CALLAWAY PLANT

EXAMINATION COVER SHEET

TRAINING DEPARTMENT

COURSE TITLE: RO INITIAL LICENSE EXAMINATION DATE: _____

NAME (Print): _____ SCORING:

SIGNATURE: _____ Points Possible: 100

Points Missed: _____

Grade: _____

DIRECTIONS: BLACK OUT CORRECT ANSWERS

1.	**A**	B	C	D	26.	**A**	B	C	D	51.	A	B	**C**	D	76.	A	B	C	**D**
2.	**A**	B	C	D	27.	**A**	B	C	D	52.	**A**	B	C	D	77.	**A**	B	C	D
3.	A	**B**	C	D	28.	A	**B**	C	D	53.	A	B	C	**D**	78.	A	**B**	C	D
4.	A	B	**C**	D	29.	A	**B**	C	D	54.	A	B	C	**D**	79.	A	B	C	**D**
5.	A	B	**C**	D	30.	**A**	B	C	D	55.	A	**B**	C	D	80.	A	B	C	**D**
6.	A	B	**C**	D	31.	A	**B**	C	D	56.	A	**B**	C	D	81.	A	B	**C**	D
7.	A	**B**	C	D	32.	A	B	**C**	D	57.	A	**B**	C	D	82.	A	B	C	**D**
8.	A	B	**C**	D	33.	**A**	B	C	D	58.	A	B	**C**	D	83.	**A**	B	C	D
9.	A	**B**	C	D	34.	A	B	**C**	D	59.	A	**B**	C	D	84.	**A**	B	C	D
10.	**A**	B	C	D	35.	A	**B**	C	D	60.	**A**	B	C	D	85.	**A**	B	C	D
11.	A	B	C	**D**	36.	**A**	B	C	D	61.	A	**B**	C	D	86.	A	B	**C**	D
12.	A	B	C	**D**	37.	**A**	B	C	D	62.	**A**	B	C	D	87.	A	B	C	**D**
13.	**A**	B	C	D	38.	**A**	B	C	D	63.	**A**	B	C	D	88.	**A**	B	C	D
14.	A	B	C	**D**	39.	A	**B**	C	D	64.	A	B	**C**	D	89.	A	**B**	C	D
15.	A	**B**	C	D	40.	A	B	C	**D**	65.	A	B	**C**	D	90.	A	B	C	**D**
16.	A	B	C	**D**	41.	**A**	B	C	D	66.	A	B	**C**	D	91.	A	B	**C**	D
17.	A	B	**C**	D	42.	A	B	**C**	D	67.	**A**	B	C	D	92.	**A**	B	C	D
18.	**A**	B	C	D	43.	A	B	**C**	D	68.	A	B	C	**D**	93.	A	**B**	C	D
19.	A	B	C	**D**	44.	A	B	C	**D**	69.	A	B	**C**	D	94.	A	B	C	**D**
20.	A	B	**C**	D	45.	**A**	B	C	D	70.	A	B	**C**	D	95.	A	B	**C**	D
21.	A	B	C	**D**	46.	A	B	C	**D**	71.	A	**B**	C	D	96.	A	B	C	**D**
22.	**A**	B	C	D	47.	A	B	**C**	D	72.	**A**	B	C	D	97.	A	B	C	**D**
23.	A	B	**C**	D	48.	A	B	C	**D**	73.	A	**B**	C	D	98.	A	**B**	C	D
24.	A	B	C	**D**	49.	A	B	**C**	D	74.	A	B	C	**D**	99.	**A**	B	C	D
25.	A	**B**	C	D	50.	A	B	**C**	D	75.	A	**B**	C	D	100.	A	B	C	**D**

QUESTION: 1

An Electrician has called the Control Room requesting that the RO stroke CLOSED EJ HV-8804A, RHR TRAIN 'A' TO CHARGING PUMP SUCT ISO, for MOVATS testing. A LOCAL CONTROL (LC) tag is hanging on the MCB Handswitch.

Which ONE of the following complies with APA-ZZ-00310, Workman's Protection Assurance and Caution Tagging?

A. Stroke EJ HV-8804A if the Electrician is signed on to the LC.

B. The RO must sign on to the LC in addition to the Electrician requesting the valve stroke.

C. The RO may stroke the valve after verifying the LC is on SS Hold.

D. The Electrician signed on to the LC must come to the Control Room to operate the handswitch.

QUESTION: 2

Which ONE of the following events is required to be recorded in the RO Narrative Log?

A. ESW system ESFAS alarm that is unexpected.

B. Security intrusion alarm on door number 22033.

C. Main Feedwater System chemical additions.

D. Unscheduled placement of simulator halon to inhibit.

QUESTION: 3

During normal operation, GERE92, Condenser Air Removal Rad Monitor alarms. A steam generator tube leak is suspected. Given the following information:

- Charging Flow: 120 gpm
- Letdown Flow: 75 gpm
- Pressurizer Level: 57% and STABLE
- Tavg: 584.4°F and STABLE
- RCP Seal Injection Flow: 8 gpm per pump
- RCP Seal Leakoff Flow: 3 gpm per pump

Which ONE of the following is the approximate steam generator tube leakage rate?

A. 25 gpm

B. 33 gpm

C. 37 gpm

D. 45 gpm

QUESTION: 4

The following plant conditions exist:

- A Rx Startup is in progress following a mid-cycle outage
- Rx power has been stabilized at $1E^{-8}$ amps
- RCS temperature is at the no-load value
- Critical data has been taken
- Prior to any additional control rod movement, a single S/G Safety Valve on SG 'D' fails open and remains open
- RCS T_{avg} decreases 9°F and reactor power starts to increase

Which ONE of the following states the most restrictive action required to satisfy Technical Specification LCO(s)?

A. Reduce power range high flux reactor trip setpoints to $\leq$ 85% rated thermal power.

B. Restore the inoperable S/G safety valve to operable status prior to entering Mode 1.

C. Restore T_{avg} or be in Mode 2 with $K_{eff} < 1.0$ and all RCS $T_{Cold} \geq 500°F$ within 30 min.

D. Immediately initiate emergency boration to restore adequate Shutdown Margin.

QUESTION: 5

The following plant conditions exist:

- Mode 1, 100% power, all equipment in a normal full power lineup
- 4A Low Pressure Feedwater Heater level instrumentation indicates Hi Hi level.

Which ONE of the following describes the effect on MAIN FEEDWATER?

A. Temperature increases.

B. Flow increases.

C. Temperature decreases.

D. Flow decreases.

QUESTION: 6

FR-P.1, Response to Imminent Pressurized Thermal Shock Condition, is in progress.

Which ONE of the following conditions is acceptable using Attachment 7, on the following page, for RCS Post-Soak Cooldown Limitations during recovery from the PTS condition?

A. RCS cold legs = 200°F. RCS wide range pressure = 0 psig.

B. RCS cold legs = 250°F. RCS wide range pressure = 300 psig.

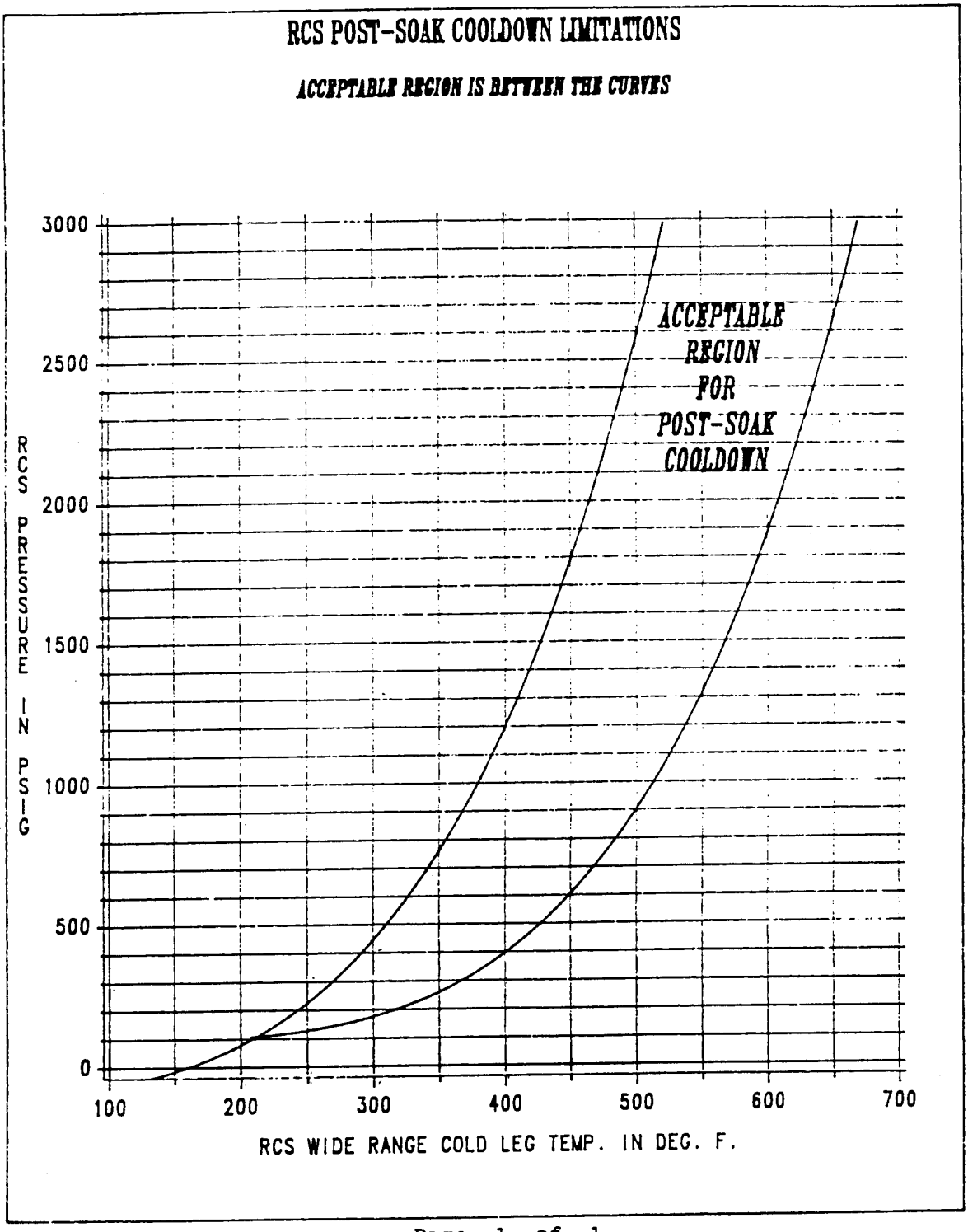
C. RCS cold legs = 300°F. RCS wide range pressure = 400 psig.

D. RCS cold legs = 400°F. RCS wide range pressure = 300 psig.

QUESTION: 6 (continued)

Proced. No. FR-P.1	RESPONSE TO IMMINENT PRESSURIZED THERMAL SHOCK CONDITION	Attachment 7	Rev. 1B1

RCS POST-SOAK COOLDOWN LIMITATIONS CURVE



QUESTION: 7

A plant startup is in progress with power indicating $1E^{-8}$ amps on both channels of IR nuclear instruments.

Which ONE of the following will occur if IR channel N35 fails to 22%, current equivalent?

A. IR High Flux Reactor Trip.

B. IR Rod Stop will stop outward rod motion.

C. PR Low Flux Reactor Trip.

D. Pzr High Level Reactor Trip is unblocked.

QUESTION: 8

Which ONE of the following Core Exit Thermocouple (CETC) readings indicates the highest temperature during accident conditions at which a CETC will operate satisfactorily?

A. 700°F

B. 1200°F

C. 2300°F

D. 3200°F

QUESTION: 9

The following plant conditions exist:

- Mode 1
- Rx power 100%, normal operating temperature, normal operating pressure
- NCP in service with BGFCV124 in auto
- Letdown flow is 120 gpm
- PZR level controller BBLK459 is in auto
- BBLT461 is the upper select PZR level control channel

BBLT461 fails HIGH. NO operator action is taken.

Which ONE of the following will occur as a result of BBLT461 failing?

A. The reactor will trip, but not as a result of PZR level.

B. After a time period, the reactor will trip on high PZR level.

C. After a time period, the reactor will trip on low PZR level.

D. The reactor will trip immediately on high PZR level.

QUESTION: 10

The plant is in Mode 2 at 3% Reactor Power, commencing warm-up of the main turbine.

Which ONE of the following could be a direct result of a loss of Vital AC Instrument Bus NN02?

A. Intermediate Range High Flux Reactor Trip.

B. Source Range High Flux Reactor Trip.

C. Charging Pump Suction Swaps to the RWST.

D. Idle Component Cooling Water Pump Start.

QUESTION: 11

The reactor tripped 5 minutes ago.

Which ONE of the following completes the statement concerning the heat transfer relationship between the RCS and Steam Generators?

The heat transfer rate between the RCS and the S/Gs will:

A. decrease as RCS temperature increases and AFW flow increases.

B. decrease as AFW temperature decreases and AFW flow increases.

C. increase as AFW temperature increases and RCS flow decreases.

D. increase as RCS temperature increases and AFW flow increases.

QUESTION: 12

Because of an administrative oversight OSP-NE-00001A, Standby Diesel Generator 'A' Periodic Tests **(a Continuous Use Procedure)** must be performed within the next 20 minutes to comply with the surveillance frequency requirements. The Secondary Equipment Operator reports that he CANNOT perform the Pre-Start Checks as required by the Initial Conditions in 20 minutes.

Which ONE of the following describes the action to be taken?

A. With SS permission, the diesel can be run without performing the Pre-Start Checks since it is always in standby and ready to start.

B. Generate a Temporary Change Notice for the Initial Conditions that removes the requirement for performing the Pre-Start Checks.

C. With SS permission, just perform selected portions of the Pre-Start checks so the diesel can be started within 20 minutes.

D. The Pre-Start Checks must be performed regardless of the time required to complete them.

QUESTION: 13

The following plant conditions exist:

- Annunciator 80B, RPI NON-URGENT ALARM, is illuminated
- DRPI General warning LED is flashing for rod H-8
- There are NO rod control system alarms illuminated
- DRPI indication for rod H-8 is 222 steps (Control Bank 'D', Group 2)
- DRPI indications for remaining Control Bank 'D' rods are 216 steps.
- Step counter indication for Control Bank 'D' Group 1 is 216 steps.
- Step counter indication for Control Bank 'D' Group 2 is 215 steps.

Which ONE of the following has occurred in the rod position indication system?

A. Data 'A' failure

B. Data 'B' failure

C. Bank D, Group 1 step counter has failed

D. Bank D, Group 2 step counter has failed

QUESTION: 14

A Steam Generator Tube Rupture combined with a Loss of Offsite Power has occurred.

Which ONE of the following is the PREFERRED method to INITIALLY DEPRESSURIZE the RCS?

A. Cycle Pressurizer Heaters.

B. Use Auxiliary Spray.

C. Use Normal Pressurizer Spray.

D. Use a Pressurizer PORV.

QUESTION: 15

A large steam line break occurs inside containment. A Safety Injection occurs on Containment Pressure. Containment pressure is 30 psig when step 10 of Attachment 12 of E-0, "Check if CTMT Spray is Required", is performed.

Which ONE of the following is the reason for stopping all four RCP's?

A. They are an unnecessary addition of heat to Containment.

B. All RCP cooling water flow is automatically isolated.

C. Air is too dense for the motor cooler fans to keep the motor cool.

D. Containment structural failure is imminent.

QUESTION: 16

Which ONE of the following describes the plant response to a Hi Hi Radiation Alarm on GH RE-10B, Radwaste Building Exhaust Fans Discharge Header Radiation Monitor?

A. Radwaste Building Supply Unit (SGH01) STOPS.

B. Waste Gas Compressors (SHA02A & B) STOP.

C. Catalytic Hydrogen Recombiners (SHA01A & B) ISOLATE.

D. Gas Decay Tanks to RW HVAC Discharge Valve (HA HCV-14) ISOLATES.

QUESTION: 17

Which ONE of the following combinations of Borated Water Volume, Boron Concentration, and Solution Temperature would meet the Technical Specification LCO for the RWST in Mode 4?

	Borated Water Volume	Boron Concentration	Solution Temperature
A.	395,000 gal	2325 ppm	65°F
B.	350,000 gal	2385 ppm	85°F
C.	400,000 gal	2415 ppm	95°F
D.	412,000 gal	2450 ppm	105°F

QUESTION: 18

A seal water malfunction on the running condenser vacuum pump results in a degrading main condenser vacuum.

Which ONE of the following is the setpoint at which the standby condenser vacuum pump will automatically start?

A. 5.0 inches Hga

B. 5.5 inches Hga

C. 6.0 inches Hga

D. 6.5 inches Hga

QUESTION: 19

The following plant conditions exist:

- Mode 1, 100% Reactor Power
- RCS specific activity is 50 microcuries/gm DOSE EQUIVALENT I-131

Which ONE of the following is the Chemistry sampling requirements per OTO-BB-00005, Reactor Coolant System High Activity?

A. Normal 72 hours sample requirements are necessary.

B. Once per 24 hours until activity decreases for 3 consecutive samples.

C. As directed by the On-Shift Chemistry Supervisor.

D. Once per 4 hours until activity decreases to less than 1 microcurie/gm.

QUESTION: 20

Callaway Plant is in Mode 3 cooling down for a Refueling outage. The Reactor Operator has been directed to decrease RCS pressure to 1950 psig.

Which ONE of the following would the Reactor Operator have to set the Pressurizer Pressure Master Control, BBPK455A, to maintain the RCS at 1950 psig in Auto? (Narrow Range Pzr Pressure range is from 1700 to 2500 psig.)

A. 1.77 turns

B. 2.55 turns

C. 3.13 turns

D. 4.41 turns

QUESTION: 21

An accessible area where an individual could receive a dose equivalent greater than _____ in one hour at a distance 12 inches from the radiation source is classified as a _____.

