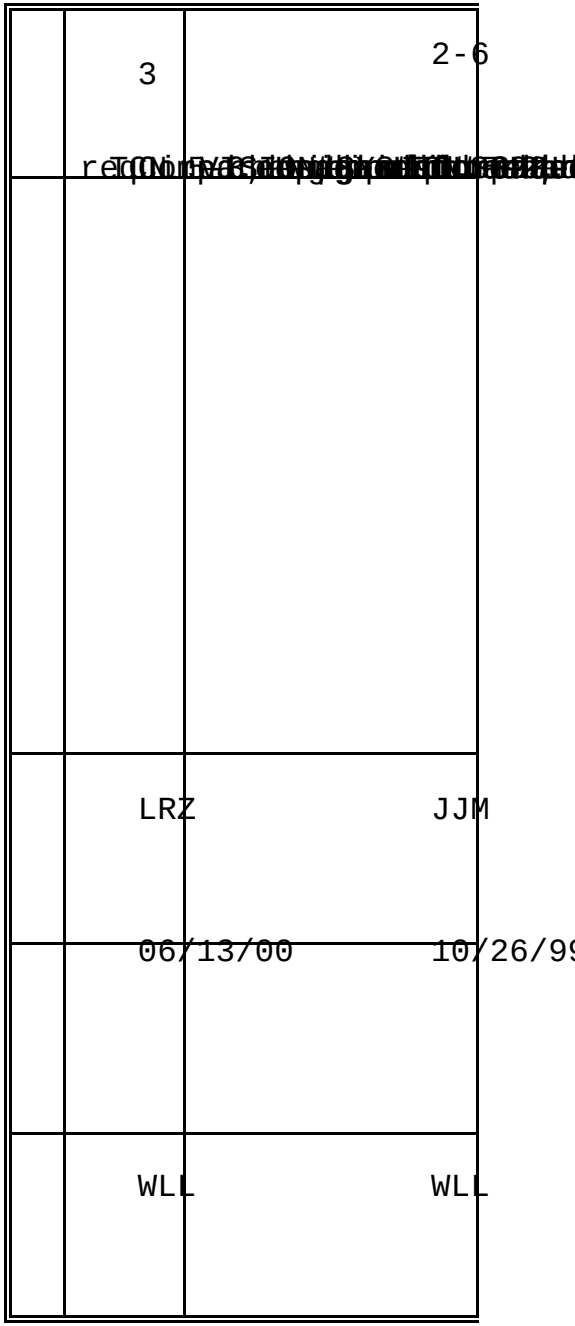
16

minutes

06/09/00 06/13/00 06/13/00

REV	DESCRIPTION	MODIFIED BY	MODIFIED DATE	APPROVAL SOL
2-5		RCW	08/26/98	N/A
2-4		HJW	08/13/98	N/A
2-3		HJW	06/07/96	N/A
2-2		HJW	04/26/95	N/A
2-1		HJW	03/08/94	N/A
2		HJW	03/01/94	MJK
1-2		HJW	12/30/93	N/A
1-1		HJW	12/28/93	N/A
1	MODIFI	SW	8/25/93	MJK

156


3
2-6
LRZ
JJM
06/13/00
10/26/99
WLL
WLL

SET-UP

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Start this JPM from the Control Building lobby. Provide the examinee with a copy of SO23-13-2, Attachments 4(5) and 21. **NOTE: The initial start time is logged as the examinee leaves the Control Building lobby.** **CUE: Simulate all actions throughout this procedure.**			
1*	Proceed to SSD locker and obtain an emergency lantern, steam tables, alarming dosimeter, headsets, and 21(31) keyset. [SSD KIT: 21(31)]	Proceeds to SSD locker and obtains an emergency lantern, steam tables, alarming dosimeter, headsets, and 21(31) keyset. [SSD KIT: 21(31)]		Start Time: _____
	CUE: Identify CO duffel bag but do not remove from locker. **CUE: Locate from the Control Building side, the door leading to the Penetration Building, but do <u>not</u> open the door.**			
2*	Proceed to the door accessing the SSD route to Unit 2(3) Penetration Building.	Locates the door to the Unit 2(3) Penetration Building. The door for Unit 2 is AC307 and Unit 3 is AC342.		Stop Time: _____
	NOTE: Stop the clock when the door to the Penetration Building is located. Restart the clock when the SSD route door in the Penetration Building side is located. **CUE: Proceed to the other side of the door via Radwaste.**			
	NOTE: Restart time when examinee identifies the Penetration side of the door.			
3*	Proceed to penetration area 45'.	Proceeds to penetration area and locates the SSD route door and then proceeds to Switchgear 2A01(3A01).		Start Time: _____

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
4	Check open RCP breaker 2A0101 for 2P-001 (3A0102 for 3P-001).	Observes the indicating lights for RCP P-001 supply breaker 2A0101 (3A0102).		
	CUE: The green light is on. All actions to trip and lockout breakers should be simulated.			
5*	Remove plastic cover to AUX TRIP & LOCKOUT RELAY 286.	Simulates removing plastic cover to AUX TRIP & LOCKOUT RELAY 286 on 2A0101(3A0102).		
6*	Trip the AUX TRIP & LOCKOUT RELAY 286 with the plastic cover.	Simulates using the plastic cover to trip the AUX TRIP & LOCKOUT RELAY 286 on 2A0101(3A0102).		
7	Check open RCP breaker 2A0103 for 2P-004 (3A0104 for 3P-004).	Observes the indicating lights for RCP P-004 supply breaker 2A0103 (3A0104).		
	CUE: The green light is on.			
8*	Remove plastic cover to AUX TRIP & LOCKOUT RELAY 286.	Simulates removing plastic cover to AUX TRIP & LOCKOUT RELAY 286 on 2A0103(3A0104).		
9*	Trip the AUX TRIP & LOCKOUT RELAY 286 with the plastic cover.	Simulates using the plastic cover to trip the AUX TRIP & LOCKOUT RELAY 286 on 2A0103(3A0104).		
10	Proceed to the Penetration Area 63'.	Proceeds switchgear 2A02 (3A02) in the Penetration Area 63'.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
11	Check open RCP breaker 2A0201 for 2P-002(3A0202 for 3P-002).	Observes the indicating lights for RCP P-002 supply breaker 2A0201(3A0202).		
	CUE: The green light is on.			
12*	Remove plastic cover to AUX TRIP & LOCKOUT RELAY 286.	Simulates removing plastic cover to AUX TRIP & LOCKOUT RELAY 286 on 2A0201(3A0202).		
13*	Trip the AUX TRIP & LOCKOUT RELAY 286 with the plastic cover.	Simulates using the plastic cover to trip the AUX TRIP & LOCKOUT RELAY 286 on 2A0201(3A0202).		
14	Check open RCP breaker 2A0203 for 2P-003(3A0204 for 3P-003).	Observes the indicating lights for RCP P-003 supply breaker 2A0203(3A0204).		
	CUE: The green light is on.			
15*	Remove plastic cover to AUX TRIP & LOCKOUT RELAY 286.	Simulates removing plastic cover to AUX TRIP & LOCKOUT RELAY 286 on 2A0203(3A0204).		
16*	Trip the AUX TRIP & LOCKOUT RELAY 286 with the plastic cover.	Simulates using the plastic cover to trip the AUX TRIP & LOCKOUT RELAY 286 on 2A0203(3A0204).		
17	Check Non-1E PZR backup heater supply breaker 2(3)B0805 position.	Observes breaker 2(3)B0805 indication window.		
	CUE: The red closed indicator is visible.			

