U.S. Nuclear Regulatory Commission

Site Specific RO Written Examination

Applicant Information			
Name:			
Date:	11/08/2007	Facility/Unit:	Waterford 3
Region:	IV	Reactor Type:	CE
Start Time:		Finish Time:	

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination you must achieve a final grade of at least 80.00 percent. Examination papers will be collected 6 hours after the examination begins.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.

_____
Applicant's Signature

Results		
Examination Value	75	Points
Applicant's Score		Points
Applicant's Grade		Percent

1.	A	B	C	D	26.	A	B	C	D
2.	A	B	C	D	27.	A	B	C	D
3.	A	B	C	D	28.	A	B	C	D
4.	A	B	C	D	29.	A	B	C	D
5.	A	B	C	D	30.	A	B	C	D
6.	A	B	C	D	31.	A	B	C	D
7.	A	B	C	D	32.	A	B	C	D
8.	A	B	C	D	33.	A	B	C	D
9.	A	B	C	D	34.	A	B	C	D
10.	A	B	C	D	35.	A	B	C	D
11.	A	B	C	D	36.	A	B	C	D
12.	A	B	C	D	37.	A	B	C	D
13.	A	B	C	D	38.	A	B	C	D
14.	A	B	C	D	39.	A	B	C	D
15.	A	B	C	D	40.	A	B	C	D
16.	A	B	C	D	41.	A	B	C	D
17.	A	B	C	D	42.	A	B	C	D
18.	A	B	C	D	43.	A	B	C	D
19.	A	B	C	D	44.	A	B	C	D
20.	A	B	C	D	45.	A	B	C	D
21.	A	B	C	D	46.	A	B	C	D
22.	A	B	C	D	47.	A	B	C	D
23.	A	B	C	D	48.	A	B	C	D
24.	A	B	C	D	49.	A	B	C	D
25.	A	B	C	D	50.	A	B	C	D

51.	A	B	C	D
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69.	A	B	C	D
70.	A	B	C	D
71.	A	B	C	D
72.	A	B	C	D
73.	A	B	C	D
74.	A	B	C	D
75.	A	B	C	D

Question 001

Given the following:

- The plant is at 100% power.
- The following alarm is received:
    - RCP 1A CCW Seal Cooler Outlet Valve Closed
- The RO verifies that the valve is closed.
- RCP 1A CCW Return temperature indicates 125 degrees F and rising slowly.

Which ONE (1) of the following describes the plant condition, and the action required?

A. CCW Return from RCP 1A exceeded it's high setpoint; trip the reactor and trip 1A RCP.

B. CCW Return from RCP 1A exceeded it's high setpoint; attempt to restore CCW flow to RCP 1A seal cooler by opening the seal cooler outlet valve.

C. The Seal Cooler Outlet Valve should NOT be closed; trip the reactor and trip 1A RCP.

D. The Seal Cooler Outlet Valve should NOT be closed; attempt to restore CCW flow to RCP 1A seal cooler by opening the seal cooler outlet valve.

Question 002

OP-902-005, Station Blackout Recovery, directs the operator to verify closed the CCW non safety header containment isolation valves, CC-641, CC-710, ad CC-713 to isolate CCW to Containment. What is the reason for this?

A. To prevent thermal shocking the CEDM coolers when restarting the CCW pumps.

B. To prevent water hammer in Cntmt Bldg piping when restarting the CCW pumps.

C. To prevent thermal shocking the RCPs when restarting the CCW pumps.

D. To prevent running out the CCW pumps when restarting.

Question 003

The plant status is as follows:

- Reactor power is 100%.
- Charging Pump B is running.
- Charging Pump A and AB control switches are in AUTO.
- Standby Charging Pump Selector Switch is in the AB-A position.
- Charging Pump B trips and no operator actions are taken.

SELECT the statement that describes the response of the Chemical and Volume Control System (CVCS) to this event.

A. Letdown flow will lower to and remain at 28 GPM due to lowering pressurizer level.

B. Letdown flow will stabilize at a lower value until a backup charging pump is started, then return to the normal value.

C. Letdown flow will bypass the in-service CVCS ion exchanger due to high temperature downstream of the Letdown Heat Exchanger.

D. Letdown will isolate due to high temperature downstream of the Regenerative Heat Exchanger.

Question 004

Given the following:

The plant is in Mode 4.
RCS temperature is stable.
SDC Train A is in service in accordance with OP-009-005.

Which ONE (1) of the following describes the action that will be taken to establish an RCS cooldown?

A. SDC A Train Temperature Control Valve will be throttled closed, with SDC total flow remaining constant.

B. SDC A Train Temperature Control Valve will be throttled open, with SDC total flow remaining constant.

C. SDC A Train Flow Control Valve will be throttled closed, with SDC flow through the Shutdown Cooling Heat Exchanger rising.

D. SDC A Train Flow Control Valve will be throttled open, with total SDC flow rising.

Question 005

Given the following:

- A reactor trip has occurred.
- SIAS is actuated.
- NO HPSI Pumps are running, and CANNOT be started.
- LPSI Pumps are operating normally.
- The crew has just transitioned to OP-902-008 due to no HPSI flow.
- All other equipment is operating as required.
- RCS temperature is 556 degrees F and stable.
- RCS pressure is approximately 1100 psig and lowering slowly.

Of the following choices, which ONE (1) describes ONLY safety functions that are jeopardized as a result of the HPSI pump failure?

A. RCS Heat Removal and Core Heat Removal

B. RCS Inventory and RCS Pressure Control

C. Core Heat Removal and Maintenance of Vital Auxiliaries

D. RCS Heat Removal and RCS Pressure Control

Question 006

A Steam Generator Tube Rupture has occurred that resulted in an automatic SIAS/CIAS.

Which ONE of the following could result in a Quench Tank Rupture Disc failure and rising containment pressure, due to automatic alignment to the Quench Tank?

A. RCP Control Bleedoff

B. RCP Vapor Seal Leak Off

C. Reactor Head Vent Header

D. Pressurizer Vent Header

Question 007

Given the following:

- The plant is at 100% power.
- CCW Surge Tank level is rising slowly.
- VCT level is slowly lowering.
- The following alarms are received:
    - CCW A ACTIVITY HIGH
    - CCW B ACTIVITY HIGH

No other alarms are received.

Of the choices below, which ONE (1) of the following describes the location of the leak?

A. 1B RCP Seal Cooler.

B. Letdown Heat Exchanger

C. Fuel Pool Heat Exchanger

D. Waste Gas Compressor B

Question 008

CCW Pump A has tripped with CCW Pump AB OOS.

Which of the following actions is performed to protect CCW Pump B from runout conditions?

A. Split out the A and B CCW headers

B. Close the NNS loop isolations

C. Secure Train B Containment Fan Coolers

D. Align Chiller B Cooling to the Wet Tower

Question 009

Given the following:

- The plant is in Mode 4.
- Solid Plant operations are in progress.
- CCW flow is reduced to the in-service SDC Heat Exchanger.

Which ONE (1) of the following describes the effect on the plant?

The Letdown Back Pressure Control Valve must be throttled…

A. Closed to raise RCS pressure to restore it to setpoint.

B. Closed to lower RCS pressure to restore it to setpoint.

C. Open to raise RCS pressure to restore it to setpoint.

D. Open to lower RCS pressure to restore it to setpoint.

Question 010

Given the following:

- The plant is at 100% power.
- A loss of SUPS MD occurs.

Which ONE (1) of the following describes the effect on the Plant Protection System?

Reactor Trip Switchgear Breakers….

A. 3, 4, 7, and 8 OPEN; reactor trip occurs.

B. 3, 4, 7, and 8 OPEN; reactor trip does NOT occur.

C. 1, 2, 5, and 6 OPEN; reactor trip occurs.

D. 1, 2, 5, and 6 OPEN; reactor trip does NOT occur.

Question 011

Given the following:

- A manual reactor trip was initiated using the pushbuttons on CP-8 ONLY.
- Reactor Trip Breakers open as required, resulting in a reactor trip.

Which ONE (1) of the following describes the indication for the reactor trip system 30 seconds after the event?

A. K1 – K4 lights illuminated.

B. K1 – K4 lights extinguished.

C. K1 and K4 lights illuminated; K2 and K3 lights extinguished.

D. K1 and K4 lights extinguished; K2 and K3 lights illuminated.

Question 012

If the plant is at 100% power and an inadvertent Recirculation Actuation Signal (RAS) occurred, which of the following would be a potential concern? Assume no surveillances in progress.