A. 1000 mrem; CAUTION HIGH RADIATION AREA

B. 100 mrem; RADIATION AREA

C. 100 mrem; HOT SPOT

D. 1000 mrem; DANGER HIGH RADIATION AREA

QUESTION: 22

The following plant conditions exist:

- Mode 1, 80% reactor power, 975 MWe
- 'A' and 'C' Circ Water pumps in operation
- Ambient Dry Bulb temperature is -5°F, Cooling Tower Basin temperature is 45°F

Utilizing Attachment 1 of OTN-DA-00001 on the following page, which ONE of the following is the correct status of the cooling tower?

A. Two bypass valves will open with two circ water pumps running.

B. All water flow is directed to the center of the cooling tower.

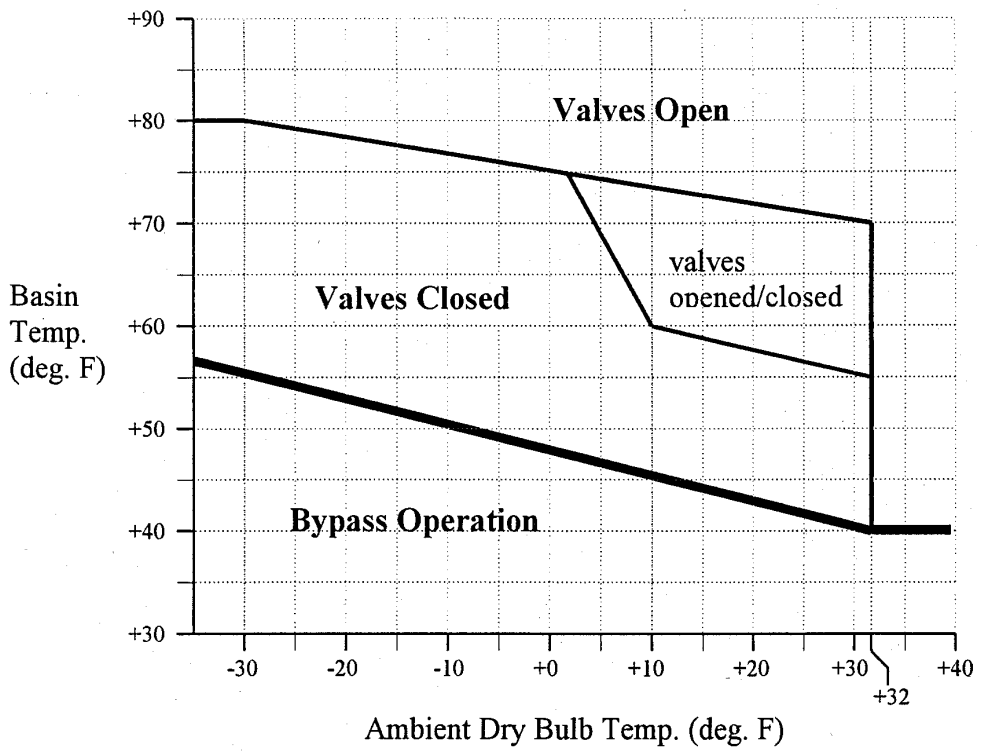
C. Three bypass valves will open with two circ water pumps running.

D. All water flow is directed to the outer portion of the cooling tower.

QUESTION: 22 (continued)

OTN-DA-00001
Rev. 012

Cooling Tower Freeze Protection Curve



Select one of the following to maintain backpressure at approximately 2.1 Hg abs.:

I. 3 pump operation and throttle the lower C.W. passes
II. 3 pump operation and FREEZE-PROTECT or FREEZE-PROTECT and throttled
III. 2 pump operation and normal throttle

Attachment 1

QUESTION: 23

A reactor startup is in progress. Power level is at $1E^{-7}$ amps when a reactor trip occurs due to a Nuclear Instrumentation Channel failure.

Which ONE of the following is the approximate length of time before the Source Range NIs will automatically energize?

A. 2 minutes

B. 5 minutes

C. 10 minutes

D. 15 minutes

QUESTION: 24

Which ONE of the following correctly identifies the parameters and values used by an operator to ensure the temperature difference between the PZR and the Spray Fluid are within the specified limit(s) in the Technical Specifications when initiating PZR Spray?

	Spray Source	ΔT Limit	Parameters Monitored To Satisfy ΔT Limit
A.	Normal Spray Aux Spray	275°F 583°F	RCS hot leg loop temperature and PZR vapor space temperature. Regen HX charging inlet temperature and PZR vapor space temperature.
B.	Normal Spray Aux Spray	275°F 320°F	RCS cold leg loop temperature and PZR vapor space temperature. Regen HX charging outlet temperature and PZR vapor space temperature.
C.	Normal Spray Aux Spray	320°F 583°F	RCS hot leg loop temperature and PZR vapor space temperature. Regen HX charging inlet temperature and PZR vapor space temperature.
D.	Normal Spray Aux Spray	320°F 320°F	RCS cold leg loop temperature and PZR vapor space temperature. Regen HX charging outlet temperature and PZR vapor space temperature.

QUESTION: 25

Per ODP-ZZ-00025, Emergency Operating Procedure Usage, in which ONE of the following cases may AFW be THROTTLED to less than 300,000 lbm/hr?

	S/G NR Level		Ctmt Temp	Ctmt Rad
A.	A-30% B-29%	C-24% D-33%	210°F	1 R/hr
B.	A-3% B-2%	C-17% D-6%	125°F	10 R/hr
C.	A-17% B-14%	C-18% D-21%	115°F	1×10^6 R/hr
D.	A-16% B-13%	C-0% D-6%	180°F	1×10^5 R/hr

QUESTION: 26

The following plant conditions exist:

- PZR Relief Tank Level Hi/Lo ALARMING on HIGH LEVEL
- PZR Relief Tank Pressure ALARMING on HIGH PRESSURE

Which ONE of the following combinations contain sources, ALL of which should be monitored for leakage into the PRT?

A. RHR Pump Suction Reliefs (EJ8708A/B), RCP Seal Leakoff Relief (BG8121), and CVCS Letdown Relief (BG8117)

B. ECCS Accumulator Reliefs (EJ8855A-D), RHR Pump Suction Relief (EJ8708A/B), and CVCS Letdown Relief (BG8117).

C. RCP Seal Leakoff Relief (BG8121), CVCS Letdown Relief (BG8117) and RHR Discharge Reliefs (EJ8856A/B)

D. Safety Injection Pump Suction Reliefs (EM8858A), RHR Pump Suction Reliefs (EJ8708A/B), and RCP Seal Leakoff Relief (BG8121).

QUESTION: 27

Which ONE of the following could indicate a 10 gpm letdown leak between BGHV8152, CVCS Letdown System Outer CTMT Iso Valve, and the containment penetration?

A. BGPCV0131, CVCS Letdown Hx Outlet PCV, CLOSING to maintain pressure at setpoint.

B. INCREASED Component Cooling Water flow to the Letdown Heat Exchanger.

C. BGFI0132, CVCS Letdown Hx Outlet Flow Indicator, INCREASING.

D. BGTI0126, Regen Hx Charging Outlet Temperature Indicator, DECREASING.

QUESTION: 28

The following plant conditions exist:

- Safety Injection actuated on Low Pzr Pressure and has NOT been RESET.
- CTMT pressure is 10 psig and increasing at 1 psig/minute.
- NB01 is energized from off-site power.
- NB02 is inadvertently de-energized by opening NB0209, NB02 MN FDR BKR FROM XNB02.
- NB0211, NB02 EMERG FEED FROM B STBY DG NE02, closes re-energizing NB02 from NE02.
- A CSAS actuates at the same time NB0211 closes.

Which ONE of the following correctly states the time at which the Containment Spray Pumps will start?

	'A' CS Pump	'B' CS Pump
A.	Immediately	Immediately
B.	Immediately	15 seconds
C.	15 seconds	15 seconds
D.	15 seconds	40 seconds

QUESTION: 29

The plant is in Mode 1 at 75% reactor power.

Which ONE of the following is a correct IMMEDIATE ACTION for a main feed pump trip under these conditions per OTO-AE-00001, Feedwater System Malfunction?

A. Manually trip the reactor and enter E-0, Reactor Trip or Safety Injection.

B. Quickly run back turbine generator load to less than 60% or 750 MWe.

C. Use normal boration/adjust turbine load as necessary to match Tave and Tref.

D. Restore steam generator level to the program level of 50%.

QUESTION: 30

Which ONE of the following describes the operation of the Main Turbine Steam Valves during Control Valve Chest Warming?

A. Main Stop Valve #2 Bypass is Open.

B. All Intermediate Stop Valves are Shut.

C. Control Valves #1, #2 and #3 are Open.

D. All Main Stop Valves are Open.

QUESTION: 31

The crew is responding to a plant transient and is currently in procedure ECA-1.2, "LOCA Outside Containment".

Why should operators wait some amount of time during each valve repositioning per this procedure?

A. Prevents overcurrent trips on valve motor breakers.

B. Allows system pressure to respond to repositioning.

C. Prevent valve motor overheating due to excessive operation.

D. To allow check on indications of leak in auxiliary building.

QUESTION: 32

The plant is in Mode 1, 100% power. An inadvertent Main Steam Line Isolation occurs resulting in a reactor trip.

Which ONE of the following correctly describes the steam generator response? (Assume no operator action.)

A. Rapid pressure increase causes steam generator levels to increase, steam generator PORVs and Safety Valves lift relieving the pressure, steam generator levels decrease and main feedwater level control increases feed to regain level.

B. Rapid pressure increase causes steam generator levels to increase, steam generator PORVs lift relieving the pressure, steam generator levels decrease and auxiliary feedwater will feed to regain level.

C. Rapid pressure increase causes steam generator levels to decrease, steam generator PORVs and Safety Valves lift to relieve the pressure, steam generator levels decrease and auxiliary feedwater will feed to regain level.

D. Rapid pressure increase causes steam generator levels to decrease, steam generator PORVs lift relieving the pressure, steam generator levels decrease and main feedwater level control increases feed to regain level.

QUESTION: 33

Which ONE of the following describes the containment atmosphere radiation monitors GT-RE-31 and GT-RE-32?

A. They sample containment via the hydrogen control system and are isolated from containment by a CIS A actuation.

B. They sample upstream of the containment isolation valves for the hydrogen control system and are NOT isolated by a CIS A actuation.

C. They sample between the containment isolation valves on the mini purge exhaust line and initiate a CPIS on high high activity.

D. They sample from the containment purge exhaust line outside containment and initiate a CPIS on high high activity.

QUESTION: 34

Which ONE of the following will occur during an Emergency Start (SIS) of the NE02 Diesel Generator coincident with a loss of the NK supply to the field flash circuit?

A. At 85 rpm, an initial diesel generator field flash will be attempted.

B. At 125 rpm, the low speed relay de-energizes the starting air solenoids.

C. At 471 rpm, the high speed relay will attempt a redundant field flash.

D. At 514 rpm, the "At Voltage - At Frequency" white lights will illuminate.

QUESTION: 35

The following plant conditions exist:

- The plant is in Mode 5
- Midloop operations are in progress
- SG hot and cold leg manway covers are removed
- SG nozzle dams are installed in the hot legs
- SG nozzle dams are NOT installed on the cold legs
- Loss of RHR cooling occurs

Which ONE of the following could occur as a result of this event?

A. Steam formation in the hot leg will cause an erroneously low RCS Loop Level indication.

B. Steam formation in the reactor vessel head will displace water from the reactor vessel and force water out the cold leg manways.

C. Steam formation in the reactor vessel head will increase RCS pressure and blow out the hot leg nozzle dams.

D. Steam formation in the hot leg will ultimately collapse, resulting in severe water hammer.

QUESTION: 36

The following plant conditions exist:

- NCP is running, 120 gpm letdown.
- BGFT121, CVCS CHG HDR TO REGEN HX FLOW XMTR, fails.
- As a result, BGFCV124 closes.
- The NCP handswitch red light is lit.
- BGHV8109, NCP Recirculation Valve, is open.

The following annunciators are received:

- CHARGING LINE FLOW LOW
- SEAL INJECTION TO RCP FLOW LOW
- NCP FLOW LOW

Which ONE of the following actions should be taken immediately?

A. Take manual control of BGFCV124 and open it.

B. Start a CCP and secure the NCP.

C. Open BGHV8357A or B to restore seal injection.

D. Close all letdown orifice isolation valves.

QUESTION: 37

The following plant conditions exist:

- Mode 1, 100% Reactor Power
- Both Trains of ESW – normal standby lineup

The normal feeder breaker to XNB02 is accidentally tripped OPEN by a Janitor/Groundskeeper working in the area. When the 'B' MDAFP pump started, a fault occurred resulting in a loss of NB02.

Which ONE of the following describes the response of the 'A' ESW Train to this event?

A. 'A" ESW pump AUTOMATICALLY STARTS – valve(s) in the 'A' ESW Train will reposition to provide a flowpath.

B. 'A' ESW pump AUTOMATICALLY STARTS – 'B' Train powered valve(s) in the 'A' ESW Train must be locally manually repositioned to provide a flowpath for 'A' Train.

C. 'A' ESW pump must be MANUALLY STARTED – valve(s) in the 'A' ESW Train will reposition to provide a flowpath.

D. 'A' ESW pump must be MANUALLY STARTED – 'B' Train powered valve(s) in the 'A' ESW Train must be locally manually repositioned to provide a flowpath for 'A' Train.

QUESTION: 38

The following plant conditions exist:

- An RCS pipe break has occurred.
- The crew is currently in ES-1.2, Post LOCA Cooldown and Depressurization, attempting to isolate SI Accumulators.
- EPHV8808A, 'A' SI Accumulator Outlet Valve, will not close.

Which ONE of the following describes how the operators should address the stuck open 'A' SI Accumulator Outlet Valve?

A. Vent the 'A' SI Accumulator to the CTMT building.

B. Continue the cooldown and allow the SI Accumulator to discharge.

C. Dispatch an operator to close the valve locally.

D. Drain the 'A' SI Accumulator to the Reactor Coolant Drain Tank.

QUESTION: 39

The plant was initially in Mode 1. The following plant conditions now exist:

- A large break LOCA has occurred inside Containment
- Only the 'B' Train of Safety Injection AUTOMATICALLY ACTUATED
- Train 'A' ECCS components have been STARTED/OPERATED MANUALLY
- RWST level is 35% and DECREASING
- 'B' Train RHR Ctmt Recirc Sump Suction Valve, EJ HV-8811B, is OPEN
- 'A' Train RHR Ctmt Recirc Sump Suction Valve, EJ HV-8811A, is CLOSED

Which ONE of the following describes why the 'A' RHR Pump must be temporarily STOPPED to complete the switchover to the Cold Leg Recirculation mode of ECCS?

A. RHR System Hot Leg Recirculation Valve, EJ HV-8716A, must be CLOSED in order to OPEN RHR Ctmt Recirculation Sump Suction Valve, EJ HV-8811A.

B. RWST to RHR Pump Suction Valve, BN HV-8812A, must be CLOSED in order to OPEN Ctmt Recirculation Sump Suction Valve, EJ HV-8811A.

C. RWST to RHR Pump Suction Valve, BN HV-8812A, must be CLOSED in order to OPEN RHR to Charging Pump Valve, EJ HV-8804A.

D. RHR to Accumulator Injection Valve, EJ HV-8809A, must be CLOSED in order to OPEN RHR Ctmt Recirculation Sump Suction Valve, EJ HV-8811A.

QUESTION: 40

The plant has been shutdown for 10 days and is in a refueling outage. One third of the core has been off-loaded to the Spent Fuel Pool. An accident has caused damage to the Spent Fuel Pool and level is DECREASING uncontrollably. The fuel transfer tube has been ISOLATED. The only source of makeup is Essential Service Water, which can just keep up with the leak.

Which ONE of the following is correct?

A. The Shutdown Margin in the Spent Fuel Pool will continue to DECREASE with eventual criticality being obtained in the Spent Fuel Pool.

B. The Shutdown Margin in both the Spent Fuel Pool and the Reactor Cavity will DECREASE until criticality is obtained in both the Spent Fuel Pool and the Reactor.

C. The Shutdown Margin in the Spent Fuel Pool will DECREASE but criticality will NOT be obtained because the fuel is depleted.

D. The Shutdown Margin in the Spent Fuel Pool will continue to DECREASE but criticality will NOT be obtained because of the fuel storage geometry.

QUESTION: 41

The plant is in Mode 4. A plant cooldown is in progress with RHR Train 'A' in a cooldown lineup. The Reactor Operator is directed to stop the plant cooldown. The Reactor Operator then CLOSES EGHV0101, 'A' CCW to 'A' RHR Hx.

Which ONE of the following events occur?

A. 'A' CCW flashes in the 'A' RHR heat exchanger causing the 'A' CCW surge tank level to increase.

B. 'A' ESW flashes in the 'A' CCW heat exchanger causing a water hammer in 'A' ESW.

C. 'A' RHR flashes in the 'A' RHR heat exchanger causing the 'A' RHR suction relief to lift.

D. 'A' ESW flashes in the 'A' CCW heat exchanger causing the heat exchanger tube side relief valve to lift.

QUESTION: 42

The plant is operating at 100% power with normal operating temperature and pressure when a pressurizer safety valve inadvertently lifts. The PRT pressure is 20 psig.

Which ONE of the following describes the condition of the steam entering the PRT?

A. Superheated steam at 668°F.

B. Superheated steam at 653°F

C. Saturated steam/water mixture at 259°F.

D. Saturated steam/water mixture at 228°F.

QUESTION: 43

The following plant conditions exist:

- Mode 1, 17% power, plant startup in progress.
- 'A' MFP is in AUTO.
- ABUS0500Z, Steam Dump Selector Switch, is selected to STEAM PRESSURE mode.
- ABPT0507, Main Steam Header Pressure, fails HIGH.

Which ONE of the following correctly describes the plant response?

A. Feed Pump speed will INCREASE. Steam Dumps will CLOSE, and will not reopen until the Steam Dump Mode Selector switch is placed in TAVG mode.

B. Feed Pump speed will DECREASE. Steam Dumps will CLOSE, and will not reopen until both Steam Dump Interlock Selector switches are RESET.

C. Feed Pump speed will INCREASE. Steam Dumps will OPEN, and will not close until one Steam Dump Interlock Selector switch is placed in OFF.

