

FINAL SUBMITTAL

V. C. SUMMER NUCLEAR STAION

EXAM NO. 50-0395/2000-301

August 7 - 11, 2000

FINAL AS ADMINISTERED

RO WRITTEN EXAMINATION

1. 001AK1.22 001/ ROT1G2/ SROT1G1/ 3.2/3.6/ C/A/ NEW/ SM00301/ BOTH/ MM26

Given the following conditions:

- The unit has been operating for 45 days at 85 % steady state power
- Control Group D is at 190 steps
- Tavg is at Tref
- The unit is in the RAOC mode of operation

A continuous rod withdrawal event occurs and an operator terminates the event by taking the rod control system to "manual." When the unit is stabilized (no additional operator action has been taken), Tavg-Tref = .9 °F, reactor power level is 90%, and AFD after the event is indicated as follows:

NI Channel	N41	N42	N43	N44
After Event	11.65	10.00	11.88	9.95

The crew should move rods _____ to bring AFD within limits in _____ NI channels within 15 minutes.

- ☒ A. in; 2/4
- B. out; 2/4
- C. in; 3/4
- D. out; 3/4

REF: T/S 3.2.1, COLR 2.4, Plant Curves Fig I-4.1

SOURCE: NEW (MSM)

2. 001K6.03 001/ ROT2G1/ SROT2G1/ 3.7/4.2/ C/A/ NEW/ SM00301/ BOTH/ ME69

Given the following conditions:

- The unit was operating at 100% power when a reactor trip occurred.
- Reactor trip breaker "A" will not open.
- PT-446, Turbine Impulse pressure has failed as is at 100%.
- The steam dump mode selector switch is in the Tavg position.

Which one of the following describes the response of the steam dumps and the atmospheric relief valves to these conditions?

- A. Condenser steam dumps and atmospheric steam dumps and reliefs will open.
- ☒ B. Condenser steam dumps will open; atmospheric dumps and reliefs will NOT open.
- C. Condenser steam dumps will NOT open; the S/G power reliefs will open.
- D. Condenser steam dumps and atmospheric dumps and reliefs will NOT open.

REF: IC-1, Revision 5 page 32

SOURCE: NEW (MEE)

3. 002A2.02 001/ ROT2G2/ SROT2G2/ 4.2/4.4/ C/A/ BANK/ SM00301/ BOTH/ MM27

The plant is operating at 80% power when PT-444 fails high. What immediate actions must be taken by the operator to prevent a low pressure reactor trip?

- ✓A. Close both pressurizer spray valves and one pressurizer PORV.
- B. Close two pressurizer PORVs and energize backup heaters.
- C. Close one pressurizer spray valve and one pressurizer PORV.
- D. Close both pressurizer spray valves and two pressurizer PORVs.

SOURCE: VCS Exam Bank #1678

4. 003A4.05 001/ ROT2G1/ SROT2G1/ 3.1/3.0/ C/A/ BANK/ SM00301/ BOTH/ MM28

The following indications are observed for RCP "A":

- Seal injection flow has increased
- Seal return flow has decreased
- RCP standpipe level has been verified high

Which one of the following is a probable cause for the indications on RCP "A"?

- A. No. 1 seal differential pressure <200 psid
- B. No. 1 seal has failed
- ✓C. No. 2 seal has failed
- D. No. 3 seal has failed

SOURCE: VCS Exam Bank #2168

5. 003AA1.05 001/ ROT1G2/ SROT1G1/ 4.1/4.1/ C/A/ NEW/ SM00301/ BOTH/ ME05

Given the following conditions:

- Reactor power was at 85% with manual rod control.
- The reactor operator announced that Bank D control rod H2 dropped.
- Reactor power is now 78%

Which one of the following describes the ^{next}~~correct~~ required action?

- ✓A. Decrease main turbine load to maintain Tavg within 5 degrees of Tref.
- ALSO → ✓B. Decrease main turbine load to reduce reactor power to less than 75%.
- CORRECT C. Initiate a dilution to increase Tavg to within 5 degrees of Tref.
- ME D. Trip the reactor and implement EOP-1.0, "Reactor Trip/Safety Injection Actuation."

8/15/00 REF: AOP-403.6, Revision 2, page 2

SOURCE: NEW (MEE)

6. 003K4.04 001/ ROT2G1/ SROT2G1/ 2.8/3.1/ MEMORY/ BANK/ SM00301/ BOTH/ MM29

Which one of the following describes the flowpath of Component Cooling Water to the reactor coolant pump components?

- A. CCW supplies each pump via boosted flow which splits to three components: thermal barriers, upper motor bearings, and lower motor bearings.
- ✓B. CCW enters the RB via two separate paths. One is boosted flow to the thermal barrier heat exchangers and the other goes to each pump motor where it splits off to upper and lower bearing oil coolers.
- C. CCW enters the RB and is then split into two separate paths. One is boosted flow to the thermal barrier heat exchangers and the other goes to each pump motor where it splits off to upper and lower bearing oil coolers.
- D. CCW flow enters the RB via two distinct supply and return paths: one boosted, one non-boosted.

REF: IB-2, Revision 9, Figure IB2.4

SOURCE: VCS AB-4 Exam Bank #654 (changed c distractor)

7. 004A1.06 001/ ROT2G1/ SROT2G1/ 3.0/3.2/ C/A/ NEW/ SM00301/ BOTH/ ME09

Given the following conditions:

- 100% power, steady state
- "A" charging pump is running with FCV 122 in automatic.
- Letdown flow = 60 gpm

Which one of the following will occur if Volume Control Tank (VCT) level transmitter LT-112 fails high? Assume no operator action is taken.

- ✓A. VCT level cycles between 20% and 40%.
- B. VCT level cycles between 70% and 80%.
- C. VCT level continuously lowers until the charging pump suction shifts to the RWST.
- D. VCT level continuously lowers until the "A" charging pump cavitates and trips.

REF: AB-3, Revision 7, Figure AB3.5

SOURCE: NEW, 2000 Farley RO Exam #6

8. 004K1.04 001/ ROT2G1/ SROT2G1/ 3.4/3.8/ MEMORY/ NEW/ SM00301/ BOTH/ ME10

Which one of the following describes the limits on seal injection flow?

- A. At least 3 gpm per RCP but less than a total of 19 gpm
- B. At least 3 gpm per RCP but less than a total of 24 gpm
- ✓C. At least 6 gpm per RCP but less than a total of 33 gpm
- D. At least 6 gpm per RCP but less than a total of 39 gpm

REF: AB-3, Revision 7, page 39

SOURCE: New (MEE)

9. 004K3.04 001/ ROT2G1/ SROT2G1/ 3.7/3.9/ MEMORY/ BANK/ SM00301/ BOTH/ MM30

Which one of the following describes the source of seal water supply to the RCP seals if normal seal injection is lost?

- A. Component cooling via the thermal barrier heat exchanger.
- B. Alternate CVCS injection flow.
- ✓C. Reactor coolant via the thermal barrier heat exchanger.
- D. #3 seal standpipe.

SOURCE: VCS Exam Bank #657

10. 005AK1.05 001/ ROT1G1/ SROT1G1/ 3.3/4.1/ MEMORY/ NEW/ SM00301/ BOTH/ MM01

The unit has experienced a reactor/turbine trip from full power. While performing EOP-1.1, "Reactor Trip Recovery," it is determined that one control rod is stuck in the fully withdrawn position.

What action, if any, should be performed per the EOP in response to this condition?

- ✓A. No action is required.
- B. An emergency boration of 2500 gallons is required.
- C. An emergency boration of 5800 gallons is required.
- D. A determination that shutdown margin meets the requirements of technical specifications is required.

REF: Lesson Plan for EOP-1.1 and EOP-1.1

SOURCE: NEW (MSM)

11. 005K4.11 001/ ROT2G3/ SROT2G3/ 3.5/3.9/ MEMORY/ NEW/ SM00301/ BOTH/ ME11

Which one of the following describes the operation of the RHR system valves in establishing cold leg recirculation?

- A. Sump to RHR pump suction valves (MVG-8811A/B and 8812A/B) must be manually opened; then RWST to RHR pump suction valves (MVG-8809A/B) must be manually closed.
- B. Sump to RHR pump suction valves (MVG-8811A/B and 8812A/B) must be manually opened; then RWST to RHR pump suction valves (MVG-8809A/B) automatically close.
- C. Sump to RHR pump suction valves (MVG-8811A/B and 8812A/B) automatically open; then RWST to RHR pump suction valves (MVG-8809A/B) automatically close.
- ✓D. Sump to RHR pump suction valves (MVG-8811A/B and 8812A/B) automatically open; then RWST to RHR pump suction valves (MVG-8809A/B) must be manually closed.

REF: AB-7, Revision 10, page 42

SOURCE: NEW (MEE)

12. 007EG2.4.2 001/ ROT1G2/ SROT1G2/ 3.9/4.1/ MEMORY/ MOD/ SM00301/ BOTH/ MM31

Which one of the following symptoms would require a reactor trip and safety injection if one has not occurred and the trip is not blocked?

- A. Reactor building pressure 2.1 psig and rising slowly
- ✓B. Pressurizer pressure 1800 psig
- C. Main steamline pressure 775 psig
- D. Main steamline differential pressure of 90 psid

REF: EOP-1.0, Attachment 2

SOURCE: Mod of VCS Exam Bank # 2111

13. 008AK1.01 001/ ROT1G2/ SROT1G2/ 3.2/3.7/ C/A/ NEW/ SM00301/ BOTH/ ME70

Which one of the following represents the conditions of the steam entering the PRT from a leaking PORV if pressurizer pressure is 1385 psig and PRT pressure is 5 psig? Assume an ideal thermodynamic process.

- ALSO →
CORRECT
ME
P145/00
- ✓A. Superheated steam 260°F - 270°F.
 - ✓B. Superheated steam 250°F - 260°F.
 - C. Saturated steam 225°F - 235°F.
 - D. Saturated steam 275°F - 285°F.

REF: Mollier Diagram

SOURCE: NEW 1998 Watts Bar RO exam

14. 008K3.01 001/ ROT2G3/ SROT2G3/ 3.4/3.5/ MEMORY/ BANK/ SM00301/ BOTH/ MM33

Which one of the following is the MAXIMUM time the reactor coolant pumps can operate following the loss of component cooling water?

- A. 2 minutes
- B. 5 minutes
- ✓C. 10 minutes
- D. 15 minutes

SOURCE: VCS Exam Bank #1925

15. 009EG2.4.48 001/ ROT1G2/ SROT1G2/ 3.5/3.8/ C/A/ NEW/ SM00301/ BOTH/ ME63

The plant has experienced a small break LOCA and the operators have tripped all three RCPs in accordance with the EOP reference page. RVLIS wide range level is 24%, Upper range is pegged low and Narrow range is 42%. Which one of the following describes the status of the core?

- A. The core fully covered.
- ✓B. The core is about one third uncovered.
- C. The core is about two thirds uncovered.
- D. The core is about three quarters uncovered.

REF: IC-3, Revision 2, page 12

SOURCE: NEW (MEE)

~~16. 010K1.01 001/ ROT2G2/ SROT2G2/ 3.9/4.1/ C/A/ NEW/ SM00301/ BOTH/ MM35~~

A leak in the piping connection for PT-445 (pressurizer pressure control pressure transmitter) will result in which one of the following?

DELETED

- A. A pressurizer low pressure trip only.
- ✓B. A pressurizer low pressure trip and high level trip.
- C. A pressurizer low pressure trip and pressurizer heater deenergization.
- D. Pressurizer heater deenergization only.

REF: VCS Lesson Plan IC-3, fig IC3.5

SOURCE: NEW (MSM)

17. 011A3.03 001/ ROT2G2/ SROT2G2/ 3.2/3.3/ C/A/ MOD/ SM00301/ BOTH/ ME51

Given the following conditions:

- The plant is stable at 90% power.
- Charging, Letdown, and Pressurizer Level Control systems are in automatic.
- The selected pressurizer control channel LT-459 fails low.
- No operator action is taken.

Which one of the following describes the system response?

- A. Charging flow will increase, seal injection flow will increase.
- ✓B. Charging flow will increase, seal injection flow will decrease.
- C. Charging flow will decrease, seal injection flow will increase.
- D. Charging flow will decrease, seal injection flow will decrease.

SOURCE: Modified 1997 RO #3

18. 011EA1.05 001/ ROT1G2/ SROT1G1/ 4.3/3.9/ C/A/ MOD/ SM00301/ BOTH/ ME47

A Safety Injection signal occurs but VCT level Indication LT-112 fails as is at 33%. Which one of the following describes the expected response of the VCT outlet valves to the suction of the charging pumps (115C & E) and the RWST suction valves (115B & D)?

- ✓A. 115B & D automatically open and then 115C & E automatically close.
- B. 115C & E automatically close and then 115B & D automatically open.
- C. 115B & D automatically open but 115C & E remain open.
- D. 115B & D remain open and 115C & E remain closed.

REF: AB-3, Revision 7, page 34

SOURCE: Modified VCS AB-3 Exam Bank #1192

19. 012K2.01 001/ ROT2G2/ SROT2G2/ 3.3/3.7/ MEMORY/ BANK/ SM00301/ BOTH/ MM38

Assuming a normal alignment, if a loss of AC power to vital bus 1DB is experienced, ANP-5903 will remain energized from which one of the following?

- A. APN-1FB
- B. Inverter XIT-5901
- C. Inverter XIT-5908
- ✓D. DPN-1HB

SOURCE: VCS Exam Bank # 1065

20. 013A3.02 001/ ROT2G1/ SROT2G1/ 4.1/4.2/ C/A/ NRC97300/ SM00301/ BOTH/ ME52

Given the following conditions:

- The plant was at 100% power.
- Service Water System was in a normal alignment.
- Off site power was lost to Bus 1DA.
- The "A" D/G responds as designed.
- Offsite power is now available to 1DA

Which one of the following describes the operation of the "A" Service Water System Train after the loss of power?

- A. The "A" SWP breaker will open. The "A" SWP and the "A" SWBP will sequence on after the D/G ties onto 1DA. The SWBP can be secured once the D/G ties onto 1DA.
- ✓B. The "A" SWP breaker will open. The "A" SWP and the "A" SWBP will sequence on after the D/G ties onto 1DA. The SWBP can be secured once the ESFLS sequence is complete.
- C. The "A" SWP breaker will NOT open. The "A" SWBP will sequence on after the D/G ties onto the bus. The SWBP can be secured once the D/G ties onto 1DA.
- D. The "A" SWP breaker will NOT open. The "A" SWBP will sequence on after the D/G ties onto the bus. The SWBP can be secured once the ESFLS sequence is complete.

REF: IB-1, Revision 9, page 25,26

SOURCE: 1997 RO #11 (changed two distractors)

21. 013K2.01 001/ ROT2G1/ SROT2G1/ 4.1/4.2/ MEMORY/ BANK/ SM00301/ BOTH/ MM40

Given that APN-5901 powers the "A" train ESF loading sequencer (ESFLS), what would be the consequences of having APN-5901 powered from the APN-1FA, its alternate power source?

- A. If the 1DA normal feeder breaker trips open, the D/G will start but the D/G output breaker will not shut.
- B. An "A" train SI sequence will not be initiated following a safety injection actuation.
- C. An "A" train blackout sequence will be initiated after the D/G breaker shuts.
- ✓D. If the 1DA normal feeder breaker trips open, all applicable loads will be loaded onto the D/G simultaneously.

SOURCE: VCS GS-2 Exam Bank #1069

22. 014G2.1.7 001/ ROT2G2/ SROT2G1/ 3.7/4.4/ C/A/ NEW/ SM00301/ BOTH/ ME61

Given the following conditions:

- The unit is ramping to 100% in accordance with GOP-4.
- DRPI has experienced a DATA A Failure.
- Bank D rods indicate 222 steps on the Bank Demand System.
- Rod F-6 is stuck and indicates 210 steps on Digital Rod Position Indication (DRPI).
- All other rods on Bank D indicate 222 steps on DRPI.

Which one of the following represents the MAXIMUM possible deviation between demanded position and actual rod position for Rod F-6?

- A. 4 steps
- B. 10 steps
- ✓C. 16 steps
- D. 22 steps

REF: IC-4, Revision 4, page 10

SOURCE: NEW (MEE) 2000 Farley RO #1

23. 015A1.04 001/ ROT2G1/ SROT2G1/ 3.5/3.7/ C/A/ NEW/ SM00301/ BOTH/ ME59

A calculation of the QPTR is being performed at 97% reactor power due to a bank D rod becoming misaligned. The following excore detector calibrated output readings were calculated after taking the drawer reading and dividing by the 100% current values:

<u>Instrument:</u>	<u>N41</u>	<u>N42</u>	<u>N43</u>	<u>N44</u>
Upper:	.9900	1.010	.9900	.9800
Lower:	.9700	1.070	.9700	.9600

Which one of the following describes the maximum allowed reactor power level if QPTR cannot be restored to within required limits?

- A. 82%
- B. 79%
- ✓C. 76%
- D. 73%

REF:TS 3.2.4

SOURCE: NEW Farley 2000 RO # 11

24. 015AA2.10 001/ ROT1G1/ SROT1G1/ 3.7/3.7/ C/A/ NEW/ SM00301/ BOTH/ MM06

Given the following plant conditions:

- The unit is at 35% power and steady.
- Annunciator XCP-617 2-1, "RCP 'A' #1 SL LKOFF FLOW HI/LO" alarms.
- FI-130A indicates that seal injection flow is .5 gpm.
- The IPCS indicates that RCP "A" lower seal water bearing temperature is 220°F and increasing rapidly.

Which one of the following represents the first required operator action(s)?

- A. Increase seal injection flow to 13 gpm.
- ✓B. Trip the "A" RCP.
- C. Trip the "A" RCP and then trip the reactor.
- D. Trip the reactor and then trip the "A" RCP.

REF: AOP-101.2, rev 0

SOURCE: NEW (MSM)

25. 017A1.01 001/ ROT2G1/ SROT2G1/ 3.7/3.9/ C/A/ NEW/ SM00301/ BOTH/ MM42

Given the following temperatures associated with the 8 incore thermocouples feeding the "B" subcooling monitor:

T4=600°F	T20=597°F
T10=603°F	T38=598°F
T11=602°F	T40=600°F
T17=605°F	T43=601°F

If T-sat for existing plant conditions is 649.64°F, which one of the following most closely represents the indicated subcooling from the "B" subcooling monitor if T40 input is removed from the monitor?

- ✓A. 45°F
- B. 47°F
- C. 49°F
- D. 53°F

REF: Lesson Plan IC-7, page 34

SOURCE: NEW (MSM)

26. 022AK3.02 001/ ROT1G2/ SROT1G2/ 3.5/3.8/ MEMORY/ BANK/ SM00301/ BOTH/ MM44

Seal water bypass valve, PVT-8142, is opened at low RCS system pressure. Which ONE of the following is the reason for this action?

- A. Increases cooling flow to the RCP seals.
- ✓B. Increases cooling flow to the lower radial bearing.
- C. Decreases differential pressure across the #2 seal.
- D. Decrease cooling flow to the seal water heat exchanger.

