

Final Submittal

**TURKEY POINT DEC. 2003
EXAM 50-250/2003-301**

DECEMBER 3 - 15, 2003

1. Combined RO/SRO Written Exam with KAs,
Answers, References, and Analysis

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

1.001K3.01 001

Which ONE of the following describes the initial response of the unit to a dropped rod at 100% reactor power assuming the unit does not trip?

- A. Pressurizer level increases and letdown flow decreases.
- B. Pressurizer level decreases and letdown flow decreases.
- C. Pressurizer level increases and letdown flow increases.
- D. Pressurizer level decreases and letdown flow increases.

Question Source: Surry 2002-301 NRC Exam

Distractor Analysis:

B - Correct; the initial response of the plant to a dropped rod is for pressure, temperature and power to decrease. The decrease in reactor pressure will cause a reduction in d/p across the letdown orifices and hence a decrease in flowrate.

A, C, & D - Incorrect; each distractor has one component in the AND statement that is incorrect based on plant response described above.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

2. 003K3.04 001

The following conditions exist on Unit 4:

- All Reactor Coolant Pumps (RCPs) are running.
- Reactor Power is being held at 45% per a request from Chemistry
- NIS Power Range Channels read:
N41 = 44%; N42 = 46%; **N43 = 45%**; N44 = 46%

Which ONE of the following describes the effect on the RPS if the high pressure root line for RCS flow on LOOP 'B' breaks? (Disregard any effects on containment.)

WPS will see a:

- A. ✓ low flow signal on all channels of 'B' LOOP and will send a reactor trip signal.
- B. low flow signal for only one channel of 'B' LOOP flow and give annunciator **B-1/2, "RX COOLANT LOOP B LO FLOW."**
- C. high flow signal on only one channel of 'B' LOOP. No reactor trip will occur.
- D. high flow signal on all channels of 'B' LOOP and therefore will be unable to process a low flow reactor trip for 'B' LOOP.

Distractor Analysis:

A - Correct; A single high pressure root line is common for all three flow transmitters. If this line fails, the pressure differential between it and the three low pressure root lines will drop, causing all three flow transmitters to generate low flow signals. Thus, the loop instrumentation will fail safe (produce a loop low flow signal) and since reactor power is above P-8 (45%) on 2/4 power channels, a reactor trip signal will be generated.

B - Incorrect; The high pressure root line is common to all three transmitters. Each flow transmitter has its own low pressure root line.

C - Incorrect; The low pressure root line failing shows up as an increased flow rate.

D - Incorrect; The low pressure root line failing shows up as an increased flow rate.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

3. 004Ai.04001

Which ONE of the following is the basis for reducing charging flow to the minimum required to maintain RCP Seal Injection following a loss of 120V Vital Instrument Panel 3P06, as required by Step 3.a, of 3-ONOQ-003.6, "Loss of 120V Vital Instrument Panel 3P06?"

- A. Reducing charging flow assures proper back pressure on the RCP # 2 seal and ensures the # 2 seal is not cocked.
- B. Reducing charging flow extends the time for recovery without tripping the Reactor on high pressurizer level.
- C. Minimizing the fill rate of the pressurizer extends the time for recovery without lifting a pressurizer PORV due to compressing the bubble.
- D. Minimizing charging pump speed ensures that a loss of charging does not occur due to low oil pressure to ensure that RCP Seal Injection is maintained.

Distractor Analysis:

- A. Incorrect. This is the basis for having RCS pressure greater than 325 psig.
- B. incorrect. In this case pressurizer level is not a concern because pressure will increase to the PORV setpoint prior to pressurizer level trip criteria being reached.
- C. Correct. The loss of 3P06 directly affects the normal control of the pressurizer pressure and level. Operator attention is necessary to maintain the pressurizer in normal level and pressure.
- D. Incorrect. Operational experience at PTN has shown that Charging pumps are prone to auto trip on low oil pressure when the speed of the charging pump is reduced to low values of less than 20% demand .

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

4. 004A4 19 001

Which ONE of the following describes the operation of the letdown isolation valve, LCV-460, from the control room?

(Assume the Normal/Bypass, keylock switch is in Normal.)

- A. bCV-460 cannot be closed unless all orifice isolation valves (CV-200's) are shut first.
- B. LCV-460 cannot be opened unless an orifice isolation valve (CV-200's) is open.
- C. When pressurizer level is less than 14%, LCV-460 will shut followed by the shutting of all orifice isolation valves (CV-200's).
- D. LCV-460 must be closed prior to opening any orifice isolation valve (CV-200's).

Distractor Analysis:

A - Correct; Per SD013/SYS.046,047 10/16/02 Pages 16 & 18

B - Incorrect; LCV-460 must be fully open prior to being able to open the CV-200's

C - Incorrect: PZR < 14% will cause CV-200's to close then LCV-460 will close

D - Incorrect; hCV-460 must be open prior to opening any orifice isolation valve

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

5. 00SA4.02 001

Unit 3 is in Mode 5 on RHR cooling. The temperature out of the RHR heat exchanger is being maintained at 125 °F.

Which ONE of the following describes the normal operation of HCV-758, RHR Heat Exchanger Outlet Flow Control Valve, and FCV-605, RHR Heat Exchanger Bypass Flow Control Valve?