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
18*	Place the Charging Power Toggle Switch to OFF.	Simulates placing Charging Power Toggle Switch to OFF (down) on 2(3)B0805.		
19*	Trip breaker 2(3)B0805.	Simulates moving the trip pushbutton guard aside then push the trip button on 2(3)B0805.		
	CUE: The green open indicator is visible.			
20	Check Non-1E PZR backup heater supply breaker 2(3)B0806 position.	Observes breaker 2(3)B0806 indication window.		
	CUE: The red closed indicator is visible.			
21*	Place the Charging Power Toggle Switch to OFF.	Simulates placing Charging Power Toggle Switch to OFF (down) on 2(3)B0805.		
22*	Trip breaker 2(3)B0806.	Simulates moving the trip pushbutton guard aside then push the trip button on 2(3)B0806.		
	CUE: The green open indicator is visible.			
23	Check PZR proportional heater supply breaker 2(3)B0810 position.	Observes breaker 2(3)B0810 indication window.		
	CUE: The red closed indicator is visible.			

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
24*	Place the Charging Power Toggle Switch to OFF.	Simulates placing Charging Power Toggle Switch to OFF (down) on 2(3)B0810.		
25*	Trip breaker 2(3)B0810.	Simulates moving the trip pushbutton guard aside then push the trip button on 2(3)B0810.		
	CUE: The green open indicator is visible.			
26	Proceed to Penetration Area 45' by way of the Fuel Handling Building Stairwell.	Proceeds to Penetration Area 45' by way of the Fuel Handling Building Stairwell.		
27	Check Non-1E PZR back up heater supply breaker 2(3)B0205 position.	Observes breaker 2(3)B0205 indication window.		
	CUE: The green open indicator is visible.			
28*	Place the Charging Power Toggle Switch to OFF.	Simulates placing charging power toggle switch to OFF (down) on 2(3)B0205.		
29*	Trip breaker 2(3)BO205.	Simulates moving the trip pushbutton guard aside then push and hold the trip button while lifting the manual close lever to the right of the trip button on 2(3)B0205.		
	CUE: You hear the closing springs discharge.			

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
30	Check Non-1E PZR back up heater supply breaker 2(3)B0206 position.	Observes breaker 2(3)B0206 indication window.		
	CUE: The green open indicator is visible.			
31*	Place the Charging Power Toggle Switch to OFF.	Simulates placing charging power toggle switch to OFF (down) on 2(3)B0206.		
32*	Trip breaker 2(3)B0206.	Simulates moving the trip pushbutton guard aside then push and hold the trip button while lifting the manual close lever to the right of the trip button on 2(3)B0206.		
	CUE: You hear the closing springs discharge.			
33	Check PZR proportional heater supply breaker 2(3)B0210 position .	Observes breaker 2(3)B0210 indication window.		
	CUE: The green open indicator is visible.			
34*	Place the Charging Power Toggle Switch to OFF.	Simulates placing charging power toggle switch to OFF (down) on 2(3)B0210.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
35*	Trip breaker 2(3)B0210.	Simulates moving the trip pushbutton guard aside then push and hold the trip button while lifting the manual close lever to the right of the trip button on 2(3)B0210. **TERMINATING CUE:** **You hear the closing springs discharge. This JPM is complete.**		Stop Time: _____ Examiner will combine both times to determine the total time to perform this JPM. Total Time: _____ **NOTE: Critical Time is 16 minutes**.

166

REV 3, 06/13/00

Operations

JPM CH

167

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

168

J148

REV 0, 07/05/00

JOB PER

(Print)

169

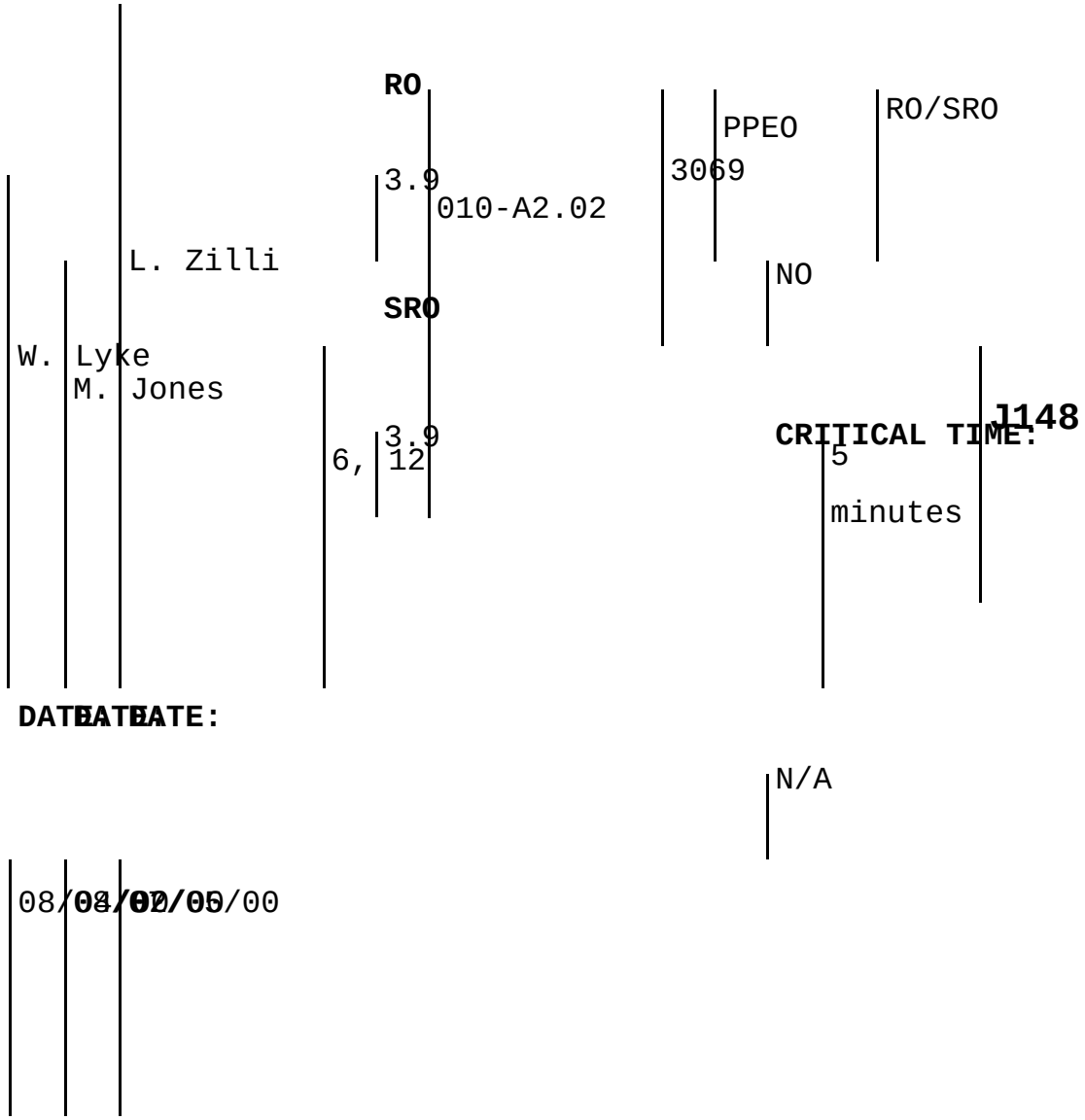
PERFORMED

PLANT

X

J148

SIMULATOR


RO
3.9
010-A2.02
L. Zilli
SRO
W. Lyke
M. Jones
3.9
6, 12
PPEO
3069
RO/SRO
NO
CRIIICAL TIME:
5
minutes
1148
N/A
08/02/00