D. Feed Pump speed will DECREASE. Steam Dumps will OPEN, and will not close until ABPK0507, Steam Header Pressure Controller, is placed in MANUAL.

QUESTION: 44

The following plant conditions exist:

- Large Break LOCA in progress
- Crew is performing FR-Z.1, Response To High Containment Pressure, due to an ORANGE path on Containment Pressure
- CTMT Pressure is 31 psig and INCREASING
- Annunciator 47C, RWST LEV LOLO 1 AUTO XFR, has just ACTUATED

Which ONE of the following should be performed?

A. CONTINUE in FR-Z.1, when completed, transition to ES-1.3, Transfer To Cold Leg Recirculation. Upon completion transition to E-1, Loss of Reactor or Secondary Coolant.

B. CONTINUE in FR-Z.1 until Containment Pressure is LESS THAN 25 psig, then transition to ES-1.3, Transfer to Cold Leg Recirculation.

C. SUSPEND performance of FR-Z.1, transition to ES-1.3, Transfer To Cold Leg Recirculation. Upon completion return to FR-Z.1.

D. SUSPEND performance of FR-Z.1, transition to ES-1.3, Transfer To Cold Leg Recirculation. Complete ES-1.3 through Step 3, then return to FR-Z.1.

QUESTION: 45

Which ONE of the following statements describes the effect of a loss of DC control power to 4160 VAC breaker NB0112, NB01 MN FDR BKR FROM XNB01? (Assume that the breaker is the only component affected by the loss of DC power.)

A. The breaker will fail in its current position and cannot be tripped or closed from the MCB.

B. The breaker will fail in its current position and can be tripped but not closed from the MCB.

C. The breaker will trip and can be closed but not tripped from the MCB.

D. The breaker will trip and cannot be tripped or closed from the MCB.

QUESTION: 46

The plant was at 100% power when a control rod located near the outside of the core drops fully into the core. The plant is stabilized at 93% power.

Which ONE of the following correctly indicates the most affected power distribution parameter AND at what time after the rod drop that core parameter is expected to be closest to its associated Technical Specification limit?

(Assume no other changes in plant status.)

	Power Distribution Parameter	Time Following Rod Drop
A.	Axial Flux Difference	Immediately
B.	Quadrant Power Tilt Ratio	Immediately
C.	Axial Flux Difference	4-6 hours
D.	Quadrant Power Tilt Ratio	4-6 hours

QUESTION: 47

The following plant conditions exist:

- Mode 4 with a cooldown in progress per OTG-ZZ-00004, Plant Cooldown Hot Standby to Cold Shutdown
- 'B' RHR train is to be placed in a cooldown lineup per OTN-EJ-00001, Residual Heat Removal System

Which ONE of the following will prevent OPENING EJ-HV-8701B, RHR Pump 'B' Suct Iso?

A. EMHV8814B, SI Pump 'B' Recirc to RWST Iso, OPEN.

B. BBPI0405, RCS Wide Range Press Xmtr, reading 306 psig.

C. EJHV8811B, CTMT Recirc Sump 'B' to RHR Pump 'B' Suct Iso, OPEN.

D. BNHV8812B, RWST to RHR Pump 'B' Suct Iso Vlv, CLOSED.

QUESTION: 48

The following plant conditions exist:

- Reactor has tripped
- Safety Injection has actuated
- All equipment has actuated per design
- GE RE-92 Hi Hi alarm
- 'B' S/G NR Level 5% and INCREASING with AFW ISOLATED
- 'C' S/G pressure DECREASING in an uncontrolled manner

Which ONE of the following describes the positions of the steam supply valves to the Turbine Driven AFW Pump after all Emergency Procedure actions have been completed?

	'B' S/G ABV0085	'C' S/G ABV0087
A.	OPEN	OPEN
B.	OPEN	CLOSED
C.	CLOSED	OPEN
D.	CLOSED	CLOSED

QUESTION: 49

The following plant conditions exist:

- CTMT Shutdown Purge Exhaust Fan ON
- CTMT Shutdown Purge Supply Fan OFF
- CTMT Personnel Hatches both OPEN (interlocks defeated)
- CTMT Equipment Hatch OPEN

The CTMT Coordinator has identified a positive air flow from CTMT to the outside atmosphere through the equipment hatch.

Which ONE of the following actions is required for this condition?

A. Manually actuate a Containment Purge Isolation Signal.

B. Manually actuate a Control Room Ventilation Isolation Signal.

C. Shift the Auxiliary Building Normal Exhaust Fans to Fast Speed.

D. Start at least one train of Fuel Building/Auxiliary Building Emergency Exhaust.

QUESTION: 50

The crew has implemented FR-C.1, Response to Inadequate Core Cooling.

Which ONE of the following combinations of core exit thermocouples (TC's) and indicated temperatures would require starting RCP's, even if the normally required support conditions could not be met?

	# of TC's	Indicated Temp
A.	2	2450°F
B.	4	1750°F
C.	6	1350 °F
D.	8	750°F

QUESTION: 51

Which ONE of the following Area Radiation Monitors is required by the Final Safety Analysis Report (FSAR)?

A. SDRE0027, CTMT Purge Filter Unit

B. SDRE0033, Control Room

C. SDRE0037, Spent Fuel Pool

D. SDRE0041, Manipulator Bridge

QUESTION: 52

OTG-ZZ-00005, Plant Shutdown 20% Power to Hot Standby, requires the reactor operator to ensure proper sequence and overlap occurs as rods are inserted as specified in the COLR.

Which ONE of the following represents proper bank overlap for their respective bank?

	Control Bank B	Control Bank C
A.	185 Steps	70 Steps
B.	185 Steps	72 Steps
C.	218 Steps	105 Steps
D.	218 Steps	113 Steps

QUESTION: 53

With the plant in Mode 3, the MCB handswitch for the Reactor Trip Breakers is rotated to the CLOSE position.

Which ONE of the below conditions would prevent the reactor trip breakers from closing?

A. Pressurizer level at 95%

B. RCS Pressure at 1800 psig

C. Pressurizer Level at 17%

D. RCS Pressure at 2400 psig

QUESTION: 54

The following plant conditions exist:

- Mode 1, 12% Reactor Power
- Power Ascension in progress
- A fire occurs requiring an immediate evacuation of the control room.
- The Operators are UNABLE to trip the reactor or perform the other IMMEDIATE ACTIONS of OTO-ZZ-00001, Control Room Inaccessibility, before exiting the control room.

Which ONE of the following actions will cause the Reactor Protection System to initiate a reactor trip?

A. Tripping the main turbine from the front standard.

B. Locally de-energizing PG19.

C. Tripping the normal feeder breaker to NB02.

D. Tripping all 4 RCP breakers at PA01 and PA02.

QUESTION: 55

A liquid radwaste release from Discharge Monitor Tank 'A' is in progress.

Which ONE of the following conditions would AUTOMATICALLY terminate the release?

A. Cooling tower blowdown flow rate is REDUCED to 6000 gpm.

B. RW bldg discharge rad monitor, HB RE-18, FAILS resulting in a Hi Hi alarm.

C. Steam generator blowdown surge tank level INCREASES to the Hi Hi setpoint.

D. A Hi Hi alarm on S/G blowdown discharge rad monitor causes BM FV-54 to CLOSE.

QUESTION: 56

A breaker fault in the NB01 Switchgear has resulted in a large fire. Installed Fire Suppression Systems have been ACTUATED.

Which ONE of the following describes how this fire will be extinguished?

A. Fire Brigade will apply foam to the fire.

B. Halon will be dumped into the room.

C. Carbon dioxide will be dumped into the room.

D. Deluge valve and sprinklers will actuate.

QUESTION: 57

Which ONE of the following sets of conditions would result in an actuation of the ATWS Mitigation System (AMSAC)? Consider ONLY the AMSAC System.

	S/G NR Level		Elapsed Time	First Stage Impulse Pressure AC PT-505	AC PT-506
A.	A-10% B-13%	C-11% D-9%	40 sec.	100 psig	100 psig
B.	A-9% B-8%	C-10% D-9%	27 sec.	560 psig	565 psig
C.	A-0% B-1%	C-0% D-0%	21 sec.	760 psig	755 psig
D.	A-10% B-14%	C-13% D-11%	38 sec.	685 psig	690 psig

QUESTION: 58

During the performance of ECA-0.0, Loss of All AC Power, battery NK11 discharge ammeter is reading 275 amps.

Which ONE of the following is the MAXIMUM time that NK01 could remain operable assuming the battery was fully charged initially?

A. 2 hours

B. 4 hours

C. 6 hours

D. 8 hours

QUESTION: 59

The following plant conditions exist:

- Mode 1, 100% power, all systems in a normal full power alignment.
- AEPT508, Feed Pump Discharge Header Pressure, fails off scale HIGH.

Which ONE of the following is the expected INITIAL plant response?

A. Main Feedwater Pump speed increases.

B. Main Feedwater Pump speed decreases.

C. Main Feedwater Regulating Valves open.

D. Main Feedwater Regulating Valves close.

QUESTION: 60

A precaution and limitation in OTN-EG-00001, Component Cooling Water System, informs the operator that EGHV0069A/B (EG HS-69) and EGHV0070A/B (EG HS-70), CCW Supply/Return to Radwaste, must be opened simultaneously.

Which ONE of the following is the reason for this requirement?

A. Satisfy the system high flow interlock.

B. Satisfy the system low flow interlock.

C. Minimize potential of system water hammers.

D. Ensure proper flow is maintained to containment system loads.

QUESTION: 61

The following plant conditions exist:

- A plant startup is in progress
- The plant is at 9% power
- Control Systems are in normal system alignment
- The output of Power Range NI channel N44 gradually fails HIGH
- No operator actions are taken

Which ONE of the following is the INITIAL plant response?

A. OPΔT trip setpoint increases.

B. Steam generator levels increase.

C. Axial flux mismatch alarm illuminates.

D. Control rods will step in to maintain Tavg.

QUESTION: 62

A loss of condenser vacuum is occurring due to unknown reasons and power has been reduced from 100% to 75% over the last 5 minutes.

The following plant conditions exist:

- Auct High Tavg 593°F
- Reactor / Turbine Power 75% / 775 MWe
- LP 'A' Condenser Pressure 5.8" Hga
- LP 'B' Condenser Pressure 6.2" Hga
- LP 'C' Condenser Pressure 6.5" Hga

Which ONE of the following describes the expected operation of the condenser steam dumps with these conditions:

A. Less than 12 steam dumps are available and all available dumps are FULLY OPEN.

B. ALL 12 condenser steam dumps are available and all are FULLY OPEN.

C. Less than 12 steam dumps are available and all available dumps are PARTIALLY OPEN.

D. Less than 12 steam dumps are available and all are CLOSED.

QUESTION: 63

Which ONE of the following is a responsibility of the Reactor Operator in the Control Room during refueling operations?

A. Checking source range counts while a fuel assembly is being placed in the core.

B. Verifying proper operation of the Containment Evacuation alarm every shift.

C. Maintaining a 1/M plot while reloading fuel during a core shuffle.

D. Updating the temporary and final locations of all fuel assemblies using the PC program "SHUFFLE".

QUESTION: 64

The following plant conditions exist:

- The plant is at 7% power on the steam dumps to the condenser
- Turbine rolling up to 1800 rpm
- All operating Condensate Pumps TRIP

Which ONE of the following describes the system response?
(ASSUME no operator action is taken.)

	MFPs	MDAFPs	Reactor Trip
A.	Trip	Start on S/G Low Low Level	On S/G Low Low Level
B.	Do Not Trip	Start on S/G Low Low Level	On Turbine Trip
C.	Trip	Start on MFW Pump Trip	On S/G Low Low Level
D.	Do Not Trip	Start on Reactor Trip	On Turbine Trip

QUESTION: 65

You are the on-duty Reactor Operator. In accordance with plant policy, which ONE of the following non-licensed individuals may you allow to start the 'A' Safety Injection (SI) Pump from Panel RL017 in the Control Room?

A. Any system engineer authorized by the Shift Supervisor who is performing SI system surveillances.

B. Any assistant equipment operator performing OJT on the SI system who is being monitored by the Control Room Supervisor.

C. Any individual who is in a license training program under my direct observation.

D. Any electrical maintenance supervisor troubleshooting why the SI pump vibration readings are abnormal.

QUESTION: 66

The plant is initially operating at 100%. A large Steam Line Rupture in Containment has resulted in the following:

- CTMT Temperature is 180°F
- CTMT Pressure is 8 psig

Which ONE of the following describes the response of the Containment Coolers?

A. 'A' Containment Cooler supplies the Instrument Tunnel in FAST speed.

B. 'B' Containment Cooler supplies the Pressurizer Enclosure Compartment in SLOW speed.

C. 'C' Containment Cooler flows DIRECTLY to the containment atmosphere in SLOW speed.

D. 'D' Containment Cooler flows DIRECTLY to the containment atmosphere in FAST speed.

QUESTION: 67

Which ONE of the following red paths is MOST LIKELY to occur for a steam line break on a single S/G outside containment resulting in a Reactor Trip and Safety Injection? (Assume that all safeguards equipment functions as designed.)

A. Response to Imminent Pressurized Thermal Shock Condition (FR-P.1)

B. Response to Loss of Secondary Heat Sink (FR-H.1)

C. Response to Inadequate Core Cooling (FR-C.1)

D. Response to High Containment Pressure (FR-Z.1)

QUESTION: 68

Which ONE of the following describes the affect on a Source Range Channel if the pulse height discriminator failed to a lower value?

The output would:

A. decrease due to the filtering which narrows the pulse height window.

B. decrease due to the removal of the higher amplitude neutron pulses.

C. increase due to the increased gamma interaction inside the detector.

D. increase due to counting of some of the lower amplitude gamma pulses.

QUESTION: 69

The following plant conditions exist:

- Mode 1, 90% power, EOL
- All systems are in a normal full power lineup
- SEHS9, Rod Control Auto/Manual Select Switch, is in AUTO
- Control Bank 'D' begins stepping in slowly

Which ONE of the following events caused this response from rod control?

A. Regenerative Heat Exchanger tube leak.

B. Letdown Heat Exchanger tube leak.

C. Seal Water Heat Exchanger tube leak.

D. Excess Letdown Heat Exchanger tube leak.

QUESTION: 70

Which ONE of the following COULD cause the 'A' Train Subcooling Meter to indicate a SUPERHEATED condition?

A. Loop 3 Wide Range T_{HOT} fails LOW.

B. Wide Range Pressure Channel 403 fails LOW.

C. Loop 4 Wide Range T_{COLD} fails HIGH.

D. Wide Range Pressure Channel 405 fails HIGH.

QUESTION: 71

The plant is at 100% power with the following conditions:

- 'C' CCW pump OOS
- 'A' CCW Train in Service, 'B' CCW Train in Standby
- NCP in Service with 120 gpm Letdown Flow

The 'A' CCW pump trips due to unknown reasons.

Which ONE of the following includes required immediate actions?

A. Restart the 'A' CCW pump, if pump fails to restart, then start either 'B' or 'D' CCW pump and transfer the service loop to the 'B' CCW train.

B. Start either 'B' or 'D' CCW pump then transfer the service loop to the 'B' CCW train.

C. Trip the Reactor Coolant Pumps and the Reactor, enter E-0, Reactor Trip/Safety Injection, then transfer the service loop to the 'B' CCW train.

D. Verify 'B' CCW pump starts automatically then transfer the service loop to the 'B' CCW train.

QUESTION: 72

Which ONE of the following describes component status when the ESFAS Status Panel Component Level Window is DARK following actuation?

A. The component is NOT in its safeguards position, but is capable of being aligned.

B. A condition has PREVENTED the automatic operation of the component from its signal.

C. The component is DE-ENERGIZED and not capable of being aligned to its safeguards position.

D. The component has responded CORRECTLY to its emergency actuation signal.

QUESTION: 73

The following plant conditions exist:

- The plant is in Mode 6
- N43 is normalized to 100% for testing
- Core Alterations are in progress
- N31 indicates 150 cps
- N32 indicates 165 cps

Which ONE of the following automatic actions and required actions should occur if N42 were to fail HIGH?

A. Charging pumps suctions swap from the VCT to the RWST. Place the Flux Doubling Normal / Test Switch to the TEST position and re-align charging from the RWST.

B. Source Range NIs high voltage is de-energized. Suspend core alternations and positive reactivity changes; initiate action to restore one Source Range NI.

C. Containment Evacuation alarm sounds. Evacuate all unnecessary personnel from containment.

D. Fed Reg Bypass Valves fail CLOSED. Switch control to MANUAL and re-establish S/G levels.

QUESTION: 74

The following plant conditions exist:

- Compressor Sequencer Selector Switch, KAHS0043, is selected to the CAB position.
- All three air compressors are selected to AUTOMATIC.
- 'A' Air Compressor (CKA01A) is running unloaded.
- 'B' Air Compressor (CKA01B) is not running.
- 'C' Air Compressor (CKA01C) is running loaded.
- KA-PV-11, Service Air Isolation Valve is open.

Which ONE of the following describes the correct system response to an air leak that results in air system pressure decreasing to 105 psig?

A. Only CKA01A and CKA01C are running and both are loaded.

B. All three air compressors are running, but only two are loaded.

C. Only CKA01A and CKA01C are running and both are loaded, KA-PV-11 is closed.

D. All three air compressors are running and all three are loaded, KA-PV-11 is closed.

QUESTION: 75

The following plant conditions exist:

- VCT Automatic Makeup has failed.
- The Reactor Operator has completed a MANUAL makeup to the VCT.
- Approximately 15 minutes later, Control Bank "D" rods begin to INSERT slowly in automatic.
- Tavg/Tref mismatch is +2°F.
- Pzr level has increased approximately 1%.
- Reactor power indicates 100.3% on all channels.

Which ONE of the following may have caused these indications?

A. The Total Flow Counter, BGFY111B, was inadvertently set too LOW.

B. The Boric Acid Counter, BGFY110B, was inadvertently set too LOW.

C. The Reactor Makeup Water Flow Controller, BGFK111, was inadvertently set too LOW.

D. The Boric Acid Flow Controller, BGFK110, was inadvertently set too HIGH.

QUESTION: 76

The plant has suffered a Loss of all AC Power.