SOURCE: VCS AB-4 Exam Bank # 655

27. 024AA2.01 001/ ROT1G1/ SROT1G1/ 3.8/4.1/ C/A/ BANK/ SM00301/ BOTH/ MM45

The plant is operating at 100% power during MOL with an automatic makeup is in progress and the control rods in MANUAL when the reactor operator notices Tavg has decreased 2°F. Which one of the following could contribute to this lowering in RCS temperature?

- A. The boric acid filter is clogged preventing boric acid from mixing in the blender.
- ✓B. FCV-113A, boric acid to blender control valve, has failed open with FCV-113B in the open position.
- C. A newly replaced CVCS mixed bed demineralizer was put into service.
- D. The mixed bed demineralizer is depleted.

REF: Lesson Plan Figure AB 5.9

SOURCE: VCS AB-5 Exam Bank # 786

28. 027AA2.07 001/ ROT1G1/ SROT1G2/ 3.1/3.1/ C/A/ NEW/ SM00301/ BOTH/ ME08

Given the following conditions:

- Mode 1 at 50% power.
- PT-444 fails high.

Assuming the reactor does NOT trip, which one of the following describes the effect of this transient on FI-122?

- A. Charging flow increases because of decreased pressurizer level due to loss of inventory.
- B. Charging flow increases because of decreased indicated pressurizer level due to flashing in the level transmitter's reference leg.
- ✓C. Charging flow decreases because of increased pressurizer level due to expansion of pressurizer fluid.
- D. Charging flow decreases because of increased pressurizer level due to spray flow addition.

REF: AB-3

SOURCE: NEW

29. 028AK1.01 001/ ROT1G3/ SROT1G3/ 2.8/3.1/ C/A/ NEW/ SM00301/ BOTH/ ME66

Given the following conditions:

- The unit is at 100%.
- The pressurizer level control channel selector switch is selected to 459-460.
- All systems are aligned in automatic for normal operations.

Which one of the following describes the response over the next 15 minutes if a reference leg leak develops on LT-459?

- A. Level indication on LI-460 will INCREASE and VCT level will INCREASE.
- B. Level indication on LI-460 will INCREASE and VCT level will DECREASE.
- ✓C. Level indication on LI-460 will DECREASE and VCT level will INCREASE.
- D. Level indication on LI-460 will DECREASE and VCT level will DECREASE.

REF: IC-3, Revision 6, Figure IC3.16

SOURCE: NEW (MEE)

30. 028K5.02 001/ ROT2G3/ SROT2G2/ 3.5/3.9/ MEMORY/ NEW/ SM00301/ BOTH/ ME53

A LOCA has occurred inside containment. EOP-2.0, "Loss of Reactor or Secondary Coolant," step 25, directs operators to check RB hydrogen concentration and to start one hydrogen recombiner for which one of the following?

- A. If containment hydrogen is greater than 3% to control hydrogen.
- B. Only if containment hydrogen concentration is less than 3% to preclude a fire in containment.
- C. If containment hydrogen is greater than 6% to control hydrogen.
- ✓D. Only if containment hydrogen concentration is less than 6% to preclude a fire in containment.

REF: EOP-2.0, VCS Lesson Plan AB-15, rev 4, page 24

SOURCE: NEW (MEE) Farley 2000 RO #47

31. 029EK3.06 001/ ROT1G2/ SROT1G1/ 4.2/4.3/ C/A/ BANK/ SM00301/ BOTH/ MM47

Which one of the following describes the reason for the immediate action of EOP-1.0, "Reactor Trip/Safety Injection," to verify that the turbine has tripped?

- A. Provides a backup trip signal to the RPS if the plant is experiencing an ATWS.
- B. Prevents turbine overspeed when the output breaker opens.
- ✓C. Prevents an uncontrolled cooldown of the RCS.
- D. Minimizes the possibility of an SI with the plant still at power.

REF: VCS Lesson Plan for EOP-1.0, rev 12, page 15

SOURCE: VCS EOP-1.0 Exam Bank # 2856

32. 033A2.02 001/ ROT2G2/ SROT2G2/ 2.7/3.0/ MEMORY/ MOD/ SM00301/ BOTH/ MM49

The plant is at 100% power following a refueling outage when all spent fuel pool cooling is lost. Which one of the following can be used to cool the spent fuel pool via inventory change out per AOP-123.4, "Loss of Spent Fuel Pool Cooling"?

- A. Condensate storage tank
- B. Turbine building closed cycle cooling
- ✓C. Demineralized water
- D. Service Water System

REF: AOP-123.4

SOURCE: VCS AOP-123 Exam Bank # 3321

33. 034G2.2.26 001/ ROT2G3/ SROT2G2/ 2.5/3.7/ MEMORY/ BANK/ SM00301/ BOTH/ ME29

As a minimum, which one of the following precautions is required when raising an irradiated spent fuel assembly in the new fuel elevator?

- A. Use portable control unit to allow better visual observation of the evolution.
- ✓B. Station a second operator at the new fuel elevator winch motor supply breaker.
- C. Contact the Manager, Operations, for approval to commence the evolution.
- D. Place the "elevator up" switch in "automatic" to stop upward travel at 10 feet below water level.

REF: FHP-609

SOURCE: VCS GS-4 Exam Bank #811

34. 035A1.01 001/ ROT2G2/ SROT2G2/ 3.6/3.8/ C/A/ BANK/ SM00301/ BOTH/ MM50

With the plant operating at 55% power with all control systems in automatic, FT-477, which is controlling feedwater flow control channel for "A" S/G, fails low. With no immediate operator action, which ONE of the following will occur?

- A. FRV "A" will open, MFP speed will increase, and S/G "A" level will increase causing P-14 to close only FWIV "A."
- ✓B. FRV "A" will open, MFP speed will increase, and S/G "A" level will increase causing P-14 to close all FWIVs.
- C. FRV "A" will open, MFP speed will decrease, resulting in a decreased feedwater flow to "B" and "C" S/Gs which will cause a lo-lo S/G level reactor trip.
- D. FRV "A" will open resulting in an increased main feed pump speed which will cause a hi-hi level in all three S/Gs.

SOURCE: VCS RO96001 Licensing Exam

35. 039K4.08 001/ ROT2G2/ SROT2G2/ 3.3/3.4/ C/A/ BANK/ SM00301/ BOTH/ MM52

The unit was operating at 80% power when a spurious low steamline pressure SI signal was received. The cause of the spurious signal was corrected and the SI signal has been reset. During preparations to return the unit to power operations, the MSIVs fail to open when their control switches are taken to OPEN. The unit is currently in MODE 3 with steam pressure downstream of the MSIVs at 1080 psig and Tavg at 557°F.

Which one of the following is the cause for the MSIVs' failure to open?

- A. The differential pressure across the MSIVs is excessive.
- B. The MSIV bypass valves are CLOSED.
- C. The MSIV motor control center breaker is OPEN.
- ✓D. The MSIV isolation signal has not been reset.

REF: Lesson Plan TB-2

SOURCE: VCS TB-2 Exam Bank # 1876

36. 054AK1.02 001/ ROT1G2/ SROT1G2/ 3.6/4.2/ MEMORY/ BANK/ SM00301/ BOTH/ MM53

Which one of the following is the reason for feeding ONLY one S/G in the event that ALL S/Gs have dried out during a loss of heat sink event?

- A. Ensures adequate feedwater inventory for complete restoration of normal cooling.
- ✓B. Prevents excessive thermal stress in multiple steam generators.
- C. Prevents excessive thermal stress in the reactor vessel.
- D. Ensures that only one reactor coolant pump must be returned to service.

REF: EOP-15 Lesson Plan, revision 11, page 15

SOURCE: VCS EOP-15 Exam Bank # 1859

37. 055EK3.01 001/ ROT1G1/ SROT1G1/ 2.7/3.4/ MEMORY/ BANK/ SM00301/ BOTH/ MM54

During a loss of all AC power, EOP-6.0, "Loss of all ESF AC Power," directs the operator to shed all large, non-essential loads. How long will a fully charged, safety-related battery supply its loads if this selective shedding is NOT accomplished?

- A. 30 minutes
- B. 60 minutes
- C. 2 hours
- ✓D. 4 hours

REF: Lesson Plan GS-3, page 35

SOURCE: VCS GS-3 Exam Bank # 1104

38. 056AK3.02 001/ ROT1G3/ SROT1G3/ 4.4/4.7/ MEMORY/ BANK/ SM00301/ BOTH/ MM55

EOP-6.0, "Loss of All ESF AC Power," directs you to depressurize intact S/Gs at the maximum rate. Which one of the following statements describes the basis for depressurizing intact S/Gs at the maximum controllable rate?

- A. To ensure that natural circulation cooldown is maintained.
- B. To prevent injection of nitrogen into the RCS.
- ✓C. To minimize RCS inventory loss through the RCP seals.
- D. To increase EFW flow by reducing S/G pressure.

REF: Lesson Plan for EOP-6

SOURCE: VCS EOP-6 Exam Bank # 2339

39. 058AA1.03 001/ ROT1G2/ SROT1G2/ 3.1/3.3/ C/A/ NEW/ SM00301/ BOTH/ MM56

The unit is at 100% power. Preparations are underway to remove the 1A battery from service for maintenance. Battery charger XBC1B is out of service, battery charger XBC1A-1B is aligned to DPN1HB.

When the 1A battery breaker is opened, the following annunciators actuate on panel XCP-636:

- "DG A LOSS OF DC"
- "TRAIN A BATT CHGR TRBL XBC1A/1A-1B"
- "DC SYS OVRVOLT/UNDRVOLT"

Which one of the following describes a possible cause for the annunciators described above?

- A. Excessive voltage is being delivered from battery charger XBC1A.
- B. Excessive voltage is being delivered from battery charger XBC1A-1B.
- ✓C. Battery charger XBC1A has ceased to produce voltage.
- D. Battery charger XBC1A-1B has ceased to produce voltage.

REF: ARP-001, panel XCP-636, rev 8, Lesson Plan GS-3

SOURCE: NEW (MSM)

40. 059AK2.01 001/ ROT1G2/ SROT1G1/ 2.7/2.8/ C/A/ NEW/ SM00301/ BOTH/ MM57

Which one of the following ensures that liquid effluent releases do not inadvertently exceed desired quantities of radionuclides?

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- A. Before the waste monitor tanks can be discharged, the Fairfield pumped storage facility must be in the generating mode with at least 40% flow.
 - ✓B. A liquid waste release permit must be generated prior to release.
 - ✓C. RCV-018 trips closed if high radiation levels are sensed by RM-L5.
 - D. The Duratek demineralization system includes media for the removal of Cobalt-58 and 60, Iodines, and Cesium.

REF: LP AB-16, pages 26, 33, 24

SOURCE: NEW (MSM)

41. 059K4.19 001/ ROT2G1/ SROT2G1/ 3.2/3.4/ MEMORY/ BANK/ SM00301/ BOTH/ MM58

Which one of the following conditions will directly result in closing all feedwater isolation valves?

- A. LI-474, S/G A LVL has failed high.
- ✓B. Reactor trip breakers open with Tavg=560 F (A&C loops).
- C. AMSAC actuation.
- D. High-High Turbine Building sump level.

REF: Lesson Plan TB-7, pg 39, Lesson Plan IC-9, page 53

SOURCE: VCS TB-7 Exam Bank # 1812

42. 061AA1.01 001/ ROT1G2/ SROT1G2/ 3.6/3.6/ MEMORY/ NEW/ SM00301/ BOTH/ MM68

Refueling operations are in progress when "MANIP CRN RM-G17A HI RAD" annunciator actuates. Which one of the following describes the automatic actions the operator will verify in response to this condition?

- ✓A. PVB-1A, "CNTMT SPLY ISOL" and PVB-2A, "CNTMT EXH ISOL," CLOSE
- B. PVB-1A, "CNTMT SPLY ISOL" and PVB-2A, "CNTMT EXH ISOL," OPEN
- C. PVB-1B, "CNTMT SPLY ISOL," PVB-2A, "CNTMT EXH ISOL," PVG-6057, "ALT PUR SPLY ISOL VLV, and PVG-6067, "CNTMT PUR EXH ISOL VLV" CLOSE
- D. PVB-1B, "CNTMT SPLY ISOL," PVB-2A, "CNTMT EXH ISOL," PVG-6057, "ALT PUR SPLY ISOL VLV, and PVG-6067, "CNTMT PUR EXH ISOL VLV" OPEN

REF: ARP-019, rev 1, XCP-644, point 1-5

ARP-019, rev 1, XCP-643, point 2-2

SOURCE: NEW (MSM)

~~43.~~ 061K5.01 001/ ROT2G1/ SROT2G1/ 3.6/3.9/ MEMORY/ NEW/ SM00301/ BOTH/ ME56

A plant trip has occurred and no MD EFW pumps are available. Which one of the following describes the expected time to cooldown from hot standby to hot shutdown using the maximum cooldown rate of 50°F per hour?

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- A. The cooldown will take 5 hours regardless of the availability of the MD EFW pumps.
 - B. If the MD EFW pumps can be restored, the cooldown will take 2 hours, if power can not be restored, it will take 5 hours.
 - C. If the MD EFW pumps can be restored, the cooldown will take 5 hours, if power can not be restored, it will take 7 hours.
 - ✓D. If the MD EFW pumps can be restored, the cooldown will take 5 hours, if power can not be restored, it will take 12 hours.

REF: Lesson Plan IB-3, page 35

SOURCE: NEW (MEE)

44. 062K1.04 001/ ROT2G2/ SROT2G2/ 3.7/4.2/ C/A/ NEW/ SM00301/ BOTH/ MM60

The unit is operating at 100% power with all control systems normally aligned when a sustained total loss of offsite power occurs. Which one of the following ensures that the water extinguishing fire protection system is available during this period?

- A. The electric fire pump will load onto a vital bus in step 8 of the ESFLS blackout sequence and will automatically start if low system pressure is sensed.
- B. The electric fire pump will, procedurally, be manually aligned to a vital bus and will be started locally if low system pressure is sensed.
- ✓C. The diesel fire pump will start 15 seconds after the loss of AC power.
- D. The diesel fire pump will start 15 seconds after the loss of AC power, provided a low system pressure condition exists.

REF: GS-11, page 14,16

SOURCE: NEW (MSM)

45. 063K2.01 001/ ROT2G2/ SROT2G1/ 2.9/3.1/ MEMORY/ NEW/ SM00301/ BOTH/ MM61

The plant is at 100% power when a lightning strike causes a loss of 1DB coincident with a loss of 1 HB. Which one of the following describes the condition of the "B" D/G?

- ✓A. The DG will not start.
- B. The DG starts, but the breaker will not close.
- C. The DG starts, but the generator field will not flash.
- D. The DG starts and loads 1DB.

REF: IB-3, page 75

SOURCE: NEW (MSM)

46. 064A2.16 001/ ROT2G2/ SROT2G2/ 3.3/3.7/ C/A/ NEW/ SM00301/ BOTH/ MM16

The unit is stable in Mode 3 with a full load test of diesel generator A in progress. A loss of offsite power to XSW1DA occurs, followed by a trip of diesel generator A. Alternate offsite power is available and it is decided to energize XSW1DA from its alternate feed per AOP-304.1(A), "Loss of bus 1DA with the Diesel Not Available."

Failure to de-energize the train A ESF load sequencer prior to closing the alternate feeder breaker to XSW1DA will result in which one of the following?

- ✓A. A failure of the alternate feeder breaker to close.
- B. An immediate start signal to the A diesel generator.
- C. An immediate start of the components in load block 1 of the ESF load sequencer.
- D. A failure of 1DA loads to shed.

REF: AOP-304.1(A), rev 3

SOURCE: NEW (MSM)

Given the following conditions:

- A loss of offsite power has occurred.
- Both DGs are running at full load.
- Due to problems with the fuel oil transfer pumps, the B DG day tank is unable to be replenished.
- The DG B OIL DAY TK LVL LO-LO annunciator is received on the MCB.

Which one of the following is true regarding the operation of the EDG?

- A. Suction for the fuel oil pumps must be aligned directly to the storage tank.
- B. The diesel should be manually secured as loss of fuel suction is imminent.
- ✓C. Fuel for approximately only 30 minutes of operation remains.
- D. Fuel for approximately only 60 minutes of operation remains.

REF: IB-5, Revision 12, page 27

SOURCE: NEW (MEE)

- The reactor has been tripped manually from 100% power due to a loss of instrument air. Step 9 of AOP-220.1, "Loss of Instrument Air," directs operators to take local control of EFW. Which one of the following describes how the EFW flow control valves are affected by a loss of instrument air?

- A. All six valves will fail open on a loss of instrument air but all have an accumulator designed to allow for four hours of operation.
- ✓B. All six valves will fail open on a loss of instrument air but all have an accumulator designed to allow remote valve closure for isolation purposes.
- C. All six valves will fail closed on a loss of instrument air but all have an accumulator to allow for four hours of operation.
- D. All six valves will fail closed on a loss of instrument air but only the turbine driven pump discharge valves have an accumulator designed to allow for four hours of operation.

REF: IB-3, Revision 11, page 26

SOURCE: NEW (MEE)

49. 068A3.02 001/ ROT2G1/ SROT2G1/ 3.6/3.6/ MEMORY/ BANK/ SM00301/ BOTH/ MM64

An alarm condition in which one of the following radiation monitors will isolate S/G blowdown flow to the condenser (or penstocks) and divert to the nuclear blowdown monitor tank?

- A. RM-L3, Steam Generator Blowdown Monitor
 - ✓B. RM-L7, Nuclear Blowdown Waste Effluent Monitor
 - C. RM-L9, Liquid Waste Effluent Monitor
 - D. RM-L10, Steam Generator Blowdown Discharge Monitor
- REF: Lesson Plan TB-1, revision 7, page 24; GS-9, Revision 6, pages 21-24
SOURCE: VCS TB-1 Exam Bank # 1994

50. 068AA1.30 001/ ROT1G1/ SROT1G1/ 3.4/3.6/ C/A/ BANK/ SM00301/ BOTH/ ME50

Which ONE of the following describes the operation of the letdown isolation valves (LCV-459 & 460) from the Control Room Evacuation Panel (CREP)?

- A. When the transfer switch is in REMOTE, LCV-459 and 460 can be opened with pressurizer level < 17% or with a letdown orifice isolation valve opened.
- B. When the transfer switch is in REMOTE, LCV-459 and 460 can be opened with pressurizer level < 17% but NOT with a letdown orifice isolation valve opened.
- ✓C. When the transfer switch is in LOCAL, LCV-459 and 460 can be opened with pressurizer level < 17% or with a letdown orifice isolation valve opened.
- D. When the transfer switch is in LOCAL, LCV-459 and 460 can be opened with pressurizer level < 17% but NOT with a letdown orifice isolation valve opened.

REF: Lesson Plan IC-10, revision 4, page 6

SOURCE: VCS IC-10 Exam Bank # 675 (reworded distractors)

51. 069AK3.01 001/ ROT1G1/ SROT1G1/ 3.8/4.2/ C/A/ NEW/ SM00301/ BOTH/ MM66

EOP-17.0, "Response to High Reactor Building Pressure," step 1, directs operators to verify that a phase A containment isolation and a containment ventilation isolation has occurred. Which one of the following describes the reason for this verification?