170

171

REV	0
DESCRIPTION C	New
MODIFI	
MODIFIED BY	
MODIFIED DATE	
APPROVAL SOL	

SET - UP

172

JPM: J148 **TITLE:** Perform Manual Auxiliary Spray Actions.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-12-9, Functional Recovery, Attachment 7.			
1	Ensure 3HV-9201 is closed.	Ensures 3HV-9201 is closed by contacting the Control Room and verifying 3HV-9201 position.		Start Time: _____
	CUE: The CRS reports that the PZR Auxiliary Spray Valve 3HV-9201 is closed.			
2*	UNLOCK and OPEN 1208MU130, PZR Auxiliary Spray Bypass Line Isolation Valve (Penetration 68).	Simulates unlocking and opening 1208MU130, PZR Auxiliary Spray Bypass Line Isolation Valve at Penetration 68.		
3*	UNLOCK and THROTTLE 1208MU084, Charging Line Block Valve to control spray flow to establish required PZR pressure.	Simulates unlocking and throttling 1208MU084, Charging Line Block Valve to control spray flow to establish required PZR pressure.		
4	Contact the Control Room to verify correct valve position.	Contacts the Control Room to verify correct valve position. **TERMINATING CUE: This JPM is complete.**		Stop Time: _____

174

REV 0, 07/05/00

Operations

JPM CH

175

THIS IS A TIME CRITICAL JPM

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

176

J021

REV 2, 06/13/00

JOB PER

(Print)

177

PERFORMED

PLANT

X

J021

SIMULATOR

APPROVED FOR ADMINISTRATION / REVIEWED / DEVELOPED BY / TIME TO COMPLETE (overlapping text)

DOCUMEN

L. Zilli

W. Lyke

M. Jones

RO

4.1 029-EA1.12 399 RWOP RO/SRO

YES

SRO

6, 8, 9, 12

4.0

CRITICAL TIME: 5 minutes

1021

DATE: DATE: DATE:

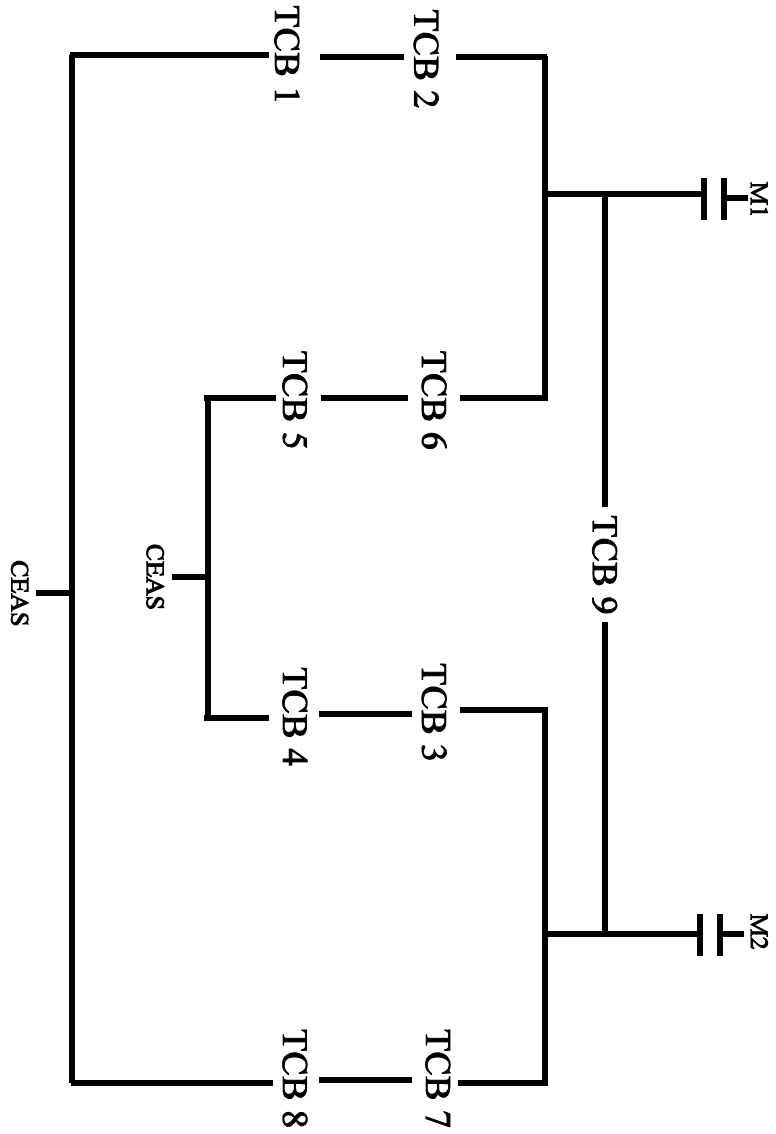
8 minutes

06/09/00 06/13/00 06/13/00

178

179

REV	DESCRIPTION OF CHANGE	MODIFIED BY	MODIFIED DATE	APPROVAL SOL
1	[illegible]	SW	[illegible]	MJK
1-1	[illegible]	HJW	12/27/93	N/A
1-2	[illegible]	HJW	[illegible]	N/A
1-3	[illegible]	HJW	[illegible]	N/A
1-4	[illegible]	HJW	[illegible]	N/A
1-5	[illegible]	JJM	[illegible]	WLL
2	[illegible]	LRZ	06/13/00	WLL


TCB 1
TCB 2
M1
TCB 5
TCB 6
CEAS
CEAS
TCB 9
TCB 4
TCB 3
M2
TCB 8
TCB 7

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Proceed to the Rad Waste Control Room before providing the examinee with a copy of the task to be performed. **NOTE: The examinee is not allowed to refer to a procedure.** **NOTE: Any combination of open breakers (either 1 or 2 and either 7 or 8 AND either 3 or 4 and either 5 or 6) that results in an open circuit to CEDM Buses 1 and 2 satisfies Critical Steps 1 through 8 inclusive for this JPM.** **NOTE: The following steps may be performed in any sequence.**			
1*	Open Reactor Trip Circuit Breakers TCB-1.	Presses the local trip push button on breaker cubicle (behind the stainless steel guard plate), **or** presses the Emergency Trip push button TCB-5 & TCB-1 on TCB-5 cubicle.		Start Time: _____ (From the Rad Waste Control Room)
	NOTE: The Emergency Trip push button trips 2 associated breakers simultaneously. **CUE: The green light(s) is (are) on.**			
2*	Open Reactor Trip Circuit Breaker TCB-2.	Presses the local trip push button on breaker cubicle (behind the stainless steel guard plate), **or** presses the Emergency Trip push button TCB-6 & TCB-2 on TCB-6 cubicle.		
	CUE: The green light(s) is (are) on.			