- A HCV-758 automatically modulates to maintain heat exchanger outlet temperature and FCV-605 automatically modulates to maintain total RHR flow.
- B. HCV-758 must be manually adjusted to maintain total RHR flow and FCV-605 automatically modulates to maintain heat exchanger outlet temperature.
- C. HCV-758 must be manually adjusted to maintain heat exchanger outlet temperature and FCV-605 automatically modulates to maintain total RHR flow.
- D. HCV-758 automatically modulates to maintain heat exchanger outlet temperature and FCV-605 must be manually adjusted to maintain total RHR flow.

Question Source: Turkey Point exam bank question #1.1.24.21.2.6,M

Distractor Analysis:

A - Incorrect; HCV-758 does not automatically modulate

B - Incorrect; HCV-758 is used to control heat exchanger outlet temperature and FCV-605 is used to maintain total RHR flow.

C - Correct; Per SD021/SYS.050,062,064 11/19/02 Pages 12 & 25

D - Incorrect; HCV-758 does not automatically modulate however, FCV-605 does

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

6.005G24 49 001

Which ONE of the following is the correct group of immediate operator actions for a loss of RHR, in accordance with 3-ONOP-050, Loss of RHR?

and check that the Loop RHR Pump Suction Stop Valves are OPEN.

- B. Have a local operator maintain communication with the control room; have a local operator stay near the RHR pump until normal RHR flow is restored; and check that the RHR Discharge To Cold Leg Isolation Valves are OPEN.
- C. Have a local operator maintain communication with the control room and check RHR pump amps locally for signs of cavitation; calculate RCS heatup rate; determine the time required to reach saturation in RCS; and check that the Loop RHR Pump Suction Stop Valves are OPEN.

QUESTIONS REPORT

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Distractor analysis:

A- Correct; PTN procedure 3-ONOP-050, Loss of WHW, Steps 1 through 3 are IMMEDIATE ACTION steps. They include the following:

Dispatch An Operator To Monitor RHR Pumps As Follows:

- a. Obtain radio
- b. Monitor RHR pump locally
- c. Maintain communication with control room
- d. Stay near RHR pump until normal RHR Row is restored

Monitor RCS Heatup Rate As Follows:

- a. Plot core **exit** temperature every minute for 5 minutes
- b. Calculate RCS heatup rate
- c. Determine time required to reach saturation in RCS
- d. Report results to unit RCO and NPS
- e. Repeat this step every **15** minutes until RHR cooling is Restored

Check Loop 36 RHR Bump Suction Stop Valves - OPEN:

Verify RHR Discharge Bo Cold beg Isolation Valves are OPEN is step 4.

Verify that the RHR Pump is not Cavitating is step 6.

Reference: 3-ONOP-050, boss of RHR, Page 6-8.

QUESTIONS REPORT

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7.006K6 03 001

Control room operators are responding to a loss of Coolant Accident (LOCA). An operator monitoring the critical safety function status trees observes a RED path on CORE COOLING indicating implementation of EOP-FR-C.1, Response to Inadequate Core Cooling.

Which ONE of the following is the FIRST action to be taken if HHSI flow cannot be established to restore core cooling?

- A. Depressurize the RCS to inject accumulators.
- B. Increase AFW flow to maximum.
- C. Depressurize the RCS to allow low head safety injection.
- D. Start charging pumps to deliver maximum flow.

Question Source: Turkey Point exam bank question #1.1.26.47.3.4,M

Distractor Analysis:

- A - Incorrect; This is performed later in FR-C.1
- B - Incorrect: This is not addressed in FR-C.1
- C - Incorrect; No guidance given for depressurization of the RCS
- D - Correct; Per FR-C.1 Page 7 Step 3 RNO (Procedure approval date 4/3/02)

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

8. 007A1 01 001

Unit 4 letdown relief valve, RV-203, lifted and has subsequently been closed and reseated. When RV-203 lifted, annunciator A 7/1, PRESSURIZER RELIEF TANK HI TEMP/HI LEVEL HIPRESS/LOW LEVEL, alarmed.

The following conditions currently exist in the PRT:

- Temperature is 130 °F
- Pressure is 15 psig
- Level is 85%

Which ONE of the following describes the action that should be performed first in order to restore the PRT parameters?

- A. Reduce PRT temperature.
- B. Reduce PRT level.
- C. Reduce PRT pressure.
- D. Obtain a grab sample from the PRT.

Distractor Analysis:

A - incorrect; The PRT temperature is reduced by increasing level to 83% then lowering it to 68% as needed. The PRT is already greater than 83% therefore, level will have to initially be lowered

5 - Correct; Per OP-041.3 (Approval date 3/4/02)

C- Incorrect; initial step in reducing the PWT pressure is to verify that PRT level is between 68% and 83%. The PRT is already greater than 83% therefore, level will have to initially be lowered.

D - Incorrect; The PRT should not be opened for taking grab samples at this high pressure. There is no requirement/direction for taking PRT grab samples prior to restoring PRT parameters.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

9. 007EK2 02 001

The following events occur on Unit 4 while the Turbine Test Handle is in TEST:

- A loss of feed water has occurred.
- Reactor trip breaker 'A' is open.
- Reactor trip breaker 'B' **failed to open**.
- AMSAC has actuated.

Which ONE of the following will cause the turbine auto stop oil to dump?