- A. While a phase A isolation should have been verified in EOP-1.0, "Reactor Trip/Safety Injection Actuation," resetting the containment isolations later in that procedure automatically reopens some fluid flowpaths into and out of containment.
- B. A phase A isolation may not have occurred to this point, and manual action ensures that all release paths are isolated.
- ✓C. While a phase A isolation should have been verified in EOP-1.0, "Reactor Trip/Safety Injection Actuation," some fluid system lines may have been opened while performing other EOPs.
- D. A phase A isolation may not have occurred to this point, and manual action ensures that RB Spray receives a start signal.

REF: Lesson Plan for EOP-17.0, EOP-1.0

SOURCE: NEW (MSM)

52. 072K1.04 001/ ROT2G1/ SROT2G1/ 3.3/3.5/ MEMORY/ NEW/ SM00301/ BOTH/ ME48

Which one of the following describes the Control Room Ventilation System operation following an alarm on RMA-1, Control Bldg Supply Air?

- A. Both Air Handling Units and both emergency filter fans start, all outside air sources are isolated.
- ✓B. Both Air Handling Units and both emergency filter fans start, return air is mixed with a small amount of make up air.
- C. Both Air Handling Units trip and both emergency filter fans start, all outside air sources are isolated.
- D. Both Air Handling Units trip and both emergency filter fans start, return air is mixed with a small amount of make up air.

REF: GS-8, revision 6, page 4

SOURCE: NEW (MEE)

53. 073A2.01 001/ ROT2G2/ SROT2G2/ 2.5/2.9/ C/A/ NEW/ SM00301/ BOTH/ MM70

During a planned waste gas release, the power supply to RM-A10 fails. Which one of the following describes the expected response observed in the control room?

- A. A loss of indication from RM-A10 only.
- B. A loss of indication from RM-A10 and closure of HCV-014 only.
- C. A loss of indication from RM-A10, closure of HCV-014, and actuation of the "GAS WST DISCH RM-A10 TRBL" annunciator only.
- ✓D. A loss of indication from RM-A10, closure of HCV-014, and actuation of the "GAS WST DISCH RM-A10 TRBL" and "GAS WST DISCH RM-A10 HI RAD" annunciators.

REF: ARP-019, rev 2, panel XCP-645, points 2-3 and 2-4

SOURCE: NEW (MSM)

54. 074EK3.07 001/ ROT1G1/ SROT1G1/ 4.0/4.4/ C/A/ NRC99301/ SM00301/ BOTH/ ME04

While responding to inadequate core cooling, the operators are unable to establish high head safety injection. Core Exit T/Cs are 1450°F and RCS pressure is 165 psig.

Which one of the following states the bases for starting the RCPs under these conditions?

- A. Provide forced primary flow for heat transfer during S/G depressurization.
- B. Force borated water from the loops into the voided core to refill the vessel.
- ✓C. Provide single phase forced steam flow for temporary cooling to reduce Core Exit T/Cs to less than 1200 °F.
- D. Flush hydrogen/nitrogen from S/G tubes so natural circulation flow can be established in subsequent steps.

REF: EOP 14.0 Lesson Plan

SOURCE: 1999 RO Exam

55. 075A4.01 001/ ROT2G2/ SROT2G2/ 3.2/3.2/ C/A/ BANK/ SM00301/ BOTH/ MM71

A DBA LOCA has occurred in the reactor building.

- RB pressure is 20 psig
- RB temperature is 240°F
- SWBP pressure is oscillating between 100 and 140 psig
- SWBP flow is oscillating between 500 and 1500 gpm

Which one of the following describes why the RCBUs are not capable of performing their design functions?

- A. SWBP discharge pressure is inadequate.
- ✓B. SWBP flow is less than the minimum required.
- C. RB temperature is too high.
- D. RB pressure is too high.

SOURCE: VCS IB-1 Exam Bank # 739

56. 076A3.02 001/ ROT2G3/ SROT2G3/ 3.7/3.7/ C/A/ NEW/ SM00301/ BOTH/ MM72

The unit is in MODE 3. Train "A" of the service water system has been declared inoperable for testing, and the "A" and "C" service water pumps have been racked up on the "A" train with both switches in NORMAL-AFTER-STOP. Which one of the following describes the automatic response of the "A" train of service water following a loss of offsite power?

- ✓A. Both the "A" and "C" service water pumps remain idle.
- B. The "A" service water pump starts at ESFLS step 3.
- C. The "C" service water pump starts at ESFLS step 3.
- D. Both the "A" and "C" service water pumps start at ESFLS step 3.

REF: IB-1, page 25, SOP-117, rev 18, precaution 2

SOURCE: NEW (MSM)

57. 076AK2.01 001/ ROT1G1/ SROT1G1/ 2.6/3.0/ MEMORY/ MOD/ SM00301/ BOTH/ ME49

Which ONE of the following describes the function of RM-L1, Primary Coolant Letdown Monitor?

- A. Has no automatic interlocks; provides indication of failed fuel only after shutdown due to N-16 masking.
- B. Isolates letdown on hi radiation; provides indication of failed fuel only after shutdown due to N-16 masking.
- ✓C. Has no automatic interlocks; provides indication of failed fuel at power.
- D. Isolates letdown on hi radiation; provides indication of failed fuel at power.

REF: GS-9, revision 6, pages 20,21

SOURCE: Modified VCS GS-9 Exam Bank # 1079

Given the following conditions:

- Instrument Air Compressor "A" (XAC-3A) is running, its MCB switch is in normal after start.
- Instrument Air Compressor "B" (XAC-3B) is NOT running, its MCB switch is in normal-after-stop.
- The supplemental (Breathing Air) compressor is aligned to the Instrument air header but is not running.
- The supply breaker to Instrument Air Compressor "A" trips due to overload.
- No operator action is taken and Instrument Air header pressure is now 77 psig.

Which one of the following describes the expected status of the air compressors?

- A. No instrument air compressors are running.
- ✓B. Only the "B" instrument air compressor is running.
- C. Only the supplemental instrument air compressor is running.
- D. Both the "B" instrument air compressor and the supplemental air compressor are running.

REF: TB-12, Revision 7, pages 13,14,22

SOURCE: NEW (MEE)

The electric fire pump is out of service for maintenance. Following approximately one hour of operation, the diesel fire pump trips. The ColorGraphics screen for this component indicates alarm conditions on engine overspeed, engine high water temperature, and AC power failure to the battery charger.

Wishing to restore this component to service promptly, a control room operator pushes the "DIESEL PUMP START" pushbutton on XCP-6040; however, the diesel fire pump fails to start.

Which one of the following conditions is necessary for the diesel fire pump to be started remotely?

- ✓A. The overspeed trip must be reset locally.
- B. The high temperature condition must be reset locally.
- C. AC power must be restored to the battery charger.
- D. The operator must allow 15 seconds to elapse from the last start attempt and depress the pushbutton again.

REF: GS-11, page 12, 15, fig GS11.43

SOURCE: NEW (MSM)

Which one of the following is correct regarding the use of adverse containment values in the EOPs?

Also

- A. Once the adverse radiation level setpoint or containment pressure setpoint is exceeded, the adverse values must be used throughout the recovery, until Engineering conducts an evaluation.
- ✓ B. If containment pressure decreases below the adverse setpoint after it has been exceeded, the normal values are used. Once the adverse radiation level setpoint is exceeded, the adverse values must be used throughout the recovery, until Engineering conducts an evaluation.
- C. If radiation levels decrease below the adverse setpoint after it has been exceeded, the normal values are used. Once the containment pressure setpoint is exceeded, the adverse values must be used throughout the recovery, until Engineering conducts an evaluation.
- D. If containment pressure and radiation levels decrease below their adverse setpoints after they have been exceeded, the normal values are used.

REF: OAG-103.4, Revision 3, page 8

SOURCE: NEW (MEE)

Which one of the following represents the proper use of a Reference Use procedure?

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- ✓ A. The procedure may be performed from memory but the user must reference the procedure after its completion to validate completion of required action.
- B. The procedure is readily available for reference. The procedure may be performed completely from memory but the user is responsible for results.
- ✓ C. The procedure must be referenced prior to the task and periodically during the performance.
- D. Each step of the procedure must be referenced prior to performing that step.

REF: SAP-123, Procedure Use and Adherence, pages 3, 14

SOURCE: NEW (1998 Watts Bar Exam)

Which one of the following is the Technical Specification definition of MODE 4 (Hot Shutdown) operations?

- A. $K_{eff} < .95$; $\leq 200^{\circ}\text{F}$
- B. $K_{eff} < .95$; $350^{\circ}\text{F} > T_{avg} > 200^{\circ}\text{F}$
- C. $K_{eff} < .99$; $T_{avg} \geq 350^{\circ}\text{F}$
- ✓ D. $K_{eff} < .99$; $350^{\circ}\text{F} > T_{avg} > 200^{\circ}\text{F}$

REF: Tech Spec Definitions, page 1-7

SOURCE: NEW (MEE)

63. G2.1.29 001/ ROT3/ SROT3/ 3.4/3.3/ C/A/ NEW/ SM00301/ BOTH/ MM77

A valve through which fluid is flowing is to be placed in the CLOSED position as a part of a valve lineup. The cubicle is designated as a high radiation area, with the highest exposure reading being 200 mRem/hr, occurring on contact with the bonnet of the valve. The closing of the valve is anticipated to take 1 minute. The boundary for the high radiation area is located approximately 3 feet from the valve, which is in plain view from the boundary.

Which one of the following is an acceptable way to perform an INDEPENDENT VERIFICATION on this valve per SAP-153, "Independent Verification"?

- A. Observe the valve alignment from the high radiation area boundary.
- B. Observe the valve alignment at the valve itself (in the high radiation area).
- C. Do not observe the valve alignment; rather, observe the valve's stem position from the boundary of the high radiation area.
- ✓D. Perform a normal independent verification despite the valve's location in a high radiation area.

REF: SAP-153

SOURCE: NEW (MSM)

64. G2.2.11 001/ ROT3/ SROT3/ 2.5/3.4/ MEMORY/ NEW/ SM00301/ BOTH/ MM78

A bypass authorization request, prepared per SAP-148, "Temporary Bypass, Jumper, and Lifted Lead Control," requires prior PSRC and NSRC review for which one of the following conditions?

- A. A review indicates that system operability will be affected.
- B. A review indicates that 10 CFR 50 Appendix R fire protection criteria are impacted.
- C. A review indicates that Seismic or blowout provisions are being diminished.
- ✓D. A review indicates that a full safety evaluation is required per 10 CFR 50.59.

REF: SAP-148

SOURCE: NEW (MSM)

Given the following conditions at a work site:

- Airborne activity - 3 DAC
- Radiation level - 40 mrem/hr.
- Radiation level with shielding - 10 mrem/hr.
- Time to place shielding - 15 minutes.
- Time to conduct task WITH respirator - 1 hour.
- Time to conduct task WITHOUT respirator - 30 minutes.

Assumptions:

- The airborne dose with a respirator will be zero.
- A dose rate of 40 mrem/hr will be received while placing the shielding.
- All tasks will be performed by one worker.
- Shielding can be placed in 15 minutes with or without a respirator.

Which ONE of the following would result in the lowest whole body dose?

- A. Conduct task WITHOUT respirator or shielding.
- B. Conduct task WITH respirator and WITHOUT shielding.
- C. Place shielding while wearing respirator and conduct task WITH respirator.
- ✓D. Place shielding while wearing respirator and conduct task WITHOUT respirator.

REF:

SOURCE: NEW (1998 Watts Bar Exam)

A member of the search and rescue team of volunteers has received 2 REM TEDE this year. He spent 15 minutes in an area with a general area radiation level of 40 R/hr gamma, while searching for missing persons known to be injured in a waste gas decay tank explosion. Relief searchers are standing by.

Which one of the following is the MAXIMUM additional whole body exposure that this individual may voluntarily obtain in accordance with EPP-011, "Personnel Search And Rescue", while searching for other victims?

- A. 0
- B. 2 Rem
- ✓C. 15 Rem
- D. 17 Rem

REF: EPP-020, EPP-011

SOURCE: 1999 RO Exam

Which one of the following describes the correct sequence for establishing a containment purge?

- ✓A. Take one of the purge exhaust isolation valve switches to OPEN then AUTO, hold the switch for the other purge exhaust isolation valve to OPEN while simultaneously starting one or both of the purge exhaust fans. Then open the purge supply isolation valves, start the purge supply fans.
- B. Take both of the purge exhaust isolation valve switches to OPEN then AUTO, then start the purge exhaust fans. Then open the purge supply isolation valves, start the purge supply fans.
- C. Take one of the purge supply isolation valve switches to OPEN then AUTO, hold the switch for the other purge supply isolation valve to OPEN while simultaneously starting one or both of the purge supply fans. Then open both of the purge exhaust isolation valves, and start the purge exhaust fans.
- D. Take both of the purge supply isolation valve switches to OPEN then AUTO, then start the purge supply fans. Then open both of the purge exhaust isolation valves, and start the purge exhaust fans.

REF: AB-17, Revision 7, page 19,20

SOURCE: NEW (MEE)

The plant has experienced a large break LOCA. The crew has transitioned from EOP-1.0, "Reactor Trip/Safety Injection Actuation," to EOP-2.0, "Loss of Reactor or Secondary Coolant." The following conditions exist:

- "A" S/G N/R level is 38%, EFW flow is 120 gpm
- "B" S/G N/R level is 42%, EFW flow is 110 gpm
- "A" S/G N/R level is 42%, EFW flow is 110 gpm
- RCS pressure is 100 psig and decreasing
- No RCPs are operating
- Core exit thermocouples are 705°F
- RVLIS N/R level is 53%
- Containment pressure is 37 psig

Which one of the following is the correct procedure to use for these conditions?

- A. EOP-14.1, "Response to Degraded Core Cooling"
- B. EOP-17.0, "Response to High Reactor Building Pressure"
- ✓C. EOP-15.0, "Response to Loss of Secondary Heat Sink"
- D. EOP-14.0, "Response to Inadequate Core Cooling"

REF: EOP-12.0, Revision 11

SOURCE: VCS Exam Bank # 4367

69. G2.4.7 001/ ROT3/ SROT3/ 3.1/3.8/ MEMORY/ NEW/ SM00301/ BOTH/ ME65

Which one of the following is the reason for reducing Tave to less than 500 degrees if the primary coolant specific activity exceeds 100/E bar microcuries per gram?

- A. Prevent additional fuel cladding oxidation and pellet cladding interaction.
- ✓B. Prevent exceeding dose limits following a steam generator tube rupture.
- C. Enhances the ability of the mixed bed demineralizers to remove ionic fission products.
- D. Minimize the deposition of particulate fission and activation products on surfaces within the core.

REF: Tech Spec Basis 3/4.4.8, page B3/4 4-5

SOURCE: NEW (MEE)

70. WE04EK2.1 001/ ROT1G2/ SROT1G1/ 3.5/3.9/ C/A/ NEW/ SM00301/ BOTH/ ME33

Given the following conditions:

- RCS pressure is 1900 psig and decreasing.
- PZR level is decreasing.
- AB sump level is increasing.
- All S/G pressures are 850 psig.

Which one of the following is the most probable cause of these conditions?

- ✓A. Leak in the RHR pump suction line from the RCS.
- ✓B. Leak in an RCS sample line.
- C. Stuck open Main Steam atmospheric relief.
- D. Stuck open PZR PORV.

REF: EOP-2.5 Lesson Plan, Revision 7, page 10

SOURCE: NEW (MEE)

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Given the following conditions:

- A steam line break has occurred.
- RB pressure is 2.8 psig.
- All three SG wide range levels are 20%.
- No EFW pumps are available.
- Safety Injection has been activated and SI flow has been verified.
- RCS temperature and pressure are increasing.

Which one of the following describes when all available pressurizer PORVs should be opened?

- A. Any SG wide range level decreases to < 15 %.
- B. RVLIS narrow range level decreases to 40%.
- ✓C. Pressurizer pressure exceeds to 2335 psig.
- D. Core Exit thermocouples exceed 1200°F.

REF: EOP-15, Revision 11, Caution prior to step 4, page 3

SOURCE: 1997 RO Exam #55

The crew has entered EOP-16.0, "Response to Imminent Pressurized Thermal Shock" following a small break LOCA. They have verified adequate subcooling and RVLIS level. Which one of the following describes the reason for establishing normal charging?

- ✓A. Eliminate SI flow as a source of RCS cooldown and the possibility of SI causing subsequent pressurization.
- B. Allow use of Auxiliary spray in the event that RCPs cannot be used during RCS depressurization.
- C. Reduce the required RVLIS minimum level, allowing RCP restart to equalize system temperatures.
- D. Reduce unnecessary injection flow because subsequent minimum values for subcooling will be lower than normal SI termination criteria.

REF: EOP-16.0 lesson plan, Revision 8, page 8

SOURCE: 1997 RO exam # 43

73. WE09EK2.2 001/ ROT1G1/ SROT1G1/ 3.6/3.9/ C/A/ NEW/ SM00301/ BOTH/ ME38

A plant cooldown and depressurization is in progress using EOP-1.3, "Natural Circulation Cooldown". Due to an electrical fault, only "B" & "C" CRDM fans are available. Which one of the following describes the effect on the plant cooldown limits if the "B" CRDM fan trips and cannot be restarted?

- A. A GREATER amount of RCS subcooling will be required and the maximum cooldown rate will be LOWER.
- ✓B. A GREATER amount of RCS subcooling will be required and the maximum cooldown rate will be THE SAME.
- C. THE SAME amount of RCS subcooling will be required and the maximum cooldown rate will be LOWER.
- D. THE SAME amount of RCS subcooling will be required and the maximum cooldown rate will be THE SAME.

REF: EOP-1.3, Revision 10, step 4, page 4

SOURCE: NEW (MEE)

74. WE11EK1.1 001/ ROT1G2/ SROT1G2/ 3.7/4.0/ C/A/ NEW/ SM00301/ BOTH/ ME39

A large LOCA has occurred, the control room team transitions to EOP-2.0, "Loss of Reactor or Secondary Coolant".

- RWST level is 18% and decreasing.
- RHR sump level is 411 feet and increasing.

Which one of the following describes the correct procedure path?

- A. Transfer to EOP-2.2, "Transfer to Cold Leg Recirculation" and establish cold leg recirculation.
- ✓B. Transfer to EOP-2.2, then transfer to EOP-2.4, "Loss of Emergency Coolant Recirculation". When RHR sump level reaches 413 feet, transfer back to EOP-2.2 and establish cold leg recirculation.
- C. Transfer to EOP-2.2, then transfer to EOP-2.4, and complete it even if RHR level eventually reaches 413 feet.
- D. Stay in EOP-2.0 until RHR sump level is > 413 feet.

REF: EOP-2.2, Revision 11, step1; EOP-2.4, Revision 9, Caution before step 1.

SOURCE: NEW (MEE)

75. WE12EK1.2 001/ ROT1G1/ SROT1G1/ 3.5/3.8/ C/A/ NEW/ SM00301/ BOTH/ ME40

EOP-3.1, "Uncontrolled Depressurization of All Steam Generators" has a Caution to maintain minimum EFW flow of 50 gpm to each SG that has a Narrow Range level less than 30%[50%]. Which one of the following describes the basis for the flow value and the reason for maintaining it?