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
3*	Open Reactor Trip Circuit Breaker TCB-3.	Presses the local trip push button on breaker cubicle (behind the stainless steel guard plate), **or** presses the Emergency Trip push button TCB-3 & TCB-7 on TCB-3 cubicle.		
	CUE: The green light(s) is (are) on.			
4*	Open Reactor Trip Circuit Breaker TCB-4.	Presses the local trip push button on breaker cubicle (behind the stainless steel guard plate), **or** presses the Emergency Trip push button TCB-4 & TCB-8 on TCB-4 cubicle.		
	CUE: The green light(s) is (are) on.			
5*	Open Reactor Trip Circuit Breaker TCB-5.	Presses the local trip push button on breaker cubicle (behind the stainless steel guard plate), **or** presses the Emergency Trip push button TCB-5 & TCB-1 on TCB-5 cubicle.		
	CUE: The green light(s) is (are) on.			
6*	Open Reactor Trip Circuit Breaker TCB-6.	Presses the local trip push button on breaker cubicle (behind the stainless steel guard plate), **or** presses the Emergency Trip push button TCB-6 & TCB-2 on TCB-6 cubicle.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	CUE: The green light(s) is (are) on.			
7*	Open Reactor Trip Circuit Breaker TCB-7.	Presses the local trip push button on breaker cubicle (behind the stainless steel guard plate), **or** presses the Emergency Trip push button TCB-3 & TCB-7 on TCB-3 cubicle.		
	CUE: The green light(s) is (are) on.			
8*	Open Reactor Trip Circuit Breaker TCB-8.	Presses the local trip push button on breaker cubicle (behind the stainless steel guard plate), **or** presses the Emergency Trip push button TCB-4 & TCB-8 on TCB-4 cubicle.		
	CUE: The green light(s) is (are) on.			
9*	Open MG set 1 input breaker.	On 3L-045 places the MOTOR INPUT breaker in Off.		
10*	Open MG set 1 output breaker.	On 3L-045 places the GENERATOR OUTPUT breaker in Off.		
11*	Open MG set 2 input breaker.	On 3L-046 places the MOTOR INPUT breaker in Off.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
12*	Open MG set 2 output breaker.	On 3L-046 places the GENERATOR OUTPUT breaker in Off. **TERMINATING CUE:** **This JPM is complete.**		Stop Time: _____

185

REV 2, 06/13/00

Operations

JPM CH

186

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

187

J169A

UNSATISFACTORY PERFORMANCE

JOB PER

(Print)

188

PERFORMED

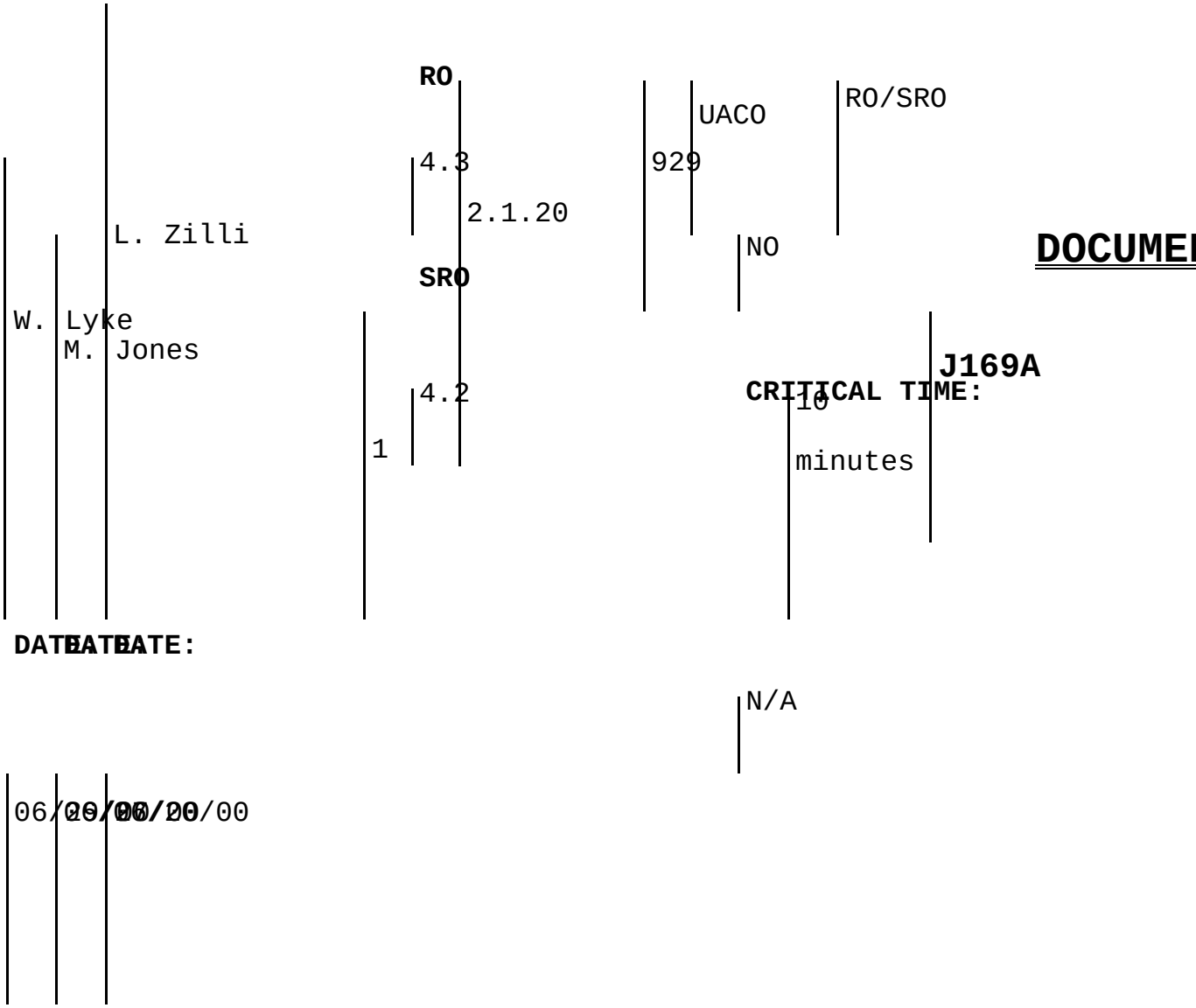
PLANT

X

J169A

SIMULATOR

X


RO
4.3
2.1.20
SRO
4.2
1
UACO
929
RO/SRO
NO
L. Zilli
W. Lyke
M. Jones
J169A
CRITICAL TIME:
10
minutes
N/A
06/20/00