Which ONE of the following sets of parameters indicates that natural circulation is occurring?

A. S/G Pressure 235 psig and STABLE, T_{HOT} 301°F and INCREASING.

B. S/G Pressure 435 psig and INCREASING, T_{COLD} 435°F and STABLE.

C. S/G Pressure 585 psig and INCREASING, T_{HOT} 530°F and DECREASING.

D. S/G Pressure 685 psig and STABLE, T_{COLD} 503°F and STABLE.

QUESTION: 77

The plant is in Mode 1 at 46% reactor power.

Which ONE of the following conditions will initiate a reactor trip?

A. 2 of 3 detectors on 2 of 4 loops indicating <90% RCS loop flow.

B. PA01 and PA02 bus frequency drops to 58 Hz for 2 seconds.

C. 2 of 3 detectors indicate 82% on pressurizer water level.

D. PA01 bus voltage drops to 12,000 volts for 0.5 seconds.

QUESTION: 78

The following plant conditions exist:

- A fuel assembly has just been removed from the core
- Immediately after initiating transit to the upender the refueling cavity level is reported to be a foot below normal and dropping at a visible rate

Which ONE of the following is the preferred course of action?

A. Stop the fuel movement at the current location in the refueling pool.

B. Place the fuel assembly back into the reactor vessel.

C. Place the fuel assembly in the upender and lower it to the horizontal position.

D. Position the mast over the deepest part of the cavity and lower the assembly to the bottom.

QUESTION: 79

Technical Specifications require all full-length control rods to be OPERABLE in Modes 1 and 2 (with special test exceptions).

Which ONE of the following would cause a control rod to be INOPERABLE?

A. The CRDM stationary gripper coil turns OFF after the movable gripper coil turns ON during rod withdrawal.

B. The CRDM lift coil turns ON while the movable gripper coil is ON during rod withdrawal.

C. The CRDM lift coil turns ON and then the movable gripper coil turns ON during rod insertion.

D. The CRDM stationary gripper coil turns OFF before the movable gripper coil turns ON during rod insertion.

QUESTION: 80

The following plant conditions exist:

- Rod H-8 in Control Bank "D" (CB D) was misaligned low.
- Rod H-8 was withdrawn 15 steps to align it with the other rods in CB D.
- The P/A converter AUTO/MAN switch was broke in the Auto position.

Which ONE of the following conditions occurs because of the P/A converter being in AUTO when rod H-8 was recovered?

A. Rod Control Non-Urgent Failure alarm when CB D rods initially moved in.

B. Rod Control Urgent Failure alarm when CB D initially moved in.

C. Rod Bank Lo alarm will be received with CB D actually above setpoint.

D. Rod Bank Lo alarm will be received with CB D actually below setpoint.

QUESTION: 81

A periodic load test is being performed on NE02, Standby Diesel Generator 'B' in accordance with OSP-NE-00001B. NE02 has been paralleled with 4160V Bus NB02 and is carrying 6 MW of real load. A Main Steamline break occurs and containment pressure increases to 20 (twenty) psig.

Which ONE of the following describes the response of the Load Shedding Emergency Load Sequencing System (LSELS)?

A. The LOCA Sequencer starts the Containment Spray Pumps at Step 3 (Time 15 seconds).

B. The Shutdown Sequencer starts the 'A' Essential Service Water Pump at Step 5 (Time 25 seconds).

C. The LOCA Sequencer starts the Safety Injection Pumps at Step 1 (Time 5 seconds).

D. The Shutdown Sequencer starts the Residual Heat Removal Pumps at Step 2 (Time 10 seconds).

QUESTION: 82

The plant is at 100% power with all systems in their normal lineups. Annunciator 14A, S/U XFMR LOCKOUT, alarms due to failure of the Startup Transformer (SUT).

Which ONE of the following occurs as a result of the SUT failure?

A. A load shed occurs on NB01 and NB02.

B. Both emergency diesels NE01 and NE02 start.

C. An automatic Reactor Trip and Turbine Trip actuates.

D. Both the normal and alternate feeder breakers to NB02 trip.

QUESTION: 83

The following plant conditions exist:

- At 0830, a loss of all offsite power occurred.
- At 0845, a Safety Injection occurred due to a faulted S/G.
- All equipment has operated as designed.
- Restoration of instrument air to containment is in progress.
- EFHV43 and EFHV44, ESW to 'A' and 'B' air compressors, are closed.

Which ONE of the following has caused EFHV43 and EFHV44 to close?

A. Loss of Instrument Air.

B. Blackout Load Shed.

C. LOCA Load Shed.

D. High D/P.

QUESTION: 84

The plant is in Mode 1 at 25% reactor power. Which ONE of the following would cause the crew to enter E-0, Reactor Trip or Safety Injection?

A. 'A' Steam Generator level is at 10% on all channels and the reactor has not tripped.

B. The main turbine stop valves have closed and the reactor has not tripped.

C. Pressurizer level channel 459 is at 98% and the reactor has not tripped.

D. 'C' RCP breaker has just tripped open and the reactor has not tripped.

QUESTION: 85

The plant has sustained an ATWS. The crew has entered FR-S.1, Response to Nuclear Power Generation. The BOP operator was unable to trip the turbine by pressing the Manual Turbine Trip pushbutton.

Which ONE of the following actions should the BOP operator attempt next?

A. Manually run back the turbine.

B. Fast close MSIVs and bypass valves.

C. Open the generator output breakers.

D. Check the AFW pumps running.

QUESTION: 86

The following plant conditions exist:

- 'A' and 'B' CCW Pumps are running.
- The Service Loop is being supplied by 'B' CCW train.
- 'A' Component Cooling Water Radiation Monitor EGRE0009 has exceeded the Hi Hi ALARM setpoint.

Which ONE of the following automatic actions occur in addition to receiving an audible ALARM on the RM-11?

A. EGRV0009, CCW SRG TK A VENT CTRL VLV remains OPEN, EGRV0010, CCW SRG TK B VENT CTRL VLV remains OPEN.

B. EGRV0009, CCW SRG TK A VENT CTRL VLV remains OPEN, EGRV0010, CCW SRG TK B VENT CTRL VLV CLOSES.

C. EGRV0009, CCW SRG TK A VENT CTRL VLV CLOSES, EGRV0010, CCW SRG TK B VENT CTRL VLV remains OPEN.

D. EGRV0009, CCW SRG TK A VENT CTRL VLV CLOSES, EGRV0010, CCW SRG TK B VENT CTRL VLV CLOSES.

QUESTION: 87

The Callaway Plant is operating at 30% power and it is necessary to secure the 'B' Reactor Coolant Pump due to high vibration. After the RCP is tripped, the 'B' Loop ΔT _____ and the other Loop ΔTs _____. (Assume unit load is held constant.)

A. Increases, Decrease

B. Increases; Increase

C. Decreases; Decrease

D. Decreases; Increase

QUESTION: 88

OTN-BB-00003, Reactor Coolant Pumps, permits two successive starts of a RCP (provided the motor is allowed to coast to a stop between starts).

Which ONE of the following describes the bases for the RCP starting limits?

Limit the number of RCP starts in a short period to time prevents damage to the:

A. RCP motor stator windings.

B. RCP breaker protection relays.

C. RCP breaker junction terminals.

D. RCP motor armature insulation.

QUESTION: 89

Which ONE of the following will prevent outward rod motion in MANUAL rod control?

A. Selected Turbine Impulse Pressure channel is reading 13% equivalent power.

B. Two ΔT channels are within 3% of the overtemperature ΔT trip setpoint.

C. Control Bank D rods are positioned at 222 steps.

D. One Power Range NI is reading 102%.

QUESTION: 90

The following plant conditions exist:

- Reactor is in Mode 3 at 557°F Tavg and 2235 psig
- Current RCS boron is 800 ppm
- An ECP boron of 600 ppm is needed
- The Reactor Makeup Mode Selector Switch, BG HS-25, is in DILUTE
- The Total Flow Counter BG FY-111B is set for 130 gallons
- A dilution is started
- Pressurizer level control is in AUTOMATIC and the controlling channel, BG LT-459, fails LOW

Which ONE of the following represents the long term impact on RCS boron concentration, assuming NO operator actions are taken?

A. The boron will approach 600 ppm based on the FCV-110A control setpoint.

B. The boron will be slightly LESS than 800 ppm based on the 130 gallon dilution.

C. The boron will be HIGHER than 800 ppm based on a LOW pressure SI shifting charging suction to RWST.

D. The boron will be HIGHER than 800 ppm based on an AUTO swap to the RWST on low VCT level.

QUESTION: 91

A Callaway Plant employee has discovered a fire. Life safety is not threatened.

Which ONE of the following would be the correct actions of plant personnel?

A. First attempt to extinguish using any available fire fighting equipment, then call the Control Room.

B. First notify Control Room, then use any available fire fighting equipment, then report to your supervisor.

C. First notify Control Room, then use closest available extinguisher (if practical), then report to Fire Brigade Leader.

D. First attempt to extinguish the fire using closest available extinguisher (if practical), then report to Fire Brigade Leader.

QUESTION: 92

The following plant conditions exist:

- Pressurizer Pressure is 1600 psig
- CTMT Pressure is 18 psig
- CTMT Radiation is 13 R/hr and increasing
- All S/G Pressures are 900 psig
- No operator actions have been performed

Which ONE of the following ESFAS Actuations should have automatically actuated?

A. SLIS and CRVIS

B. SIS and CISB

C. CRVIS and BSPIS

D. CSAS and SIS

QUESTION: 93

Which ONE of the following is an entry condition for OTO-ZZ-00003, Loss of Shutdown Margin?

A. Mode 3, following Reactor Trip at 0950 and RCS Tavg 545°F at 1115.

B. Mode 2, with Reactor Power at 5% and Control Bank C at 35 steps.

C. Mode 3, with RCS temperature decrease of 100°F in 20 minutes with ECCS operating in the Injection phase.

D. Mode 5, with Shutdown Margin Calculation indicating the core net reactivity of –1100 pcm.

QUESTION: 94

The following plant conditions exist:

- Reactor power 80%
- Rod control is in manual
- All other controls are in automatic
- All parameters are stable; Xenon, Tavg, turbine load, PZR level, SG pressure, reactor power

Emergency boration is performed for TWO (2) minutes.

Assuming NO operator actions, which ONE of the following is the parameter that will return to its original value when steady state conditions are attained?

A. RCS Tavg

B. PZR level

C. SG pressure

D. Reactor power

QUESTION: 95

The following plant conditions exist:

- The plant is in Mode 4
- RCS temperature is 205°F
- RCS pressure is 340 psig
- RHR is in service
- An unisolable leak in the Instrument Air system has occurred
- Instrument Air system pressure is 60 psig and DECREASING

Which ONE of the following describes how the RHR System will respond?

A. RHR Heat Exchanger Bypass Valves EJ FCV-618 & 619 will fail OPEN and cause RCS temperature to DECREASE.

B. RHR Heat Exchanger Bypass Valves EJ FCV-618 & 619 will fail CLOSED and cause RCS temperature to INCREASE.

C. RHR Heat Exchanger Flow Control Valves EJ HCV-606 & 607 will fail OPEN and cause RCS temperature to DECREASE.

D. RHR Heat Exchanger Flow Control Valves EJ HCV-606 & 607 will fail CLOSED and cause RCS temperature to INCREASE.

QUESTION: 96

The following plant conditions exist:

- The unit is at 100% power with all systems aligned normally
- The switchyard is in its preferred lineup with Ring Bus Breakers 52-2 and 52-3 CLOSED
- A lockout occurs on 345KV Swyd Bus 'B'

Which ONE of the following describes the response of the Containment Cooling Fans?

A. All fans CONTINUE to RUN in the PRESELECTED speed.

B. A & C fans are SHIFTED to SLOW speed by the shutdown sequencer.

C. B & D fans DE-ENERGIZE and are RESTARTED in FAST speed by the shutdown sequencer.

D. A & C fans DE-ENERGIZE and are RESTARTED in the PRESELECTED speed by the shutdown sequencer.

QUESTION: 97

A Pressurizer Pressure instrument has failed low. All immediate and subsequent operator actions have been completed for the failed instrument per OTO-BB-00006, Pressurizer Pressure Channel Failure.

Which ONE of the following remains INACCURATE despite the fact that the alternate instruments have been selected?

(Assume NO actions have been performed by I&C personnel.)

A. Pressurizer Pressure Control

B. Pressurizer Pressure Recorder

C. OPΔT/OTΔT Temp Recorder

D. Core Subcooling Monitor

QUESTION: 98

The following plant conditions exist:

- Power range channel N-41 = 9%
- Power range channel N-42 = 11%
- Power range channel N-43 = 8%
- Power range channel N-44 = 8%
- Reactor shutdown is in progress

The Reactor Operator inadvertently depresses the UNBLOCK pushbutton on SEHS-10, SR Trip BLOC/UNBLOCK for source range channel N32.

Which ONE of the following describes the status of the Source Range Nuclear Instruments?

A. Source Range Channels N31 and N32 will remain DE-ENERGIZED due to P-10.

B. Source Range Channel N31 remains DE-ENERGIZED and N32 will ENERGIZE.

C. Source Range Channels N31 and N32 will ENERGIZE.

D. Source Range Channels N31 and N32 will ENERGIZE while the switch is depressed, then DE-ENERGIZE when the switch is released.

QUESTION: 99

The following plant conditions exist:

- Mode 3 following a manual Reactor Trip and Safety Injection
- RCS pressure 1600 psig and STABLE
- Average of the 10 highest reading Core Exit Thermocouples is 580°F
- Pressurizer level 20% and INCREASING at 0.5% per minute
- Containment temperature 140°F
- Containment radiation 7 R/hr
- S/G narrow range levels: 22%, 10%, 10%, 21%
- AFW flow: 50,000 lbm/hr to each S/G

The Control Room Supervisor is at Step 6 of E-1, Loss of Reactor or Secondary Coolant, and is trying to determine if ECCS flow should be REDUCED.

Which ONE of the following operator actions is appropriate for the above conditions? (Use E-1 Attachment 2, RCS Subcooling Curves, on the following page.)

A. SI termination criteria is met and transition should be made to ES-1.1, SI Termination.

B. SI termination criteria is NOT met since RCS subcooling is less than the required value, and further actions in E-1 are to be performed.

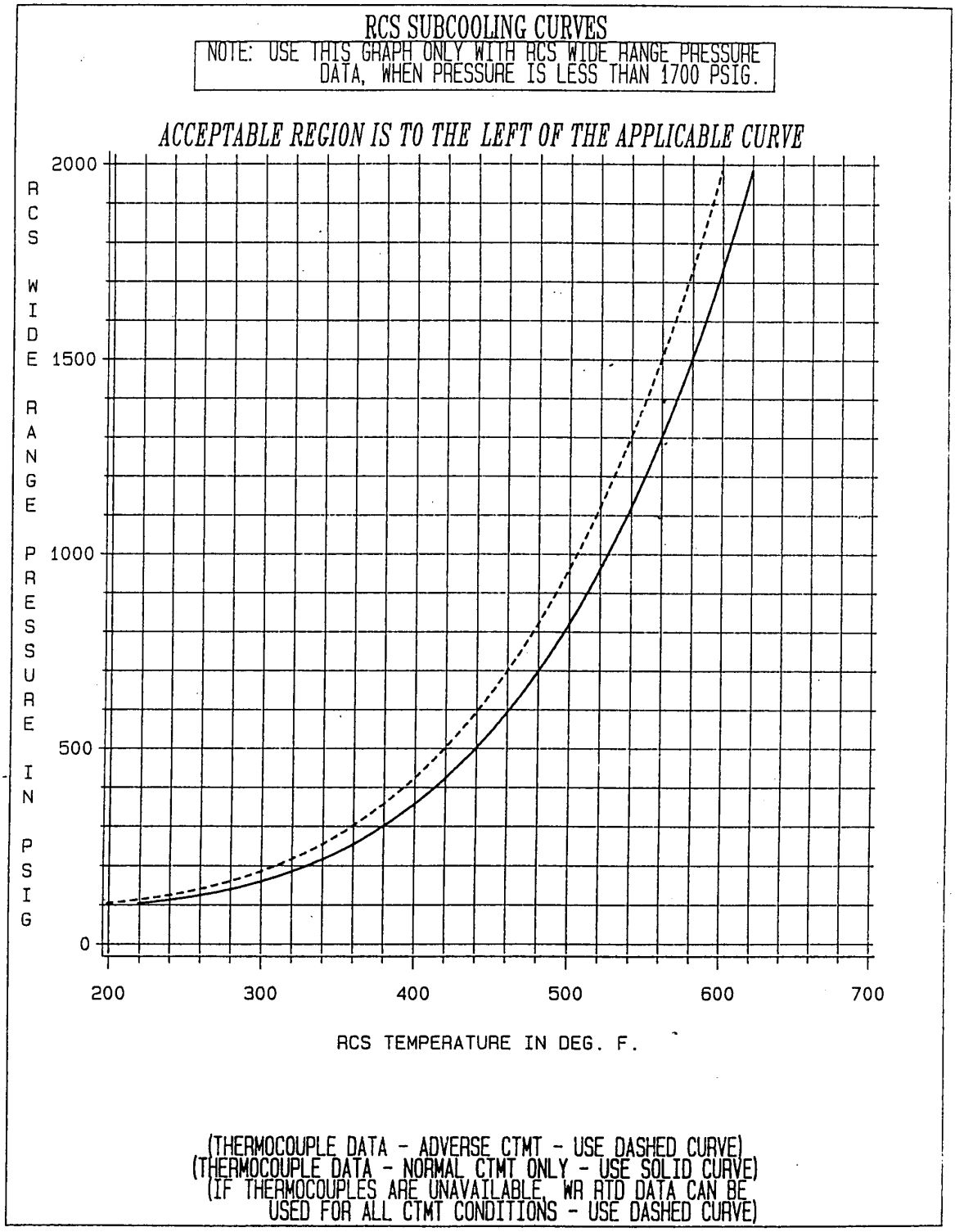
C. SI termination criteria is met if AFW flow is adjusted to > 300,000 lbm/hr. Do NOT transition to ES-1.1, SI Termination, until AFW flow is adjusted.