A. Unavailability of High Pressure Safety Injection Pumps in case of SIAS actuation.

B. Potential damage to Safety Injection pumps due to loss of suction flowpath.

C. Potential loss of Safeguards Pumps recirculation protection.

D. Potential loss of Containment Isolation.

Question 013

The following plant conditions exist:

- An EFAS actuation has occurred
- S/G-1 level = 10% NR
- S/G-1 Pressure = 580 psia
- S/G-2 level = 20% NR
- S/G-2 Pressure = 710 psia

WHICH ONE (1) of the following describes the operation of the EFW System?

EFW is…

A. Feeding #1 SG ONLY

B. Feeding #2 SG ONLY

C. Feeding BOTH SGs

D. Isolated to both SGs

Question 014

Which ONE (1) of the following states the direct power supply to Containment Fan Cooler C?

A. 480 VAC SWGR 31A-S

B. 480 VAC SWGR 31B-S

C. 480 VAC MCC 317A-S

D. 480 VAC MCC 317B-S

Question 015

Given the following:

- The plant was at 100% power.
- Containment Fan Coolers A, B, & D were operating.
- Containment Fan Cooler C was in Standby.
- Due to an RCS leak, the reactor was manually tripped and SI was manually actuated.

Which ONE (1) of the following describes the response of the Containment Fan Coolers during the event?

Containment Fan Coolers A, B, & D…

A. Immediately stop when SIAS is actuated. They will restart in slow speed 7 seconds after the SIAS. Containment Fan Cooler C starts in slow speed 7 seconds after the SIAS.

B. Immediately shift to slow speed when SIAS is initiated. Containment Fan Cooler C starts in slow speed immediately upon the SIAS actuation.

C. Stop 7 seconds after the SIAS actuation, then immediately restart in slow speed. Containment Fan Cooler C starts in slow speed 7 seconds after the SIAS actuation.

D. Continue to run in fast speed on SIAS. Shift to slow speed 7 seconds after the SIAS actuation. Containment Fan Cooler C starts in slow speed 7 seconds after the SIAS actuation.

Question 016

Given the following:

- The plant was at 100% power.
- Control switches for CCW flow control valves, CC-963A and B, are in the SET PNT position.
- Subsequently, a LOCA occurs.
- SIAS, CIAS, MSIS, and CSAS have actuated.

Which ONE (1) of the following describes the operation of CCW to the Shutdown Cooling Heat Exchangers for this event?

A. Both CCW flow control valves received a signal to open fully when SIAS actuated.

B. Both CCW flow control valves received a signal to open to their setpoint when the SIAS actuated.

C. ONE CCW flow control valve received a signal to open fully when SIAS actuated. The other CCW flow control valve received a signal to open fully when CSAS actuated.

D. ONE CCW flow control valve received a signal to open to its setpoint when SIAS actuated. The other CCW flow control valve received a signal to open to its setpoint when CSAS actuated.

Question 017

Given the following:

- A LOCA has occurred.
- All systems are operating as designed.
- RCS pressure is 700 psia.
- Containment pressure is 18 psia.
- RWSP level is 9% and lowering.
- NO operator actions have been taken.

Which ONE of the following describes the alignment of the Containment Spray System?

A. SIS Sump Outlet valves, SI-602A and B open
RWSP Outlet Isolation valves, SI-106A and B open
CS Pump Recirculation valves, SI-120A and B closed

B. SIS Sump Outlet valves, SI-602A and B open
RWSP Outlet Isolation valves, SI-106A and B open
CS Pump Recirculation valves, SI -120A and B open

C. SIS Sump Outlet valves, SI-602A and B closed
RWSP Outlet Isolation valves, SI-106A and B open
CS Pump Recirculation valves, SI -120A and B open

D. SIS Sump Outlet valves, SI-602A and B closed
RWSP Outlet Isolation valves, SI-106A and B open
CS Pump Recirculation valves, SI -120A and B closed

Question 018

Given the following:

- A reactor trip has occurred.
- The crew has transitioned to OP-902-001, Reactor Trip Recovery.
- SG #1 and SG #2 pressures are 1050 psig.
- SG #1 and SG #2 NR levels are off-scale low.
- SG #1 and SG #2 Th and Tc indicate 554 degrees F and stable.

Which ONE of the following describes the action required in OP-902-001?

A. Raise feedwater flow to restore SG levels to a minimum of 5% NR; Maintain RCS temperature stable using SBCS.

B. Raise feedwater flow to restore SG levels to a minimum of 5% NR; Lower RCS temperature to below 550 degrees F using SBCS.

C. Raise feedwater flow to restore SG levels to 50% - 70% NR; Maintain RCS temperature stable using SBCS.

D. Raise feedwater flow to restore SG levels to 50% - 70% NR; Lower RCS temperature to below 550 degrees F using SBCS.

Question 019

Given the following:

- The plant is at 40% power.
- All control systems are in their normal automatic alignments.
- The Feedwater Flow signal to SG #1 fails low.

Which ONE of the following describes the effect of SG level control?

A. Control system response will cause an increase in SG level, but will be offset by a level error signal. SG #1 level will stabilize at the program setpoint.

B. Control system response will cause an increase in SG level, but will be offset by a level error signal. SG #1 level will stabilize above the program setpoint.

C. Control system response will cause a decrease in SG level, but will be offset by a level error signal. SG #1 level will stabilize at the program setpoint.

D. Control system response will cause a decrease in SG level, but will be offset by a level error signal. SG #1 level will stabilize below the program setpoint.

Question 020

Given the following:

- The plant is in Mode 3 following a reactor trip.
- EFW Pumps are in service.
- AB Bus powered from Train A
- EFW Pump AB trips on overspeed

Which ONE (1) of the following describes a fault that will temporarily reduce EFW flow?

A. 86G2 actuation on UAT sudden pressure

B. 86 STA actuation on SUT sudden pressure

C. AB3 to A3 feeder trips on overcurrent

D. AB31 to A3 feeder trips on overcurrent

Question 021

Given the Following:

- EFW pump A is OOS due to a pump bearing replacement.
- At 0930 the reactor was manually tripped due to loss of both Main Feedwater pumps
- Tavg is 547°F.
- EFAS-1 and EFAS-2 actuated one minute after the trip.
- EFW Pump AB tripped on overspeed when EFAS occurred due to a failure of the EFW pump governor.
- EFW Pump B is running normally.
- OP-902-006, Loss of Main Feedwater Recovery Procedure has been entered.
- The time is now 1010.

Based on given plant conditions, how many RCPs must be secured?

A. Only 1

B. Only 2

C. Only 3

D. All 4

Question 022

The following conditions exist in the plant:

- The BATTERY CHGR SA1 TROUBLE annunciator comes in on CP-35 in the Control Room
- The RAB Watch is sent to the A Switchgear to investigate

Which ONE of the following has caused the alarm?

A. A Low Voltage Shutdown occurred at 129 VDC.

B. A Low Voltage Shutdown occurred at 134 VDC.

C. A High Voltage Shutdown occurred at 139 VDC.

D. A High Voltage Shutdown occurred at 144 VDC.

Question 023

Given the following conditions:

- Emergency Diesel Generator ‘B’ is operating at 4.4 kW for OP-903-068 surveillance testing.
- The following alarm is received:
  - EDG B FUEL OIL XFER PUMP PWR LOST
- Fuel Oil Feed Tank “B” indicates 100 percent on CP-1
- The RAB watch reports that the breaker for Fuel Oil Transfer Pump ‘B’ breaker is tripped, and the motor is too hot to touch.

Based on these conditions, what is the MAXIMUM time Emergency Diesel Generator ‘B’ can continue to operate with no additional actions?

A. 1 hour

B. 2 hours

C. 1 day

D. 7 days

Question 024

Given the following:

- A Station Blackout has occurred.
- Both EDGs were started.
- Off-Site power is available.
- 4.16 KV Bus A2 is energized from off-site.
- 4.16 KV Bus A3 is energized from the EDG.

Which ONE of the following describes how off-site power will be restored to 4.16 KV Bus A3 from off-site?

A. Synchroscope moving slowly clockwise, parallel across the A2 to A3S tie breaker.

B. Synchroscope moving slowly clockwise, parallel across the A3S to A2 tie breaker.

C. Synchroscope moving slowly counter-clockwise, parallel across the A2 to A3S tie breaker.

D. Synchroscope moving slowly counter-clockwise, parallel across the A3S to A2 tie breaker.

Question 025

Given the following:

- The plant is at 40% power.
- Blowdown discharge to Circ Water is in progress.
- BD-303, Blowdown to Circ Water and Metal Waste Pond Isolation Valve, closes.

Which ONE of the following caused the valve to close?

A. High radiation on the Blowdown Radiation Monitor.

B. High Radiation on the Circ Water Radiation Monitor.

C. Trip of the running Blowdown Pump.

D. Hi Ph alarm on Blowdown Proportional Sampler.

Question 026

Given the following:

- The plant is at 100% power.
- TCW Pump B is in service.
- TCW Pump A is tagged for repair.