- A. 50 gpm provides adequate heat removal for maximum decay heat, ensures adequate heat sink is maintained.
- B. 50 gpm provides adequate heat removal for maximum decay heat, ensures components remain wet to minimize thermal stresses.
- C. 50 gpm is the lowest verifiable value, ensures adequate heat sink is maintained.
- ✓D. 50 gpm is the lowest verifiable value, ensures components remain wet to minimize thermal stresses.

REF: EOP-3.1 Lesson Plan, Revision 11, page 11

SOURCE: NEW (MEE)

76. 001K4.23 001/ ROT2G1/ / 3.4/3.8/ MEMORY/ BANK/ SM00301/ RO/ ME17

The C-5 interlock prevents automatic rod withdrawal until which one of the following?

- ✓A. Turbine power reaches 15%.
- B. Reactor power reaches 15%
- C. Turbine power reaches 20%.
- D. Reactor power reaches 20%

REF: IC-5, page 44

SOURCE: VCS IC-5 Exam Bank #2262

77. 006A1.15 001/ ROT2G2/ / 3.3/3.9/ MEMORY/ NEW/ SM00301/ RO/ ME24

A LOCA has occurred and the RWST is being depleted. Which one of the following describes the actions to be taken associated with the RWST suction valves to the ECCS pumps after any pumps taking suction from the RWST have been secured?

- A. At 6 % RWST level secure any pump taking suction from the RWST and ensure that the RWST suction valves have automatically closed.
- ✓B. At 6 % RWST level secure any pump taking suction from the RWST and ensure that the RWST suction valves have been manually isolated.
- C. At 18% RWST level secure any pump taking suction from the RWST and ensure that the RWST suction valves have automatically closed.
- D. At 18% RWST level secure any pump taking suction from the RWST and ensure that the RWST suction valves have been manually isolated.

REF: AB-10, Revision 6, pages 17, 18

SOURCE: NEW (MEE)

78. 006K5.02 001/ ROT2G2/ / 2.8/2.9/ MEMORY/ BANK/ SM00301/ RO/ ME23

Which one of the following describes an adverse consequence of exceeding the upper limit on accumulator nitrogen pressure?

- A. Accumulator pressure will reach RCS pressure before sufficient water has injected.
- B. Too little water volume would be available in the accumulator to refill the vessel.
- C. Accumulators could inject during a steamline break.
- ✓D. Injection water will be lost due to injecting too early during the blowdown phase.

REF: AB-10, page 27

SOURCE: VCS AB-10 Exam Bank #2846

79. 013K3.03 001/ ROT2G1/ / 4.3/4.7/ C/A/ NEW/ SM00301/ RO/ ME19

Given the following conditions:

- A design base main steamline break has occurred
- An electrical fault results in a loss of XSW-1EA

Which one of the following describes the effects of the loss of XSW-1EA on containment conditions?

- ✓A. Adequate equipment is operating to provide the required cooling for containment.
- B. Inadequate number of SW booster pumps are operating to maintain containment conditions within design limits.
- C. Inadequate number of RB spray pumps are operating to maintain containment conditions within design limits.
- D. Inadequate number of reactor building cooling units are operating to maintain containment conditions within design limits.

REF: AB-8, page 12; AB-17, page 11

SOURCE: 1999 Robinson Exam

80. 015AG2.1.32 001/ ROT1G1/ / 3.4/3.8/ MEMORY/ NEW/ SM00301/ RO/ ME12

Which one of the following describes the reason that a minimum pressure differential of 200 psid must be maintained across the RCP No. 1 seals during RCP operations?

- A. Ensures sufficient flow of reactor coolant through the No. 1 seal to provide seal cooling.
- ✓B. Prevents damage to No. 1 seal from insufficient cooling flow through the seal gap.
- C. Reduces pressure on No. 2 seal which is not designed to operate continuously under full RCS pressure.
- D. Allows opening of the RCP seal bypass valve PVT-8142 to ensure cooling for the lower radial bearing.

REF: AB-4, Revision 9, page 37

SOURCE: NEW 2000 Farley RO Exam #53

81. 015K1.01 001/ ROT2G1// 4.1/4.2/ MEMORY/ NEW/ SM00301/ RO/ ME18

Which one of the following is the minimum coincidence that will reinstate the reactor trip from P-9, Turbine Trip Permissive?

- A. 2/4 NIs greater than 38%
- B. 3/4 NIs greater than 38%
- ✓C. 2/4 NIs greater than 50%
- D. 3/4 NIs greater than 50%

REF: IC-5, page 35

SOURCE: NEW(Farley 2000 RO Exam #10)

82. 022A3.01 001/ ROT2G1// 4.1/4.3/ C/A/ NEW/ SM00301/ RO/ ME31

Given the following conditions:

- The reactor was manually tripped due to a small break LOCA.
- RCS pressure is 1810 psig.
- RB pressure is 3.1 psig.
- RCS temperature is 550°F.

Which one of the following describes the expected operation of the Reactor Building Cooling Units?

- A. Three fans running in fast speed with bypass dampers open.
- ✓B. Two fans running in slow speed with bypass dampers closed.
- C. Two fans running in slow speed with bypass dampers open.
- D. Four fans running in slow speed with bypass dampers closed.

REF: AB-17, Revision 7, page 13

SOURCE: NEW (MEE)

Given the following conditions:

- The Unit is operating in MODE 5.
- RHR is in service.
- The operating RHR pump flow and amps are oscillating.

Which one of the following conditions requires the running RHR pump to be tripped per AOP-115.1, RHR Pump Vortexing?

- ✓A. RHR flow is 250 gpm.
 - B. RHR pressure is 50 psig
 - C. RCS Hot Leg level is 15 inches
 - D. RHR temperature is 212 degrees
- REF: AOP-115.1, RHR Pump Vortexing, Revision 3, step 1.d
SOURCE: Modified Summer Exam Bank Question #1870

A LOCA has occurred and reactor building pressure is between 4 and 4.5 psig on all four channels. Assume all valves were closed prior to the event. Which one of the following describes the expected status of the reactor spray system?

- A. NaOH isolation valves are OPEN; RB spray discharge valves are CLOSED.
- ✓B. NaOH isolation valves are OPEN; RB spray discharge valves are OPEN.
- C. NaOH isolation valves are CLOSED; RB spray discharge valves are CLOSED.
- D. NaOH isolation valves are CLOSED; RB spray discharge valves are OPEN.

REF: AB-8, Revision 7, page 24
SOURCE: NEW (MEE)

A loss of CCW has occurred with the plant at 8% power resulting in a loss of CCW flow to the Charging Pump oil coolers. Which one of the following describes when a running Charging Pump must be tripped in accordance with AOP-118.1, "Total Loss of CCW"?

- A. Immediately.
- ✓B. Within one minute.
- C. Within five minutes.
- D. Within ten minutes.

REF: AOP-118.1, Rev. 1, Caution prior to step 1
SOURCE: NEW (MEE)

Given the following conditions:

- Steam Generator A had an identified primary to secondary leak of 30 gallons per day.
- The unit is at 95% power.
- Radiation alarms were received on the main condenser air ejector vent and the steam generator blowdown monitors.
- Letdown flow is 105 gpm.
- FCV-122 is full open.

Which one of the following would require a Safety Injection to be initiated?

- A. PZR level is 34% and decreasing.
 - B. PZR pressure is 1975 psig and decreasing.
 - ✓C. VCT level is 7% and decreasing.
 - D. A steam generator level is increasing with feed flow less than steam flow.
- REF: AOP-112.2, Rev.2, step 2
SOURCE: NEW (MEE)

Given the following conditions:

- The unit is operating at 100%
- The Steam Dump Mode Selector Switch selected to Tavg
- First stage turbine impulse pressure PT-446 has failed low

Which one of the following describes the response of the steam dumps if a 50% load rejection subsequently occurs if there is no operator action?

- A. The steam dumps will NOT arm and NO open signal will be developed.
- B. The steam dumps will NOT arm but an open signal will be developed.
- C. The steam dumps will arm and operate to maintain Tavg at 557 degrees.
- ✓D. The steam dumps will arm and operate to maintain Tavg at 559 degrees.

REF: IC-1, Revision 5, page 23

SOURCE: NEW (2000 Farley RO Exam #48)

88. 051AG2.1.32 001/ ROT1G1/ / 3.4/3.8/ MEMORY/ NEW/ SM00301/ RO/ ME14

Which one of the following describes the Caution in AOP-206.1, Decreasing Main Condenser Vacuum?

- A. If Main Condenser pressure is greater than 5 inches Hg absolute, Main Turbine load must be LESS THAN 30%.
- B. If Main Condenser pressure is greater than 7.5 inches Hg absolute, Main Turbine load must be LESS THAN 30%.
- ✓C. If Main Condenser pressure is greater than 5 inches Hg absolute, Main Turbine load must be GREATER THAN 30%.
- D. If Main Condenser pressure is greater than 7.5 inches Hg absolute, Main Turbine load must be GREATER THAN 30%.

REF: AOP-206.1, Decreasing Main Condenser Vacuum, Caution prior to Step 4

SOURCE: NEW (MEE)

89. 055K3.01 001/ ROT2G2/ / 2.5/2.7/ C/A/ NEW/ SM00301/ RO/ ME27

The unit is operating at 100% when the A main condenser vacuum pump (CVP) trips on low oil pressure. Which one of the following describes the required actions to maintain vacuum?

- A. CVP "A" suction valves must be manually closed. CVP "C" crossover valves must be manually opened and the CVP "C" manually started.
- B. CVP "A" suction valves must be manually closed. CVP "C" crossover valves automatically open and the CVP "C" automatically starts.
- ✓C. CVP "A" suction valves automatically close. CVP "C" crossover valves must be manually opened and the CVP "C" manually started.
- D. CVP "A" suction valves automatically close. CVP "C" crossover valves automatically open and the CVP "C" automatically starts.

REF: TB-6, Revision 9, page 22

SOURCE: NEW (MEE)

90. 056K1.02 001/ ROT2G1/ / 2.6/2.6/ C/A/ NEW/ SM00301/ RO/ ME32

The unit is operating at 48% during a startup. The second condensate pumps has just been started. Which one of the following describes the system response if a High Deaerator Storage Tank level (10' 6") is received?

- A. Both condensate pumps will trip and all main feedwater booster pumps will trip.
- B. One condensate pump will trip and all main feedwater booster pumps will trip.
- C. Both condensate pumps will trip but main feedwater booster pumps will continue to operate.
- ✓D. One condensate pump will trip but main feedwater booster pumps will continue to operate.

REF: TB-6, Revision 9, page 29

SOURCE: NEW (MEE)

91. 059A2.03 001/ ROT2G1/ / 2.7/3.1/ MEMORY/ BANK/ SM00301/ RO/ ME22

Which one of the conditions will trip all three main feed pumps?

- A. The "A" feed pump turbine auxiliary condenser reaches 13 inches Hg.
- ✓B. "B" steam generator level reaches 80%.
- C. An SI signal on train A.
- D. A main turbine trip from 50% power.

REF: TB-7, page 28

SOURCE: VCS TB-7 Exam Bank #1621

92. 061G2.1.27 001/ ROT2G1/ / 2.8/2.9/ C/A/ BANK/ SM00301/ RO/ ME21

Given the following conditions:

- All 3MFWPs trip.
- "A" MDEFP auto starts.
- The "A" MDEFP is then manually stopped from the MCB.

Which one of the following describes the subsequent operation of the "A" MDEFP?

- A. The pump will auto start on an SI condition.
- ✓B. The pump will auto start on a ESF blackout condition.
- C. The pump will auto start on a ESF blackout condition if at least one MFWP is reset.
- D. All subsequent auto starts are blocked unless the automatic start circuitry is manually reset.

REF: IB-3, Revision 11, page 38

SOURCE: VCS IB-3 Exam Bank # 789

93. 062AK3.02 001/ ROT1G1/ / 3.6/3.9/ C/A/ BANK/ SM00301/ RO/ ME41

Which one of the following describes the reason service water booster pumps start to supply the reactor building cooling units with cooling water during a safety injection ?

- A. They provide higher flow rate to meet heat removal capability for accident conditions.
- ✓B. They provide higher pressure to prevent back leakage from the reactor building.
- C. They can be powered from the emergency diesel.
- D. They can take suction from the reactor building sump.

REF: IB-1

SOURCE: VCS IB-1 Exam Bank # 2314

94. 064K4.02 001/ ROT2G2/ / 3.9/4.2/ C/A/ MOD/ SM00301/ RO/ ME25

The plant has tripped from 100% power due to a LOCA. An SI has been initiated. Which one of the following signals will trip the emergency diesel generator?

- ✓A. Generator differential current
- B. Phase overcurrent
- C. High lube oil pressure
- D. High crankcase pressure

REF: IB-5, Revision 12, pages 51,52

SOURCE: Modified Summer IB-5 Exam Bank #2009

95. 071K5.04 001/ ROT2G1/ / 2.5/3.1/ MEMORY/ BANK/ SM00301/ RO/ ME30

Which one of the following combinations of oxygen and hydrogen requires IMMEDIATE suspension of addition of waste gas and a reduction of the oxygen concentration in the waste holdup system, per Technical Specification 3.11.2.5?

- A. 1% Oxygen and 7% Hydrogen
- ✓B. 3% Oxygen and 5% Hydrogen
- C. 5% Oxygen and 3% Hydrogen
- D. 7% Oxygen and 1% Hydrogen

REF: AB-12, Revision 6 page 25

SOURCE: VCS AB-12 Exam Bank # 1817

96. 072A1.01 001/ ROT2G1/ / 3.4/3.6/ MEMORY/ NEW/ SM00301/ RO/ ME34

Which one of the following radiation monitors operates isolation valves when its actuation setpoint is exceeded?

- ✓A. RM-A4, Reactor Building Purge Exhaust Monitor.
- B. RM-A6, Fuel Handling Building Exhaust Monitor.
- C. RM-G8, Spent Fuel Area Monitor.
- D. RM-G14, Reactor Building Incore Instrument Area Monitor.

REF: GS-9, page 54

SOURCE: NEW(MEE)

97. G2.2.13 001/ ROT3/ / 3.6/3.8/ MEMORY/ MOD/ SM00301/ RO/ ME42

Which one of the following is the required sequence when clearing a motor driven pump tagout?

- ✓A. Drains and vents, suction valve, discharge valve, recirculation valve, electrical supply.
- B. Drains and vents, suction valve, recirculation valve, discharge valve, electrical supply.
- C. Suction valve, discharge valve, recirculation valve, drains and vents, electrical supply.
- D. Suction valve, drains and vents, recirculation valve, electrical supply, discharge valve.

REF: SAP-201, Revision 7, Attachment IX, page 1

SOURCE: Modified 1994 Exam #85

98. G2.2.22 001/ ROT3/ / 3.4/4.1/ MEMORY/ NRC94300/ SM00301/ RO/ ME43

Which one of the following is the limit for any eight hour shift average power?

- A. 2775 MWt
- ✓B. 2900 MWt
- C. 2929 MWt
- D. 2958 MWt

REF: OAP-107.2, Revision 1, page 1

SOURCE: 1994 VCS Exam #96

99. G2.2.24 001/ ROT3/ / 2.6/3.8/ C/A/ MOD/ SM00301/ RO/ ME46

Which one of the following describes the status of a pump that is designated as "Restricted Service"?

- A. The pump is OPERABLE but has been placed in a condition other than as required by Tech. Specs. for trouble shooting.
- B. The pump is OPERABLE but should only be operated in an emergency situation.
- ✓C. The pump is NOT OPERABLE but is available to fulfill its function if needed.
- D. The pump is NOT OPERABLE and can not be used for any reason.

REF: SAP-205, Revision 9, page 5,9

SOURCE: Modified 1997 RO #78

A certain annunciator is determined to be a nuisance alarm due to it recurring activation. Which one of the following describes the action to disable the alarm?

- A. The Control Room Supervisor may authorize, and it is limited to this crew's shift.
- ✓B. The Control Room Supervisor may authorize, and it is limited to 48 hours.
- C. The Shift Supervisor must authorize, and it is limited to this crew's shift.
- D. The Shift Supervisor must authorize, and it is limited to 48 hours.

REF: OAP-110.1, Revision 0, page 2

SOURCE: NEW (MEE)

FINAL SUBMITTAL

V. C. SUMMER NUCLEAR STAION

EXAM NO. 50-0395/2000-301

August 7 - 11, 2000

FINAL AS ADMINISTERED

SRO WRITTEN EXAMINATION

**U.S. Nuclear Regulatory Commission
Site-Specific
Written Examination**

Applicant Information

Name: ANSWER KEY	Region: II
Date: August 11, 2000	Facility/Unit: V.C. Summer
License Level: SRO	Reactor Type: Westinghouse
Start Time:	Finish Time:

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. The passing grade requires a final grade of at least 80.00 percent. Examination papers will be collected five hours after the examination starts.

Applicant Certification

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

Applicant's Signature

Results

Examination Value	_____ Points
Applicant's Score	_____ Points
Applicant's Grade	_____ Percent

Name: _____

1. 001AK1.22 001/ ROT1G2/ SROT1G1/ 3.2/3.6/ C/A/ NEW/ SM00301/ BOTH/ MM26

Given the following conditions:

- The unit has been operating for 45 days at 85 % steady state power
- Control Group D is at 190 steps
- Tavg is at Tref
- The unit is in the RAOC mode of operation

A continuous rod withdrawal event occurs and an operator terminates the event by taking the rod control system to "manual." When the unit is stabilized (no additional operator action has been taken), Tavg-Tref = .9 °F, reactor power level is 90%, and AFD after the event is indicated as follows:

NI Channel	N41	N42	N43	N44
After Event	11.65	10.00	11.88	9.95

The crew should move rods _____ to bring AFD within limits in _____ NI channels within 15 minutes.

✓A. in; 2/4

B. out; 2/4

C. in; 3/4

D. out; 3/4

REF: T/S 3.2.1, COLR 2.4, Plant Curves Fig I-4.1

SOURCE: NEW (MSM)

2. 001K6.03 001/ ROT2G1/ SROT2G1/ 3.7/4.2/ C/A/ NEW/ SM00301/ BOTH/ ME69

Given the following conditions:

- The unit was operating at 100% power when a reactor trip occurred.
- Reactor trip breaker "A" will not open.
- PT-446, Turbine Impulse pressure has failed as is at 100%.
- The steam dump mode selector switch is in the Tavg position.

Which one of the following describes the response of the steam dumps and the atmospheric relief valves to these conditions?

A. Condenser steam dumps and atmospheric steam dumps and reliefs will open.

✓B. Condenser steam dumps will open; atmospheric dumps and reliefs will NOT open.

C. Condenser steam dumps will NOT open; the S/G power reliefs will open.

D. Condenser steam dumps and atmospheric dumps and reliefs will NOT open.

REF: IC-1, Revision 5 page 32

SOURCE: NEW (MEE)

3. 002A2.02 001/ ROT2G2/ SROT2G2/ 4.2/4.4/ C/A/ BANK/ SM00301/ BOTH/ MM27

The plant is operating at 80% power when PT-444 fails high. What immediate actions must be taken by the operator to prevent a low pressure reactor trip?