D. SI termination criteria is NOT met since pressurizer level is still low and further actions in E-1 are to be performed.

QUESTION: 99 (continued)

Proced. No. E-1	LOSS OF REACTOR OR SECONDARY COOLANT	Attachment 2	Rev. 1B3

RCS SUBCOOLING CURVES



QUESTION: 100

The following plant conditions exist:

- The plant has sustained a transient event
- All S/G pressures have increased
- All 20 S/G safety valves are open

Which ONE of the following is the LOWEST Main Feedwater Pump discharge pressure necessary to provide flow to the S/Gs?

A. 1126 psig

B. 1186 psig

C. 1223 psig

D. 1235 psig

CALLAWAY PLANT

EXAMINATION COVER SHEET

TRAINING DEPARTMENT

COURSE TITLE: SRO INITIAL LICENSE EXAMINATION DATE: _____

NAME (Print): _____ SCORING:

SIGNATURE: _____ Points Possible: 100

Points Missed: _____

Grade: _____

DIRECTIONS: BLACK OUT CORRECT ANSWERS

1.	A	B	**C**	D	26.	A	B	C	**D**	51.	**A**	B	C	D	76.	A	B	**C**	D
2.	A	**B**	C	D	27.	A	B	C	**D**	52.	A	**B**	C	D	77.	A	B	C	**D**
3.	**A**	B	C	D	28.	A	B	**C**	D	53.	**A**	B	C	D	78.	A	B	**C**	D
4.	**A**	B	C	D	29.	A	B	C	**D**	54.	A	B	**C**	D	79.	A	B	C	**D**
5.	A	B	**C**	D	30.	A	B	**C**	D	55.	A	**B**	C	D	80.	A	B	**C**	D
6.	**A**	B	C	D	31.	**A**	B	C	D	56.	A	B	**C**	D	81.	A	**B**	C	D
7.	**A**	B	C	D	32.	A	**B**	C	D	57.	A	B	C	**D**	82.	A	B	**C**	D
8.	A	**B**	C	D	33.	A	B	C	**D**	58.	A	B	**C**	D	83.	A	B	C	**D**
9.	A	B	C	**D**	34.	**A**	B	C	D	59.	A	B	**C**	D	84.	A	**B**	C	D
10.	A	**B**	C	D	35.	A	**B**	C	D	60.	**A**	B	C	D	85.	A	B	C	**D**
11.	A	**B**	C	D	36.	A	B	**C**	D	61.	A	**B**	C	D	86.	A	B	C	**D**
12.	A	B	**C**	D	37.	A	**B**	C	D	62.	**A**	B	C	D	87.	**A**	B	C	D
13.	A	**B**	C	D	38.	A	B	**C**	D	63.	A	**B**	C	D	88.	A	B	C	**D**
14.	A	B	**C**	D	39.	A	B	**C**	D	64.	**A**	B	C	D	89.	A	**B**	C	D
15.	A	B	C	**D**	40.	A	B	C	**D**	65.	A	B	**C**	D	90.	A	B	C	**D**
16.	A	B	**C**	D	41.	A	B	C	**D**	66.	A	**B**	C	D	91.	A	**B**	C	D
17.	A	B	C	**D**	42.	A	B	**C**	D	67.	A	**B**	C	D	92.	A	**B**	C	D
18.	A	B	**C**	D	43.	A	**B**	C	D	68.	A	B	**C**	D	93.	A	B	C	**D**
19.	**A**	B	C	D	44.	A	**B**	C	D	69.	A	B	**C**	D	94.	A	B	**C**	D
20.	A	B	C	**D**	45.	**A**	B	C	D	70.	**A**	B	C	D	95.	A	**B**	C	D
21.	**A**	B	C	D	46.	A	**B**	C	D	71.	**A**	B	C	D	96.	A	B	C	**D**
22.	**A**	B	C	D	47.	A	**B**	C	D	72.	A	B	C	**D**	97.	A	B	C	**D**
23.	A	**B**	C	D	48.	**A**	B	C	D	73.	A	B	C	**D**	98.	A	B	**C**	D
24.	A	B	**C**	D	49.	A	**B**	C	D	74.	A	B	**C**	D	99.	**A**	B	C	D
25.	A	B	**C**	D	50.	A	B	**C**	D	75.	A	B	C	**D**	100.	**A**	B	C	D

QUESTION: 1

A permit required confined space entry is to be conducted at the Water Treatment Plant blowdown line manhole.

Which ONE of the following is true regarding this entry?

A. The attendant may enter the space if necessary, to rescue the entrant.

B. The work supervisor must be present whenever personnel are in the confined space.

C. Each entrant shall use a chest or full body harness.

D. The Medical Emergency Response Team will perform any emergency rescue if necessary.

QUESTION: 2

The plant is in Mode 1. CTMT Mini Purge system has been in service since 1407. At 1437, CTMT Mini Purge was secured due to the supply fan tripping. The fan problem has been corrected and it is desired to restart the CTMT Mini Purge.

Which ONE of the following is the LATEST time in which the CTMT Mini Purge can be restarted without requiring HP to resample CTMT atmosphere and generate a new release permit?

A. 1607

B. 1637

C. 1707

D. 1737

QUESTION: 3

Which ONE of the following is a Technical Specification bases for observing that the RCCAs are positioned above their respective insertion limits during normal operation?

A. Ensures that assumptions for SDM and power distribution peaking factors are preserved.

B. Ensures that the trip instrumentation is within its normal operating range.

C. Ensures that the moderator temperature coefficient is within its analyzed range.

D. Ensures that the pressurizer is capable of being operable with a steam bubble.

QUESTION: 4

The following plant conditions exist:

- A Loss of Coolant Accident has occurred
- RWST level is 48%
- Both RHR pumps tripped on overcurrent during SI actuation
- All other equipment functioned as designed

The crew is verifying Cold Leg Recirculation Capability per E-1, Loss of Reactor or Secondary Coolant, Attachment 5.

Which ONE of the following actions are required?

A. Transition to ECA-1.1, Loss of Emergency Coolant Recirculation.

B. Remain in E-1, Loss of Reactor or Secondary Coolant until directed to transition to ES-1.3, Transfer to Cold Leg Recirculation.

C. Transition to ES-1.3, Transfer to Cold Leg Recirculation, when RWST level reaches 36%.

D. Transition to ECA-1.2, LOCA Outside Containment.

QUESTION: 5

The following plant conditions exist:

- Reactor power is 100%
- Annunciator 78B, PR Upper Detector Flux Dev, is in alarm
- Annunciator 78F, Power Range Tilt, is in alarm
- The maximum QPTR is determined to be 1.04

Assuming QPTR is not reduced, within two hours reactor power must be reduced to at least ____?

A. 50%

B. 74%

C. 88%

D. 94%

QUESTION: 6

OTN-BB-00003, Reactor Coolant Pumps, permits two successive starts of a RCP (provided the motor is allowed to coast to a stop between starts).

Which ONE of the following describes the bases for the RCP starting limits?

Limit the number of RCP starts in a short period to time prevents damage to the:

A. RCP motor stator windings.

B. RCP breaker protection relays.

C. RCP breaker junction terminals.

D. RCP motor armature insulation.

QUESTION: 7

Which ONE of the following red paths is MOST LIKELY to occur for a steam line break on a single S/G outside containment resulting in a Reactor Trip and Safety Injection? (Assume that all safeguards equipment functions as designed.)

A. Response to Imminent Pressurized Thermal Shock Condition (FR-P.1)

B. Response to Loss of Secondary Heat Sink (FR-H.1)

C. Response to Inadequate Core Cooling (FR-C.1)

D. Response to High Containment Pressure (FR-Z.1)

QUESTION: 8

A breaker fault in the NB01 Switchgear has resulted in a large fire. Installed Fire Suppression Systems have been ACTUATED.

Which ONE of the following describes how this fire will be extinguished?

A. Fire Brigade will apply foam to the fire.

B. Halon will be dumped into the room.

C. Carbon dioxide will be dumped into the room.

D. Deluge valve and sprinklers will actuate.

QUESTION: 9

The plant was at 100% power when a control rod located near the outside of the core drops fully into the core. The plant is stabilized at 93% power.

Which ONE of the following correctly indicates the most affected power distribution parameter AND at what time after the rod drop that core parameter is expected to be closest to its associated Technical Specification limit?

(Assume no other changes in plant status.)

	Power Distribution Parameter	Time Following Rod Drop
A.	Axial Flux Difference	Immediately
B.	Quadrant Power Tilt Ratio	Immediately
C.	Axial Flux Difference	4-6 hours
D.	Quadrant Power Tilt Ratio	4-6 hours

QUESTION: 10

The crew is responding to a plant transient and is currently in procedure ECA-1.2, "LOCA Outside Containment".

Why should operators wait some amount of time during each valve repositioning per this procedure?

A. Prevents overcurrent trips on valve motor breakers.

B. Allows system pressure to respond to repositioning.

C. Prevent valve motor overheating due to excessive operation.

D. To allow check on indications of leak in auxiliary building.

QUESTION: 11

The following plant conditions exist:

- The plant is in Mode 6
- N43 is normalized to 100% for testing
- Core Alterations are in progress
- N31 indicates 150 cps
- N32 indicates 165 cps

Which ONE of the following automatic actions and required actions should occur if N42 were to fail HIGH?

A. Charging pumps suctions swap from the VCT to the RWST. Place the Flux Doubling Normal / Test Switch to the TEST position and re-align charging from the RWST.

B. Source Range NIs high voltage is de-energized. Suspend core alternations and positive reactivity changes; initiate action to restore one Source Range NI.

C. Containment Evacuation alarm sounds. Evacuate all unnecessary personnel from containment.

D. Fed Reg Bypass Valves fail CLOSED. Switch control to MANUAL and re-establish S/G levels.

QUESTION: 12

Which ONE of the following will occur during an Emergency Start (SIS) of the NE02 Diesel Generator coincident with a loss of the NK supply to the field flash circuit?

A. At 85 rpm, an initial diesel generator field flash will be attempted.

B. At 125 rpm, the low speed relay de-energizes the starting air solenoids.

C. At 471 rpm, the high speed relay will attempt a redundant field flash.

D. At 514 rpm, the "At Voltage - At Frequency" white lights will illuminate.

QUESTION: 13

The following plant conditions exist:

- VCT Automatic Makeup has failed.
- The Reactor Operator has completed a MANUAL makeup to the VCT.
- Approximately 15 minutes later, Control Bank "D" rods begin to INSERT slowly in automatic.
- Tavg/Tref mismatch is +2°F.
- Pzr level has increased approximately 1%.
- Reactor power indicates 100.3% on all channels.

Which ONE of the following may have caused these indications?

A. The Total Flow Counter, BGFY111B, was inadvertently set too LOW.

B. The Boric Acid Counter, BGFY110B, was inadvertently set too LOW.

C. The Reactor Makeup Water Flow Controller, BGFK111, was inadvertently set too LOW.

D. The Boric Acid Flow Controller, BGFK110, was inadvertently set too HIGH.

QUESTION: 14

The following plant conditions exist:

- Mode 1, 100% power, all equipment in a normal full power lineup
- 4A Low Pressure Feedwater Heater level instrumentation indicates Hi Hi level.

Which ONE of the following describes the effect on MAIN FEEDWATER?

A. Temperature increases.

B. Flow increases.

C. Temperature decreases.

D. Flow decreases.

QUESTION: 15

Which ONE of the following describes the plant response to a Hi Hi Radiation Alarm on GH RE-10B, Radwaste Building Exhaust Fans Discharge Header Radiation Monitor?

A. Radwaste Building Supply Unit (SGH01) STOPS.

B. Waste Gas Compressors (SHA02A & B) STOP.

C. Catalytic Hydrogen Recombiners (SHA01A & B) ISOLATE.

D. Gas Decay Tanks to RW HVAC Discharge Valve (HA HCV-14) ISOLATES.

QUESTION: 16

The following plant conditions exist:

- Mode 1, 17% power, plant startup in progress.
- 'A' MFP is in AUTO.
- ABUS0500Z, Steam Dump Selector Switch, is selected to STEAM PRESSURE mode.
- ABPT0507, Main Steam Header Pressure, fails HIGH.

Which ONE of the following correctly describes the plant response?

A. Feed Pump speed will INCREASE. Steam Dumps will CLOSE, and will not reopen until the Steam Dump Mode Selector switch is placed in TAVG mode.

B. Feed Pump speed will DECREASE. Steam Dumps will CLOSE, and will not reopen until both Steam Dump Interlock Selector switches are RESET.

C. Feed Pump speed will INCREASE. Steam Dumps will OPEN, and will not close until one Steam Dump Interlock Selector switch is placed in OFF.

D. Feed Pump speed will DECREASE. Steam Dumps will OPEN, and will not close until ABPK0507, Steam Header Pressure Controller, is placed in MANUAL.

QUESTION: 17

The plant is at 100% power with all systems in their normal lineups. Annunciator 14A, S/U XFMR LOCKOUT, alarms due to failure of the Startup Transformer (SUT).

Which ONE of the following occurs as a result of the SUT failure?

A. A load shed occurs on NB01 and NB02.

B. Both emergency diesels NE01 and NE02 start.

C. An automatic Reactor Trip and Turbine Trip actuates.

D. Both the normal and alternate feeder breakers to NB02 trip.

QUESTION: 18

The following plant conditions exist:

- Mode 1, 90% power, EOL
- All systems are in a normal full power lineup
- SEHS9, Rod Control Auto/Manual Select Switch, is in AUTO
- Control Bank 'D' begins stepping in slowly

Which ONE of the following events caused this response from rod control?

A. Regenerative Heat Exchanger tube leak.

B. Letdown Heat Exchanger tube leak.

C. Seal Water Heat Exchanger tube leak.

D. Excess Letdown Heat Exchanger tube leak.

QUESTION: 19

A precaution and limitation in OTN-EG-00001, Component Cooling Water System, informs the operator that EGHV0069A/B (EG HS-69) and EGHV0070A/B (EG HS-70), CCW Supply/Return to Radwaste, must be opened simultaneously.

Which ONE of the following is the reason for this requirement?

A. Satisfy the system high flow interlock.

B. Satisfy the system low flow interlock.

C. Minimize potential of system water hammers.

D. Ensure proper flow is maintained to containment system loads.

QUESTION: 20

An accessible area where an individual could receive a dose equivalent greater than _____ in one hour at a distance 12 inches from the radiation source is classified as a _____.

A. 1000 mrem; CAUTION HIGH RADIATION AREA

B. 100 mrem; RADIATION AREA

C. 100 mrem; HOT SPOT

D. 1000 mrem; DANGER HIGH RADIATION AREA

QUESTION: 21

An ATWS has occurred and the crew is at step 6 of FR-S.1, Response to Nuclear Power Generation, when a safety injection occurs.

Which ONE of the following describes the correct actions to be taken?

A. Assign an RO to perform Attachment 12 of E-0 while continuing in FR-S.1.

B. Immediately exit FR-S.1 and implement E-0, Reactor Trip or Safety Injection.

C. Restart the Normal Charging Pump to re-initiate immediate boration.

D. Immediately after the reactor is verified tripped, exit FR-S.1 and implement E-0.

QUESTION: 22

The following plant conditions exist:

- A large break LOCA has occurred
- Containment pressure is 11 psig
- Containment recirc sump level is 16 inches
- Containment radiation level is 150 R/hr
- RWST level is 56%

Which ONE of the following procedures should be utilized for the above conditions?

A. FR-Z.3, Response to High Containment Radiation Level.

B. FR-Z.2, Response to High Containment Recirc Sump Level.

C. FR-Z.1, Response to High Containment Pressure.

D. ES-1.3, Transfer to Cold Leg Recirculation

QUESTION: 23

Which ONE of the following correctly describes the bases for CST Water Inventory required by Technical Specifications?

Ensure that sufficient cooling water is available to maintain _____.

A. Hot Shutdown for 6 hours followed by a controlled cooldown to RHR entry conditions.

B. Hot Standby for 4 hours followed by a controlled cooldown to RHR entry conditions.

C. Hot Standby for 6 hours followed by a controlled cooldown to cold shutdown.

D. Hot Shutdown for 4 hours followed by a controlled cooldown to cold shutdown.

QUESTION: 24

New fuel receipt is in progress in the Fuel Building. The Fuel Building rollup door is closed. While lifting a new fuel storage cask containing 2 new fuel assemblies, a sling fails and the cask is dropped 47 feet to the truck bay floor.

Which ONE of the following describes the actions to be taken per OTO-KE-00001, Fuel Handling Accident?

A. Contact Reactor Engineer for guidance, evacuate unnecessary personnel from the Fuel Building, and manually initiate CPIS.

B. Contact Reactor Engineer for guidance, manually initiate FBIS, and manually initiate CRVIS.

C. Contact Reactor Engineer for guidance, evacuate unnecessary personnel from the Fuel Building, and manually initiate FBIS.

D. Manually initiate CPIS, manually initiate FBIS, and manually initiate CRVIS

QUESTION: 25

The plant is in Mode 2. A Reactor Building entry is required for repair of a component.

Which ONE of the following the MAXIMUM number of personnel allowed in the Reactor Building?

A. 10

B. 15

C. 20

D. 25

QUESTION: 26

Which ONE of the following is the basis for maintaining SG Narrow Range Level > 4% in at least one intact SG when depressurizing intact SGs to 220 psig in ECA-0.0, Loss of All AC Power?

A. Narrow Range Level is the only indication of SG inventory available after a Loss of All AC Power.

B. Ensures proper thermal stratification in the SGs in the event of a Steam Generator Tube Rupture.

C. Ensures the capability to cooldown once AC power is restored.

D. Ensures an adequate heat sink exists to remove heat from the RCS.

QUESTION: 27

The plant has suffered a Loss of all AC Power.

Which ONE of the following sets of parameters indicates that natural circulation is occurring?