- The following alarms are received in the control room:

    - TURB CLNG WTR PUMP B TRIP/TROUBLE
    - TURB CLNG WATER DISCH HDR PRESS LO

- Operator actions fail to restore TCW flow.

Which ONE of the following describes the impact AND the actions required IAW OP-901-512 for these conditions?

A. Generator Winding damage, Trip the reactor.

B. Loss of Generator Hydrogen, Trip the reactor.

C. Generator Winding damage, Initiate a plant shutdown to remove the main generator from service.

D. Loss of Generator Hydrogen, Initiate a plant shutdown to remove the main generator from service.

Question 027

Given the following conditions:

- 100 percent power
- Instrument Air Header pressure is 120 psig

An air leak occurs, causing Instrument Air Header pressure to drop to 100 psig.
Which of the following describes the status of the instrument air system?

A. SA-125 Station Air Backup is OPEN, SA-123 Air dryer Bypass is OPEN

B. SA-125 Station Air Backup is CLOSED, SA-123 Air dryer Bypass is OPEN

C. SA-125 Station Air Backup is OPEN, SA-123 Air dryer Bypass is CLOSED

D. SA-125 Station Air Backup is CLOSED, SA-123 Air dryer Bypass is CLOSED

Question 028

Given the following:

- The plant is operating at 100% power.
- The following alarms are received:
    - CSAS TRAIN A LOGIC INITIATED
    - CTMT SPRAY HDR A ISOL VLV UPSET
- CSAS Train ‘A’ trip path indicators are extinguished on the ESF System Status Panel and on the PPS ROM.
- Containment pressure is 15.2 psia.

Which ONE of the following describes the impact of these indications, and the action required?

A. Loss of RCP seal cooling; immediately trip the reactor and perform Standard Post Trip Actions.

B. Loss of RCP seal cooling; stop Containment Spray Pumps and attempt to restore cooling per OP-901-504, Inadvertent ESFAS Actuation.

C. Loss of RCP Motor Cooling; immediately trip the reactor and perform Standard Post Trip Actions.

D. Loss of RCP Motor Cooling; stop Containment Spray Pumps and close Spray Header isolation valves per OP-901-504, Inadvertent ESFAS Actuation.

Question 029

Given the following:

- The plant is at 100% power
- Turbine Governor Valve #4 fails Closed.
- Crew performs a rapid power reduction to 92% to match Tave and Tref.
- Crew inserted CEAs to control Axial Shape Index (ASI) during the power reduction.

- As a result of the CEAs being driven in the following core conditions exist:

    - Upper half power 55%
    - Lower half power 45%

Which ONE of the following is the correct Axial Shape Index (ASI) for the given core power conditions, and in which direction is ASI moving due to this event?

A. +0.1; towards positive.

B. +0.1; towards negative.

C. -0.1; towards positive.

D. -0.1; towards negative.

Question 030

Given the following:

- Reactor power is 50%.
- Tavg is 553 degrees F.
- RCS pressure is 2235 psig.
- PZR Level Control System setpoint is selected to Reactor Regulating System.
- PZR level is 36%, recovering to setpoint after a brief transient.

Which ONE (1) of the following describes the operation of Charging and Letdown for these conditions?

A. 1 Charging Pump running with maximum Letdown.

B. 2 Charging Pumps running with maximum Letdown.

C. 3 Charging Pumps running with minimum Letdown.

D. 2 Charging Pumps running with minimum Letdown.

Question 031

Given the following:

- The plant is at 100% power.
- All CEAs are fully withdrawn.
- CEDMCS is in Manual Individual for CEA Exercise per OP-903-005.
- ONE (1) Reg Group 2 CEA drops to the bottom of the core.
- The reactor does NOT trip.
- LPD and DNBR Pre-Trips are received on 2 channels.
- The crew enters OP-901-102, CEA or CEDMCS Malfunctions.

Which ONE of the following describes the next action required in accordance with OP-901-102?

A. Trip the reactor; perform Standard Post Trip Actions.

B. Place CEDMCS in MANUAL-SEQUENTIAL; match Tavg to Tref using CEAs or by adjusting turbine load.

C. Place CEDMCS in OFF; match Tavg to Tref using turbine load or by adjusting RCS boron concentration.

D. Place CEDMCS in MANUAL GROUP OR OFF; take action to clear the pre-trips and restore reactor power to less than 100% on all channels.

Question 032

Given the following:

- A Reactor Startup is in progress.
- The ATC operator declares that the Reactor is Critical.
- Power indicates 5E-4% on the Log Power Channels.
- The ATC operator is then directed to perform a channel check of the Log Power Channels.

Which ONE of the following describes how this channel check is accomplished?

A. Verify all Log Power Channels read within 1/2 decade on their meters at CP-7

B. Verify all Log Power Channels overlap and agree within 1/2 decade of the Startup Channels at CP-7

C. Verify all Log Power Channels read within 1/2 linear distance between decades on their meters at CP-7

D. Verify all Log Power Channels overlap and agree within 1/2 linear distance between decades against the Startup Channels at CP-7

Question 033

Which ONE of the following describes ONLY instrumentation that is required and used for post accident conditions?

A. Core Exit Thermocouples and Thot Narrow Range.

B. Tcold Wide Range and Containment Pressure Narrow Range.

C. Core Exit Thermocouples and RCS Pressure Wide Range.

D. Pressurizer Pressure Narrow Range and RVLMS.

Question 034

Given the following:

- A LOCA has occurred.
- Containment Hydrogen concentration is 1% and rising slowly.
- The crew is placing Hydrogen Recombiners in service.
- “B” Hydrogen Recombiner trips and CANNOT be restarted.

Which ONE of the following describes the effect on containment hydrogen concentration?

Hydrogen concentration will…

A. Remain below 4% for the duration of the event.

B. Remain below 4% for 24 hours, then rise above 4%.

C. Rise above 4% but remain below 8% for the duration of the event.

D. Rise above 8% but remain below 13% for the duration of the event.

Question 035

Given the following:

- The RAB watch has just completed opening the Fuel Transfer Tube Gate Valve in the FHB.
- The RAB Watch reports that SFP level dropped to 41 feet when he was opening the valve.

Which ONE (1) of the following describes the impact on the unit, and the action required In accordance with OP-901-513?

A. Low Spent Fuel Pool level Alarm only, fill from Primary Makeup.

B. Low Spent Fuel Pool Level Alarm and CMU Auto makeup Valve Opens to refill the SFP

C. Low Spent Fuel Pool Level Alarm and running SFP Cooling Pump trips, fill from Condensate Storage Pool.

D. Low Spent Fuel Pool Alarm and FHB Isolation Actuation occurs, fill form the Refueling Water Storage Pool.

Question 036

Which ONE (1) of the following responses is expected immediately following the inadvertent closure of an MSIV at 25% power?

Affected Steam Generator Narrow Range level…

A. rises due to an increase in SG downcomer mass.

B. lowers due to a decrease in density of the SG liquid-vapor mixture.

C. rises due to an increase in density of the SG liquid-vapor mixture.

D. lowers due to a decrease in SG downcomer mass.

Question 037

Given the following:

- The plant is operating at 100% power.
- Tavg and PZR level are on program.
- A Main Turbine Governor Valve fails closed.
- Generator load drops by approximately 30%.

Which ONE of the following describes the operation of the SBCS for this condition?

A. All 6 SBCS valves are available to modulate, Quick Open is blocked for all 6 valves

B. All 6 SBCS valves are available to modulate and for Quick Open.

C. SBCS valves 1 through 5 are available for Quick Open, Valve 6 is blocked.

D. SBCS valves 1 through 5 are available to modulate, Valve 6 is blocked.

Question 038

Given the following:

- A release of GDT “A” is in progress.
- Containment Purge is in progress under a continuous release permit.
- CONTAINMENT PURGE INTERRUPTED annunciator is received.

Which ONE of the following describes the effect on the plant?

A. GDT “A” release is automatically isolated due to high activity on the Plant Stack radiation monitor.

B. GDT “A” will be automatically isolated on low Plant Stack ventilation flow.

C. GDT “A” release must be manually secured due to a change in Plant Stack flow.

D. GDT “A” release must be manually secured due to low Waste Gas header flow

Question 039

Given the following:

- The plant was at 100% power.
- A reactor trip occurred.
- The crew is performing Standard Post Trip Actions.
- BOTH Generator Output Breakers remain closed.
- The Generator Exciter Field Breaker remains closed.

Which of the following will the BOP perform in response to the generator not being tripped?