- ✓A. Close both pressurizer spray valves and one pressurizer PORV.
- B. Close two pressurizer PORVs and energize backup heaters.
- C. Close one pressurizer spray valve and one pressurizer PORV.
- D. Close both pressurizer spray valves and two pressurizer PORVs.

SOURCE: VCS Exam Bank #1678

4. 003A4.05 001/ ROT2G1/ SROT2G1/ 3.1/3.0/ C/A/ BANK/ SM00301/ BOTH/ MM28

The following indications are observed for RCP "A":

- Seal injection flow has increased
- Seal return flow has decreased
- RCP standpipe level has been verified high

Which one of the following is a probable cause for the indications on RCP "A"?

- A. No. 1 seal differential pressure <200 psid
- B. No. 1 seal has failed
- ✓C. No. 2 seal has failed
- D. No. 3 seal has failed

SOURCE: VCS Exam Bank #2168

5. 003AA1.05 001/ ROT1G2/ SROT1G1/ 4.1/4.1/ C/A/ NEW/ SM00301/ BOTH/ ME05

Given the following conditions:

- Reactor power was at 85% with manual rod control.
- The reactor operator announced that Bank D control rod H2 dropped.
- Reactor power is now 78%

Which one of the following describes the correct required action?

ACCEPTABLE
11/5/00

- A. Decrease main turbine load to maintain Tavg within 5 degrees of Tref.
- ✓B. Decrease main turbine load to reduce reactor power to less than 75%.
- C. Initiate a dilution to increase Tavg to within 5 degrees of Tref.
- D. Trip the reactor and implement EOP-1.0, "Reactor Trip/Safety Injection Actuation."

REF: AOP-403.6, Revision 2, page 2

SOURCE: NEW (MEE)

6. 003K4.04 001/ ROT2G1/ SROT2G1/ 2.8/3.1/ MEMORY/ BANK/ SM00301/ BOTH/ MM29

Which one of the following describes the flowpath of Component Cooling Water to the reactor coolant pump components?

- A. CCW supplies each pump via boosted flow which splits to three components: thermal barriers, upper motor bearings, and lower motor bearings.
- ✓B. CCW enters the RB via two separate paths. One is boosted flow to the thermal barrier heat exchangers and the other goes to each pump motor where it splits off to upper and lower bearing oil coolers.
- C. CCW enters the RB and is then split into two separate paths. One is boosted flow to the thermal barrier heat exchangers and the other goes to each pump motor where it splits off to upper and lower bearing oil coolers.
- D. CCW flow enters the RB via two distinct supply and return paths: one boosted, one non-boosted.

REF: IB-2, Revision 9, Figure IB2.4

SOURCE: VCS AB-4 Exam Bank #654 (changed c distractor)

7. 004A1.06 001/ ROT2G1/ SROT2G1/ 3.0/3.2/ C/A/ NEW/ SM00301/ BOTH/ ME09

Given the following conditions:

- 100% power, steady state
- "A" charging pump is running with FCV 122 in automatic.
- Letdown flow = 60 gpm

Which one of the following will occur if Volume Control Tank (VCT) level transmitter LT-112 fails high? Assume no operator action is taken.

- ✓A. VCT level cycles between 20% and 40%.
- B. VCT level cycles between 70% and 80%.
- C. VCT level continuously lowers until the charging pump suction shifts to the RWST.
- D. VCT level continuously lowers until the "A" charging pump cavitates and trips.

REF: AB-3, Revision 7, Figure AB3.5

SOURCE: NEW, 2000 Farley RO Exam #6

8. 004K1.04 001/ ROT2G1/ SROT2G1/ 3.4/3.8/ MEMORY/ NEW/ SM00301/ BOTH/ ME10

Which one of the following describes the limits on seal injection flow?

- A. At least 3 gpm per RCP but less than a total of 19 gpm
- B. At least 3 gpm per RCP but less than a total of 24 gpm
- ✓C. At least 6 gpm per RCP but less than a total of 33 gpm
- D. At least 6 gpm per RCP but less than a total of 39 gpm

REF: AB-3, Revision 7, page 39

SOURCE: New (MEE)

9. 004K3.04 001/ ROT2G1/ SROT2G1/ 3.7/3.9/ MEMORY/ BANK/ SM00301/ BOTH/ MM30

Which one of the following describes the source of seal water supply to the RCP seals if normal seal injection is lost?

- A. Component cooling via the thermal barrier heat exchanger.
- B. Alternate CVCS injection flow.
- ✓C. Reactor coolant via the thermal barrier heat exchanger.
- D. #3 seal standpipe.

SOURCE: VCS Exam Bank #657

10. 005AK1.05 001/ ROT1G1/ SROT1G1/ 3.3/4.1/ MEMORY/ NEW/ SM00301/ BOTH/ MM01

The unit has experienced a reactor/turbine trip from full power. While performing EOP-1.1, "Reactor Trip Recovery," it is determined that one control rod is stuck in the fully withdrawn position.

What action, if any, should be performed per the EOP in response to this condition?

- ✓A. No action is required.
- B. An emergency boration of 2500 gallons is required.
- C. An emergency boration of 5800 gallons is required.
- D. A determination that shutdown margin meets the requirements of technical specifications is required.

REF: Lesson Plan for EOP-1.1 and EOP-1.1

SOURCE: NEW (MSM)

11. 005K4.11 001/ ROT2G3/ SROT2G3/ 3.5/3.9/ MEMORY/ NEW/ SM00301/ BOTH/ ME11

Which one of the following describes the operation of the RHR system valves in establishing cold leg recirculation?

- A. Sump to RHR pump suction valves (MVG-8811A/B and 8812A/B) must be manually opened; then RWST to RHR pump suction valves (MVG-8809A/B) must be manually closed.
- B. Sump to RHR pump suction valves (MVG-8811A/B and 8812A/B) must be manually opened; then RWST to RHR pump suction valves (MVG-8809A/B) automatically close.
- C. Sump to RHR pump suction valves (MVG-8811A/B and 8812A/B) automatically open; then RWST to RHR pump suction valves (MVG-8809A/B) automatically close.
- ✓D. Sump to RHR pump suction valves (MVG-8811A/B and 8812A/B) automatically open; then RWST to RHR pump suction valves (MVG-8809A/B) must be manually closed.

REF: AB-7, Revision 10, page 42

SOURCE: NEW (MEE)

12. 007EG2.4.2 001/ ROT1G2/ SROT1G2/ 3.9/4.1/ MEMORY/ MOD/ SM00301/ BOTH/ MM31

Which one of the following symptoms would require a reactor trip and safety injection if one has not occurred and the trip is not blocked?

- A. Reactor building pressure 2.1 psig and rising slowly
- ✓B. Pressurizer pressure 1800 psig
- C. Main steamline pressure 775 psig
- D. Main steamline differential pressure of 90 psid

REF: EOP-1.0, Attachment 2

SOURCE: Mod of VCS Exam Bank # 2111

13. 008AK1.01 001/ ROT1G2/ SROT1G2/ 3.2/3.7/ C/A/ NEW/ SM00301/ BOTH/ ME70

Which one of the following represents the conditions of the steam entering the PRT from a leaking PORV if pressurizer pressure is 1385 psig and PRT pressure is 5 psig? Assume an ideal thermodynamic process.

Also
Available

- A. Superheated steam 260°F - 270°F.
- ✓B. Superheated steam 250°F - 260°F.
- C. Saturated steam 225°F - 235°F.
- D. Saturated steam 275°F - 285°F.

REF: Mollier Diagram

SOURCE: NEW 1998 Watts Bar RO exam

14. 008K3.01 001/ ROT2G3/ SROT2G3/ 3.4/3.5/ MEMORY/ BANK/ SM00301/ BOTH/ MM33

Which one of the following is the MAXIMUM time the reactor coolant pumps can operate following the loss of component cooling water?

- A. 2 minutes
- B. 5 minutes
- ✓C. 10 minutes
- D. 15 minutes

SOURCE: VCS Exam Bank #1925

15. 009EG2.4.48 001/ ROT1G2/ SROT1G2/ 3.5/3.8/ C/A/ NEW/ SM00301/ BOTH/ ME63

The plant has experienced a small break LOCA and the operators have tripped all three RCPs in accordance with the EOP reference page. RVLIS wide range level is 24%, Upper range is pegged low and Narrow range is 42%. Which one of the following describes the status of the core?

- A. The core fully covered.
- ✓B. The core is about one third uncovered.
- C. The core is about two thirds uncovered.
- D. The core is about three quarters uncovered.

REF: IC-3, Revision 2, page 12

SOURCE: NEW (MEE)

16. 010K1.01 001/ ROT2G2/ SROT2G2/ 3.9/4.1/ C/A/ NEW/ SM00301/ BOTH/ MM35

A leak in the piping connection for PT-445 (pressurizer pressure control pressure transmitter) will result in which one of the following?

No CORRECT ANSWER NOW

- A. A pressurizer low pressure trip only.
- ✓B. A pressurizer low pressure trip and high level trip.
- C. A pressurizer low pressure trip and pressurizer heater deenergization.
- D. Pressurizer heater deenergization only.

REF: VCS Lesson Plan IC-3, fig IC3.5

SOURCE: NEW (MSM)

17. 011A3.03 001/ ROT2G2/ SROT2G2/ 3.2/3.3/ C/A/ MOD/ SM00301/ BOTH/ ME51

Given the following conditions:

- The plant is stable at 90% power.
- Charging, Letdown, and Pressurizer Level Control systems are in automatic.
- The selected pressurizer control channel LT-459 fails low.
- No operator action is taken.

Which one of the following describes the system response?

- A. Charging flow will increase, seal injection flow will increase.
- ✓B. Charging flow will increase, seal injection flow will decrease.
- C. Charging flow will decrease, seal injection flow will increase.
- D. Charging flow will decrease, seal injection flow will decrease.

SOURCE: Modified 1997 RO #3

18. 011EA1.05 001/ ROT1G2/ SROT1G1/ 4.3/3.9/ C/A/ MOD/ SM00301/ BOTH/ ME47

A Safety Injection signal occurs but VCT level Indication LT-112 fails as is at 33%. Which one of the following describes the expected response of the VCT outlet valves to the suction of the charging pumps (115C & E) and the RWST suction valves (115B & D)?

- ✓A. 115B & D automatically open and then 115C & E automatically close.
- B. 115C & E automatically close and then 115B & D automatically open.
- C. 115B & D automatically open but 115C & E remain open.
- D. 115B & D remain open and 115C & E remain closed.

REF: AB-3, Revision 7, page 34

SOURCE: Modified VCS AB-3 Exam Bank #1192

19. 012K2.01 001/ ROT2G2/ SROT2G2/ 3.3/3.7/ MEMORY/ BANK/ SM00301/ BOTH/ MM38

Assuming a normal alignment, if a loss of AC power to vital bus 1DB is experienced, ANP-5903 will remain energized from which one of the following?

- A. APN-1FB
- B. Inverter XIT-5901
- C. Inverter XIT-5908
- ✓D. DPN-1HB

SOURCE: VCS Exam Bank # 1065

20. 013A3.02 001/ ROT2G1/ SROT2G1/ 4.1/4.2/ C/A/ NRC97300/ SM00301/ BOTH/ ME52

Given the following conditions:

- The plant was at 100% power.
- Service Water System was in a normal alignment.
- Off site power was lost to Bus 1DA.
- The "A" D/G responds as designed.
- Offsite power is now available to 1DA

Which one of the following describes the operation of the "A" Service Water System Train after the loss of power?

- A. The "A" SWP breaker will open. The "A" SWP and the "A" SWBP will sequence on after the D/G ties onto 1DA. The SWBP can be secured once the D/G ties onto 1DA.
- ✓B. The "A" SWP breaker will open. The "A" SWP and the "A" SWBP will sequence on after the D/G ties onto 1DA. The SWBP can be secured once the ESFLS sequence is complete.
- C. The "A" SWP breaker will NOT open. The "A" SWBP will sequence on after the D/G ties onto the bus. The SWBP can be secured once the D/G ties onto 1DA.
- D. The "A" SWP breaker will NOT open. The "A" SWBP will sequence on after the D/G ties onto the bus. The SWBP can be secured once the ESFLS sequence is complete.

REF: IB-1, Revision 9, page 25,26

SOURCE: 1997 RO #11 (changed two distractors)

21. 013K2.01 001/ ROT2G1/ SROT2G1/ 4.1/4.2/ MEMORY/ BANK/ SM00301/ BOTH/ MM40

Given that APN-5901 powers the "A" train ESF loading sequencer (ESFLS), what would be the consequences of having APN-5901 powered from the APN-1FA, its alternate power source?

- A. If the 1DA normal feeder breaker trips open, the D/G will start but the D/G output breaker will not shut.
- B. An "A" train SI sequence will not be initiated following a safety injection actuation.
- C. An "A" train blackout sequence will be initiated after the D/G breaker shuts.
- ✓D. If the 1DA normal feeder breaker trips open, all applicable loads will be loaded onto the D/G simultaneously.

SOURCE: VCS GS-2 Exam Bank #1069

22. 014G2.1.7 001/ ROT2G2/ SROT2G1/ 3.7/4.4/ C/A/ NEW/ SM00301/ BOTH/ ME61

Given the following conditions:

- The unit is ramping to 100% in accordance with GOP-4.
- DRPI has experienced a DATA A Failure.
- Bank D rods indicate 222 steps on the Bank Demand System.
- Rod F-6 is stuck and indicates 210 steps on Digital Rod Position Indication (DRPI).
- All other rods on Bank D indicate 222 steps on DRPI.

Which one of the following represents the MAXIMUM possible deviation between demanded position and actual rod position for Rod F-6?

- A. 4 steps
- B. 10 steps
- ✓C. 16 steps
- D. 22 steps

REF: IC-4, Revision 4, page 10

SOURCE: NEW (MEE) 2000 Farley RO #1

23. 015A1.04 001/ ROT2G1/ SROT2G1/ 3.5/3.7/ C/A/ NEW/ SM00301/ BOTH/ ME59

A calculation of the QPTR is being performed at 97% reactor power due to a bank D rod becoming misaligned. The following excore detector calibrated output readings were calculated after taking the drawer reading and dividing by the 100% current values:

<u>Instrument:</u>	<u>N41</u>	<u>N42</u>	<u>N43</u>	<u>N44</u>
Upper:	.9900	1.010	.9900	.9800
Lower:	.9700	1.070	.9700	.9600

Which one of the following describes the maximum allowed reactor power level if QPTR cannot be restored to within required limits?

- A. 82%
- B. 79%
- ✓C. 76%
- D. 73%

REF:TS 3.2.4

SOURCE: NEW Farley 2000 RO # 11

24. 015AA2.10 001/ ROT1G1/ SROT1G1/ 3.7/3.7/ C/A/ NEW/ SM00301/ BOTH/ MM06

Given the following plant conditions:

- The unit is at 35% power and steady.
- Annunciator XCP-617 2-1, "RCP 'A' #1 SL LKOFF FLOW HI/LO" alarms.
- FI-130A indicates that seal injection flow is .5 gpm.
- The IPCS indicates that RCP "A" lower seal water bearing temperature is 220°F and increasing rapidly.

Which one of the following represents the first required operator action(s)?

- A. Increase seal injection flow to 13 gpm.
- ✓B. Trip the "A" RCP.
- C. Trip the "A" RCP and then trip the reactor.
- D. Trip the reactor and then trip the "A" RCP.

REF: AOP-101.2, rev 0

SOURCE: NEW (MSM)

25. 017A1.01 001/ ROT2G1/ SROT2G1/ 3.7/3.9/ C/A/ NEW/ SM00301/ BOTH/ MM42

Given the following temperatures associated with the 8 incore thermocouples feeding the "B" subcooling monitor:

T4=600°F	T20=597°F
T10=603°F	T38=598°F
T11=602°F	T40=600°F
T17=605°F	T43=601°F

If T-sat for existing plant conditions is 649.64°F, which one of the following most closely represents the indicated subcooling from the "B" subcooling monitor if T40 input is removed from the monitor?

- ✓A. 45°F
- B. 47°F
- C. 49°F
- D. 53°F

REF: Lesson Plan IC-7, page 34

SOURCE: NEW (MSM)

26. 022AK3.02 001/ ROT1G2/ SROT1G2/ 3.5/3.8/ MEMORY/ BANK/ SM00301/ BOTH/ MM44

Seal water bypass valve, PVT-8142, is opened at low RCS system pressure. Which ONE of the following is the reason for this action?

- A. Increases cooling flow to the RCP seals.
- ✓B. Increases cooling flow to the lower radial bearing.
- C. Decreases differential pressure across the #2 seal.
- D. Decrease cooling flow to the seal water heat exchanger.

SOURCE: VCS AB-4 Exam Bank # 655

27. 024AA2.01 001/ ROT1G1/ SROT1G1/ 3.8/4.1/ C/A/ BANK/ SM00301/ BOTH/ MM45

The plant is operating at 100% power during MOL with an automatic makeup is in progress and the control rods in MANUAL when the reactor operator notices Tavg has decreased 2°F. Which one of the following could contribute to this lowering in RCS temperature?

- A. The boric acid filter is clogged preventing boric acid from mixing in the blender.
- ✓B. FCV-113A, boric acid to blender control valve, has failed open with FCV-113B in the open position.
- C. A newly replaced CVCS mixed bed demineralizer was put into service.
- D. The mixed bed demineralizer is depleted.

REF: Lesson Plan Figure AB 5.9

SOURCE: VCS AB-5 Exam Bank # 786

28. 027AA2.07 001/ ROT1G1/ SROT1G2/ 3.1/3.1/ C/A/ NEW/ SM00301/ BOTH/ ME08

Given the following conditions:

- Mode 1 at 50% power.
- PT-444 fails high.

Assuming the reactor does NOT trip, which one of the following describes the effect of this transient on FI-122?

- A. Charging flow increases because of decreased pressurizer level due to loss of inventory.
- B. Charging flow increases because of decreased indicated pressurizer level due to flashing in the level transmitter's reference leg.
- ✓C. Charging flow decreases because of increased pressurizer level due to expansion of pressurizer fluid.
- D. Charging flow decreases because of increased pressurizer level due to spray flow addition.

REF: AB-3

SOURCE: NEW

29. 028AK1.01 001/ ROT1G3/ SROT1G3/ 2.8/3.1/ C/A/ NEW/ SM00301/ BOTH/ ME66

Given the following conditions:

- The unit is at 100%.
- The pressurizer level control channel selector switch is selected to 459-460.
- All systems are aligned in automatic for normal operations.

Which one of the following describes the response over the next 15 minutes if a reference leg leak develops on LT-459?

- A. Level indication on LI-460 will INCREASE and VCT level will INCREASE.
- B. Level indication on LI-460 will INCREASE and VCT level will DECREASE.
- ✓C. Level indication on LI-460 will DECREASE and VCT level will INCREASE.
- D. Level indication on LI-460 will DECREASE and VCT level will DECREASE.