189

190

	0	REV
	New	
		DESCRIPTION C
		MODIFI
		MODIFIED BY
		MODIFIED DATE
		APPROVAL SOL

REV 0, 06/20/00

SET - UP

191

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Provide the examinee with a copy of SO23-5-1.5, Plant Shutdown from Hot Standby to Cold Shutdown, when located. When located in the Simulator or plant, provide the examinee with a copy of Operations Figure 2.3-1, Songs Unit 2 Cycle 10 Minimum Boron Concentration for 5.15% Shutdown Margin. **CUE: The CO has commenced the boration. All control rods are inserted.**			
1*	Determine target boron concentration.	Determines target boron concentration using OPS Figure 2.3-1, SDM 5.15% ΔK/K @ 200°F (Non-Refueling Outage Method). (**Calculates a value between 1590 ppm & 1610 ppm**) **TERMINATING CUE: This JPM is complete.**		Start Time: _____ Stop Time: _____

193

JPM CH

194

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

195

J170A

REV 0, 06/14/00

JOB PER

(Print)

196

PERFORMED

PLANT

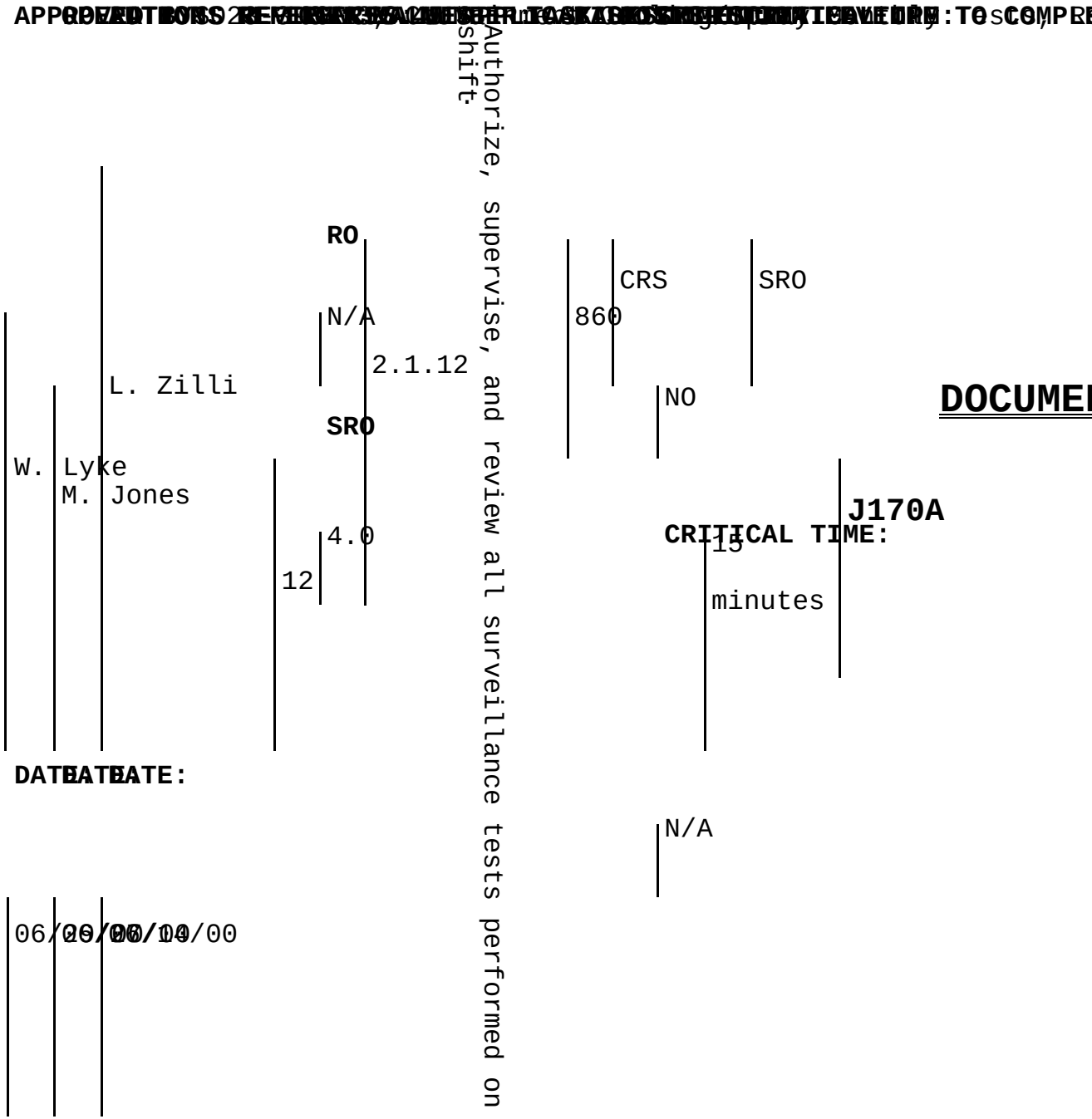
X

J170A

SIMULATOR

Page 196 of 7

X


APPROVED
RO
N/A
2.1.12
L. Zilli
SRO
W. Lyke
M. Jones
4.0
12
Authorize, supervise, and review all surveillance tests performed on shift.
CRS
SRO
860
NO
J170A
CRITICAL TIME:
15
minutes
N/A
DATE
DATE
DATE:
06/20/00
06/14/00

198

	0	REV
	New	
		DESCRIPTION C
		MODIFI
		MODIFIED BY
		MODIFIED DATE
		APPROVAL SOL

JPM: J170A **TITLE:** Authorize, Supervise, and Review all Surveillance Tests performed on shift.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
NOTE: Provide a marked-up copy of SO23-3-3.13, Containment Cooling/Spray Monthly Tests, Attachment 1.				
1	Perform final SRO review of the surveillance procedure.	Reviews the surveillance procedure provided.		Start Time: _____
2*	Discover error in Step 2.7.1.	Discovers that the difference between the Stop Time and Start Time for E-401 was less than 15 minutes, and that YES has been circled instead of NO.		
3	Perform the step required for unsatisfactory results.	Performs the following: - Refers to TS LCO's 3.6.6.1, 3.6.6.2, and 3.7.7. - Initiates LCOAR/EDMR/AR - Repeats the surveillance test **TERMINATING CUE: This JPM is complete.**		Stop Time: _____

201

REV 0, 06/14/00

Operatio [illegible]

JPM CH [illegible]

202

REV 0, 06/14/00

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

J166A

203

UNSATISFACTORY PERFORMANCE

JOB PER

(Print)

204

PERFORMED

PLANT

X

J166A

SIMULATOR

X

REV 0, 06/14/00

RO

CO/CRS RO/SRO

2.9 2923

2.3.10

L. Zilli

NO

DOCUME

SRO

W. Lyke

M. Jones

J166A

205

3.3

CRITICAL TIME: 5 minutes

10

DATE: DATE: DATE:

N/A

08/04/00 02/11/00

206

MODIFI

REV	0
DESCRIPTION C	New
MODIFIED BY	
MODIFIED DATE	
APPROVAL SOL	

REV 0, 06/14/00

207

JPM: J166A **TITLE:** Determine does rates and contaminated areas from an HP survey map.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: The following steps can be performed in any order. **NOTE: Provide the examinee with a copy of SO123-VII-20.9, Radiological Surveys, if requested, and the applicable HP Survey Map.**			
1*	Determine the highest "On Contact" dose rate in mrem/hr.	Determines the highest "On Contact" dose rate to be 10 mrem/hr.		Start Time: _____
2*	Determine the highest "General Area" radiation level in mrem/hr.	Determines the highest "General Area" radiation level to be 15 mrem/hr.		
3*	Determine the highest "Contaminated Area" in DPM/100cm^2.	Determines the highest "Contaminated Area" to be <1K DPM/100cm^2.		
4	Determine the highest "Dose Rate at 30 cm" in mrem/hr.	Determines the highest "Dose Rate at 30 cm" to be 6 mrem/hr. **TERMINATING CUE: This JPM is complete.**		Stop Time: _____

209

The JPM i

REV 0, 06/14/00

Operations

JPM CH

210

Ci/sec for 15 minutes. Y

JPM INFO

INITIAL PLANT CONDITIONS

TASK TO BE PERFORMED

JPM NUMBER

211 J126S

UNSATISFACTORY PERFORMANCE

JOB PER

(Print)

212

PERFORMED

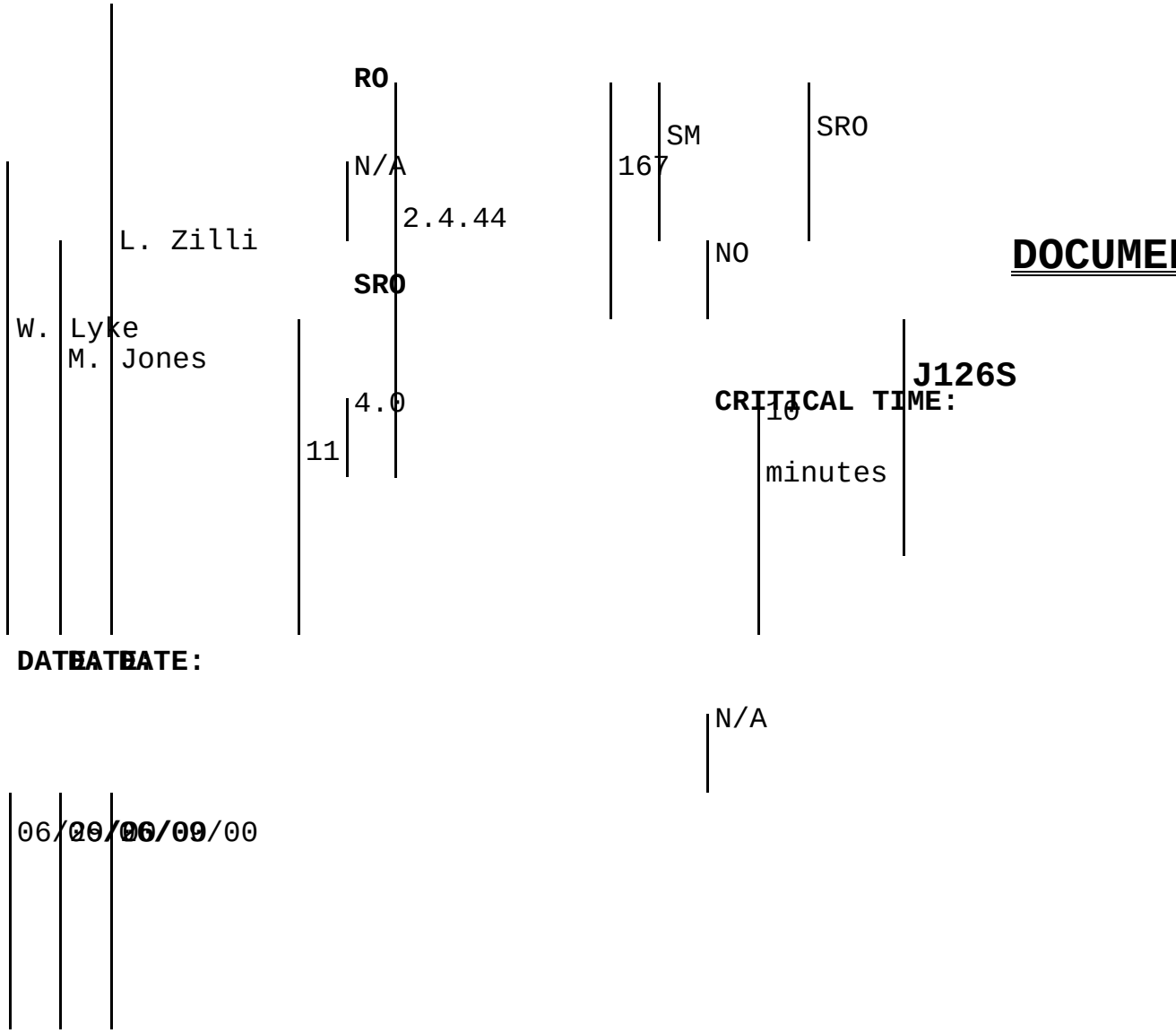
PLANT

X

J126S

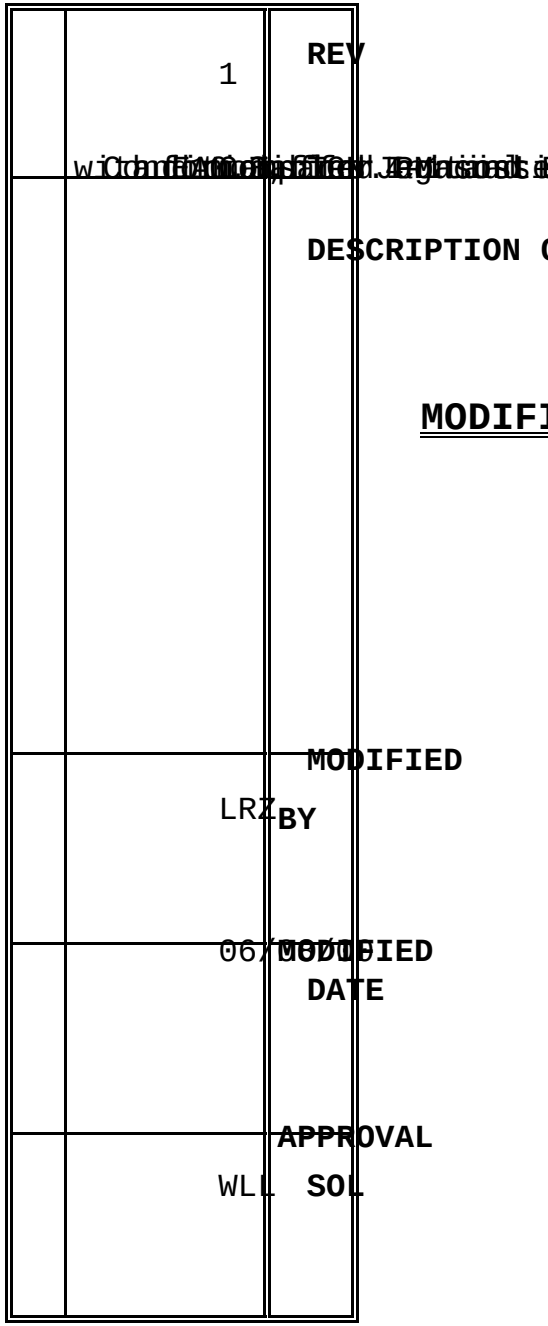
SIMULATOR

X


RO
N/A
2.4.44
L. Zilli
SRO
W. Lyke
M. Jones
4.0
11
SM
167
SRO
NO
J126S
CRITICAL TIME:
10
minutes
N/A
06/00/00