- A. AMSAC via solenoid 20 ASB.
- B. AMSAC via solenoid 20 AST
- C. Reactor trip breakers via solenoid 20 ASB.
- D. Reactor trip breakers via solenoid 20 AST.

Distractor Analysis:-

A - Correct; Per SD 127/SYS. 089A dated 11/10/99 Pages 20 & 24 & Figures 14 & 14A

B - Incorrect; Due to the Turbine Test Handle being in TEST, the signal will not propagate to dump auto stop oil from solenoid 20 AST.

C - Incorrect; Since RTB 'B' failed to open it will not send the desired signal to the 20 ASB solenoid.

D - Incorrect; Due to the Turbine Test Handle being in TEST, the signal will not propagate to dump auto stop oil from solenoid 20 AST.

QUESTIONS REPORT

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10. 007G2.1 14001

3-OP-041.3, Pressurizer Relief Tank, Step 7.4.2.7 directs an operator to be "stationed at the Waste/Boron Panel to operate the PRT drain to sump valve LCV-3-1003B if necessary "while removing air from the PRT following maintenance.

Which ONE of the following is the basis for dispatching a plant operator to the Waste/Boron Panel?

It will ensure that if a:

- A. rapid pressure increase occurs, the drain valve could be immediately opened.
- B. rapid level decrease occurs, the drain valve could be immediately closed.
- C. **vacuum** is drawn in the PRT, the drain valve could be immediately closed.
- D. **level** increase begins, the drain valve could be immediately opened.

Bistractor analysis:

A - Correct; The PRT Drain to Sump, LCV-3-10038, switch is located on the W/B panel in the Auxiliary Building. Stationing of an operator at the panel will ensure that should a rapid pressure increase occur, the drain valve could be immediately opened.

Reference: 3-QP-041.3, Pressurizer Relief Tank, Step 7.4.2.7, Page 15;
3-BD-OQ-041.3 Pressurizer Relief Tank: Page 8.

QUESTIONS REPORT

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11. 008AG2.4 21 001

The crew is responding in accordance with E-I, Loss of Reactor or Secondary Coolant Pressurizer level has risen continuously even though the RCS pressure has been dropping steadily. All Reactor Coolant pumps are in operation.

Which ONE of the following leak locations is consistent with the plant conditions just described?

Weld break on:

- A. the pressurizer sample line.
- B. one of the CRDM nozzle penetrations.
- C. the line to Pressurizer PORV Block valve MOV-536.
- D. the Charging header connection to the RCS.

Question Source: Turkey Point Exam Bank Question #1.1.26.27.1.3,M

Distractor Analysis:

A - Incorrect; A weld break in the pressurizer sample line would be releasing water resulting in a decrease in water level inventory.

B - Incorrect; A weld break on the CRDM nozzle penetration would be releasing water resulting in a decrease in water level inventory.

C - Correct; This break would be releasing steam, causing the pressure decrease yet not resulting in a loss of water inventory.

D - Incorrect; A weld break on the charging header connection would be releasing water resulting in a decrease in water level inventory.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

12. 008G2 1 28 001

The following conditions exist on Unit 4 in Mode 1:

- 4A CCW pump is running.
- 4B CCW pump VPB Control Switch is in AUTO.
- 4C CCW pump is aligned to Train 'A with its VPB Control Switch in AUTO.

The 4A CCW pump momentarily experiences an overcurrent condition and the 4A CCW pump trips.

Which ONE of the following describes the automatic actions that take place to restore CCW flow?

The CCW pumps will sequentially start with the:

- A. 4B CCW pump starting first after a 20 second time delay and the 4C CCW pump starting 30 seconds after the 4B CCW pump start if needed to further increase discharge **flow rate**.
- B. 4B CCW pump starting first after a 20 second time delay and the 4C CCW pump starting 10 seconds after the 4B CCW pump start if needed to further increase discharge **flow rate**.
- C. 4B CCW pump starting first after a 20 second time delay and the 4C CCW pump starting 10 seconds after the 4B CCW pump start if needed to further increase discharge **pressure**.
- D. 4A CCW pump starting first after a 10 second time delay, the 4B CCW pump starting 10 seconds after the 4A CCW pump start, and the 4C CCW pump starting 10 seconds after the 4B CCW pump start if needed to further increase discharge **pressure**.

QUESTIONS REPORT

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Distractor Analysis:

A - Incorrect; The 4C CCW pump has a total time delay of 30 seconds from the time the 4A CCW pump tripped, as stated the total time to the start of the 4C CCW pump is 50 seconds.

B - incorrect; The CCW pump starts are triggered off of discharge pressure not discharge flow.

C - Correct; When CCW discharge pressure drops below 73 psig following the 4A CCW pump trip a time delay starts on the other CCW pumps to prevent simultaneous starting of the CCW pumps. The 4B CCW pump starts 29 seconds after discharge pressure drops below 73 psig and the 4C CCW pump will start 10 seconds later if discharge pressure has not reached 73 psig.

Per SD 040/(SYS. 930) dated 9/5/02, Pages 17-19 and figures 4A, 4B, and 4C.