REF: IC-3, Revision 6, Figure IC3.16

SOURCE: NEW (MEE)

30. 028K5.02 001/ ROT2G3/ SROT2G2/ 3.5/3.9/ MEMORY/ NEW/ SM00301/ BOTH/ ME53

A LOCA has occurred inside containment. EOP-2.0, "Loss of Reactor or Secondary Coolant," step 25, directs operators to check RB hydrogen concentration and to start one hydrogen recombiner for which one of the following?

- A. If containment hydrogen is greater than 3% to control hydrogen.
- B. Only if containment hydrogen concentration is less than 3% to preclude a fire in containment.
- C. If containment hydrogen is greater than 6% to control hydrogen.
- ✓D. Only if containment hydrogen concentration is less than 6% to preclude a fire in containment.

REF: EOP-2.0, VCS Lesson Plan AB-15, rev 4, page 24

SOURCE: NEW (MEE) Farley 2000 RO #47

31. 029EK3.06 001/ ROT1G2/ SROT1G1/ 4.2/4.3/ C/A/ BANK/ SM00301/ BOTH/ MM47

Which one of the following describes the reason for the immediate action of EOP-1.0, "Reactor Trip/Safety Injection," to verify that the turbine has tripped?

- A. Provides a backup trip signal to the RPS if the plant is experiencing at ATWS.
- B. Prevents turbine overspeed when the output breaker opens.
- ✓C. Prevents an uncontrolled cooldown of the RCS.
- D. Minimizes the possibility of an SI with the plant still at power.

REF: VCS Lesson Plan for EOP-1.0, rev 12, page15

SOURCE: VCS EOP-1.0 Exam Bank # 2856

32. 033A2.02 001/ ROT2G2/ SROT2G2/ 2.7/3.0/ MEMORY/ MOD/ SM00301/ BOTH/ MM49

The plant is at 100% power following a refueling outage when all spent fuel pool cooling is lost. Which one of the following can be used to cool the spent fuel pool via inventory change out per AOP-123.4, "Loss of Spent Fuel Pool Cooling"?

- A. Condensate storage tank
- B. Turbine building closed cycle cooling
- ✓C. Demineralized water
- D. Service Water System

REF: AOP-123.4

SOURCE: VCS AOP-123 Exam Bank # 3321

33. 034G2.2.26 001/ ROT2G3/ SROT2G2/ 2.5/3.7/ MEMORY/ BANK/ SM00301/ BOTH/ ME29

As a minimum, which one of the following precautions is required when raising an irradiated spent fuel assembly in the new fuel elevator?

- A. Use portable control unit to allow better visual observation of the evolution.
- ✓B. Station a second operator at the new fuel elevator winch motor supply breaker.
- C. Contact the Manager, Operations, for approval to commence the evolution.
- D. Place the "elevator up" switch in "automatic" to stop upward travel at 10 feet below water level.

REF: FHP-609

SOURCE: VCS GS-4 Exam Bank #811

34. 035A1.01 001/ ROT2G2/ SROT2G2/ 3.6/3.8/ C/A/ BANK/ SM00301/ BOTH/ MM50

With the plant operating at 55% power with all control systems in automatic, FT-477, which is controlling feedwater flow control channel for "A" S/G, fails low. With no immediate operator action, which ONE of the following will occur?

- A. FRV "A" will open, MFP speed will increase, and S/G "A" level will increase causing P-14 to close only FWIV "A."
- ✓B. FRV "A" will open, MFP speed will increase, and S/G "A" level will increase causing P-14 to close all FWIVs.
- C. FRV "A" will open, MFP speed will decrease, resulting in a decreased feedwater flow to "B" and "C" S/Gs which will cause a lo-lo S/G level reactor trip.
- D. FRV "A" will open resulting in an increased main feed pump speed which will cause a hi-hi level in all three S/Gs.

SOURCE: VCS RO96001 Licensing Exam

35. 039K4.08 001/ ROT2G2/ SROT2G2/ 3.3/3.4/ C/A/ BANK/ SM00301/ BOTH/ MM52

The unit was operating at 80% power when a spurious low steamline pressure SI signal was received. The cause of the spurious signal was corrected and the SI signal has been reset. During preparations to return the unit to power operations, the MSIVs fail to open when their control switches are taken to OPEN. The unit is currently in MODE 3 with steam pressure downstream of the MSIVs at 1080 psig and Tavg at 557°F.

Which one of the following is the cause for the MSIVs' failure to open?

- A. The differential pressure across the MSIVs is excessive.
- B. The MSIV bypass valves are CLOSED.
- C. The MSIV motor control center breaker is OPEN.
- ✓D. The MSIV isolation signal has not been reset.

REF: Lesson Plan TB-2

SOURCE: VCS TB-2 Exam Bank # 1876

36. 054AK1.02 001/ ROT1G2/ SROT1G2/ 3.6/4.2/ MEMORY/ BANK/ SM00301/ BOTH/ MM53

Which one of the following is the reason for feeding ONLY one S/G in the event that ALL S/Gs have dried out during a loss of heat sink event?

- A. Ensures adequate feedwater inventory for complete restoration of normal cooling.
- ✓B. Prevents excessive thermal stress in multiple steam generators.
- C. Prevents excessive thermal stress in the reactor vessel.
- D. Ensures that only one reactor coolant pump must be returned to service.

REF: EOP-15 Lesson Plan, revision 11, page 15

SOURCE: VCS EOP-15 Exam Bank # 1859

37. 055EK3.01 001/ ROT1G1/ SROT1G1/ 2.7/3.4/ MEMORY/ BANK/ SM00301/ BOTH/ MM54

During a loss of all AC power, EOP-6.0, "Loss of all ESF AC Power," directs the operator to shed all large, non-essential loads. How long will a fully charged, safety-related battery supply its loads if this selective shedding is NOT accomplished?

- A. 30 minutes
- B. 60 minutes
- C. 2 hours
- ✓D. 4 hours

REF: Lesson Plan GS-3, page 35

SOURCE: VCS GS-3 Exam Bank # 1104

38. 056AK3.02 001/ ROT1G3/ SROT1G3/ 4.4/4.7/ MEMORY/ BANK/ SM00301/ BOTH/ MM55

EOP-6.0, Loss of All ESF AC Power," directs you to depressurize intact S/Gs at the maximum rate. Which one of the following statements describes the basis for depressurizing intact S/Gs at the maximum controllable rate?

- A. To ensure that natural circulation cooldown is maintained.
- B. To prevent injection of nitrogen into the RCS.
- ✓C. To minimize RCS inventory loss through the RCP seals.
- D. To increase EFW flow by reducing S/G pressure.

REF: Lesson Plan for EOP-6

SOURCE: VCS EOP-6 Exam Bank # 2339

39. 058AA1.03 001/ ROT1G2/ SROT1G2/ 3.1/3.3/ C/A/ NEW/ SM00301/ BOTH/ MM56

The unit is at 100% power. Preparations are underway to remove the 1A battery from service for maintenance. Battery charger XBC1B is out of service, battery charger XBC1A-1B is aligned to DPN1HB.

When the 1A battery breaker is opened, the following annunciators actuate on panel XCP-636:

- "DG A LOSS OF DC"
- "TRAIN A BATT CHGR TRBL XBC1A/1A-1B"
- "DC SYS OVRVOLT/UNDRVOLT"

Which one of the following describes a possible cause for the annunciators described above?

- A. Excessive voltage is being delivered from battery charger XBC1A.
- B. Excessive voltage is being delivered from battery charger XBC1A-1B.
- ✓C. Battery charger XBC1A has ceased to produce voltage.
- D. Battery charger XBC1A-1B has ceased to produce voltage.

REF: ARP-001, panel XCP-636, rev 8, Lesson Plan GS-3

SOURCE: NEW (MSM)

40. 059AK2.01 001/ ROT1G2/ SROT1G1/ 2.7/2.8/ C/A/ NEW/ SM00301/ BOTH/ MM57

Which one of the following ensures that liquid effluent releases do not inadvertently exceed desired quantities of radionuclides?

- Also
ACCEPTABLE
NEW*
- A. Before the waste monitor tanks can be discharged, the Fairfield pumped storage facility must be in the generating mode with at least 40% flow.
 - ✓B. A liquid waste release permit must be generated prior to release.
 - ✓C. RCV-018 trips closed if high radiation levels are sensed by RM-L5.
 - D. The Duratek demineralization system includes media for the removal of Cobalt-58 and 60, Iodines, and Cesium.

REF: LP AB-16, pages 26, 33, 24

SOURCE: NEW (MSM)

41. 059K4.19 001/ ROT2G1/ SROT2G1/ 3.2/3.4/ MEMORY/ BANK/ SM00301/ BOTH/ MM58

Which one of the following conditions will directly result in closing all feedwater isolation valves?

- A. LI-474, S/G A LVL has failed high.
- ✓B. Reactor trip breakers open with $T_{avg}=560$ F (A&C loops).
- C. AMSAC actuation.
- D. High-High Turbine Building sump level.

REF: Lesson Plan TB-7, pg 39, Lesson Plan IC-9, page 53

SOURCE: VCS TB-7 Exam Bank # 1812

42. 061AA1.01 001/ ROT1G2/ SROT1G2/ 3.6/3.6/ MEMORY/ NEW/ SM00301/ BOTH/ MM68

Refueling operations are in progress when "MANIP CRN RM-G17A HI RAD" annunciator actuates. Which one of the following describes the automatic actions the operator will verify in response to this condition?

- ✓A. PVB-1A, "CNTMT SPLY ISOL" and PVB-2A, "CNTMT EXH ISOL," CLOSE
- B. PVB-1A, "CNTMT SPLY ISOL" and PVB-2A, "CNTMT EXH ISOL," OPEN
- C. PVB-1B, "CNTMT SPLY ISOL," PVB-2A, "CNTMT EXH ISOL," PVG-6057, "ALT PUR SPLY ISOL VLV, and PVG-6067, "CNTMT PUR EXH ISOL VLV" CLOSE
- D. PVB-1B, "CNTMT SPLY ISOL," PVB-2A, "CNTMT EXH ISOL," PVG-6057, "ALT PUR SPLY ISOL VLV, and PVG-6067, "CNTMT PUR EXH ISOL VLV" OPEN

REF: ARP-019, rev 1, XCP-644, point 1-5

ARP-019, rev 1, XCP-643, point 2-2

SOURCE: NEW (MSM)

43. 061K5.01 001/ ROT2G1/ SROT2G1/ 3.6/3.9/ MEMORY/ NEW/ SM00301/ BOTH/ ME56

A plant trip has occurred and no MD EFW pumps are available. Which one of the following describes the expected time to cooldown from hot standby to hot shutdown using the maximum cooldown rate of 50°F per hour?

No Correct Answer from

- A. The cooldown will take 5 hours regardless of the availability of the MD EFW pumps.
- B. If the MD EFW pumps can be restored, the cooldown will take 2 hours, if power can not be restored, it will take 5 hours.
- C. If the MD EFW pumps can be restored, the cooldown will take 5 hours, if power can not be restored, it will take 7 hours.
- ✓D. If the MD EFW pumps can be restored, the cooldown will take 5 hours, if power can not be restored, it will take 12 hours.

REF: Lesson Plan IB-3, page 35

SOURCE: NEW (MEE)

44. 062K1.04 001/ ROT2G2/ SROT2G2/ 3.7/4.2/ C/A/ NEW/ SM00301/ BOTH/ MM60

The unit is operating at 100% power with all control systems normally aligned when a sustained total loss of offsite power occurs. Which one of the following ensures that the water extinguishing fire protection system is available during this period?

- A. The electric fire pump will load onto a vital bus in step 8 of the ESFLS blackout sequence and will automatically start if low system pressure is sensed.
- B. The electric fire pump will, procedurally, be manually aligned to a vital bus and will be started locally if low system pressure is sensed.
- ✓C. The diesel fire pump will start 15 seconds after the loss of AC power.
- D. The diesel fire pump will start 15 seconds after the loss of AC power, provided a low system pressure condition exists.

REF: GS-11, page 14,16

SOURCE: NEW (MSM)

45. 063K2.01 001/ ROT2G2/ SROT2G1/ 2.9/3.1/ MEMORY/ NEW/ SM00301/ BOTH/ MM61

The plant is at 100% power when a lightning strike causes a loss of 1DB coincident with a loss of 1 HB. Which one of the following describes the condition of the "B" D/G?

- ✓A. The DG will not start.
- B. The DG starts, but the breaker will not close.
- C. The DG starts, but the generator field will not flash.
- D. The DG starts and loads 1DB.

REF: IB-3, page 75

SOURCE: NEW (MSM)

46. 064A2.16 001/ ROT2G2/ SROT2G2/ 3.3/3.7/ C/A/ NEW/ SM00301/ BOTH/ MM16

The unit is stable in Mode 3 with a full load test of diesel generator A in progress. A loss of offsite power to XSW1DA occurs, followed by a trip of diesel generator A. Alternate offsite power is available and it is decided to energize XSW1DA from its alternate feed per AOP-304.1(A), "Loss of bus 1DA with the Diesel Not Available."

Failure to de-energize the train A ESF load sequencer prior to closing the alternate feeder breaker to XSW1DA will result in which one of the following?

- ✓A. A failure of the alternate feeder breaker to close.
- B. An immediate start signal to the A diesel generator.
- C. An immediate start of the components in load block 1 of the ESF load sequencer.
- D. A failure of 1DA loads to shed.

REF: AOP-304.1(A), rev 3

SOURCE: NEW (MSM)

Given the following conditions:

- A loss of offsite power has occurred.
- Both DGs are running at full load.
- Due to problems with the fuel oil transfer pumps, the B DG day tank is unable to be replenished.
- The DG B OIL DAY TK LVL LO-LO annunciator is received on the MCB.

Which one of the following is true regarding the operation of the EDG?

- A. Suction for the fuel oil pumps must be aligned directly to the storage tank.
- B. The diesel should be manually secured as loss of fuel suction is imminent.
- ✓C. Fuel for approximately only 30 minutes of operation remains.
- D. Fuel for approximately only 60 minutes of operation remains.

REF: IB-5, Revision 12, page 27

SOURCE: NEW (MEE)

The reactor has been tripped manually from 100% power due to a loss of instrument air. Step 9 of AOP-220.1, "Loss of Instrument Air," directs operators to take local control of EFW. Which one of the following describes how the EFW flow control valves are affected by a loss of instrument air?

- A. All six valves will fail open on a loss of instrument air but all have an accumulator designed to allow for four hours of operation.
- ✓B. All six valves will fail open on a loss of instrument air but all have an accumulator designed to allow remote valve closure for isolation purposes.
- C. All six valves will fail closed on a loss of instrument air but all have an accumulator to allow for four hours of operation.
- D. All six valves will fail closed on a loss of instrument air but only the turbine driven pump discharge valves have an accumulator designed to allow for four hours of operation.

REF:IB-3, Revision 11, page 26

SOURCE: NEW (MEE)

49. 068A3.02 001/ ROT2G1/ SROT2G1/ 3.6/3.6/ MEMORY/ BANK/ SM00301/ BOTH/ MM64

An alarm condition in which one of the following radiation monitors will isolate S/G blowdown flow to the condenser (or penstocks) and divert to the nuclear blowdown monitor tank?

- A. RM-L3, Steam Generator Blowdown Monitor
- ✓B. RM-L7, Nuclear Blowdown Waste Effluent Monitor
- C. RM-L9, Liquid Waste Effluent Monitor
- D. RM-L10, Steam Generator Blowdown Discharge Monitor

REF: Lesson Plan TB-1, revision 7, page 24; GS-9, Revision 6, pages 21-24

SOURCE: VCS TB-1 Exam Bank # 1994

50. 068AA1.30 001/ ROT1G1/ SROT1G1/ 3.4/3.6/ C/A/ BANK/ SM00301/ BOTH/ ME50

Which ONE of the following describes the operation of the letdown isolation valves (LCV-459 & 460) from the Control Room Evacuation Panel (CREP)?

- A. When the transfer switch is in REMOTE, LCV-459 and 460 can be opened with pressurizer level < 17% or with a letdown orifice isolation valve opened.
- B. When the transfer switch is in REMOTE, LCV-459 and 460 can be opened with pressurizer level < 17% but NOT with a letdown orifice isolation valve opened.
- ✓C. When the transfer switch is in LOCAL, LCV-459 and 460 can be opened with pressurizer level < 17% or with a letdown orifice isolation valve opened.
- D. When the transfer switch is in LOCAL, LCV-459 and 460 can be opened with pressurizer level < 17% but NOT with a letdown orifice isolation valve opened.

REF: Lesson Plan IC-10, revision 4, page 6

SOURCE: VCS IC-10 Exam Bank # 675 (reworded distractors)

51. 069AK3.01 001/ ROT1G1/ SROT1G1/ 3.8/4.2/ C/A/ NEW/ SM00301/ BOTH/ MM66

EOP-17.0, "Response to High Reactor Building Pressure," step 1, directs operators to verify that a phase A containment isolation and a containment ventilation isolation has occurred. Which one of the following describes the reason for this verification?

- A. While a phase A isolation should have been verified in EOP-1.0, "Reactor Trip/Safety Injection Actuation," resetting the containment isolations later in that procedure automatically reopens some fluid flowpaths into and out of containment.
- B. A phase A isolation may not have occurred to this point, and manual action ensures that all release paths are isolated.
- ✓C. While a phase A isolation should have been verified in EOP-1.0, "Reactor Trip/Safety Injection Actuation," some fluid system lines may have been opened while performing other EOPs.
- D. A phase A isolation may not have occurred to this point, and manual action ensures that RB Spray receives a start signal.

REF: Lesson Plan for EOP-17.0, EOP-1.0

SOURCE: NEW (MSM)

52. 072K1.04 001/ ROT2G1/ SROT2G1/ 3.3/3.5/ MEMORY/ NEW/ SM00301/ BOTH/ ME48

Which one of the following describes the Control Room Ventilation System operation following an alarm on RMA-1, Control Bldg Supply Air?

- A. Both Air Handling Units and both emergency filter fans start, all outside air sources are isolated.
- ✓B. Both Air Handling Units and both emergency filter fans start, return air is mixed with a small amount of make up air.
- C. Both Air Handling Units trip and both emergency filter fans start, all outside air sources are isolated.
- D. Both Air Handling Units trip and both emergency filter fans start, return air is mixed with a small amount of make up air.

REF: GS-8, revision 6, page 4

SOURCE: NEW (MEE)

53. 073A2.01 001/ ROT2G2/ SROT2G2/ 2.5/2.9/ C/A/ NEW/ SM00301/ BOTH/ MM70

During a planned waste gas release, the power supply to RM-A10 fails. Which one of the following describes the expected response observed in the control room?

- A. A loss of indication from RM-A10 only.
- B. A loss of indication from RM-A10 and closure of HCV-014 only.
- C. A loss of indication from RM-A10, closure of HCV-014, and actuation of the "GAS WST DISCH RM-A10 TRBL" annunciator only.
- ✓D. A loss of indication from RM-A10, closure of HCV-014, and actuation of the "GAS WST DISCH RM-A10 TRBL" and "GAS WST DISCH RM-A10 HI RAD" annunciators.