213

214


REV
1
DESCRIPTION
MODIFI
MODIFIED
BY
LRZ
MODIFIED
DATE
06/08/00
APPROVAL
SOL
WLL

SET-UP

215

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
NOTE: Provide the examinee with a copy of SO123-VIII-10.3, Protective Action Recommendations.				
1	Determine that the PAR required is based on the Emergency Class.	Uses criteria in Step 6.1.2.2 to determine that Emergency Class PARs apply.		Start time: _____
2*	Based on a Site Area Emergency with doses as stated in the Initial Conditions the PAR is to evacuate State Beach.	Using the Table in Step 6.1.2.2, based on a Site Area Emergency, recommends evacuating the State Beach. **TERMINATING CUE:** **This JPM is complete.**		Stop time: _____

217

Operations [illegible]

JPM CH

218

JPM INFO

INITIAL PLANT CONDITION

TASK TO BE PERFORMED

JPM NUMBER

219

J019

REV 2, 06/15/00

JOB PER

(Print)

220

PERFORMED

PLANT

X

J019

SIMULATOR

APPROVED ... **DOCUMENT**

RO N/A
SRO 3.9

068-A1.10

1197

CRS SRO

NO

N/A

L. Zilli

W. Lyke

M. Jones

3, 6, 8, 12

CRITICAL TIME: 20 minutes

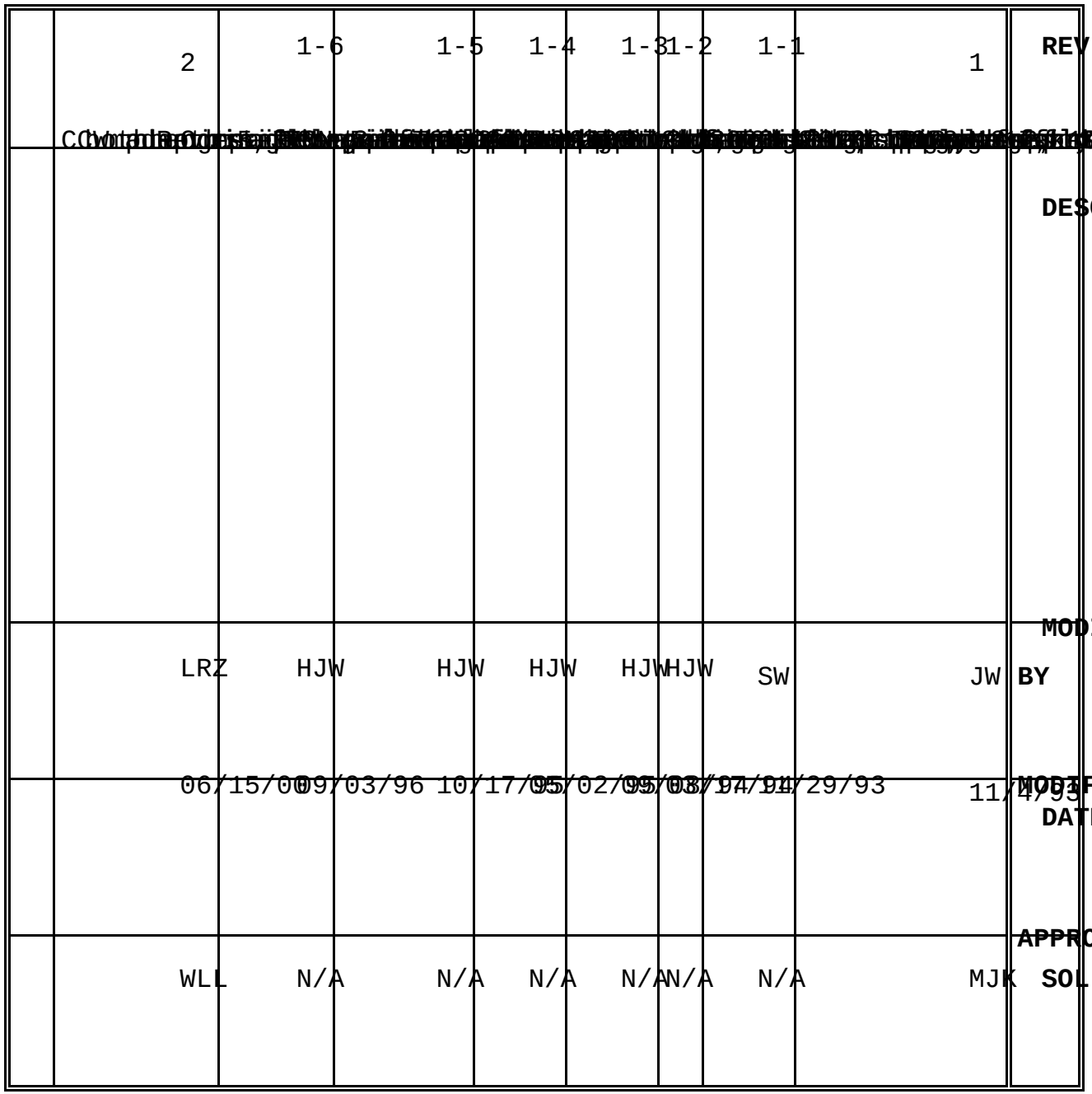
JO19

DATE: DATE: DATE:

06/09/00 06/15/00 06/15/00

221

222


REV
2
1-6
1-5
1-4
1-3
1-2
1-1
1
DESCRIPTION
MODIFI
MODIFIED
BY
LRZ
HJW
HJW
HJW
HJW
HJW
SW
JW
MODIFIED
DATE
06/15/00
09/03/96
10/17/95
05/02/95
11/4/93
APPROVAL
SOL
WLL
N/A
N/A
N/A
N/A
N/A
N/A
MJK