D - Incorrect; This is the correct starting sequence and times for the starting of the CCW pumps however, the 4A CCW pump will not attempt to automatically restart after an overcurrent trip.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-302 Questions

13. 008K1 04031

Unit 3 is at 100% power when the following events occur in the order shown:

- PRMS channels R-17A/17B alarm.
- CCW HEAD BANK level increases rapidly.
- Annunciator A 1/1, RCP THERMAL BARR COOLING WATER HI FLOW, alarms and seals in.
- Pressurizer level decreases and the running charging pump speed goes to maximum,
- Annunciator A 9/4, PZR LO LEVEL/HEATER OFF/LTDN SECURED, alarms and seals in.

Which ONE of the following describes the event that has occurred?

- A. An RCP thermal barrier leak has occurred and MOV-626, RCP Thermal Barrier Outlet, valve has failed to close.
- B. An RCP thermal barrier leak has occurred and protective functions have responded as designed.
- C. A CVCS letdown non-regenerative tube has burst and LCV-460, High Press L/D Isol, valve has failed to close.
- D. A CVCS letdown non-regenerative tube has burst and protective functions have responded as designed.

Distractor Analysis:

A - Correct; RCS water is flowing into the CCW system. The source is an RCP thermal barrier based on annunciator A 1/1. MQV-626 has failed to close based on the fact that A 1/1 has sealed in. All other parameters are consistent with RCS leakage in excess of 130 gpm.

B - Incorrect; MQV-626 has failed to close based on the fact that A 1/1 has sealed in. Plausible because the source of the leak is an RCP thermal barrier.

C - Incorrect; due to the presence of annunciator A 1/1 sealed in. Plausible because all of the other symptoms are consistent with a non-regen HX tube burst.

D - Incorrect; due to the presence of annunciator A 1/1 sealed in. Plausible because all of the other symptoms are consistent with a non-regen HX tube burst.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

14. 010K2 02 001

The following have been verified after receiving Alarms associated with the Loss of a 120V Vital Instrument Panel:

- Pressurizer Master Controller Auto/Manual Station is in Auto lockup
- Both Pressurizer Spray valves Auto/Manual Stations are in Auto lockup
- 3C Feedwater Regulating valve is in Auto lockup.

Which ONE of the following identifies the Vital Instrument Panel that has been lost?

- A. 3P09
- B. 3P08
- C. 3P07
- D. 3P06

Question Source: Turkey Point Exam Bank Question #1.1.25.60.2.1.M

Distractor Analysis:

A, B, C - Incorrect; The listed component controllers do not receive power from these sources.

D - Correct; Per ONOP-003.6 approval date 10/7/02. 3P06 is the power supply to the PZR spray valve controller, PZR press controller, and S/G 'C' Feed Reg valve.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

15.011EK3.02 001

A large break LOCA occurred while Unit 4 was operating at 100% power. The operators are responding per E-0, Reactor Trip or Safety Injection.

Which ONE of the following describes the reason the RCO verifies the Feedwater Isolation signal closed the Main and Bypass Feedwater Control valves in Step 5 of E-0?

- A. To minimize the potential for RCS cooldown due to S/G overfill.
- B. To ensure the subsequent availability of AFW flowpaths.
- C. To ensure the subsequent availability of secondary heat sink water sources.
- D. To minimize Steam Generator pressure drop to ensure adequate steam pressure is available for AFW pump operation.

Question Source: Turkey Point Exam Bank Question # 1.1.26.21.6.5.M

Distractor Analysis:

A - Correct; Correct per Basis document for EOP-E-0 dated 2/22/02.

B - Incorrect; Plausible since AFW flow paths are not affected by this step

C - Incorrect; Plausible since elimination of the large feedwater pumping source will conserve water sources.

D - Incorrect; Plausible since isolation of the steam generator will prevent/minimize the pressure drop.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

16.012G2 1 33 001

Which ONE of the following statements describes the correct actions, in accordance with ONOP-049.1, Deviation or Failure of Safety Related or Reactor Protection Channels, if plant conditions are such that all bistables cannot be tripped due to an undesired ESF actuation?

Assume the Unit is in Mode 1

- A. Immediately enter Technical Specification 3.0.3 and shutdown/cool-down until a Mode is entered in which the Technical Specification is not applicable.
- B. Commence a shutdown to place the Unit in Mode 3 within 6 hours and trip all required bistables upon entry into Mode 3.
- C. Do not trip any associated bistables and follow actions of Technical Specifications for those bistables not tripped.
- D. Place only the bistables which will not cause an ESF actuation in the test/tripped position and follow Technical Specifications for those bistables not tripped.

Question Source: Turkey Point Exam Bank Question # 1.1.25.43.3.5,M

Bistractor Analysis:

A - Incorrect; immediate entry into TS 3.0.3 is not warranted. Facility has 6 hours to fix the problem associated with the B/S that are unable to be tripped.

B - Incorrect; T.S do not require a shutdown to Mode 3, a shutdown is not required until it is definitively known that T.S. action statements can not be met.

C - Incorrect; B/S that can be tripped without causing an undesired ESF actuations are to be placed in the trip position.

D - Correct; Per ONQP-049.1 (dated 1/26/03) step 5.4 CAUTION statement and Lesson Plan LP6902523 Page 8 (dated 11/30/00). Trip all B/S that can be tripped without causing an undesired ESF actuation, Then the B/S not tripped OOS channel will have to be fixed within the 6 hours or the Unit power/mode will have to be reduced to a level where operability of the channel is no longer required.