A. Manually OPEN all 3 breakers from CP-1.

B. Transfer BOTH electrical busses from the UAT to the SUT.

C. Manually trip the Main Generator using EITHER GENERATOR EMERG TRIP pushbutton.

D. Manually trip the Main Generator using BOTH GENERATOR EMERG TRIP pushbuttons.

Question 040

Given the following:

- The unit is stable at 100% power.
- A pressurizer safety valve opens and fails to reseat, remaining 25% open.
- A reactor trip occurs.
- RCS pressure stabilizes at 1600 psig.
- SI actuates.

Which of the following indications would the operator expect to see as a result of this event in the next 30 minutes?

A. Safety tailpipe temperature would increase to greater than 600 ^{o}F and then decrease to 450 ^{o}F.

B. Safety tailpipe temperature would increase to greater than 600 ^{o}F and then stabilize.

C. Safety tailpipe temperature would increase to between 220 and 344 ^{o}F and then decrease and stabilize.

D. Safety tailpipe temperature would increase to between 220 and 344 ^{o}F and then slowly increase and stabilize at 600 ^{o}F.

Question 041

Given the following:

- A SBLOCA has occurred.
- RCS pressure is 1600 psig and lowering.
- Containment pressure is 18 psia and rising.
- RWSP level is 82% and lowering.
- All actuations have occurred as required.

Which ONE of the following describes ALL of the actuations that have occurred?

SIAS…

A. and CIAS ONLY

B. CIAS and MSIS ONLY

C. CIAS, MSIS, and CSAS ONLY

D. CIAS, MSIS, CSAS, and RAS

Question 042

Given the following:

a. A Small Break LOCA is in progress.
b. The crew has diagnosed into OP-902-002, LOCA Recovery Procedure and performed all required steps.
c. Containment Temperature is 205°F and slowly lowering.

Which of the following criteria would PRECLUDE transitioning into OP-009-005, Shutdown Cooling System procedure and placing a Shutdown Cooling Train in service?

A. RCS Subcooling is 28°F and slowly rising.

B. Pressurizer Pressure is 420 psia and stable.

C. RCS Thot is 345°F and stable.

D. Pressurizer Level 33% and steady.

Question 043

Plant status is as follows:

- Reactor power is 70%.
- The operating Charging Pump trips.
- The backup Charging Pumps cannot be started.

SELECT the highest Pressurizer level at which the reactor should be manually tripped.

A. 48%

B. 40%

C. 37%

D. 33%

Question 044

Given the following:

- The plant is in Mode 6.
- Shutdown Cooling Trains A and B are in service.
- The following alarm is received:
    - LPSI Pump B Flow Lost
    - Shutdown Cooling Trouble
- NO other alarms have been received.

Which ONE (1) of the following describes the event that has occurred, and the initial action required?

A. LPSI Pump B has tripped; Close LPSI header B suction isolation valves.

B. LPSI Pump B has tripped; Stabilize RCS temperature using LPSI Train A.

C. SI-407 B, Loop 1 Suction Isol Downstream Outside Valve, closed; Trip LPSI Pump B.

D. SI-407 B, Loop 1 Suction Isol Downstream Outside Valve, closed; Stabilize RCS temperature using LPSI Train A.

Question 045

Given the following conditions:

- The unit is at 100% power.
- CCW Pump AB is OOS.

1200 CCW Pump "A" declared INOPERABLE due to a failed surveillance.
1227 CCW Pump "B" also declared INOPERABLE due to the results of a common cause failure analysis.
1254 Plant Shutdown to Mode 3 commenced.
1319 CCW Pump "A" returned to OPERABLE status.
1338 CCW Pump "B" returned to OPERABLE status.

Which ONE (1) of the following describes the Technical Specification requirements for operation of the plant?

Plant conditions...

A. allowed the plant shutdown to be terminated no earlier than 1319.

B. allowed the plant shutdown to be terminated no earlier than 1327.

C. require that the Shutdown to Mode 3 is completed by 1827.

D. require that the Shutdown to Mode 3 is completed by 1927.

Question 046

Given the following:

- The plant is at 100% power.
- Control Systems are in normal 100% power alignments.
- The Pressurizer Pressure Controller, RC-IPIC-0100, output fails HIGH.

Assuming no action by the crew, which ONE (1) of the following describes the initial effect on the plant?

A. High Pressurizer Pressure reactor trip generated by PPS

B. High Pressurizer Pressure reactor trip generated by CPCs

C. Low Pressurizer Pressure reactor trip generated by PPS

D. Low Pressurizer Pressure reactor trip generated by CPCs

Question 047

Given the following:

- The plant was at 100% power.
- A load rejection occurred.
- Reactor Trip on High Pressure was generated, but the reactor did not trip.

Which ONE (1) of the following describes the additional automatic action that takes place to shut down the reactor?

Diverse Reactor Trip System actuates at…

A. 2350 psia to open CEDM MG Set feeder breakers.

B. 2350 psia to open CEDM MG Set Load Contactors.

C. 2435 psia to open CEDM MG Set feeder breakers.

D. 2435 psia to open CEDM MG Set Load Contactors.

Question 048

Given the following:

- A Steam Generator Tube Rupture on #1 SG is in progress.
- When the reactor was manually tripped, off-site power was lost.
- The crew has performed all Standard Post Trip Actions as required.
- Condenser Vacuum is currently 2.6 INHG.

Which ONE (1) of the following describes additional actions that will be taken for the SGTR in accordance with OP-902-007, Steam Generator Tube Rupture Recovery?

A. Cooldown the RCS using SBCS to <520 degrees F; isolate SG #1 and maintain isolated. Do not allow any steam release from #1 SG.

B. Cooldown the RCS using SBCS to <520 degrees F; once SG #1 is isolated, maintain at less than 1000 psia by operation of the Atmospheric dump valve, if necessary.

C. Cooldown the RCS using the Atmospheric Dump Valves to <520 degrees F; isolate SG #1 and maintain isolated. Do not allow any steam release from #1 SG.

D. Cooldown the RCS using the Atmospheric Dump Valves to <520 degrees F; once SG #1 is isolated, maintain at less than 1000 psia by operation of the Atmospheric dump valve, if necessary.

Question 049

Given the following:

- A station blackout has occurred.
- The crew is performing actions of OP-902-005, Station Blackout Recovery.
- The blackout is expected to last for approximately 1 hour.

Which ONE (1) of the following correctly describes the strategy for alignment of equipment during blackout recovery in accordance with OP-902-005?

A. Reduce battery loading to extend battery life; close CCW supply valves to RCPs to prevent CCW pump runout and EDG overload when power is restored.

B. Reduce battery loading to extend battery life; close CCW supply valves to RCPs to prevent thermal shock to RCP seals when power is restored.

C. Verify RCP Controlled bleedoff valves are closed to minimize RCS leakage; close CCW supply valves to RCPs to prevent CCW pump runout and EDG overload when power is restored.

D. Verify RCP Controlled bleedoff valves are closed to minimize thermal shock to RCPs when power is restored; close CCW supply valves to RCPs to prevent thermal shock to RCP seals when power is restored.

Question 050

Given the following:

- A loss of off-site power occurred 10 minutes ago.
- The crew has completed Standard Post-Trip Actions.
- OP-902-003, Loss of Off-Site Power/Loss of Forced Circulation Recovery, is in progress.

Which ONE (1) of the following describes the plant response, and complies with the guidance in OP-902-003, for RCS heat removal?

A. Thot will be rising post trip; SG pressure maintained at a maximum of 1025 psig to maintain Tcold within limits.

B. Thot will be lowering post trip; SG pressure maintained at a maximum of 1025 psig to maintain Tcold within limits.

C. Thot will be rising post trip; SG pressure maintained at a maximum of the lowest MSSV setpoint to maintain Tcold within limits.

D. Thot will be lowering post trip; SG pressure maintained at a maximum of the lowest MSSV setpoint to maintain Tcold within limits.

Question 051

Given the following:

- The plant is at 70% power.
- Auxiliary Component Cooling Water Pump “A” is running.
- A loss of bus MA has occurred.

Which ONE (1) of the following action(s) will be required to control Component Cooling Water temperature, and reason for the action?

A. Manually control dry cooling tower and wet cooling tower train A fans because CC HX A ACC Outlet TCV (ACC-126A) fails closed, resulting in loss of temperature control.

B. Manually throttle cooling tower wet basin M/U valve (CMU-410A) to maintain wet basin level because CC HX A ACC Outlet TCV (ACC-126A) fails closed, resulting in loss of Wet Basin level control..

C. Manually control dry cooling tower and wet cooling tower train A fans because CC HX A ACC Outlet TCV (ACC-126A) fails open, resulting in loss of temperature control.

D. Manually isolate cooling tower wet basin M/U valve (CMU-410A) to prevent a high wet basin level because CC HX A ACC Outlet TCV (ACC-126A) fails open.