SET-UP

223

JPM: J019 **TITLE:** Perform required duties of the Unit 2(3) CRS during a Shutdown from Outside the Control Room.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	NOTE: Start this JPM from the Control Building Lobby. Provide the examinee with a copy of SO23-13-2, Shutdown from Outside the Control Room, Attachments 2(3) and 21. **NOTE: The start time is logged as the examinee leaves the Control Building lobby.** **NOTE: When the examinee indicates how to gain access to the Safe Shutdown locker, unlock the Safe Shutdown Locker.** **CUE: Simulate all actions throughout this procedure.**			
1*	Proceed to Control Building 50' Safe Shutdown (SSD) locker and identify equipment to be taken.	Proceeds to SSD Locker and identifies SSD KIT: CRS 2(3) and simulates removal from locker.		Start time: _____
	CUE: Identify CRS duffel bag but do not remove from locker.			
2	Proceed to 2(3)D2 Vital Power Distribution Room.	Locates Room 310-D.		
3	ENSURE closed ESF DC control power at 2(3)D2P1.	Locates breaker 2(3)D2P101, Power to Sw Gr 2(3)A06, in Panel 2(3)D2P1.		
	CUE: Breaker 2(3)D2P101 is closed.			
4	ENSURE closed ESF DC control power at 2(3)D2P1.	Locates breaker 2D2P102, Power to LC 2B06, in Panel 2D2P1.		
	CUE: Breaker 2(3)D2P102 is closed.			
5	ENSURE closed ESF DC control power at 2(3)D2P1.	Locates breaker 2(3)D2P111, Power to 2(3)G003 2(3)L-161, in Panel 2(3)D2P1.		

JPM: J019 **TITLE:** Perform required duties of the Unit 2(3) CRS during a Shutdown from Outside the Control Room.

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	CUE: Breaker 2(3)D2P111 is closed.			
6*	ENSURE open 2(3)D2P103.	Simulates opening 2(3)D2P103, Power to 2(3)L-33, in Panel 2(3)D2P1.		
	CUE: Breaker 2(3)D2P103 is open.			
7*	ENSURE open 2(3)D2P104.	Simulates opening 2(3)D2P104, Power to 2(3)L071-3R, in Panel 2(3)D2P1.		
	CUE: Breaker 2(3)D2P104 is open.			
8*	ENSURE open 2(3)D2P105.	Simulates opening 2(3)D2P105, Power to 2(3)L421, in Panel 2D(3)2P1.		
	CUE: Breaker 2(3)D2P105 is open.			
9*	ENSURE open 2(3)D2P108.	Simulates opening 2(3)D2P108, Power to 2(3)L-345, in Panel 2(3)D2P1.		
	CUE: Breaker 2(3)**D2P108 is open.**			
10*	ENSURE open 2(3)D2P109.	Simulates opening 2(3)D2P109, Power to NSSS Cabinet 2(3)L-071-4R Flood Alarms, in Panel 2(3)D2P1.		
	CUE: Breaker 2(3)D2P109 is open.			

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
11*	At the 2(3)D2 Switchboard open power supply breaker, 2(3)D205, providing power to HV-4706 and HV-4715.	Simulates opening breaker 2(3)D205, Power to 2(3)HV-4706 & 4715, in Panel 2(3)D2, 125 VDC Bus.		
	CUE: Breaker 2(3)D205 is open.			
12	Proceed to Unit 2(3) Train B Switchgear Room.	Proceeds to Unit 2(3) Train B Switchgear Room 302A.		
	NOTE: The key for Fire Isolation Panel "B" 2(3)L-413 is not on the JPM key ring.			
13*	Unlock and open Fire Isolation Panel 2(3)L-413.	Simulates unlocking and opening Fire Isolation Panel "B" 2(3)L-413.		
	NOTE: Ensure that examinee identifies all switches to be placed in "LOCAL" with the exception of the two (2) DG Cross Tie 50.54(X) switches. The spares may or may not be placed in "LOCAL".			
14*	Select all Fire Isolation Switches to LOCAL.	Simulates or indicates the following: • Placing all Fire Isolation Switches to LOCAL		
	CUE: All Fire Isolation Switches are in LOCAL.			
15*	Open Second Point of Control cubicle 2(3)A0601.	Opens Second Point of Control cubicle 2(3)A0601.		
16*	Select all control switches to stop.	Simulates placing all Second Control Point switches to STOP.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	CUE: All control switches are in STOP. **NOTE: Provide the following cue when breaker 2(3)A0613 is located.** **CUE: 2(3)A0613, 2(3)G003 output breaker GREEN light is on.**			
17*	Lockout 2(3)A0613, 2(3)G003 output breaker.	Simulates removing cover to overcurrent lockout relay 186-2, DSL GEN 2(3)G003 LOCKOUT, (located on 2(3)A0614 cubicle) and uses insulated cover to actuate relay.		
	CUE: 2(3)A0613 is open.			
18*	Turn off DC control power to 2(3)A0613, 2(3)G003 output breaker.	Simulates opening front panel of breaker and opening DC control power breaker.		
	CUE: DC control power switch is off. **NOTE: Provide the following cue when breaker 2A0619 (3A0603) is located.** **CUE: 2A0619 (3A0603), 1E 4kV bus tie GREEN light is on.**			
19*	Lockout 2A0619 (3A0603), 1E Bus Tie breaker.	Simulates removing cover to overcurrent lockout relay 186-1 and uses insulated cover to actuate relay.		
	CUE: 2A0619 (3A0603) is open.			
20*	Turn off DC control power to 2A0619 (3A0603), 1E Bus Tie breaker.	Simulates opening front panel of breaker and opening DC control power breaker.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
	CUE: DC control power switch is off. **NOTE: Provide the following cue when breaker 2(3)A0618 is located.** **CUE: 2(3)A0618, Reserve Aux Transformer breaker RED light is on.**			
21*	Lockout 2(3)A0618, 1E Reserve Aux Transformer breaker.	Removes cover to overcurrent lockout relay 186-1 and uses insulated cover to actuate relay.		
	CUE: 2(3)A0618 is open.			
22*	Turn off DC control power to 2(3)A0618, 1E Reserve Aux Transformer breaker.	Simulates opening front panel of breaker and opening DC control power breaker.		
	CUE: DC control power switch is off.			
23*	Select Transfer Switch 2(3)XS539B for Train B Source Range Neutron Flux Monitor power supply to ALTERNATE SOURCE.	Simulates selecting Transfer Switch 2(3)XS539B for Train B Source Range Neutron Flux Monitor power supply to ALTERNATE SOURCE. (Transfer switch located in southeast corner of room).		
	CUE: Transfer Switch is in ALTERNATE SOURCE.			
24*	Remove key from Transfer Switch 2(3)XS539B.	Simulates removing key from Transfer Switch 2(3)XS539B.		

* Denotes a CRITICAL STEP

NO	PERFORMANCE STEP	STANDARD	S/U	Comments (Required for Unsat)
25*	Insert key in Isolation Switch 2(3)XS539A.	Simulates inserting key in Isolation Switch 2(3)XS539A. (Transfer switch located in southeast corner of Room 308A(B) Train A Switchgear Room).		
26*	Select 2(3)XS539A to CLOSED.	Simulates selecting 2(3)XS539A to CLOSED.		
27	Proceed to EVSD.	Proceeds to Evacuation Shutdown Panel and simulates establishing communications. **TERMINATING CUE:** **This JPM is complete.**		Stop Time: _____

230

COMPLETED BY: ______________________ **DATE:** ____________

Operatio[illegible]

JPM CH

231