REF: ARP-019, rev 2, panel XCP-645, points 2-3 and 2-4

SOURCE: NEW (MSM)

54. 074EK3.07 001/ ROT1G1/ SROT1G1/ 4.0/4.4/ C/A/ NRC99301/ SM00301/ BOTH/ ME04

While responding to inadequate core cooling, the operators are unable to establish high head safety injection. Core Exit T/Cs are 1450°F and RCS pressure is 165 psig.

Which one of the following states the bases for starting the RCPs under these conditions?

- A. Provide forced primary flow for heat transfer during S/G depressurization.
- B. Force borated water from the loops into the voided core to refill the vessel.
- ✓C. Provide single phase forced steam flow for temporary cooling to reduce Core Exit T/Cs to less than 1200 °F.
- D. Flush hydrogen/nitrogen from S/G tubes so natural circulation flow can be established in subsequent steps.

REF: EOP 14.0 Lesson Plan

SOURCE: 1999 RO Exam

55. 075A4.01 001/ ROT2G2/ SROT2G2/ 3.2/3.2/ C/A/ BANK/ SM00301/ BOTH/ MM71

A DBA LOCA has occurred in the reactor building.

- RB pressure is 20 psig
- RB temperature is 240°F
- SWBP pressure is oscillating between 100 and 140 psig
- SWBP flow is oscillating between 500 and 1500 gpm

Which one of the following describes why the RCBUs are not capable of performing their design functions?

- A. SWBP discharge pressure is inadequate.
- ✓B. SWBP flow is less than the minimum required.
- C. RB temperature is too high.
- D. RB pressure is too high.

SOURCE: VCS IB-1 Exam Bank # 739

56. 076A3.02 001/ ROT2G3/ SROT2G3/ 3.7/3.7/ C/A/ NEW/ SM00301/ BOTH/ MM72

The unit is in MODE 3. Train "A" of the service water system has been declared inoperable for testing, and the "A" and "C" service water pumps have been racked up on the "A" train with both switches in NORMAL-AFTER-STOP. Which one of the following describes the automatic response of the "A" train of service water following a loss of offsite power?

- ✓A. Both the "A" and "C" service water pumps remain idle.
- B. The "A" service water pump starts at ESFLS step 3.
- C. The "C" service water pump starts at ESFLS step 3.
- D. Both the "A" and "C" service water pumps start at ESFLS step 3.

REF: IB-1, page 25, SOP-117, rev 18, precaution 2

SOURCE: NEW (MSM)

57. 076AK2.01 001/ ROT1G1/ SROT1G1/ 2.6/3.0/ MEMORY/ MOD/ SM00301/ BOTH/ ME49

Which ONE of the following describes the function of RM-L1, Primary Coolant Letdown Monitor?

- A. Has no automatic interlocks; provides indication of failed fuel only after shutdown due to N-16 masking.
- B. Isolates letdown on hi radiation; provides indication of failed fuel only after shutdown due to N-16 masking.
- ✓C. Has no automatic interlocks; provides indication of failed fuel at power.
- D. Isolates letdown on hi radiation; provides indication of failed fuel at power.

REF: GS-9, revision 6, pages 20,21

SOURCE: Modified VCS GS-9 Exam Bank # 1079

Given the following conditions:

- Instrument Air Compressor "A" (XAC-3A) is running, its MCB switch is in normal after start.
- Instrument Air Compressor "B" (XAC-3B) is NOT running, its MCB switch is in normal-after-stop.
- The supplemental (Breathing Air) compressor is aligned to the Instrument air header but is not running.
- The supply breaker to Instrument Air Compressor "A" trips due to overload.
- No operator action is taken and Instrument Air header pressure is now 77 psig.

Which one of the following describes the expected status of the air compressors?

- A. No instrument air compressors are running.
- ✓B. Only the "B" instrument air compressor is running.
- C. Only the supplemental instrument air compressor is running.
- D. Both the "B" instrument air compressor and the supplemental air compressor are running.

REF: TB-12, Revision 7, pages 13,14,22

SOURCE: NEW (MEE)

The electric fire pump is out of service for maintenance. Following approximately one hour of operation, the diesel fire pump trips. The ColorGraphics screen for this component indicates alarm conditions on engine overspeed, engine high water temperature, and AC power failure to the battery charger.

Wishing to restore this component to service promptly, a control room operator pushes the "DIESEL PUMP START" pushbutton on XCP-6040; however, the diesel fire pump fails to start.

Which one of the following conditions is necessary for the diesel fire pump to be started remotely?

- ✓A. The overspeed trip must be reset locally.
- B. The high temperature condition must be reset locally.
- C. AC power must be restored to the battery charger.
- D. The operator must allow 15 seconds to elapse from the last start attempt and depress the pushbutton again.

REF: GS-11, page 12, 15, fig GS11.43

SOURCE: NEW (MSM)

60. 103A1.01 001/ ROT2G3/ SROT2G2/ 3.7/3.1/ MEMORY/ NEW/ SM00301/ BOTH/ ME64

Which one of the following is correct regarding the use of adverse containment values in the EOPs?

- A. Once the adverse radiation level setpoint or containment pressure setpoint is exceeded, the adverse values must be used throughout the recovery, until Engineering conducts an evaluation.
- ✓B. If containment pressure decreases below the adverse setpoint after it has been exceeded, the normal values are used. Once the adverse radiation level setpoint is exceeded, the adverse values must be used throughout the recovery, until Engineering conducts an evaluation.
- C. If radiation levels decrease below the adverse setpoint after it has been exceeded, the normal values are used. Once the containment pressure setpoint is exceeded, the adverse values must be used throughout the recovery, until Engineering conducts an evaluation.
- D. If containment pressure and radiation levels decrease below their adverse setpoints after they have been exceeded, the normal values are used.

REF: OAG-103.4, Revision 3, page 8

SOURCE: NEW (MEE)

61. G2.1.20 001/ ROT3/ SROT3/ 4.3/4.2/ MEMORY/ NEW/ SM00301/ BOTH/ ME36

Which one of the following represents the proper use of a Reference Use procedure?

- Also Acceptable*
- ✓A. The procedure may be performed from memory but the user must reference the procedure after its completion to validate completion of required action.
 - B. The procedure is readily available for reference. The procedure may be performed completely from memory but the user is responsible for results.
 - ✓C. The procedure must be referenced prior to the task and periodically during the performance.
 - D. Each step of the procedure must be referenced prior to performing that step.

REF: SAP-123, Procedure Use and Adherence, pages 3, 14

SOURCE: NEW (1998 Watts Bar Exam)

62. G2.1.22 001/ ROT3/ SROT3/ 2.8/3.3/ MEMORY/ NEW/ SM00301/ BOTH/ ME55

Which one of the following is the Technical Specification definition of MODE 4 (Hot Shutdown) operations?

- A. $K_{eff} < .95; \leq 200^{\circ}\text{F}$
- B. $K_{eff} < .95; 350^{\circ}\text{F} > T_{avg} > 200^{\circ}\text{F}$
- C. $K_{eff} < .99; T_{avg} \geq 350^{\circ}\text{F}$
- ✓D. $K_{eff} < .99; 350^{\circ}\text{F} > T_{avg} > 200^{\circ}\text{F}$

REF: Tech Spec Definitions, page 1-7

SOURCE: NEW (MEE)

63. G2.1.29 001/ ROT3/ SROT3/ 3.4/3.3/ C/A/ NEW/ SM00301/ BOTH/ MM77

A valve through which fluid is flowing is to be placed in the CLOSED position as a part of a valve lineup. The cubicle is designated as a high radiation area, with the highest exposure reading being 200 mRem/hr, occurring on contact with the bonnet of the valve. The closing of the valve is anticipated to take 1 minute. The boundary for the high radiation area is located approximately 3 feet from the valve, which is in plain view from the boundary.

Which one of the following is an acceptable way to perform an INDEPENDENT VERIFICATION on this valve per SAP-153, "Independent Verification"?

- A. Observe the valve alignment from the high radiation area boundary.
- B. Observe the valve alignment at the valve itself (in the high radiation area).
- C. Do not observe the valve alignment; rather, observe the valve's stem position from the boundary of the high radiation area.
- ✓D. Perform a normal independent verification despite the valve's location in a high radiation area.

REF: SAP-153

SOURCE: NEW (MSM)

64. G2.2.11 001/ ROT3/ SROT3/ 2.5/3.4/ MEMORY/ NEW/ SM00301/ BOTH/ MM78

A bypass authorization request, prepared per SAP-148, "Temporary Bypass, Jumper, and Lifted Lead Control," requires prior PSRC and NSRC review for which one of the following conditions?

- A. A review indicates that system operability will be affected.
- B. A review indicates that 10 CFR 50 Appendix R fire protection criteria are impacted.
- C. A review indicates that Seismic or blowout provisions are being diminished.
- ✓D. A review indicates that a full safety evaluation is required per 10 CFR 50.59.

REF: SAP-148

SOURCE: NEW (MSM)

Given the following conditions at a work site:

- Airborne activity - 3 DAC
- Radiation level - 40 mrem/hr.
- Radiation level with shielding - 10 mrem/hr.
- Time to place shielding - 15 minutes.
- Time to conduct task WITH respirator - 1 hour.
- Time to conduct task WITHOUT respirator - 30 minutes.

Assumptions:

- The airborne dose with a respirator will be zero.
- A dose rate of 40 mrem/hr will be received while placing the shielding.
- All tasks will performed by one worker.
- Shielding can be placed in 15 minutes with or without a respirator.

Which ONE of the following would result in the lowest whole body dose?

- A. Conduct task WITHOUT respirator or shielding.
- B. Conduct task WITH respirator and WITHOUT shielding.
- C. Place shielding while wearing respirator and conduct task WITH respirator.
- ✓D. Place shielding while wearing respirator and conduct task WITHOUT respirator.

REF:

SOURCE: NEW (1998 Watts Bar Exam)

A member of the search and rescue team of volunteers has received 2 REM TEDE this year. He spent 15 minutes in an area with a general area radiation level of 40 R/hr gamma , while searching for missing persons known to be injured in a waste gas decay tank explosion. Relief searchers are standing by.

Which one of the following is the MAXIMUM additional whole body exposure that this individual may voluntarily obtain in accordance with EPP-011, "Personnel Search And Rescue", while searching for other victims?

- A. 0
- B. 2 Rem
- ✓C. 15 Rem
- D. 17 Rem

REF: EPP-020, EPP-011

SOURCE: 1999 RO Exam

67. G2.3.9 001/ ROT3/ SROT3/ 2.5/3.4/ C/A/ NEW/ SM00301/ BOTH/ ME62

Which one of the following describes the correct sequence for establishing a containment purge?

- ✓A. Take one of the purge exhaust isolation valve switches to OPEN then AUTO, hold the switch for the other purge exhaust isolation valve to OPEN while simultaneously starting one or both of the purge exhaust fans. Then open the purge supply isolation valves, start the purge supply fans.
- B. Take both of the purge exhaust isolation valve switches to OPEN then AUTO, then start the purge exhaust fans. Then open the purge supply isolation valves, start the purge supply fans.
- C. Take one of the purge supply isolation valve switches to OPEN then AUTO, hold the switch for the other purge supply isolation valve to OPEN while simultaneously starting one or both of the purge supply fans. Then open both of the purge exhaust isolation valves, and start the purge exhaust fans.
- D. Take both of the purge supply isolation valve switches to OPEN then AUTO, then start the purge supply fans. Then open both of the purge exhaust isolation valves, and start the purge exhaust fans.

REF: AB-17, Revision 7, page 19,20

SOURCE: NEW (MEE)

68. G2.4.22 001/ ROT3/ SROT3/ 3.0/4.0/ C/A/ BANK/ SM00301/ BOTH/ MM81

The plant has experienced a large break LOCA. The crew has transitioned from EOP-1.0, "Reactor Trip/Safety Injection Actuation," to EOP-2.0, "Loss of Reactor or Secondary Coolant." The following conditions exist:

- "A" S/G N/R level is 38%, EFW flow is 120 gpm
- "B" S/G N/R level is 42%, EFW flow is 110 gpm
- "A" S/G N/R level is 42%, EFW flow is 110 gpm
- RCS pressure is 100 psig and decreasing
- No RCPs are operating
- Core exit thermocouples are 705°F
- RVLIS N/R level is 53%
- Containment pressure is 37 psig

Which one of the following is the correct procedure to use for these conditions?

- A. EOP-14.1, "Response to Degraded Core Cooling"
- B. EOP-17.0, "Response to High Reactor Building Pressure"
- ✓C. EOP-15.0, "Response to Loss of Secondary Heat Sink"
- D. EOP-14.0, "Response to Inadequate Core Cooling"

REF: EOP-12.0, Revision 11

SOURCE: VCS Exam Bank # 4367

69. G2.4.7 001/ ROT3/ SROT3/ 3.1/3.8/ MEMORY/ NEW/ SM00301/ BOTH/ ME65

Which one of the following is the reason for reducing Tave to less than 500 degrees if the primary coolant specific activity exceeds 100/E bar microcuries per gram?

- A. Prevent additional fuel cladding oxidation and pellet cladding interaction.
- ✓B. Prevent exceeding dose limits following a steam generator tube rupture.
- C. Enhances the ability of the mixed bed demineralizers to remove ionic fission products.
- D. Minimize the deposition of particulate fission and activation products on surfaces within the core.

REF: Tech Spec Basis 3/4.4.8, page B3/4 4-5

SOURCE: NEW (MEE)

70. WE04EK2.1 001/ ROT1G2/ SROT1G1/ 3.5/3.9/ C/A/ NEW/ SM00301/ BOTH/ ME33

Given the following conditions:

- RCS pressure is 1900 psig and decreasing.
- PZR level is decreasing.
- AB sump level is increasing.
- All S/G pressures are 850 psig.

Which one of the following is the most probable cause of these conditions?

- Also acceptable from*
- A. Leak in the RHR pump suction line from the RCS.
 - ✓B. Leak in an RCS sample line.
 - C. Stuck open Main Steam atmospheric relief.
 - D. Stuck open PZR PORV.

REF: EOP-2.5 Lesson Plan, Revision 7, page 10

SOURCE: NEW (MEE)

Given the following conditions:

- A steam line break has occurred.
- RB pressure is 2.8 psig.
- All three SG wide range levels are 20%.
- No EFW pumps are available.
- Safety Injection has been activated and SI flow has been verified.
- RCS temperature and pressure are increasing.

Which one of the following describes when all available pressurizer PORVs should be opened?

- A. Any SG wide range level decreases to < 15 %.
 - B. RVLIS narrow range level decreases to 40%.
 - ✓C. Pressurizer pressure exceeds to 2335 psig.
 - D. Core Exit thermocouples exceed 1200°F.
- REF: EOP-15, Revision 11, Caution prior to step 4, page 3
SOURCE: 1997 RO Exam #55

The crew has entered EOP-16.0, "Response to Imminent Pressurized Thermal Shock" following a small break LOCA. They have verified adequate subcooling and RVLIS level. Which one of the following describes the reason for establishing normal charging?

- ✓A. Eliminate SI flow as a source of RCS cooldown and the possibility of SI causing subsequent pressurization.
 - B. Allow use of Auxiliary spray in the event that RCPs cannot be used during RCS depressurization.
 - C. Reduce the required RVLIS minimum level, allowing RCP restart to equalize system temperatures.
 - D. Reduce unnecessary injection flow because subsequent minimum values for subcooling will be lower than normal SI termination criteria.
- REF: EOP-16.0 lesson plan, Revision 8, page 8
SOURCE: 1997 RO exam # 43

73. WE09EK2.2 001/ ROT1G1/ SROT1G1/ 3.6/3.9/ C/A/ NEW/ SM00301/ BOTH/ ME38

A plant cooldown and depressurization is in progress using EOP-1.3, "Natural Circulation Cooldown". Due to an electrical fault, only "B" & "C" CRDM fans are available. Which one of the following describes the effect on the plant cooldown limits if the "B" CRDM fan trips and cannot be restarted?

- A. A GREATER amount of RCS subcooling will be required and the maximum cooldown rate will be LOWER.
- ✓B. A GREATER amount of RCS subcooling will be required and the maximum cooldown rate will be THE SAME.
- C. THE SAME amount of RCS subcooling will be required and the maximum cooldown rate will be LOWER.
- D. THE SAME amount of RCS subcooling will be required and the maximum cooldown rate will be THE SAME.

REF: EOP-1.3, Revision 10, step 4, page 4

SOURCE: NEW (MEE)

74. WE11EK1.1 001/ ROT1G2/ SROT1G2/ 3.7/4.0/ C/A/ NEW/ SM00301/ BOTH/ ME39

A large LOCA has occurred, the control room team transitions to EOP-2.0, "Loss of Reactor or Secondary Coolant".

- RWST level is 18% and decreasing.
- RHR sump level is 411 feet and increasing.

Which one of the following describes the correct procedure path?

- A. Transfer to EOP-2.2, "Transfer to Cold Leg Recirculation" and establish cold leg recirculation.
- ✓B. Transfer to EOP-2.2, then transfer to EOP-2.4, "Loss of Emergency Coolant Recirculation". When RHR sump level reaches 413 feet, transfer back to EOP-2.2 and establish cold leg recirculation.
- C. Transfer to EOP-2.2, then transfer to EOP-2.4, and complete it even if RHR level eventually reaches 413 feet.
- D. Stay in EOP-2.0 until RHR sump level is > 413 feet.

REF: EOP-2.2, Revision 11, step 1; EOP-2.4, Revision 9, Caution before step 1.

SOURCE: NEW (MEE)

75. WE12EK1.2 001/ ROT1G1/ SROT1G1/ 3.5/3.8/ C/A/ NEW/ SM00301/ BOTH/ ME40

EOP-3.1, "Uncontrolled Depressurization of All Steam Generators" has a Caution to maintain minimum EFW flow of 50 gpm to each SG that has a Narrow Range level less than 30%[50%]. Which one of the following describes the basis for the flow value and the reason for maintaining it?

- A. 50 gpm provides adequate heat removal for maximum decay heat, ensures adequate heat sink is maintained.
- B. 50 gpm provides adequate heat removal for maximum decay heat, ensures components remain wet to minimize thermal stresses.
- C. 50 gpm is the lowest verifiable value, ensures adequate heat sink is maintained.
- ✓D. 50 gpm is the lowest verifiable value, ensures components remain wet to minimize thermal stresses.

REF: EOP-3.1 Lesson Plan, Revision 11, page 11

SOURCE: NEW (MEE)

76. 001A2.15 001/ / SROT2G1/ 3.6/4.2/ C/A/ NEW/ SM00301/ SRO/ MM14

The unit is at 95% power, ramping down to 50% power with the rod control system in automatic. Annunciator XCP-620, 2-3, "CMPTR NIS PR TILTS" alarms and it is noted that one control rod of control bank D indicates 13 steps above the group step demand counter.

Which one of the following actions should the crew take?

- A. Stop the load change and immediately withdraw bank D to within 12 steps of the misaligned control rod.
- ✓B. Stop the load change and verify that the misaligned rod is moveable.
- C. Stop the load change and determine that shutdown margin meets the requirements of technical specifications.
- D. Trip the reactor and enter EOP-1.0.