Question 052

Given the following:

- Emergency Diesel Generator 'A' is running loaded.
- A loss of DC control power occurs.

Which of the following describes the effect of the loss of DC control power on the EDG and its auxiliaries?

A. The EDG fuel racks will trip and the EDG must be declared inoperable.

B. The lube oil cooler temperature control valve will fail to the full cooling position.

C. Fuel oil transfer pump starts and must be secured to prevent overfilling the feed tank.

D. Jacket cooling water valves fail open and the jacket water heater loses power.

Question 053

Given the following:

- The plant was at 100% power.
- An ESDE has occurred.
- The crew is performing actions of OP-902-004, Excess Steam Demand Recovery.

Which ONE (1) of the following describes the strategy for stabilizing the plant in OP-902-004?

A. When EITHER CET temperature OR PZR pressure rise, stabilize RCS temperature to prevent overpressurization of the RCS.

B. When BOTH CET temperature AND PZR pressure rise, stabilize RCS temperature to prevent overpressurization of the RCS.

C. When EITHER CET temperature OR PZR pressure rise, initiate a controlled RCS cooldown to preclude a SGTR in the affected SG.

D. When BOTH CET temperature AND PZR pressure rise, initiate a controlled RCS cooldown to preclude a SGTR in the affected SG.

Question 054

Given the following:

- The plant is at 100% power.
- A Loss of Instrument Air has occurred.
- The crew is performing actions of OP-901-511, Instrument Air Malfunction.
- Instrument Air header pressure is 80 psig and slowly lowering.

Which ONE (1) of the following actions is required in accordance with OP-901-511?

A. Immediately trip the reactor; perform steps of OP-901-511 concurrently with Standard Post Trip Actions.

B. Immediately trip the reactor; temporarily suspend use of OP-901-511; perform Standard Post Trip Actions; when complete, continue use of OP-901-511.

C. Continue attempts to restore Instrument Air Header pressure; if Instrument Air header pressure lowers to 65 psig, trip the reactor; perform steps of OP-901-511 concurrently with Standard Post Trip Actions.

D. Continue attempts to restore Instrument Air Header pressure; if Instrument Air header pressure lowers to 65 psig, trip the reactor; exit OP-901-511 and enter OP-902-000, Standard Post Trip Actions.

Question 055

Based on the following plant conditions:

- A Main Steam Line Break has occurred on SG-2
- The reactor tripped on Low Steam Generator Pressure
- SG-2 has just blown dry and the CRS has ordered performance of the necessary steps of OP-902-004 to stabilize RCS temperature and pressure

Which one of the following is the correct reason for feeding the least affected SG with EFW manually?

A. To restore subcooled margin to within the P-T Curve limits.

B. To reduce the positive reactivity addition from the rapid cooldown.

C. To compensate for the inadequate size of the atmospheric dump valve.

D. To override the Main Steam Isolation Signal which would block the automatic Emergency Feedwater signal

Question 056

Given the following conditions:

- The plant is at 100 percent power
- FWCS 1 and 2 in AUTOMATIC

Which of the following sets of conditions would result in entry to OP-902-006, Loss of Main Feedwater Recovery? (consider each condition separately)

A. Condenser vacuum 21 in Hg **OR** EITHER S/G Narrow Range Level 81 Percent

B. Condenser vacuum 19 in Hg **OR** EITHER S/G Wide Range Level 96 percent

C. Condenser vacuum 15 in Hg **OR** BOTH S/G Narrow Range Levels 81 Percent

D. Condenser vacuum 13 in Hg, **OR** BOTH S/G Wide Range Levels 96 percent

Question 057

Given the following:

- Reactor power is 100%.
- ASI control is in progress.
- The PNPO inserts Reg Group 6.
- When the PNPO releases the SHIM Switch, CEA 23 continues to insert into the core.
- The PNPO takes the appropriate action and CEA 23 insertion stops.
- Final position of CEA 23 is 116.5".
- All other CEAs in Reg Group 6 are at 125.25".
- Reg Group 6 is placed on the HOLD Bus to troubleshoot the cause of the malfunction.

Which ONE (1) of the following actions is correct?

A. Declare Reg Group 6 inoperable. CEA 23 remains operable.

B. Declare CEA 23 inoperable. Reg Group 6 remains operable.

C. Declare Reg Group 6 AND CEA 23 inoperable.

D. CEA 23 AND Reg Group 6 remain operable unless Shutdown Margin CANNOT be verified within 1 hour.

Question 058

The Rod Bottom contact for each individual CEA provides easy identification of dropped CEAs and aids COLSS in detecting a dropped CEA by illuminating the:

A. associated amber light on the CEA Mimic on CP-2 and resetting the pulse counter indication for the individual CEA to zero.

B. associated green light on the CEDMCS control panel on CP-2 and resetting RSPT indications for the individual CEA to zero.

C. associated red light on the CEDMCS control panel on CP-2 and resetting RSPT indications for the individual CEA to zero.

D. CEA Disabled annunciator on CP-2 and resetting the pulse counter indication for the individual CEA to zero.

Question 059

Given the following:

- Waste Condensate Tank B is being discharged to the Circ Water system.
- The following indications are observed in the Control Room:
    - WASTE LIQUID DISCH ACTIVITY HI annunciator in alarm on CP-4
    - EFFLUENT RAD MONITORING SYS ACTIVITY HI-HI annunciator in alarm on CP-36

Based on the above conditions, which ONE of the following describes plant response?

A. ONLY BM-547, Boron Management Discharge to Circ Water Auto Isolation Valve, closes, to prevent exceeding 10CFR50 Domestic Licensing of Production and utilization Facilities, limits.

B. ONLY LWM-441, Liquid Waste to Circ Water Shutoff Valve, closes, to prevent exceeding 10CFR50, Domestic Licensing of Production and utilization Facilities, limits.

C. BM-547, Boron Management Discharge to Circ Water Auto Isolation Valve, closes.
BM-549, Boron Management Discharge to Circ Water Flow Control Valve closes to prevent exceeding 10CFR20 Standards for protection against Radiation, limits

D. LWM-441, Liquid Waste to Circ Water Shutoff Valve, closes.
LWM-442, Liquid Waste to Circ Water Control Valve, closes. to prevent exceeding 10CFR20 Standards for protection against Radiation, limits

Question 060

The following plant conditions exist:

- 100% power, steady-state operations.
- No major equipment out of service.
- The following annunciators are received:
    - RAD MONITORING SYS ACTIVITY HI-HI on CP-36.
    - CLASS 1E RAD MONITORING SYS ACTIVITY HI-HI on CP-18.
    - The ATC notices that CROAI A NORTH (0200.1) rad monitor indicates red with a rising trend

Which of the following actions will occur because of this condition?

A. Control Room Toilet Exhaust Fan A starts. BOTH Control Room Emergency Filtration Units A and B start.

B. Control Room Toilet Exhaust Fan A starts. ONLY Control Room Emergency Filtration Unit A starts.

C. Control Room Toilet Exhaust Fan A stops. BOTH Control Room Emergency Filtration Units A and B start.

D. Control Room Toilet Exhaust Fan A stops. ONLY Control Room Emergency Filtration Unit A starts.

Question 061

Given the following:

- The plant was at 100% power.
- A fire developed in the control room, requiring the control room to be evacuated.
- The crew is performing OP-901-502, Evacuation of Control Room and Subsequent Plant Shutdown.
- Atmospheric Dump Valves have spuriously opened

Which ONE of the following describes ONLY actions that will be performed prior to leaving the control room?

A. Initiate RCS boration and de-energize Atmospheric Dump Valve Controllers.

B. Trip RCPs and de-energize Atmospheric Dump Valve Controllers.

C. Initiate RCS boration and Place Atmospheric Dump Valves in MANUAL with 0 output.

D. Place Atmospheric Dump Valves in MANUAL with 0 output and trip RCPs.

Question 062

An RCS leak is in progress. The following conditions are observed on the Plant Monitoring Computer (PMC)

- RCS Pressure is 2225 psia and stable
- RCP1A CBO = 1.5 GPM
- RCP1B CBO = 1.7 GPM
- RCP2A CBO = 1.5 GPM
- RCP2B CBO = 1.3 GPM
- PZR level is 55% and steady
- VCT level is 49% and lowering
- Letdown Flow = 30 GPM
- Charging Pumps A and AB are running

Assuming no additional leakage from the RCS to other sources, determine the RCS leak rate.

A. 8 GPM

B. 14 GPM

C. 52 GPM

D. 58 GPM

Question 063

During an ESDE inside containment, which ONE of the following components functions to provide a boundary to allow controlled EFW flow to the unaffected SG?