QUESTIONS REPORT
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17. 013K6.01 001

Unit 3 Reactor power has been stabilized at 1×10^{-8} amps when the following occurs:

- PT-444, Pressurizer Pressure Control Channel, fails high.

Which ONE of the following describes the response of the plant to this condition?

(Assume no operator action)

- A. A reactor trip will occur at 1835 psig due to low pressurizer pressure.
- B. Si actuation will occur at 1730 psig due to low pressurizer pressure.
- C. Pressurizer pressure will decrease and pressurizer heaters will energize and compensate for *the* pressure decrease.
- D. Pressurizer pressure will stabilize when PORV PC-455C is shut at 2000 psig by the protective channels supplying the "block auto open" signal.

Question Source: Turkey Point Exam Bank Question # 1.1.24.63.6.95,M

Distractor Analysis:

A - Incorrect; Reactor trip will not occur at this low power level (since power is less than P-10) on low FZR pressure.

B - Correct; Si will occur due to pressure continuing to decrease as a result of the spray valves still being open as a result of ~~PP-444~~ failing high. Per SD 009/SYS.041C dated 9/23/02.

C - Incorrect; Pressurizer heaters are turned off by the PT-444 failing low and are therefore unavailable for pressure restoration.

D - Incorrect; This action occurs but pressure continues to decrease as a result of the spray valves staying open and no PZR heaters.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

18. 015AA1.22 001

Which ONE of the following indications would be indicative of only an RCP Number 2 seal failure?

- A. RCP Thermal Barrier Low Differential Pressure.
- B. RCP High Standpipe level.
- C. RCP Thermal Barrier Cooling Water High temperature.
- D. RCP Seal Leakoff High Flow.

Question Source: Turkey Point Exam Bank Question # 1.1.24.8.5.14,M

Distractor Analysis:

A - Incorrect; This would be due to a #1 RCP seal Failure

B - Correct; High RCP Standpipe Level is indicative of a #2 RCP Seal. ARP G-2/1 dated 7/23/02

C - Incorrect; This would be due to a #1 RCP seal Failure

D - Incorrect; This would be due to a #1 RCP seal Failure

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

19. 015K1 01 001

Which ONE of the following describes NIS Power Range Channel 4 (N-44) function in comparison with the other Power Range Channels?

- A. Power Range Channels 1, 2, and 3 provide input to the Rod Control system whereas Power Range Channel 4 does not.
- B. Power Range Channel 4 is the only channel that provides input to the Overpower Rod Stop.
- C. Power Range Channel 4 is the only channel that provides input to the OQDT and OTDT runback circuitry.
- D. Power Range Channels 1, 2, and 3 provide input to the OPDT and OTDT reactor trips whereas Power Range Channel 4 does not.

Question Source: Turkey Point Exam Bank Question # 1.1.24.4.5.2,M

Distractor Analysis:

A - Incorrect; Channel 4 is the only channel that provides the input to the rod control system.

B - Incorrect; Overpower Rod Stop occurs whenever any one PR channel exceeds 103%.

C - Incorrect; Channel 4 is the only channel that does not provide the input to the runback circuitry.

D - Correct; Channel 4 does not provide input to the OTBT and OPDT trips. Per SD004 dated 4/14/03 page 58.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

20. 016A2 04 001

Units 3 and 4 are at 100% power when annunciator F-1/2, VITAL AC BUS INVERTER TROUBLE. alarms as a result of '3C' Vital Inverter low output voltage.

Which ONE of the following describes the status of Vital Instrument bus '3P06' following receipt of the alarm and identifies the procedure operators will use **to** restore normal plant configuration?

- A. '3P06' is de-energized.
Restore plant configuration using 3-ONOP-003.6, Loss of 120V Vital Instrument Panel 3P06.
- B. '3P06' is de-energized.
Restore plant configuration using 0-OP-003.3, 120V Vital Instrument AC System
- C. '3P06' is powered from the CVT.
Restore plant configuration using ONOP-003.6, Loss of 120V Vital Instrument Panel 3P06.
- D. '3P06' is powered from the CVT.
Restore plant configuration using 0-OP-003.3, 120V Vital Instrument AC System.

Question Source: Question developed from facility input

Distractor Analysis:

A - Incorrect; 3P06 is not de-energized. A successful swap to the CVT should occur. Plausible because before the existence of the CVTs, the bus would have been de-energized and power would have been restored using ONOP-003.6.

B - Incorrect; 3P06 is not de-energized. A successful swap to the CVT should occur. Plausible because before the existence of the CVTs, the bus would have been de-energized. Plant configuration is restored per OP-003.3.

C - Incorrect; 3P076 is energized from the CVT however, system configuration will be restored using OP-003.3.

D - Correct; 3P076 is energized from the CVT. System configuration will be restored using OP-003.3 either section 7.4 or 7.5. ARP F-1/2 operator action #2 (approval date 7/23/02) and OP-003.3 sections 7.4 & 7.5 (approval date 10/12/00)

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

21. 017A4.01 001

Unit 4 is in Mode 5 on RHR cooling with 'A' RHR pump in service. The 'B' RHR pump was taken out of service 10 hours ago for replacement of a bearing that was overheating.

The 'A' RHR pump has tripped on overcurrent and the crew has entered BNOP-050, Loss of RHR.