A. S/G Pressure 235 psig and STABLE, T_{HOT} 301°F and INCREASING.

B. S/G Pressure 435 psig and INCREASING, T_{COLD} 435°F and STABLE.

C. S/G Pressure 585 psig and INCREASING, T_{HOT} 530°F and DECREASING.

D. S/G Pressure 685 psig and STABLE, T_{COLD} 503°F and STABLE.

QUESTION: 28

FR-P.1, Response to Imminent Pressurized Thermal Shock Condition, is in progress.

Which ONE of the following conditions is acceptable using Attachment 7, on the following page, for RCS Post-Soak Cooldown Limitations during recovery from the PTS condition?

A. RCS cold legs = 200°F. RCS wide range pressure = 0 psig.

B. RCS cold legs = 250°F. RCS wide range pressure = 300 psig.

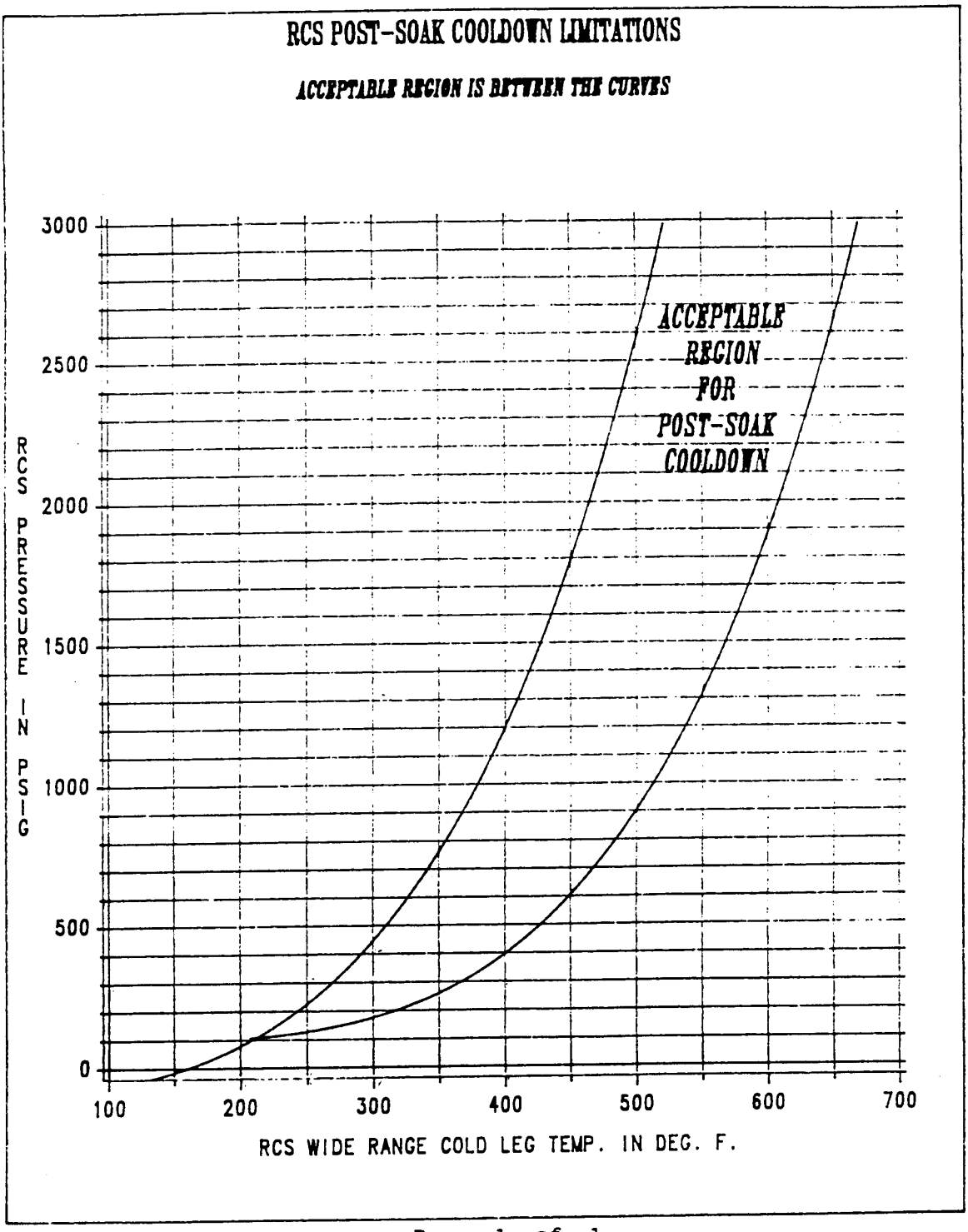
C. RCS cold legs = 300°F. RCS wide range pressure = 400 psig.

D. RCS cold legs = 400°F. RCS wide range pressure = 300 psig.

QUESTION: 28 (continued)

Proced. No. FR-P.1	RESPONSE TO IMMINENT PRESSURIZED THERMAL SHOCK CONDITION	Attachment 7	Rev. 1B1

RCS POST-SOAK COOLDOWN LIMITATIONS CURVE



QUESTION: 29

The following plant conditions exist:

- Mode 1, 12% Reactor Power
- Power Ascension in progress
- A fire occurs requiring an immediate evacuation of the control room.
- The Operators are UNABLE to trip the reactor or perform the other IMMEDIATE ACTIONS of OTO-ZZ-00001, Control Room Inaccessibility, before exiting the control room.

Which ONE of the following actions will cause the Reactor Protection System to initiate a reactor trip?

A. Tripping the main turbine from the front standard.

B. Locally de-energizing PG19.

C. Tripping the normal feeder breaker to NB02.

D. Tripping all 4 RCP breakers at PA01 and PA02.

QUESTION: 30

A reactor startup is in progress. Power level is at $1E^{-7}$ amps when a reactor trip occurs due to a Nuclear Instrumentation Channel failure.

Which ONE of the following is the approximate length of time before the Source Range NIs will automatically energize?

A. 2 minutes

B. 5 minutes

C. 10 minutes

D. 15 minutes

QUESTION: 31

The following plant conditions exist:

- An RCS pipe break has occurred.
- The crew is currently in ES-1.2, Post LOCA Cooldown and Depressurization, attempting to isolate SI Accumulators.
- EPHV8808A, 'A' SI Accumulator Outlet Valve, will not close.

Which ONE of the following describes how the operators should address the stuck open 'A' SI Accumulator Outlet Valve?

A. Vent the 'A' SI Accumulator to the CTMT building.

B. Continue the cooldown and allow the SI Accumulator to discharge.

C. Dispatch an operator to close the valve locally.

D. Drain the 'A' SI Accumulator to the Reactor Coolant Drain Tank.

QUESTION: 32

A plant startup is in progress with power indicating $1E^{-8}$ amps on both channels of IR nuclear instruments.

Which ONE of the following will occur if IR channel N35 fails to 22%, current equivalent?

A. IR High Flux Reactor Trip.

B. IR Rod Stop will stop outward rod motion.

C. PR Low Flux Reactor Trip.

D. Pzr High Level Reactor Trip is unblocked.

QUESTION: 33

The following plant conditions exist:

- Reactor is in Mode 3 at 557°F Tavg and 2235 psig
- Current RCS boron is 800 ppm
- An ECP boron of 600 ppm is needed
- The Reactor Makeup Mode Selector Switch, BG HS-25, is in DILUTE
- The Total Flow Counter BG FY-111B is set for 130 gallons
- A dilution is started
- Pressurizer level control is in AUTOMATIC and the controlling channel, BG LT-459, fails LOW

Which ONE of the following represents the long term impact on RCS boron concentration, assuming NO operator actions are taken?

A. The boron will approach 600 ppm based on the FCV-110A control setpoint.

B. The boron will be slightly LESS than 800 ppm based on the 130 gallon dilution.

C. The boron will be HIGHER than 800 ppm based on a LOW pressure SI shifting charging suction to RWST.

D. The boron will be HIGHER than 800 ppm based on an AUTO swap to the RWST on low VCT level.

QUESTION: 34

The following plant conditions exist:

- Pressurizer Pressure is 1600 psig
- CTMT Pressure is 18 psig
- CTMT Radiation is 13 R/hr and increasing
- All S/G Pressures are 900 psig
- No operator actions have been performed

Which ONE of the following ESFAS Actuations should have automatically actuated?

A. SLIS and CRVIS

B. SIS and CISB

C. CRVIS and BSPIS

D. CSAS and SIS

QUESTION: 35

The following plant conditions exist:

- A plant startup is in progress
- The plant is at 9% power
- Control Systems are in normal system alignment
- The output of Power Range NI channel N44 gradually fails HIGH
- No operator actions are taken

Which ONE of the following is the INITIAL plant response?

A. OPΔT trip setpoint increases.

B. Steam generator levels increase.

C. Axial flux mismatch alarm illuminates.

D. Control rods will step in to maintain Tavg.

QUESTION: 36

Which ONE of the following Area Radiation Monitors is required by the Final Safety Analysis Report (FSAR)?

A. SDRE0027, CTMT Purge Filter Unit

B. SDRE0033, Control Room

C. SDRE0037, Spent Fuel Pool

D. SDRE0041, Manipulator Bridge

QUESTION: 37

The following plant conditions exist:

- Safety Injection actuated on Low Pzr Pressure and has NOT been RESET.
- CTMT pressure is 10 psig and increasing at 1 psig/minute.
- NB01 is energized from off-site power.
- NB02 is inadvertently de-energized by opening NB0209, NB02 MN FDR BKR FROM XNB02.
- NB0211, NB02 EMERG FEED FROM B STBY DG NE02, closes re-energizing NB02 from NE02.
- A CSAS actuates at the same time NB0211 closes.

Which ONE of the following correctly states the time at which the Containment Spray Pumps will start?

	'A' CS Pump	'B' CS Pump
A.	Immediately	Immediately
B.	Immediately	15 seconds
C.	15 seconds	15 seconds
D.	15 seconds	40 seconds

QUESTION: 38

A periodic load test is being performed on NE02, Standby Diesel Generator 'B' in accordance with OSP-NE-00001B. NE02 has been paralleled with 4160V Bus NB02 and is carrying 6 MW of real load. A Main Steamline break occurs and containment pressure increases to 20 (twenty) psig.

Which ONE of the following describes the response of the Load Shedding Emergency Load Sequencing System (LSELS)?

A. The LOCA Sequencer starts the Containment Spray Pumps at Step 3 (Time 15 seconds).

B. The Shutdown Sequencer starts the 'A' Essential Service Water Pump at Step 5 (Time 25 seconds).

C. The LOCA Sequencer starts the Safety Injection Pumps at Step 1 (Time 5 seconds).

D. The Shutdown Sequencer starts the Residual Heat Removal Pumps at Step 2 (Time 10 seconds).

QUESTION: 39

The following plant conditions exist:

- The plant is in Mode 4
- RCS temperature is 205°F
- RCS pressure is 340 psig
- RHR is in service
- An unisolable leak in the Instrument Air system has occurred
- Instrument Air system pressure is 60 psig and DECREASING

Which ONE of the following describes how the RHR System will respond?

A. RHR Heat Exchanger Bypass Valves EJ FCV-618 & 619 will fail OPEN and cause RCS temperature to DECREASE.

B. RHR Heat Exchanger Bypass Valves EJ FCV-618 & 619 will fail CLOSED and cause RCS temperature to INCREASE.

C. RHR Heat Exchanger Flow Control Valves EJ HCV-606 & 607 will fail OPEN and cause RCS temperature to DECREASE.

D. RHR Heat Exchanger Flow Control Valves EJ HCV-606 & 607 will fail CLOSED and cause RCS temperature to INCREASE.

QUESTION: 40

Because of an administrative oversight OSP-NE-00001A, Standby Diesel Generator 'A' Periodic Tests **(a Continuous Use Procedure)** must be performed within the next 20 minutes to comply with the surveillance frequency requirements. The Secondary Equipment Operator reports that he CANNOT perform the Pre-Start Checks as required by the Initial Conditions in 20 minutes.

Which ONE of the following describes the action to be taken?

A. With SS permission, the diesel can be run without performing the Pre-Start Checks since it is always in standby and ready to start.

B. Generate a Temporary Change Notice for the Initial Conditions that removes the requirement for performing the Pre-Start Checks.

C. With SS permission, just perform selected portions of the Pre-Start checks so the diesel can be started within 20 minutes.

D. The Pre-Start Checks must be performed regardless of the time required to complete them.

QUESTION: 41

The following plant conditions exist:

- Reactor has tripped
- Safety Injection has actuated
- All equipment has actuated per design
- GE RE-92 Hi Hi alarm
- 'B' S/G NR Level 5% and INCREASING with AFW ISOLATED
- 'C' S/G pressure DECREASING in an uncontrolled manner

Which ONE of the following describes the positions of the steam supply valves to the Turbine Driven AFW Pump after all Emergency Procedure actions have been completed?

	'B' S/G ABV0085	'C' S/G ABV0087
A.	OPEN	OPEN
B.	OPEN	CLOSED
C.	CLOSED	OPEN
D.	CLOSED	CLOSED

QUESTION: 42

The liquid radwaste discharge monitor, HB-RE-18, has been declared inoperable.

Which ONE of the following describes the actions that will permit discharging a Discharge Monitor Tank (DMT)?

A. The Superintendent, Rad Chem must approve the release permit.

B. The liquid release may continue up to 14 days with no further action.

C. Two independent samples of the DMT must be analyzed, and two technically qualified staff members must independently verify the release rate calculation and discharge valve lineup.

D. Samples must be taken every 30 minutes while the discharge is in progress to verify the effluent is within the FSAR discharge requirements.

QUESTION: 43

During the movement of irradiated fuel assemblies within containment, there must be a minimum of 23 feet of water above the top of the reactor vessel flange.

Which ONE of the following is the Technical Specification bases for this requirement?

A. To ensure adequate shielding for personnel who are working on the refueling bridge.

B. To retain iodine fission product activity in the water during fuel handling accident.

C. To provide sufficient subcooling to assure adequate natural circulation cooling.

D. To provide adequate net positive suction head for the RHR Pumps.

QUESTION: 44

The following plant conditions exist:

- RCS Tave is 400°F
- Pressurizer pressure is 2235 psig
- Source Range NIs are 140 cps

Which ONE of the following Class 1E 125 VDC system alignments will result in an operable NK bus?

A. Load Center NG01 to Swing Charger NK25 to bus NK04.

B. Load Center NG04 to Swing Charger NK26 to bus NK02.

C. Load Center PG20 to Swing Charger NK26 to bus NK03.

D. Load Center PG19 to Swing Charger NK25 to bus NK01

QUESTION: 45

A steam line has ruptured inside containment resulting in a reactor trip and safety injection. E-0, Reactor Trip or Safety Injection had been entered and the operating crew has transitioned to E-1, Loss of Reactor or Secondary Coolant. While monitoring the CSF status trees, you determine that an ORANGE path exists for SUBCRITICALITY.

Which ONE of the following actions should be performed by the crew?

A. Continue current pass through the status trees, if no RED path is encountered then implement FR-S.1.

B. Complete the actions of E-1, then implement FR-S.1.

C. Immediately implement FR-S.1, then continue current pass through the status trees.

D. Implement FR-S.1 at the discretion of the Shift Supervisor.

QUESTION: 46

Which ONE of the following conditions represents a loss of Containment Integrity per Technical Specifications?

A. While in Mode 1, an operator opens the outer door of the Containment Personnel Air Lock.

B. While in Mode 3, during an inspection of the equipment hatch, it is determined that the hatch is NOT sealed.

C. While in Mode 4, containment internal pressure is found to be 1.2 psig.

D. While in Mode 5, both containment emergency air lock doors are found open.

QUESTION: 47

Which ONE of the following is an entry condition for OTO-ZZ-00003, Loss of Shutdown Margin?

A. Mode 3, following Reactor Trip at 0950 and RCS Tavg 545°F at 1115.

B. Mode 2, with Reactor Power at 5% and Control Bank C at 35 steps.

C. Mode 3, with RCS temperature decrease of 100°F in 20 minutes with ECCS operating in the Injection phase.

D. Mode 5, with Shutdown Margin Calculation indicating the core net reactivity of –1100 pcm.

QUESTION: 48

A loss of condenser vacuum is occurring due to unknown reasons and power has been reduced from 100% to 75% over the last 5 minutes.

The following plant conditions exist:

- Auct High Tavg 593°F
- Reactor / Turbine Power 75% / 775 MWe
- LP 'A' Condenser Pressure 5.8" Hga
- LP 'B' Condenser Pressure 6.2" Hga
- LP 'C' Condenser Pressure 6.5" Hga

Which ONE of the following describes the expected operation of the condenser steam dumps with these conditions:

A. Less than 12 steam dumps are available and all available dumps are FULLY OPEN.

B. ALL 12 condenser steam dumps are available and all are FULLY OPEN.

C. Less than 12 steam dumps are available and all available dumps are PARTIALLY OPEN.

D. Less than 12 steam dumps are available and all are CLOSED.

QUESTION: 49

A large steam line break occurs inside containment. A Safety Injection occurs on Containment Pressure. Containment pressure is 30 psig when step 10 of Attachment 12 of E-0, "Check if CTMT Spray is Required", is performed.

Which ONE of the following is the reason for stopping all four RCP's?

A. They are an unnecessary addition of heat to Containment.

B. All RCP cooling water flow is automatically isolated.

C. Air is too dense for the motor cooler fans to keep the motor cool.

D. Containment structural failure is imminent.

QUESTION: 50

The plant is operating at 100% power with normal operating temperature and pressure when a pressurizer safety valve inadvertently lifts. The PRT pressure is 20 psig.

Which ONE of the following describes the condition of the steam entering the PRT?

A. Superheated steam at 668°F.

B. Superheated steam at 653°F

C. Saturated steam/water mixture at 259°F.

D. Saturated steam/water mixture at 228°F.

QUESTION: 51

The following plant conditions exist:

- Mode 3 following a manual Reactor Trip and Safety Injection
- RCS pressure 1600 psig and STABLE
- Average of the 10 highest reading Core Exit Thermocouples is 580°F
- Pressurizer level 20% and INCREASING at 0.5% per minute
- Containment temperature 140°F
- Containment radiation 7 R/hr
- S/G narrow range levels: 22%, 10%, 10%, 21%
- AFW flow: 50,000 lbm/hr to each S/G

The Control Room Supervisor is at Step 6 of E-1, Loss of Reactor or Secondary Coolant, and is trying to determine if ECCS flow should be REDUCED.