A. Main Steam Isolation Valve.

B. Main Feedwater Isolation Valve.

C. Main Feedwater Regulating Valve.

D. Startup Feedwater Regulating Valves

Question 064

Given the following:

- A loss of offsite power occurred 1 hour ago due to a tornado touching down in the switchyard
- EFW pumps are supplying Steam Generators
- Thot is currently 500°F
- CSP level is 85 percent
- DWST is unavailable due to tornado damage

Which of the following describes the AVAILABLE feedwater **AND** the MAXIMUM time remaining to place Shutdown Cooling in service?

A. 99,000 gal, 6 hours.

B. 99,000 gal, 10 hours.

C. 150,000 gal, 6 hours.

D. 150,000 gal, 10 hours.

Question 065

The following has occurred:

Emergency Feedwater Pump ‘AB’ is tagged for maintenance.
REACTOR TRIP occurred due to a loss of main feedwater.
On the trip, all offsite and onsite power was lost.
All Emergency Feedwater was lost
Both steam generators levels (WR.) indicate 10%
Both steam generators pressures indicate 15 psia
The 'B' Emergency Feedwater pump is now available
Power is restored to the Train "B"

Which ONE of the following describes the appropriate method for restoring feedwater?

A. Slowly restore feed to ONE SG.

B. Slowly restore feed to BOTH SGs.

C. Rapidly restore feed to ONE SG.

D. Rapidly restore feed to BOTH SGs.

Question 066

Given the following plant conditions:

- RCS average temperature: 425 °F
- All control rods: Fully inserted
- RCS cooldown rate: 30F/hour

What is the current plant Mode as defined in Technical Specifications for these conditions?

A. MODE 1

B. MODE 2

C. MODE 3

D. MODE 4

Question 067

Given the following conditions:

- Mode 5
- RCS Temperature 105°F
- SG #1 is being placed in wet layup using AFW pump
- SG temperature 100°F
- The Operator notices that SG #1 has been overfilled and SG pressure is at 300 psig

What is the SG status in regards to Technical Specifications?

A. Pressure/temperature limitation satisfied

B. SG temperature high and SG pressure high, pressure/temperature LCO NOT met.

C. SG pressure and temperature low, pressure/temperature LCO NOT met.

D. SG temperature low and SG pressure high, pressure/temperature LCO NOT met

Question 068

Which ONE (1) of the following describes the MINIMUM requirement for Source Range Nuclear Instrumentation prior to commencing core off-load in MODE 6?

	Visual in CR	Audible in CR	Audible in CTMT
A.	2	0	1
B.	2	1	1
C.	1	1	1
D.	2	2	2

Question 069

Given the following:

- A normal power reduction from 100% to 60% power has been performed to remove a Feed Pump from service.
- ASI is trending toward -0.05.

Which ONE (1) of the following describes the CEA insertion limits or requirements associated with this power reduction?

A. CEDMCS in MANUAL SEQUENTIAL; use of group 6 and group P ONLY.

B. CEDMCS in MANUAL SEQUENTIAL; use of group 5, group 6, and group P is allowed.

C. CEDMCS in MANUAL GROUP; use of group 6 and group P ONLY.

D. CEDMCS in MANUAL GROUP; use of group 5, group 6, and group P is allowed.

Question 070

Which ONE of the following is TRUE if a Motor Operated Valve is being tagged for isolation and must be manually closed?

A. The Clearance's Tagged Position must be changed to Manually Closed.

B. The MOV must be manually stroked to prove operability.

C. The System Engineer must concur with closing the MOV manually.

D. The MOV should be manually cracked off its shut seat when clearing the Danger Tag.

Question 071

Given the following conditions:

- A Steam generator Tube Rupture has occurred on SG #1.
- Actions of 902-007, Steam Generator Tube Rupture Recovery, are in progress.
- RCPs are running.
- The crew is performing cooldown of the RCS to Shutdown Cooling Entry conditions.

Which ONE (1) of the following is the preferred method of cooling down the RCS for these conditions?

A. Dump Steam to Condenser using SBCS from both SG #1 and SG #2 to minimize radiological releases.

B. Dump Steam to Condenser using SBCS from SG #2 only to minimize radiological releases.

C. Dump Steam to Atmosphere using the SG #1 and SG #2 Atmospheric Relief Valves to minimize secondary system contamination for ALARA concerns.

D. Dump Steam to Atmosphere using the SG #2 Atmospheric Relief Valve only to minimize secondary system contamination for ALARA concerns.

Question 072

Given the following:

- A Waterford 3 employee has returned from working an outage at River Bend.
- The dose received at River Bend was 660 millirem.
- His TEDE radiation exposure for the year is 1820 millirem.
- The remainder of his dose was received at Waterford 3.

Which ONE (1) of the following describes the MAXIMUM dose the employee may receive prior to exceeding his ENS administrative dose limit for the year?

A. 180 millirem

B. 840 millirem

C. 3180 millirem

D. 3840 millirem

Question 073

Which ONE (1) of the following describes the significance of a red control room annunciator window?

A. Indicates that a reactor trip is required.

B. Indicates that a SIAS setpoint has been exceeded.

C. Indicates loss or degradation of a safety function.

D. Indicates that the parameter causing the alarm requires immediate operator action

Question 074

Which of the following requires entry into OP-902-000, Standard Post Trip Actions?

A. S/G water level 26% Narrow range

B. Pressurizer Pressure 2308 psia.

C. Departure from Nucleate Boiling Ratio 1.36

D. Lo Steam Generator flow 23 psid

Question 075

Which ONE (1) of the following correctly describes the Operating Crew's requirement to verify Critical Safety Functions while performing EOPs?

A. Required continuously

B. Required every 10 minutes

C. Required every 15 minutes

D. Required every 25 minutes

Waterford 3 Site Specific NRC Written Exam REFERENCES

The following references are provided to support this exam:

REFERENCE
PDB Figure 1 RCS Temperature Band Vs Power
OP-901-112, Att. 1, Pressurizer Level vs Tave Curve
OP-902-009 Att. 2-G, Feedwater for Sensible Heat Removal
OP-902-009 Att. 2-H, Condensate inventory Curve four RCPs Operating
OP-902-009 Att. 2-I, Condensate inventory Curve two RCPs Operating
OP-902-009 Att. 2-J, Condensate inventory Curve NO RCPs Operating