Which ONE of the following describes the actions required to monitor RCS heatup rate per ONOP-050?

- A. Plot core exit temperature every minute for 5 minutes. Repeat every 15 minutes until RHR cooling is restored.
- B. Plot T_{hot} every minute for 5 minutes. Repeat every 15 minutes until RHR cooling is restored.
- C. Plot core exit temperature every minute for 5 minutes. Repeat every 15 minutes until natural circulation is verified established.
- D. Plot T_{hot} every minute for 5 minutes. Repeat every 15 minutes until natural circulation is verified established.

Distractor Analysis:

A - Correct; Actual in core temperature is monitored from the control room and plotted until RHR cooling has been restored. Per QNOP-050 dated 10/16/98C

B - Incorrect; That is not plotted per ONOP-050

C - Incorrect; Even though natural circulation may be established, ONOP-050 requires the heatup continue to be plotted until RHR cooling is restored.

D - incorrect; This is a combination of distractors B and C and is incorrect for both reasons listed above.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

22. 022A4.03 001

Which ONE of the following describes the operation of the Normal Containment Coolers (NCCs)?

- A. The NCC is started by placing the control switch in the ON position, the NCC fan starts and its associated suction and discharge dampers open automatically on the start signal.
- B. The NCC is started by placing the control switch in the ON position, the NCC fan starts and its associated discharge damper automatically opens on the start signal.
- C. The NCC discharge damper is manually opened, the control switch is placed in the ON position to start the NCC.
- D. The NCC is started by placing the control switch in the ON position, the NCC fan starts and its associated discharge damper will fully open when fan discharge flow increases above a pre-set flowrate.

Distractor Analysis:

A - Incorrect; The Normal Containment Cooling units do not have suction dampers, only discharge dampers.

B - Correct; The discharge dampers automatically open from the start signal of the associated fan unit. SD-029/SYS.053,055,056,057,058 dated 10/18/00, pages 11, 12 & 22.

C - Incorrect; The dampers do not have manual operation capability.

D - Incorrect; The dampers are not flow opening dampers as are the CRDM cooling unit dampers.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

23. 022AA2 02 001

3-ONOP-047.1. Loss of Charging Flow In Modes 1 Through 4. Step 4.1, states to "Attempt to reestablish charging."

Which ONE of the following statements is correct if charging flow is lost due to charging pump failure?

The operator should try to start:

- A. **only** an operable charging pump. If charging is reestablished, then normal operation can continue.
- B. **any** available charging pump, even if it is not operable. If charging is reestablished, then normal operation can continue.
- C. **only** an operable charging pump. If charging is reestablished prior to closing Excess Letdown and RCP Seal Return Isolation Valve, MOV-3-6386, normal operation can continue.
- D. **any** available charging pump, even if it *is* not operable provided that all post maintenance testing had been completed when the event occurred.

Distractor analysis:

B - Correct; If charging flow is lost due to pump failure the operator should try to place any Charging Pump in service, even if it is not operable as defined in Tech Specs, but still capable of delivering flow. An example of this situation would be a pump that has had maintenance performed, but the Post Maintenance Testing had not been completed when the event occurred.

Reference: BD-ONOP-047.1 Loss of Charging Flow In Modes 1 Through 4, Page 3;
3-ONOP-047.1 Loss of Charging Flow In Modes 1 Through 4, Page 5.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

24. 024AA2.06 001

A control room evacuation has occurred and the crew is performing the actions of ONOP-105, Control Room Evacuation. The Unit 3 RCO is emergency borating from the Boric Acid Storage Tanks (BAST) per Attachment 3, Step 23 of ONOP-105 using the '38' Charging pump.

- The '3B' Charging pump speed controller is set at 12 psig.
- RCP Seal leakage is constant at 42 gpm.
- Emergency boration has been in progress for 100 minutes.

After 100 minutes of emergency borating the '38' Charging pump speed controller is changed to 6 psig.

Which ONE of the following identifies approximately how many minutes (in addition to the 100 minutes) the RCO will need to emergency borate with the controller set at 6 psig to satisfy the requirements of Step 23 of ONOP-105 for borating from the BAST?

Assume the RCP Seal leakage remains constant at 12 gpm

(References Provided)

- A. 36 minutes for a total of 136 minutes of emergency boration.
- B. 71 minutes for a total of 171 minutes of emergency boration.
- C. 100 minutes for a total of 200 minutes of emergency boration.
- D. 136 minutes for a total of 236 minutes of emergency boration.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Question Source: Modified from Turkey Point Exam Bank Question #1.3.25.52.4.3,M

Bistractor Analysis:

A -Incorrect; An additional 36 minutes will bring the total boration time to 136 minutes which is the required boration time if the 3B CCP speed controller was not changed. The applicant would select this answer if unaware that the boration flow was affected by the adjustment. In the case the RCS would be under borated therefore not meeting the requirements of Step 23 of ONOP-105.

B - Incorrect; A total of 5576 gals must be charged into the RCS. 12 gpm leaks through the RCP seals this is 1200 gals over the 100 minutes charged so far. This means a total of 7208 gals must be charged into the RCS (5576 + 1200). At a charging flow rate of 53.2 gpm (flow rate for 12 psig speed controller, ONOP-105 Enclosure 9) for 100 minutes, 5320 gals has been charged this means that 1888 gals are left to be charged (7208-5320). With a new flow rate of 26.6 gpm (flow rate for 6 psig speed controller, ONOP-105 Enclosure 9) an additional 72 minutes is required (1888/26.6). In the case the RCS would be under borated therefore not meeting the requirements of Step 23 of ONOP-105.