REF: AOP-403.5

SOURCE: NEW (MSM)

77. 006K6.05 001// SROT2G2/ 3.0/3.5/ C/A/ NEW/ SM00301/ SRO/ MM03

The unit is operating at full power under the following conditions:

- The A CCW pump is operating in slow speed.
- The B CCW pump is operable and idle.
- The C CCW pump is out of service for maintenance.
- The A charging pump is in service.
- The B and C charging pumps are out of service for maintenance.
- Annunciator XCP-614, 2-6, "CCW TO CHG PP A VLV NOT FULL OPEN" is received.
- Valve XVG-9684A-CC, "CC WTR TO CHG PP A," indicates shut.

Which one of the following describes the operational implications of the conditions described above?

- A. Operations may continue indefinitely.
- B. The "A" charging pump must be stopped unless XVG-9684A-CC is opened within 10 minutes.
- C. Either "B" or "C" charging pump must be restored to operable status within 72 hours.
- ✓D. A unit shutdown must be commenced within 1 hour unless XVG-9684A-CC is opened.

REF: Lesson Plan 1B-2, Revision 9, page 25; T/S 3.7.3 & 3.5.2

SOURCE: NEW (MSM)

78. 009EA2.23 001// SROT1G2/ 2.8/3.3/ MEMORY/ MOD/ SM00301/ SRO/ MM04

Which one of the following states the basis for the reactor coolant pump tripping criteria at 1400 psig per EOP-1.0, "Reactor Trip/Safety Injection Actuation?"

- A. Minimizes two phase flow in a large break LOCA.
- ✓B. Conserves inventory in a small break LOCA.
- C. Reduces overall plant heat loads.
- D. Prevents damage to the reactor coolant pumps.

SOURCE: Modified VCS Exam Bank # 2129

79. 011EG2.4.7 001// SROT1G1/ 3.1/3.8/ C/A/ NEW/ SM00301/ SRO/ ME58

Which one of the following would require the operator to secure ALL RCP's while in EOP-1.0, Reactor Trip/Safety Injection Actuation?

- A. Containment pressure is 3.5 psig; FI-943 CHG LOOP B CLD/HOT LG FLOW GPM indicating 0 gpm; RCS wide range pressure indicates 1350 psig.
- B. Containment pressure 7 psig; FI-943 CHG LOOP B CLD/HOT LG FLOW GPM indicating 0 gpm; RCS wide range pressure indicates 1450 psig.
- C. Containment pressure 10.5 psig; FI-943 CHG LOOP B CLD/HOT LG FLOW GPM indicating 400 gpm; RCS wide range pressure indicates 1450 psig.
- ✓D. Containment pressure is 14 psig; FI-943 CHG LOOP B CLD/HOT LG FLOW GPM indicating 400 gpm; RCS wide range pressure indicates 1550 psig.

REF: EOP 1.0 Revision 15, fold out page step 1

SOURCE: NEW (MEE) 2000 Farley RO #72

80. 025AA1.01 001// SROT1G2/ 3.6/3.7/ MEMORY/ NRC99301/ SM00301/ SRO/ ME03

The reactor was in Mode 4 on RHR cooling with the RCS intact. A loss of RHR cooling occurred for approximately 20 minutes. One RHR pump has been restored to operation. Which one of the following cooldown rate limit(s) is required in this situation?

- A. less than 30 °F
- ✓B. less than 50 °F
- C. less than 100 °F
- D. 100 °F per hour until cooled to 200 °F and then 50 °F per hour with Tav_g less than 200 °F.

REF: AOP 115.3, Revision 2, Page 4

SOURCE: 1999 RO Exam #92, changed one distractor

81. 026A2.08 001// SROT2G1/ 3.2/3.7/ C/A/ NEW/ SM00301/ SRO/ MM02

1.5 hours following a LOCA, the control room team has transitioned to EOP-2.4, "Loss of Emergency Coolant Recirculation." Containment pressure is 6 psig, 1 RBCU and 2 trains of RB Spray are operating.

Which one of the following describes the correct action to be taken with regard to RB Spray and the basis for this action?

- A. Both trains of RB Spray may be stopped after the 2 hour minimum run time established to control off-site doses.
- B. Both trains of RB Spray may be stopped, as only 1 RBCU is required under these conditions.
- C. Both trains of RB Spray may be stopped to increase the NPSH available to other ECCS pumps.
- ✓D. Both trains of RB Spray may be stopped to conserve the inventory available for core cooling.

REF: EOP 2.4 step 13

Lesson Plan for EOP 2.4, page 16

SOURCE: NEW (MSM)

82. 026AG2.4.11 001// SROT1G1/ 3.4/3.6/ MEMORY/ NEW/ SM00301/ SRO/ ME06

A total loss of Component Cooling Water has occurred. Which one of the following describes the preferred sources for establishing Charging Pump alternate cooling?

- A. Establish with Demin Water, if that is not available, use Chilled Water.
- B. Establish with Demin Water, if that is not available, use Fire Service.
- ✓C. Establish with Chilled Water, if that is not available, use Demin Water.
- D. Establish with Chilled Water, if that is not available, use Fire Service.

REF: AOP-118.1, Step 4, Revision 1, page 3

SOURCE: NEW (MEE)

83. 037AK3.03 001// SROT1G2/ 3.1/3.3/ C/A/ NEW/ SM00301/ SRO/ ME67

Given the following plant conditions:

- 100% power.
- A steam generator tube leak has been identified on C S/G.
- Tavg-Tref mismatch = 0°F.
- Letdown flow is 45 gpm.
- Charging flow on FI-122 is 135 gpm.
- Pressurizer level is stable at 58%.

Which ONE of the following is the closest estimate of the primary to secondary leak rate?

- A. 80 gpm
- B. 90 gpm
- ✓C. 105 gpm
- D. 115 gpm

REF: AB-3, Revision 7, page 38,49

SOURCE: NEW (MSM)

84. 038EA2.01 001// SROT1G2/ 4.1/4.7/ MEMORY/ NEW/ SM00301/ SRO/ MM09

EOP-4.0, "Steam Generator Tube Rupture," directs the operator to isolate emergency feedwater flow to a ruptured S/G. Which one of the following describes the conditions and reason for the isolation?

- ✓A. When the ruptured S/G NR level is greater than 30%, to prevent a rapid depressurization of the ruptured S/G due to collapse of the vapor space.
- B. When the ruptured S/G NR level is greater than 30%, to ensure adequate S/G level for RCS heat removal.
- C. When the ruptured S/G NR level is greater than 50%, to provide adequate S/G water volume for future S/G steaming, if required.
- D. When the ruptured S/G NR level is greater than 50%, to increase flow resistance at the rupture, minimizing leak rate.

SOURCE: derived from VCS EB questions 2474, 2811, & 2493

Given the following plant conditions:

- The plant is operating at 45% power.
- CNDSR A VACUUM LO annunciator is lit.
- Condenser vacuum is 9 inches Hg absolute.

Which one of the following operator actions should be taken, assuming all other plant equipment operates as designed?

- A. Start the standby condenser vacuum pump.
- ✓B. Trip the turbine and enter AOP-214.1, "Turbine Trip."
- C. Reduce turbine load to compensate for vacuum loss.
- D. Trip the reactor and then trip the turbine and enter EOP-1.0, "Reactor Trip/Safety Injection Actuation."

SOURCE: VCS Exam Bank # 2029

The unit has experienced a loss of offsite power. Upon reaching step 26 of EOP-1.0, "Reactor Trip/Safety Injection Actuation," which directs that operators verify that both ESF buses are energized by offsite power, operators find that offsite power is not available.

The ALTERNATIVE ACTION for step 26 of EOP-1.0 directs that operators "REFER TO AOP-304.3, LOSS OF ALL BALANCE OF PLANT BUSES," to supply necessary BOP loads from ESF buses."

Which one of the following best describes how operators should proceed?

- A. Operators should transition from EOP-1.0 to AOP-304.3, perform the actions required by AOP-304.3, and proceed to EOP-1.5, "Rediagnosis."
- B. Operators should transition from EOP-1.0 to AOP-304.3, perform the actions required by AOP-304.3, and reperform EOP-1.0 from the beginning.
- ✓C. Operators should perform the actions required by AOP-304.3 concurrently with proceeding through EOP-1.0.
- D. Operators should perform the actions required by AOP-304.3 and return to step 27 of EOP-1.0.

REF: OAG-103.5, 6.4.e

EOP-1.1 Step 9

SOURCE: NEW (MSM)

87. 057AG2.1.33 001// SROT1G1/ 3.4/4.0/ C/A/ NEW/ SM00301/ SRO/ MM12

The unit is at 100% power. Which one of the following conditions will satisfy the Limiting Condition for Operation specified in Technical Specification 3/4.8.3, "Onsite Power Distribution" (assume all other electrical lineups normal)?

- A. Inverter XIT-5901 aligned to its alternate AC source.
- B. Inverters XIT-5901 and XIT-5902 disconnected from DPN-1HA to allow for cell replacement in the 1A battery.
- ✓C. Inverter XIT-5901 powered by DC alone (isolated from APN-1FA and APN-1DA2Y).
- D. Inverter XIT-5901 powered by AC alone to support battery maintenance (isolated from DPN-1HA).

REF: T/S 3/4.8.3

SOURCE: NEW (MSM)

PROVIDE TS 3/4.8.3

88. 061G2.1.32 001// SROT2G1/ 3.4/3.8/ MEMORY/ NEW/ SM00301/ SRO/ MM13

Following startup of the turbine-driven emergency feedwater pump, SOP-211, "Emergency Feedwater System," directs the operator to verify the speed of the pump as being between 4116 and 4200 rpm. Which one of the following describes the basis for this limit?

- A. To avoid an overspeed condition during runout due to a postulated discharge pipe break.
- B. To limit emergency feedwater flow to prevent exceeding allowable cooldown rates.
- ✓C. To prevent exceeding available NPSH during a design transient.
- D. To prevent the inhibiting of flow from the motor-driven emergency feedwater pumps due to high discharge pressure from the turbine-driven pump.

REF: SOP-211, Lesson Plan IB-3, page 74

SOURCE: NEW (MSM)

Following an SI, the following alarms are received on panel XCP-604:

- "SWBP A(B) SUCT DISCH PRESS LO"
- "SW FR RBCU 1A/2A FLO LO"
- "SW FR RBCU 1A/2A PRESS LO"

SWBP A discharge flow rate indicates 3800 gpm on FI-4466.

Which one of the following would cause the conditions described above?

- A. A piping failure has occurred downstream of the train A RBCU SW backpressure orifices (XPS-29A).
 - ✓B. A piping failure has occurred upstream of the 1A RBCU.
 - C. The A SW booster pump has failed.
 - D. MVB-3106A, the A SW booster pump discharge isolation valve, has failed closed.
- REF: Lesson Plan 1B-1, ARP-001-XCP-604, AOP-117.1 Rev 2
SOURCE: NEW (MSM)
Provide DWG D-302-222

The unit is at full power when the control room is informed of a fire in zone AB-1.1.3. At this time, it is determined that the fire can be combatted without shutting down the plant. In assessing the potential for equipment loss, which one of the following represents the source for information on safety-related equipment in the affected fire zone?

- A. EPP-013, "Fire Emergency"
- B. FEP-1.0, "Fire Emergency Procedure"
- ✓C. E-023-000 series drawings
- D. The Simplex ColorGraphics Terminal

REF: GS-11, revision 7, page 30; EPP-013, rev 12, note 4.1.4.M, FEP-1.0, rev 10
SOURCE: NEW (MSM)

91. G2.1.1 001// SROT3/ 3.7/3.8/ MEMORY/ NEW/ SM00301/ SRO/ ME01

Engineering has developed a graph of VCT level versus VCT pressure that will be used as an operator aid. Which one of the following positions represents the minimum level of approval for posting this as an operator aid?

- A. Control Room Supervisor
- B. Shift Supervisor
- ✓C. Operations Supervisor
- D. Manager, Operations

REF: OAP-105.1, Rev. 2, page 2

SOURCE: NEW (MEE) Vogtle 99-301 SRO exam

92. G2.1.34 001// SROT3/ 2.3/2.9/ MEMORY/ NEW/ SM00301/ SRO/ ME68

The unit is undergoing a heatup from MODE 5 to MODE 4. RCS temperature is 195 degrees. A reactor coolant sample shows dissolved oxygen concentrations of 0.5 ppm. Which ONE of the following is the correct action?

- A. Add hydrogen before exceeding 200°F.
- ✓B. Add hydrazine before exceeding 200°F.
- C. Add hydrogen before exceeding 350°F.
- D. Add hydrazine before exceeding 350°F.

REF: Tech Spec. 3.4.7, GOP-1 step 3.1

SOURCE: NEW (MEE)

93. G2.2.17 001// SROT3/ 2.3/3.5/ C/A/ NEW/ SM00301/ SRO/ MM18

The unit is at 100% power with all safety-related systems, structures, and components OPERABLE. Which one of the emergent maintenance items below MUST be considered Priority 1 maintenance per SAP-300, "Conduct of Maintenance"?

- A. The "A" charging pump must be removed from service for motor repair.
- B. The outboard containment air lock door was found to have a damaged seal and the inboard door has been locked shut.
- C. One group of RBCUs is inoperable due to a cooling water leak.
- ✓D. The "A" motor-driven emergency feedwater pump is inoperable due to a bearing failure.

REF: Tech Specs: 3.5.2, 3.6.1.3, 3.6.2.3, 3.7.1.2; SAP-300, step 6.1.19 & 20

SOURCE: NEW (MSM)

PROVIDE T/S 3.5.2; 3.6.1.3; 3.6.2.3; 3.7.1.2

94. G2.2.21 001// SROT3/ 2.3/3.5/ MEMORY/ NEW/ SM00301/ SRO/ MM19

SAP-205, "Status Control and Removal and Restoration," allows systems and components to be placed in a restricted service mode and energized provided a number of conditions are met. Which one of the following is a condition which must be met prior to releasing a component for restricted service?

- A. Post-maintenance testing has demonstrated the component to be operable.
- B. A plant operator has been posted at the component for the period of restricted service.
- ✓C. No credit has been taken for the component in meeting technical specification limiting conditions for operation.
- D. The component in question is not located directly adjacent to required safety-related equipment.

REF: SAP-205, rev 9, page 5

SOURCE: NEW (MSM)

95. G2.2.29 001// SROT3/ 1.6/3.8/ MEMORY/ BANK/ SM00301/ SRO/ MM20

Which one of the following conditions must exist prior to beginning fuel handling operations in the Fuel Handling Building?

- A. A reactor operator-qualified fuel handling supervisor must be present.
- B. The Shift Supervisor must be physically within the fuel handling building area.
- ✓C. Both fuel handling building ventilation trains must be operable.
- D. Both fuel handling building ventilation trains must be in service.

SOURCE: VCS Exam Bank #861

96. G2.4.23 001// SROT3/ 2.8/3.8/ C/A/ NEW/ SM00301/ SRO/ MM21

The control room team is responding to an event. The Shift Engineer has completed the critical safety function status trees and reports the following:

- Subcriticality: Orange - go to EOP-13.0, "Response to Abnormal Nuclear Power Generation"
- Core Cooling: Green
- Heat Sink: Red - go to EOP-15.0, "Response to Loss of Secondary Heat Sink"
- Integrity: Green
- Containment: Red - go to EOP-17.0, "Response to High Reactor Building Pressure"
- Inventory: Green

While EOP-15.0 is being executed, the Shift Engineer reports that the Red condition on Heat Sink goes to green. Which one of the following describes the action the control room team should take?

- A. Exit EOP-15.0, transition to EOP-13.0
- B. Complete EOP-15.0, transition to EOP-13.0
- C. Exit EOP-15.0, transition to EOP-17.0
- ✓D. Complete EOP-15.0, transition to EOP-17.0

REF: OAG-103.4, rev 3

SOURCE: NEW (MSM)

97. G2.4.40 001// SROT3/ 2.3/4.0/ C/A/ NEW/ SM00301/ SRO/ MM22

An event has occurred which results in tripping the plant. After plant conditions have been stabilized, it is recognized that conditions which existed immediately post-trip satisfied conditions for a Notification of Unusual Event. These conditions no longer exist.

Which one of the following represents the correct course of action under EPP-001, "Activation and Implementation of Emergency Plan"?

- A. Notify State and local governments within 15 minutes, and the NRC within 1 hour, of the simultaneous declaration and termination of a Notification of Unusual Event.
- B. Notify State and local governments within 15 minutes, and the NRC within 1 hour, of the discovery of this condition.
- C. Notify State and local governments and the NRC within 1 hour of the simultaneous declaration and termination of a Notification of Unusual Event.
- ✓D. Notify State and local governments and the NRC within 1 hour of the discovery of this condition.

REF: EPP-001, rev 24, step 5.3.A

SOURCE: NEW (MSM)

98. G2.4.43 001// SROT3/ 2.8/3.5/ MEMORY/ NEW/ SM00301/ SRO/ ME37

Which one of the following describes the operation of the Early Warning Siren System?

- A. When less than 90% of the sirens are ACTIVE the associated Tech. Spec. action statement must be entered.
- B. When less than 90% of the sirens are ACTIVE this must be reported per NL-122.
- C. When less than 75% of the sirens are ACTIVE the associated Tech. Spec. action statement must be entered.
- ✓D. When less than 75% of the sirens are ACTIVE this must be reported per NL-122.

REF: EPP-026, Revision 1, page 7

SOURCE: NEW (MEE)

99. WE01EK3.2 001// SROT1G1/ 3.0/3.9/ MEMORY/ NEW/ SM00301/ SRO/ MM24

Following a complicated reactor trip, the control room is considering transitioning to EOP-1.5, "Rediagnosis." Which one of the following represents valid entry conditions for EOP-1.5?

- ✓A. A safety injection actuation is required and EOP-1.0, "Reactor Trip/Safety Injection Actuation" is complete.
- B. A safety injection actuation has occurred and EOP-1.0, "Reactor Trip/Safety Injection Actuation" is being completed.
- C. Reactor coolant system pressure is trending toward the safety injection actuation setpoint and EOP-1, "Reactor Trip/Safety Injection Actuation" is complete.
- D. Reactor coolant system pressure is trending toward the safety injection actuation setpoint and EOP-1, "Reactor Trip/Safety Injection Actuation" is being completed.

REF: EOP-1.5, rev 2

SOURCE: NEW (MSM)

The plant was at 100% when a SB LOCA occurred causing an SI and implementation of EOP-1.0, Reactor Trip/Safety Injection Actuation. The CRS is directing action per EOP-2.1, Post Loca Cooldown and Depressurization with the following conditions:

- Tc is 450°F.
- RCS Subcooling is 50°F.
- No RCPs are running.
- Pressurizer level is below the indicating range.
- The pressurizer heater control switches are in the OFF position.
- Charging pumps A and B are running in the injection mode.

The RO begins to refill the pressurizer by depressurizing the RCS in accordance with EOP-2.1 when pressurizer level rises rapidly. Which one of the following is the source of the rapid increase in pressurizer level?

- A. SI flow
- B. Accumulators
- ✓C. Core voiding
- D. RHR flow

REF: EOP-2.1, Revision 9, step 8, page 6

SOURCE: Modified 1997 RO #45