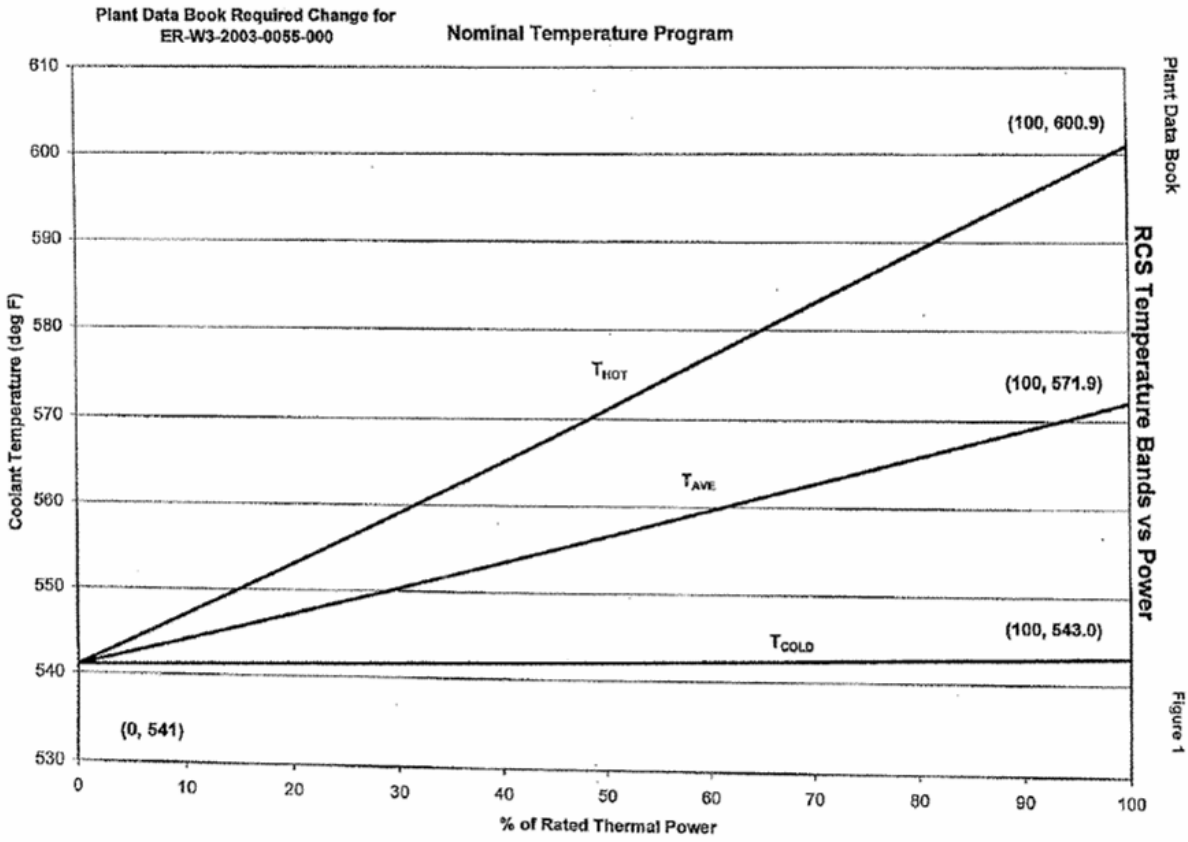
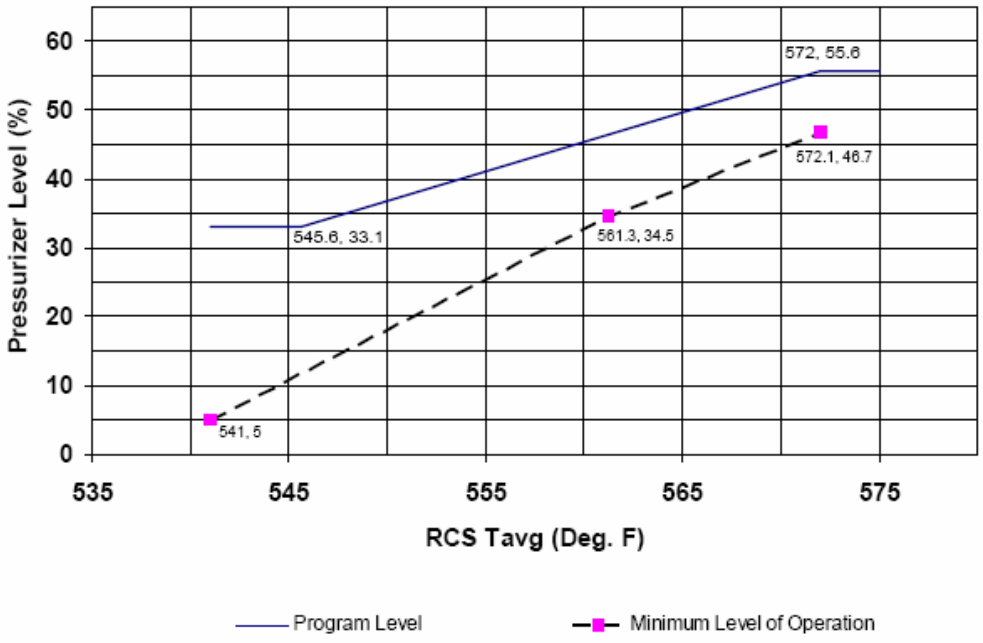

Plant Data Book Required Change for
ER-W3-2003-0055-000
Nominal Temperature Program
610
600
590
580
570
560
550
540
530
Coolant Temperature (deg F)
0
10
20
30
40
50
60
70
80
90
100
% of Rated Thermal Power
(100, 600.9)
(100, 571.9)
(100, 543.0)
(0, 541)
T_{HOT}
T_{AVE}
T_{COLD}
RCS Temperature Bands vs Power
Plant Data Book