C - Correct; Using the work sheet in Enclosure 10 of ONOP-105 the applicant can work backwards to determine the number of minutes required to charge the additional amount into the RCS at the reduced flow rate. 100 minutes of charging at 53.2 gpm is 5320 gals total. 1200 gals has leaked out via the RCP seal at 12 gpm for 100 minutes. $5320 - 1200 = 4120$ gals total charged into the RCS. A total of 5576 gals must be charged in from the BAST to satisfy the requirements of Step 23 of ONOP-105 this means that 1456 gals still must be charged in (5576-4120). At 26.6 gpm charging and 12 gpm leakage, a total of 14.6 gpm is going into the RCS. $1456 / 14.6 = 100$ minutes of additional charging needed.

D - Incorrect; The applicant may notice that the new charging flow rate is half of what it was before the adjustment (53.2 gpm vs 26.6 gpm). The applicant may believe that in order to borate the same amount it will take twice as long (i.e. an additional 136 minutes). This will unnecessarily overborate the RCS.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

25. 025AK3.01 001

Unit 3 is in Mode 5, "COLD SHUTDOWN," with the following plant conditions:

- All CET's read **195** °F and are stable.
- 'A' S/G's secondary side manway is in the process of being removed.
- 'B' and 'C' S/G Narrow range levels are 20%.
- 'B' and 'C' S/G secondary water temperatures are 20 °F higher than RCS cold leg temperatures.
- LI-3-462, PRZ Level Cold Calib., is at 15%.
- All RCP's are off.
- RCS pressure is 325 psig and stable.
- Train 'A' RHR is in service.
- Train 'B' RHR is inoperable for repairs.
- All systems aligned in their normal configuration for the present plant conditions.

A loss of 'A' RHR pump has just occurred and cannot be restored. RCS temperature is increasing.

Which ONE of the following is the preferred method for heat removal under these conditions in accordance with ONOP-050, "Loss of RHR"?

- A. One train of S/G valves aligned for injection and a High-Head Safety Injection pump running, spill through the Pressurizer PORVs.
- B. Charging Pump injecting flow through the normal charging line, spill through the Pressurizer PORVs.
- C. Natural Circulation RCS flow with all available S/G steam dump to atmosphere valves open, Standby Feedwater flow established.
- D. An RCP running with forced RCS flow with all available S/G steam dump to atmosphere valves open, Standby Feedwater flow established.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Question Source: Farley 2001-301 NRC Exam

Distractor Analysis:

A - Incorrect; This is an alternate RCS feed and bleed cooling method per ONOF-041.8 if secondary heat sink can not be established in ONOP-050 (i.e. at least two S/G available) and temperature is INCREASING.

B - Incorrect; This charging lineup is established per ONOP-041.8 for increasing RCS inventory on a sustained loss of RHR during reduced inventory conditions. The bleed path is the correct RCS bleed path if secondary heat sink can not be established in ONOP-050 (i.e. at least two S/G available).

C - Correct; This is the preferred method per ONOP-050 (approval date 2/22/02) with a loss of both RHR pumps.

D - Incorrect; An RCP would not be started in ONOP-050 until after natural circulation has been established and RCS cold leg temperatures are greater than 295 °F and S/G temperatures are within 10 °F of RCS T_{cold}.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

26. 026A2 03 001

Unit 3 is at 100% power with the 35 Containment Spray Pump tagged out-of-service for maintenance.

The unit experiences a design basis LOCA with the following conditions present:

- Containment pressure 30 psig increasing
- 3A Containment Spray Pump Failed due to a seized shaft
- 3A Emergency Containment Cooler (3A EGC) Running
- 3C Emergency Containment Cooler (3C ECC) Failed to auto start
- EOP-E-0 Reactor Trip or Safety Injection Immediate actions complete

The STA informs you, as the SRO, that containment pressure is above the pressure for an ORANGE. path to EOP-FR-Z.1, Response to High Containment Pressure.

Which ONE of the following describes the action that must be performed and the reason for this action?

- A. Continue in E-0 and manually start the '38' and '3C' ECCs to ensure that Containment pressure will not exceed equipment qualification envelopes.
- 5. Enter FR-Z.1 and manually start the '3C' ECC to ensure that Containment pressure will not exceed equipment qualification envelopes.
- CY Continue in E-0 and manually start the '3C' ECC to ensure that Containment pressure will not exceed Containment Design pressure.
- D. Enter FR-Z.1 and manually start the '3C' EGC to ensure that Containment pressure will not exceed Containment Design pressure.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Distractor Analysis:

A - Incorrect; 3 ECC running exceeds the heat load of the CCW system and is prohibited by procedures.

B - Incorrect; FR-Z.1 should not be entered until directed by E-0 at Step 27 for a Faulted S/G. During a design basis LOCA without a Containment Spray pump running it can not be ensured that Containment pressure will not exceed the equipment qualification envelopes.