Which ONE of the following operator actions is appropriate for the above conditions? (Use E-1 Attachment 2, RCS Subcooling Curves, on the following page.)

A. SI termination criteria is met and transition should be made to ES-1.1, SI Termination.

B. SI termination criteria is NOT met since RCS subcooling is less than the required value, and further actions in E-1 are to be performed.

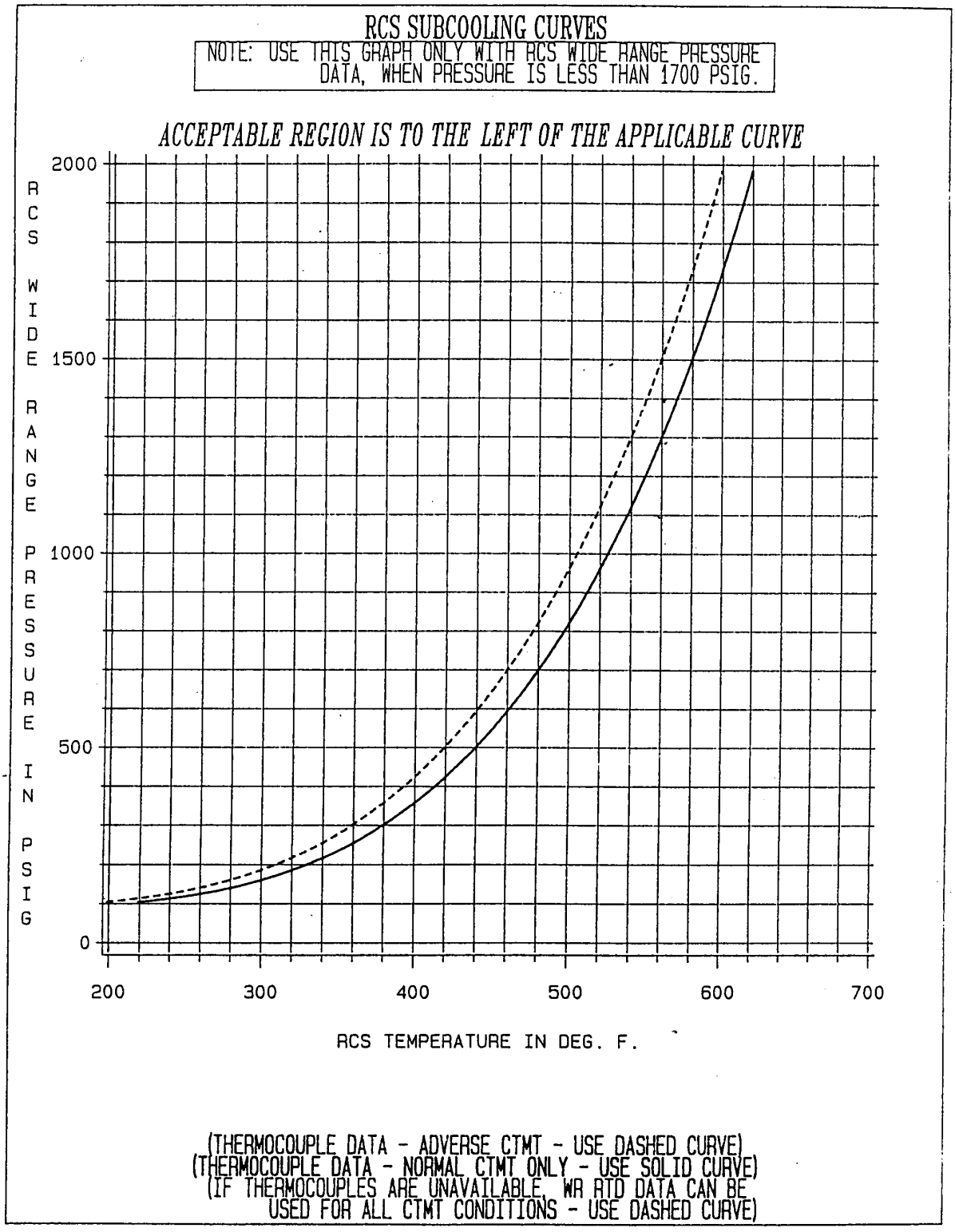
C. SI termination criteria is met if AFW flow is adjusted to > 300,000 lbm/hr. Do NOT transition to ES-1.1, SI Termination, until AFW flow is adjusted.

D. SI termination criteria is NOT met since pressurizer level is still low and further actions in E-1 are to be performed.

QUESTION: 51 (continued)

Proced. No. E-1	LOSS OF REACTOR OR SECONDARY COOLANT	Attachment 2	Rev. 1B3

RCS SUBCOOLING CURVES



QUESTION: 52

During normal operation, GERE92, Condenser Air Removal Rad Monitor alarms. A steam generator tube leak is suspected. Given the following information:

- Charging Flow: 120 gpm
- Letdown Flow: 75 gpm
- Pressurizer Level: 57% and STABLE
- Tavg: 584.4°F and STABLE
- RCP Seal Injection Flow: 8 gpm per pump
- RCP Seal Leakoff Flow: 3 gpm per pump

Which ONE of the following is the approximate steam generator tube leakage rate?

A. 25 gpm

B. 33 gpm

C. 37 gpm

D. 45 gpm

QUESTION: 53

The following plant conditions exist:

- At 0830, a loss of all offsite power occurred.
- At 0845, a Safety Injection occurred due to a faulted S/G.
- All equipment has operated as designed.
- Restoration of instrument air to containment is in progress.
- EFHV43 and EFHV44, ESW to 'A' and 'B' air compressors, are closed.

Which ONE of the following has caused EFHV43 and EFHV44 to close?

A. Loss of Instrument Air.

B. Blackout Load Shed.

C. LOCA Load Shed.

D. High D/P.

QUESTION: 54

Which ONE of the following COULD cause the 'A' Train Subcooling Meter to indicate a SUPERHEATED condition?

A. Loop 3 Wide Range T_{HOT} fails LOW.

B. Wide Range Pressure Channel 403 fails LOW.

C. Loop 4 Wide Range T_{COLD} fails HIGH.

D. Wide Range Pressure Channel 405 fails HIGH.

QUESTION: 55

The following plant conditions exist:

- Mode 1, 100% power, all systems in a normal full power alignment.
- AEPT508, Feed Pump Discharge Header Pressure, fails off scale HIGH.

Which ONE of the following is the expected INITIAL plant response?

A. Main Feedwater Pump speed increases.

B. Main Feedwater Pump speed decreases.

C. Main Feedwater Regulating Valves open.

D. Main Feedwater Regulating Valves close.

QUESTION: 56

Callaway Plant is in Mode 3 cooling down for a Refueling outage. The Reactor Operator has been directed to decrease RCS pressure to 1950 psig.

Which ONE of the following would the Reactor Operator have to set the Pressurizer Pressure Master Control, BBPK455A, to maintain the RCS at 1950 psig in Auto? (Narrow Range Pzr Pressure range is from 1700 to 2500 psig.)

A. 1.77 turns

B. 2.55 turns

C. 3.13 turns

D. 4.41 turns

QUESTION: 57

The plant has been shutdown for 10 days and is in a refueling outage. One third of the core has been off-loaded to the Spent Fuel Pool. An accident has caused damage to the Spent Fuel Pool and level is DECREASING uncontrollably. The fuel transfer tube has been ISOLATED. The only source of makeup is Essential Service Water, which can just keep up with the leak.

Which ONE of the following is correct?

A. The Shutdown Margin in the Spent Fuel Pool will continue to DECREASE with eventual criticality being obtained in the Spent Fuel Pool.

B. The Shutdown Margin in both the Spent Fuel Pool and the Reactor Cavity will DECREASE until criticality is obtained in both the Spent Fuel Pool and the Reactor.

C. The Shutdown Margin in the Spent Fuel Pool will DECREASE but criticality will NOT be obtained because the fuel is depleted.

D. The Shutdown Margin in the Spent Fuel Pool will continue to DECREASE but criticality will NOT be obtained because of the fuel storage geometry.

QUESTION: 58

The following plant conditions exist:

- 'A' and 'B' CCW Pumps are running.
- The Service Loop is being supplied by 'B' CCW train.
- 'A' Component Cooling Water Radiation Monitor EGRE0009 has exceeded the Hi Hi ALARM setpoint.

Which ONE of the following automatic actions occur in addition to receiving an audible ALARM on the RM-11?

A. EGRV0009, CCW SRG TK A VENT CTRL VLV remains OPEN, EGRV0010, CCW SRG TK B VENT CTRL VLV remains OPEN.

B. EGRV0009, CCW SRG TK A VENT CTRL VLV remains OPEN, EGRV0010, CCW SRG TK B VENT CTRL VLV CLOSES.

C. EGRV0009, CCW SRG TK A VENT CTRL VLV CLOSES, EGRV0010, CCW SRG TK B VENT CTRL VLV remains OPEN.

D. EGRV0009, CCW SRG TK A VENT CTRL VLV CLOSES, EGRV0010, CCW SRG TK B VENT CTRL VLV CLOSES.

QUESTION: 59

You are the on-duty Reactor Operator. In accordance with plant policy, which ONE of the following non-licensed individuals may you allow to start the 'A' Safety Injection (SI) Pump from Panel RL017 in the Control Room?

A. Any system engineer authorized by the Shift Supervisor who is performing SI system surveillances.

B. Any assistant equipment operator performing OJT on the SI system who is being monitored by the Control Room Supervisor.

C. Any individual who is in a license training program under my direct observation.

D. Any electrical maintenance supervisor troubleshooting why the SI pump vibration readings are abnormal.

QUESTION: 60

An Electrician has called the Control Room requesting that the RO stroke CLOSED EJ HV-8804A, RHR TRAIN 'A' TO CHARGING PUMP SUCT ISO, for MOVATS testing. A LOCAL CONTROL (LC) tag is hanging on the MCB Handswitch.

Which ONE of the following complies with APA-ZZ-00310, Workman's Protection Assurance and Caution Tagging?

A. Stroke EJ HV-8804A if the Electrician is signed on to the LC.

B. The RO must sign on to the LC in addition to the Electrician requesting the valve stroke.

C. The RO may stroke the valve after verifying the LC is on SS Hold.

D. The Electrician signed on to the LC must come to the Control Room to operate the handswitch.

QUESTION: 61

Per ODP-ZZ-00025, Emergency Operating Procedure Usage, in which ONE of the following cases may AFW be THROTTLED to less than 300,000 lbm/hr?

	S/G NR Level		Ctmt Temp	Ctmt Rad
A.	A-30% B-29%	C-24% D-33%	210°F	1 R/hr
B.	A-3% B-2%	C-17% D-6%	125°F	10 R/hr
C.	A-17% B-14%	C-18% D-21%	115°F	1×10^6 R/hr
D.	A-16% B-13%	C-0% D-6%	180°F	1×10^5 R/hr

QUESTION: 62

Which ONE of the following plant conditions will result in the 'A' ESW Train being inoperable?

A. 'A' ESW Pump Room Supply Fan is inoperable for maintenance.

B. 'A' ESW Pump Room Unit Heater inoperable with ESW Pump Room temperature of 70°F.

C. TEF01A, 'A' Prelube Storage Tank, drained for maintenance.

D. NE01, 'A' Emergency DG, inoperable due to a governor failure.

QUESTION: 63

The following plant conditions exist:

- Reactor has tripped due to a Loss of Off-Site Power
- Pressurizer level is 20% and increasing
- Pressurizer pressure is 2000 psig and increasing
- CETC temperatures are 590°F and stable
- RVLIS (pumps off) indicates 110%
- All RCS Cold Leg temperatures are 550°F and stable

Which ONE of the following describes the status of the RCS Inventory Safety Function?

A. Being maintained because cold leg temperatures are greater than 275°F.

B. Being maintained because pressurizer level is greater than 17%.

C. Not being maintained because RCS subcooling is less than 23°F subcooled.

D. Not being maintained because pressurizer level is less than program level.

QUESTION: 64

The following plant conditions exist:

- Mode 1, 50% Reactor Power
- Pzr Lev Ctrl Sel Sw, BB LS-459D is selected to L459/L460
- Pzr Level channels indicate as follows:
  Channel BBLT459 is 41%
  Channel BBLT460 is 0%
  Channel BBLT461 is 41%

Which ONE of the following actions are required to satisfy procedural requirements and Technical Specifications?

A. Switch BB LS-459D to L459/L461 and trip channel BBLT460 Pzr High Level Bistable within 6 hours.

B. Switch BB LS-459D to L459/L461 and trip channel BBLT460 Pzr High and Low Level Bistables within 6 hours.

C. Switch BB LS-459D to L459/L461 and trip channel BBLT460 Pzr High Level Bistable within 6 hours; place excess letdown in service.

D. Switch BB LS-459D to L459/L461 and trip channel BBLT460 Pzr High and Low Level Bistables within 6 hours; place excess letdown in service.

QUESTION: 65

The following plant conditions exist:

- The plant is in Mode 5.
- RCS temperature is 140°F.
- RCS pressure is 320 psig.
- Cold Overpressure Protection Mitigation System (COMS) protection is being satisfied by the 'A' and 'B' RHR Suction Relief Valves.

It has been determined that the 'B' RHR Suction Relief Valve setpoint is set incorrectly and the relief valve is now inoperable.

Which ONE of the following actions would satisfy the Technical Specification requirement for COMS?

A. Restore the 'B' RHR Suction Relief Valve to operable status within 72 hours.

B. Depressurize and vent the RCS through a vent of $\geq$ 1.0 in^2 within 8 hours.

C. Align the 'A' and 'B' Pzr PORVs for COMS protection within 24 hours.

D. Increase all RCS cold leg temperatures to > 275°F within 12 hours.

QUESTION: 66

Which ONE of the following is the LOWEST Emergency Plan Classification at which the Emergency Response Data System (ERDS) must be activated?

A. Unusual Event

B. Alert

C. Site Emergency

D. General Emergency

QUESTION: 67

The plant is at 100% power with the following conditions:

- 'C' CCW pump OOS
- 'A' CCW Train in Service, 'B' CCW Train in Standby
- NCP in Service with 120 gpm Letdown Flow

The 'A' CCW pump trips due to unknown reasons.

Which ONE of the following includes required immediate actions?

A. Restart the 'A' CCW pump, if pump fails to restart, then start either 'B' or 'D' CCW pump and transfer the service loop to the 'B' CCW train.

B. Start either 'B' or 'D' CCW pump then transfer the service loop to the 'B' CCW train.

C. Trip the Reactor Coolant Pumps and the Reactor, enter E-0, Reactor Trip/Safety Injection, then transfer the service loop to the 'B' CCW train.

D. Verify 'B' CCW pump starts automatically then transfer the service loop to the 'B' CCW train.

QUESTION: 68

During the performance of ECA-0.0, Loss of All AC Power, battery NK11 discharge ammeter is reading 275 amps.

Which ONE of the following is the MAXIMUM time that NK01 could remain operable assuming the battery was fully charged initially?

A. 2 hours

B. 4 hours

C. 6 hours

D. 8 hours

QUESTION: 69

The crew has implemented FR-C.1, Response to Inadequate Core Cooling.

Which ONE of the following combinations of core exit thermocouples (TC's) and indicated temperatures would require starting RCP's, even if the normally required support conditions could not be met?

	# of TC's	Indicated Temp
A.	2	2450°F
B.	4	1750°F
C.	6	1350 °F
D.	8	750°F

QUESTION: 70

Which ONE of the following could indicate a 10 gpm letdown leak between BGHV8152, CVCS Letdown System Outer CTMT Iso Valve, and the containment penetration?

A. BGPCV0131, CVCS Letdown Hx Outlet PCV, CLOSING to maintain pressure at setpoint.

B. INCREASED Component Cooling Water flow to the Letdown Heat Exchanger.

C. BGFI0132, CVCS Letdown Hx Outlet Flow Indicator, INCREASING.

D. BGTI0126, Regen Hx Charging Outlet Temperature Indicator, DECREASING.

QUESTION: 71

The following plant conditions exist:

- NCP is running, 120 gpm letdown.
- BGFT121, CVCS CHG HDR TO REGEN HX FLOW XMTR, fails.
- As a result, BGFCV124 closes.
- The NCP handswitch red light is lit.
- BGHV8109, NCP Recirculation Valve, is open.

The following annunciators are received:

- CHARGING LINE FLOW LOW
- SEAL INJECTION TO RCP FLOW LOW
- NCP FLOW LOW

Which ONE of the following actions should be taken immediately?

A. Take manual control of BGFCV124 and open it.

B. Start a CCP and secure the NCP.

C. Open BGHV8357A or B to restore seal injection.

D. Close all letdown orifice isolation valves.

QUESTION: 72

A Steam Generator Tube Rupture combined with a Loss of Offsite Power has occurred.

Which ONE of the following is the PREFERRED method to INITIALLY DEPRESSURIZE the RCS?

A. Cycle Pressurizer Heaters.

B. Use Auxiliary Spray.

C. Use Normal Pressurizer Spray.

D. Use a Pressurizer PORV.

QUESTION: 73

The following plant conditions exist:

- Rod H-8 in Control Bank "D" (CB D) was misaligned low.
- Rod H-8 was withdrawn 15 steps to align it with the other rods in CB D.
- The P/A converter AUTO/MAN switch was broke in the Auto position.

Which ONE of the following conditions occurs because of the P/A converter being in AUTO when rod H-8 was recovered?

A. Rod Control Non-Urgent Failure alarm when CB D rods initially moved in.

B. Rod Control Urgent Failure alarm when CB D initially moved in.

C. Rod Bank Lo alarm will be received with CB D actually above setpoint.

D. Rod Bank Lo alarm will be received with CB D actually below setpoint.

QUESTION: 74

The following plant conditions exist:

- Mode 4 with a cooldown in progress per OTG-ZZ-00004, Plant Cooldown Hot Standby to Cold Shutdown
- 'B' RHR train is to be placed in a cooldown lineup per OTN-EJ-00001, Residual Heat Removal System

Which ONE of the following will prevent OPENING EJ-HV-8701B, RHR Pump 'B' Suct Iso?