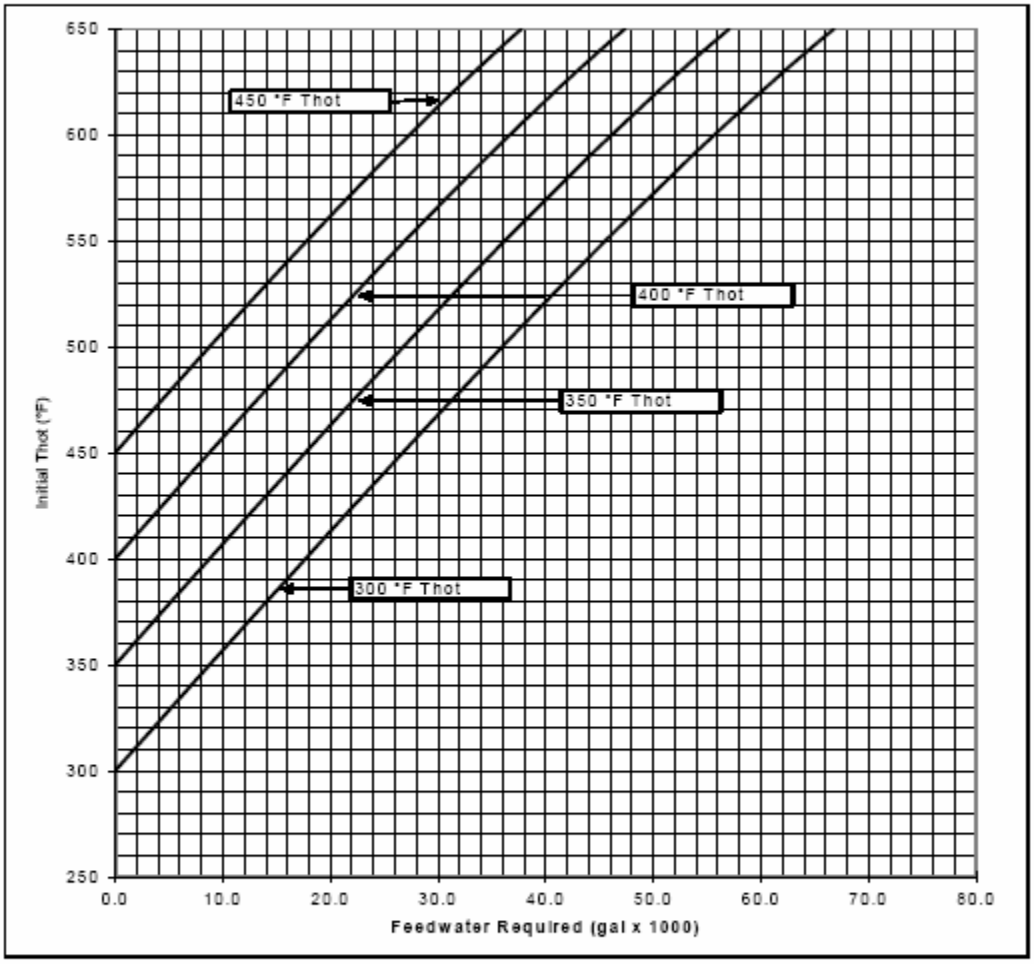
Figure 1

ATTACHMENT 1: PRESSURIZER LEVEL VERSUS TAVE CURVE



Figures

Attachment 2-G: Feedwater for Sensible Heat Removal

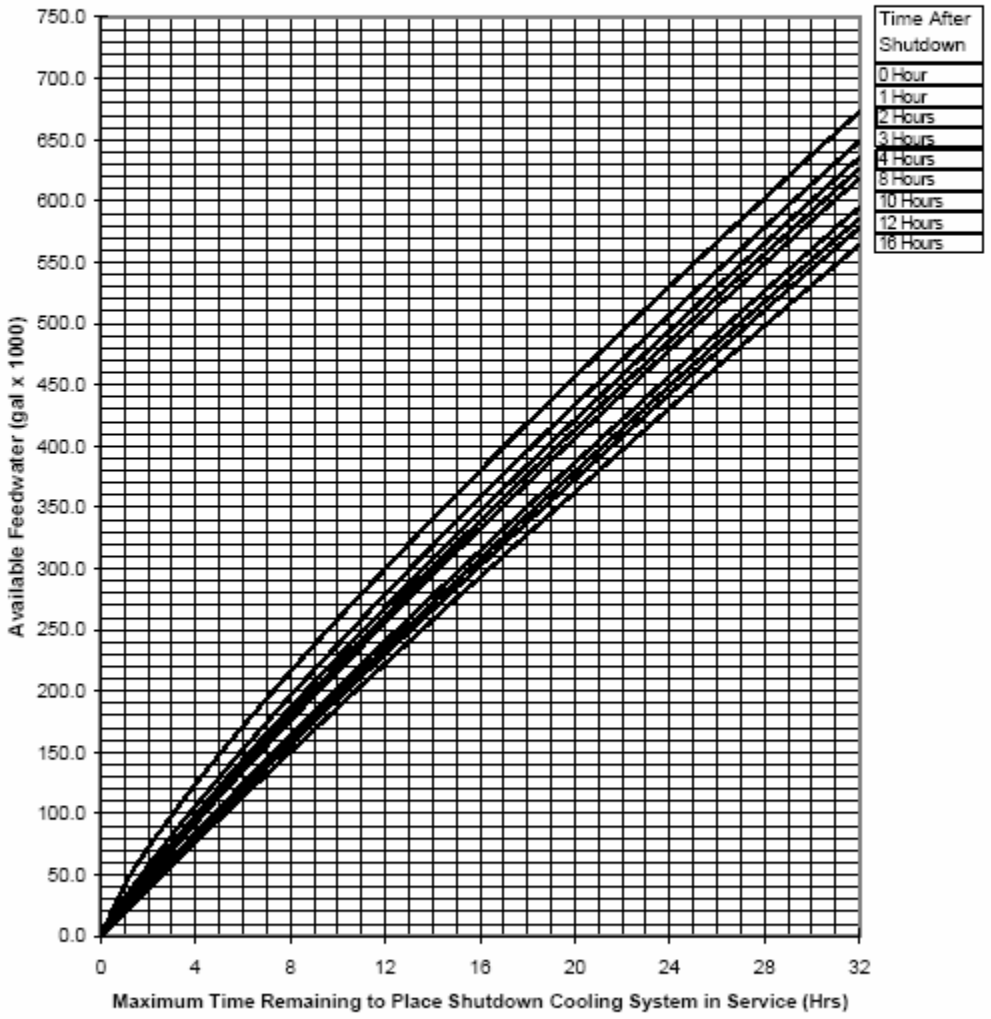


DWST Volume = 5000 gal / % x _____ % - 58,000 gal = _____ gal
CSP Volume = 2106 gal / % x _____ % -53,000 gal = _____ gal
Total Feedwater = DWST Volume + CSP Volume = _____ gal
Available Feedwater = Total Feedwater – Feedwater Required from Att. 2-G
= _____ Total - _____ Required = _____gal

End of Attachment 2-G

Figures

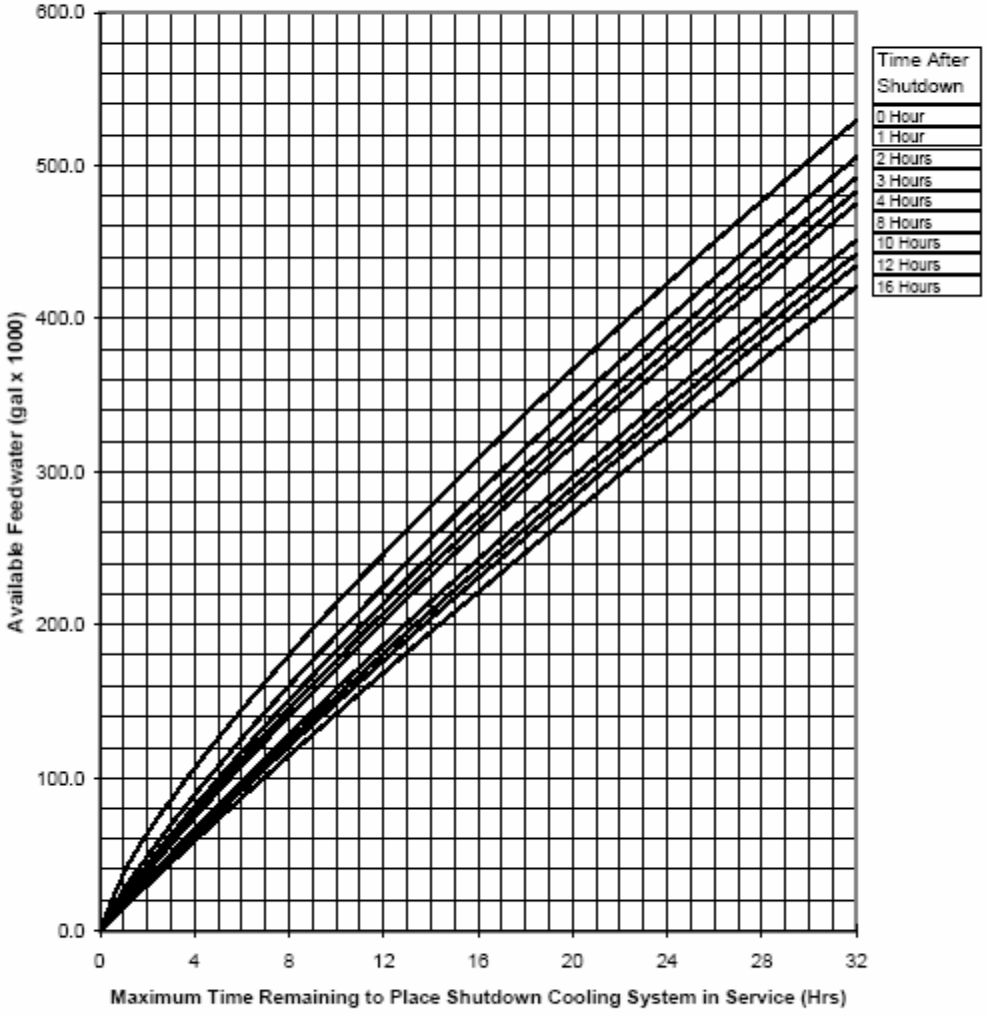
End of Attachment 2-H: Condensate Inventory Curve Four RCPs Operating



End of Attachment 2-H

Figures

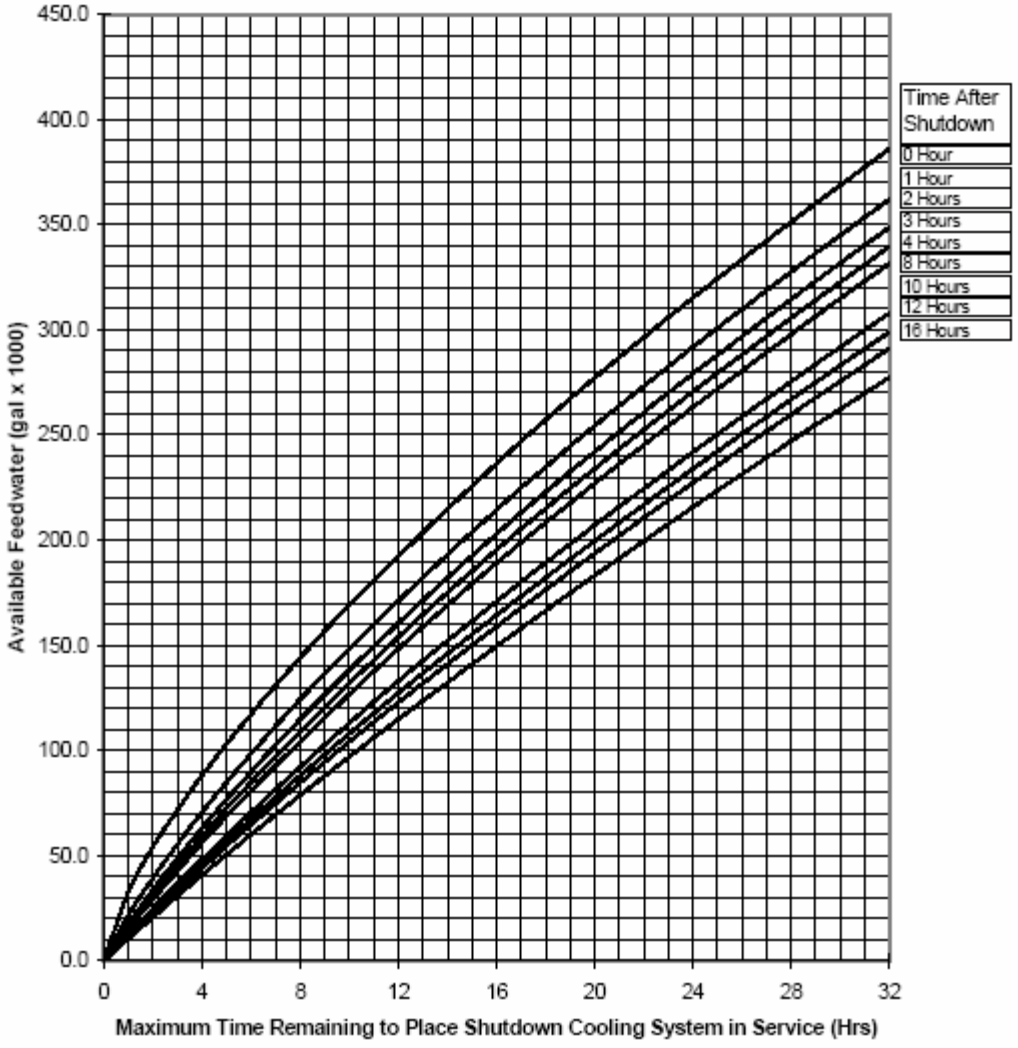
Attachment 2-I: Condensate Inventory Curve Two RCPs Operating



End of Attachment 2-I

Figures

Attachment 2-J: Condensate Inventory Curve NO RCPs Operating



End of Attachment 2-J