A. EMHV8814B, SI Pump 'B' Recirc to RWST Iso, OPEN.

B. BBPI0405, RCS Wide Range Press Xmtr, reading 306 psig.

C. EJHV8811B, CTMT Recirc Sump 'B' to RHR Pump 'B' Suct Iso, OPEN.

D. BNHV8812B, RWST to RHR Pump 'B' Suct Iso Vlv, CLOSED.

QUESTION: 75

The following plant conditions exist:

- The unit is at 100% power with all systems aligned normally
- The switchyard is in its preferred lineup with Ring Bus Breakers 52-2 and 52-3 CLOSED
- A lockout occurs on 345KV Swyd Bus 'B'

Which ONE of the following describes the response of the Containment Cooling Fans?

A. All fans CONTINUE to RUN in the PRESELECTED speed.

B. A & C fans are SHIFTED to SLOW speed by the shutdown sequencer.

C. B & D fans DE-ENERGIZE and are RESTARTED in FAST speed by the shutdown sequencer.

D. A & C fans DE-ENERGIZE and are RESTARTED in the PRESELECTED speed by the shutdown sequencer.

QUESTION: 76

The plant is in Mode 1, 100% power. An inadvertent Main Steam Line Isolation occurs resulting in a reactor trip.

Which ONE of the following correctly describes the steam generator response? (Assume no operator action.)

A. Rapid pressure increase causes steam generator levels to increase, steam generator PORVs and Safety Valves lift relieving the pressure, steam generator levels decrease and main feedwater level control increases feed to regain level.

B. Rapid pressure increase causes steam generator levels to increase, steam generator PORVs lift relieving the pressure, steam generator levels decrease and auxiliary feedwater will feed to regain level.

C. Rapid pressure increase causes steam generator levels to decrease, steam generator PORVs and Safety Valves lift to relieve the pressure, steam generator levels decrease and auxiliary feedwater will feed to regain level.

D. Rapid pressure increase causes steam generator levels to decrease, steam generator PORVs lift relieving the pressure, steam generator levels decrease and main feedwater level control increases feed to regain level.

QUESTION: 77

The reactor tripped 5 minutes ago.

Which ONE of the following completes the statement concerning the heat transfer relationship between the RCS and Steam Generators?

The heat transfer rate between the RCS and the S/Gs will:

A. decrease as RCS temperature increases and AFW flow increases.

B. decrease as AFW temperature decreases and AFW flow increases.

C. increase as AFW temperature increases and RCS flow decreases.

D. increase as RCS temperature increases and AFW flow increases.

QUESTION: 78

Which ONE of the following combinations of Borated Water Volume, Boron Concentration, and Solution Temperature would meet the Technical Specification LCO for the RWST in Mode 4?

	Borated Water Volume	Boron Concentration	Solution Temperature
A.	395,000 gal	2325 ppm	65°F
B.	350,000 gal	2385 ppm	85°F
C.	400,000 gal	2415 ppm	95°F
D.	412,000 gal	2450 ppm	105°F

QUESTION: 79

The following plant conditions exist:

- Compressor Sequencer Selector Switch, KAHS0043, is selected to the CAB position.
- All three air compressors are selected to AUTOMATIC.
- 'A' Air Compressor (CKA01A) is running unloaded.
- 'B' Air Compressor (CKA01B) is not running.
- 'C' Air Compressor (CKA01C) is running loaded.
- KA-PV-11, Service Air Isolation Valve is open.

Which ONE of the following describes the correct system response to an air leak that results in air system pressure decreasing to 105 psig?

A. Only CKA01A and CKA01C are running and both are loaded.

B. All three air compressors are running, but only two are loaded.

C. Only CKA01A and CKA01C are running and both are loaded, KA-PV-11 is closed.

D. All three air compressors are running and all three are loaded, KA-PV-11 is closed.

QUESTION: 80

The following plant conditions exist:

- A Rx Startup is in progress following a mid-cycle outage
- Rx power has been stabilized at $1E^{-8}$ amps
- RCS temperature is at the no-load value
- Critical data has been taken
- Prior to any additional control rod movement, a single S/G Safety Valve on SG 'D' fails open and remains open
- RCS T_{avg} decreases 9°F and reactor power starts to increase

Which ONE of the following states the most restrictive action required to satisfy Technical Specification LCO(s)?

A. Reduce power range high flux reactor trip setpoints to $\leq$ 85% rated thermal power.

B. Restore the inoperable S/G safety valve to operable status prior to entering Mode 1.

C. Restore T_{avg} or be in Mode 2 with $K_{eff} < 1.0$ and all RCS $T_{Cold} \geq 500°F$ within 30 min.

D. Immediately initiate emergency boration to restore adequate Shutdown Margin.

QUESTION: 81

The following plant conditions exist:

- Reactor power is 45%
- Control Rod Deviation alarm is lit
- Rod at Bottom alarm is lit
- Two/More Rods at Bottom alarm is lit
- Power Range Channel Deviation alarm is lit
- Rod Bottom LEDs are lit for Shutdown Bank 'A' Rods P4 and D2

Which ONE of the following describes an applicable Technical Specification and the required procedure response to these conditions?

A. T/S 3.2.4, Quadrant Power Tilt Ration, is applicable and procedures require that the axial flux difference and quadrant power tilt ratio be checked.

B. T/S 3.1.4, Rod Group Alignment Limits, is applicable and procedures require you to trip the reactor and perform E-0, Reactor Trip or Safety Injection.

C. T/S 3.1.4, Rod Group Alignment Limits, is applicable and up to two rods are allowed to be restored per OTO-SF-00004, Misalignment of Control Rods.

D. T/S 3.1.5, Shutdown Bank Insertion Limits, is applicable and procedures require you to recover the dropped control rods per OTO-SF-00003, Dropped Control Rod.

QUESTION: 82

Which ONE of the following conditions would VIOLATE Technical Specification requirements for Containment Building Penetrations?

A. Both Containment Personnel Air Lock doors are OPEN with core offload in progress. Administrative controls are in place to ensure that one door is capable of being CLOSED.

B. Additional ventilation for personnel in Containment is being provided through the Emergency Air Lock via temporary blowers while draining the Refueling Pool following core offload.

C. Performing Control Rod Drag testing following core reload while scaffolding is being REMOVED from Containment via the Equipment Hatch.

D. Performing valve lineups to DRAIN the secondary side of all four steam generators with the RCS Tavg at 185°F.

QUESTION: 83

The following plant conditions exist:

- Large Break LOCA in progress
- Crew is performing FR-Z.1, Response To High Containment Pressure, due to an ORANGE path on Containment Pressure
- CTMT Pressure is 31 psig and INCREASING
- Annunciator 47C, RWST LEV LOLO 1 AUTO XFR, has just ACTUATED

Which ONE of the following should be performed?

A. CONTINUE in FR-Z.1, when completed, transition to ES-1.3, Transfer To Cold Leg Recirculation. Upon completion transition to E-1, Loss of Reactor or Secondary Coolant.

B. CONTINUE in FR-Z.1 until Containment Pressure is LESS THAN 25 psig, then transition to ES-1.3, Transfer to Cold Leg Recirculation.

C. SUSPEND performance of FR-Z.1, transition to ES-1.3, Transfer To Cold Leg Recirculation. Upon completion return to FR-Z.1.

D. SUSPEND performance of FR-Z.1, transition to ES-1.3, Transfer To Cold Leg Recirculation. Complete ES-1.3 through Step 3, then return to FR-Z.1.

QUESTION: 84

The following plant conditions exist:

- Mode 2, Reactor Power is 3%
- RCS Loop 1 RTD Channel has failed and all associated bistables have been tripped
- Sometime later in the shift, Power Range NI Channel N44 fails high (bistables have NOT been tripped)

Which ONE of the following statements describes the appropriate action to be taken?

A. Continue the startup. T/S 3.3.1 allows the startup to continue as long as the inoperable channel is placed in the tripped condition within 6 hours.

B. Enter T/S 3.0.3 and begin a unit shutdown per OTG-ZZ-00005, Plant Shutdown 25% Power to Hot Standby.

C. Trip the reactor and enter procedure E-0, Reactor Trip or Safety Injection.

D. Hold the startup. T/S 3.3.1 prevents entry into Mode 1 until N44 is operable.

QUESTION: 85

The following plant conditions exist:

- The plant was operating at 4% reactor power
- Both trains of Essential Service Water (ESW) were determined to be inoperable
- The operators placed the plant in HOT STANDBY exactly 4 hours after determining that the second ESW train was inoperable

Which ONE of the following time limits apply to placing the plant in HOT SHUTDOWN and then COLD SHUTDOWN?

A. HOT SHUTDOWN must be achieved within 6 hours of reaching HOT STANDBY and COLD SHUTDOWN must be achieved within an additional 30 hours.

B. HOT SHUTDOWN must be achieved within 6 hours of reaching HOT STANDBY and COLD SHUTDOWN must be achieved within an additional 24 hours.

C. HOT SHUTDOWN must be achieved within 9 hours of reaching HOT STANDBY and COLD SHUTDOWN must be achieved within an additional 30 hours.

D. HOT SHUTDOWN must be achieved within 9 hours of reaching HOT STANDBY and COLD SHUTDOWN must be achieved within an additional 24 hours.

QUESTION: 86

Technical Specifications require all full-length control rods to be OPERABLE in Modes 1 and 2 (with special test exceptions).

Which ONE of the following would cause a control rod to be INOPERABLE?

A. The CRDM stationary gripper coil turns OFF after the movable gripper coil turns ON during rod withdrawal.

B. The CRDM lift coil turns ON while the movable gripper coil is ON during rod withdrawal.

C. The CRDM lift coil turns ON and then the movable gripper coil turns ON during rod insertion.

D. The CRDM stationary gripper coil turns OFF before the movable gripper coil turns ON during rod insertion.

QUESTION: 87

The plant is in Mode 2 at 3% Reactor Power, commencing warm-up of the main turbine.

Which ONE of the following could be a direct result of a loss of Vital AC Instrument Bus NN02?

A. Intermediate Range High Flux Reactor Trip.

B. Source Range High Flux Reactor Trip.

C. Charging Pump Suction Swaps to the RWST.

D. Idle Component Cooling Water Pump Start.

QUESTION: 88

A Pressurizer Pressure instrument has failed low. All immediate and subsequent operator actions have been completed for the failed instrument per OTO-BB-00006, Pressurizer Pressure Channel Failure.

Which ONE of the following remains INACCURATE despite the fact that the alternate instruments have been selected?

(Assume NO actions have been performed by I&C personnel.)

A. Pressurizer Pressure Control

B. Pressurizer Pressure Recorder

C. OPΔT/OTΔT Temp Recorder

D. Core Subcooling Monitor

QUESTION: 89

The plant was initially in Mode 1. The following plant conditions now exist:

- A large break LOCA has occurred inside Containment
- Only the 'B' Train of Safety Injection AUTOMATICALLY ACTUATED
- Train 'A' ECCS components have been STARTED/OPERATED MANUALLY
- RWST level is 35% and DECREASING
- 'B' Train RHR Ctmt Recirc Sump Suction Valve, EJ HV-8811B, is OPEN
- 'A' Train RHR Ctmt Recirc Sump Suction Valve, EJ HV-8811A, is CLOSED

Which ONE of the following describes why the 'A' RHR Pump must be temporarily STOPPED to complete the switchover to the Cold Leg Recirculation mode of ECCS?

A. RHR System Hot Leg Recirculation Valve, EJ HV-8716A, must be CLOSED in order to OPEN RHR Ctmt Recirculation Sump Suction Valve, EJ HV-8811A.

B. RWST to RHR Pump Suction Valve, BN HV-8812A, must be CLOSED in order to OPEN Ctmt Recirculation Sump Suction Valve, EJ HV-8811A.

C. RWST to RHR Pump Suction Valve, BN HV-8812A, must be CLOSED in order to OPEN RHR to Charging Pump Valve, EJ HV-8804A.

D. RHR to Accumulator Injection Valve, EJ HV-8809A, must be CLOSED in order to OPEN RHR Ctmt Recirculation Sump Suction Valve, EJ HV-8811A.

QUESTION: 90

The following plant conditions exist:

- Mode 1, 100% Reactor Power
- RCS specific activity is 50 microcuries/gm DOSE EQUIVALENT I-131

Which ONE of the following is the Chemistry sampling requirements per OTO-BB-00005, Reactor Coolant System High Activity?

A. Normal 72 hours sample requirements are necessary.

B. Once per 24 hours until activity decreases for 3 consecutive samples.

C. As directed by the On-Shift Chemistry Supervisor.

D. Once per 4 hours until activity decreases to less than 1 microcurie/gm.

QUESTION: 91

The following plant conditions exist:

- The plant is in Mode 5
- Midloop operations are in progress
- SG hot and cold leg manway covers are removed
- SG nozzle dams are installed in the hot legs
- SG nozzle dams are NOT installed on the cold legs
- Loss of RHR cooling occurs

Which ONE of the following could occur as a result of this event?

A. Steam formation in the hot leg will cause an erroneously low RCS Loop Level indication.

B. Steam formation in the reactor vessel head will displace water from the reactor vessel and force water out the cold leg manways.

C. Steam formation in the reactor vessel head will increase RCS pressure and blow out the hot leg nozzle dams.

D. Steam formation in the hot leg will ultimately collapse, resulting in severe water hammer.

QUESTION: 92

The plant is in Mode 1 at 75% reactor power.

Which ONE of the following is a correct IMMEDIATE ACTION for a main feed pump trip under these conditions per OTO-AE-00001, Feedwater System Malfunction?

A. Manually trip the reactor and enter E-0, Reactor Trip or Safety Injection.

B. Quickly run back turbine generator load to less than 60% or 750 MWe.

C. Use normal boration/adjust turbine load as necessary to match Tave and Tref.

D. Restore steam generator level to the program level of 50%.

QUESTION: 93

The Callaway Plant is operating at 30% power and it is necessary to secure the 'B' Reactor Coolant Pump due to high vibration. After the RCP is tripped, the 'B' Loop ΔT _____ and the other Loop ΔTs _____. (Assume unit load is held constant.)

A. Increases, Decrease

B. Increases; Increase

C. Decreases; Decrease

D. Decreases; Increase

QUESTION: 94

The plant is initially operating at 100%. A large Steam Line Rupture in Containment has resulted in the following:

- CTMT Temperature is 180°F
- CTMT Pressure is 8 psig

Which ONE of the following describes the response of the Containment Coolers?

A. 'A' Containment Cooler supplies the Instrument Tunnel in FAST speed.

B. 'B' Containment Cooler supplies the Pressurizer Enclosure Compartment in SLOW speed.

C. 'C' Containment Cooler flows DIRECTLY to the containment atmosphere in SLOW speed.

D. 'D' Containment Cooler flows DIRECTLY to the containment atmosphere in FAST speed.

QUESTION: 95

A liquid radwaste release from Discharge Monitor Tank 'A' is in progress.

Which ONE of the following conditions would AUTOMATICALLY terminate the release?

A. Cooling tower blowdown flow rate is REDUCED to 6000 gpm.

B. RW bldg discharge rad monitor, HB RE-18, FAILS resulting in a Hi Hi alarm.

C. Steam generator blowdown surge tank level INCREASES to the Hi Hi setpoint.

D. A Hi Hi alarm on S/G blowdown discharge rad monitor causes BM FV-54 to CLOSE.

QUESTION: 96

Which ONE of the following correctly identifies the parameters and values used by an operator to ensure the temperature difference between the PZR and the Spray Fluid are within the specified limit(s) in the Technical Specifications when initiating PZR Spray?

	Spray Source	ΔT Limit	Parameters Monitored To Satisfy ΔT Limit
A.	Normal Spray Aux Spray	275°F 583°F	RCS hot leg loop temperature and PZR vapor space temperature. Regen HX charging inlet temperature and PZR vapor space temperature.
B.	Normal Spray Aux Spray	275°F 320°F	RCS cold leg loop temperature and PZR vapor space temperature. Regen HX charging outlet temperature and PZR vapor space temperature.
C.	Normal Spray Aux Spray	320°F 583°F	RCS hot leg loop temperature and PZR vapor space temperature. Regen HX charging inlet temperature and PZR vapor space temperature.
D.	Normal Spray Aux Spray	320°F 320°F	RCS cold leg loop temperature and PZR vapor space temperature. Regen HX charging outlet temperature and PZR vapor space temperature.

QUESTION: 97

The following plant conditions exist:

- The plant has sustained a transient event
- All S/G pressures have increased
- All 20 S/G safety valves are open

Which ONE of the following is the LOWEST Main Feedwater Pump discharge pressure necessary to provide flow to the S/Gs?

A. 1126 psig

B. 1186 psig

C. 1223 psig

D. 1235 psig

QUESTION: 98

A Callaway Plant employee has discovered a fire. Life safety is not threatened.

Which ONE of the following would be the correct actions of plant personnel?

A. First attempt to extinguish using any available fire fighting equipment, then call the Control Room.

B. First notify Control Room, then use any available fire fighting equipment, then report to your supervisor.

C. First notify Control Room, then use closest available extinguisher (if practical), then report to Fire Brigade Leader.

D. First attempt to extinguish the fire using closest available extinguisher (if practical), then report to Fire Brigade Leader.

QUESTION: 99

Which ONE of the following events is required to be recorded in the RO Narrative Log?

A. ESW system ESFAS alarm that is unexpected.

B. Security intrusion alarm on door number 22033.

C. Main Feedwater System chemical additions.

D. Unscheduled placement of simulator halon to inhibit.

QUESTION: 100

OTG-ZZ-00005, Plant Shutdown 20% Power to Hot Standby, requires the reactor operator to ensure proper sequence and overlap occurs as rods are inserted as specified in the COLR.

Which ONE of the following represents proper bank overlap for their respective bank?

	Control Bank B	Control Bank C
A.	185 Steps	70 Steps
B.	185 Steps	72 Steps
C.	218 Steps	105 Steps
D.	218 Steps	113 Steps