C - Correct; E-0 (approval date 2/22/02) Step 11 directs the operation of 2 ECC. SD-029/SYS.053,055,056,057,058 dated 10/18/00, page 8. states, in part, that 2 of the 3 ECC could provide the heat removal capability to maintain post accident containment temperature and pressure below the design values.

D - Incorrect; Status trees will indicate an ORANGE path on high containment pressure (>20 psig). FR-Z.1 (approval date 2/22/02C) Step 10 directs the operation of 2 ECC. However, FR-Z.1 should not be entered until directed by E-0 at Step 27 for a Faulted S/G.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

27. 026K4 04 001

Unit 3 experienced a LOCA. Operators have responded with the EOP network and have just reset SI in E-0, Reactor Trip or Safety Injection. Containment pressure subsequently exceeds 20 psig.

Which ONE of the following describes the response of the Containment Spray pumps and their discharge MOVs?

- A. Both Containment Spray pumps will start. Both MOV-880A & B will open.
- B. Both Containment Spray pumps will start. Neither MOV-880A & B will open.
- C. Neither Containment Spray pump will start. Both MOV-880A & B will open.
- D. Neither Containment Spray pump will start. Neither MOV-880A & B will open.

Question Source: Turkey Point Question Bank Question #1.1.26.21.3.16,M

Distractor Analysis:

A, B & D - Incorrect; Spray pumps will not start and the MOV's will open.

C - Correct; The removal of the 'S' signal through the reset of the SI signal takes the signal away from the sequencers. Without the sequencer the CS pumps will not receive a start signal solely from the containment high pressure 'P' signal. DWGs 5610-T-bl sheet 31A; 5613-T-bl sheet 12A; 5610-T-h1 sheet 11.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

28. 027AG2.2.15 001

ONOP-041.5, Pressurizer Pressure Control Malfunction, contains a caution prior to Step 1 that states "The Master Controller should be operated carefully (Normal controller output for 2235 psig is 42.5 percent demand; 92 percent demand will open PCV-3-455C)."

Which ONE of the following describes why the Master Controller must be operated in this fashion?

Pressurizer pressure does not affect the Master Controller's output when operating:

- A. in MANUAL. Pressurizer pressure responds to the input to PCV-3-455C.
- B. in AUTO. Pressurizer pressure responds to the input to PCV-3-455C.
- C. in MANUAL. Pressurizer pressure responds to the output demand of PC-3-444J.
- D. in AUTO. Pressurizer pressure responds to the output demand of PC-3-444J.

Distractor Analysis:

C - Correct; PTN background document 3-BD-ONOP-041.5 states that "The Pressurizer Pressure Master Controller MANUAL MODE is not related to system pressure. Pressure follows the output demand of PC-3-444J. The controller must be operated carefully to prevent inadvertently causing protective functions to actuate."

Reference: ONOP-041.5, CAUTION prior to Step 1 and PTN background document 3-BD-ONOP-041.5, Pressurizer Pressure Control Malfunction.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

29. 027AK2.03 001

Unit 4 is operating at 90% power with all controls in Automatic.
PT-444 begins to drift down.

Which ONE of the following describes the effect this will have on PC-444J, Pressurizer Pressure Master Controller, output, and the system response as a result of this failure?

PC-444J output will:

- A. decrease, pressurizer heaters output will increase, and actual RCS pressure will increase.
- B. increase, pressurizer heater output will lower, spray valves will open, and actual RCS pressure will decrease.
- C. increase, pressurizer heater output will increase, and actual RCS pressure will increase.
- D. decrease, pressurizer heater output will lower, spray valves will open, and actual RCS pressure will decrease.

Question Source: Turkey Point 2002-301 NRC Exam
LP 6902109 enabling objective # 6.

- A. Correct, as PT-444 drifts down the master controller will attempt to raise pressure to return it to setpoint, output will decrease, heaters will energize and actual RCS pressure will rise.
- B. Incorrect, PC-444J output will decrease, heater output will rise in an attempt to raise RCS pressure.
- C. Incorrect, controller output will decrease.
- D. Incorrect, Pressurizer heater output will increase and actual RCS pressure will increase.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

30. 027K5 01 001

Which ONE of the following describes the design and purpose of the Emergency Containment Filters (ECF)?

The ECF units contain ...

- A. both high efficiency particle filters and charcoal filters which remove iodine from the Containment atmosphere post LQCA and provide cooling to the charcoal filters while the iodine decays.
- B. only high efficiency particle filters which remove 95% of all fission products from the containment atmosphere post LOCA and provide cooling to the filters while the fission products decay.
- C. only charcoal filters which removes iodine from the containment atmosphere post LQCA and provide cooling to the charcoal filters while the iodine decays.
- D. both high efficiency particle filters and charcoal filters which remove iodine from the containment atmosphere post LOCA and provide backup for containment spray Containment pressure reduction.

Distractor Analysis:

A - Correct; SD-029/SYS.053,055,056,057,058 dated 10/18/00, pages 16 and 17.

B - Incorrect; The ECF do not contain only high efficiency particle filters and will not remove all fission products from containment.

C - Incorrect; ECF units also contain high efficiency particle filters for elemental Iodine removal.

D - Incorrect; The ECFs are not backup for containment spray, containment spray is backup for the loss of ECF fans.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

31. 028AG2 4 31 001

During operation at 100% reactor power, the following annunciators alarmed:

- A-8/4, PZR LO-LO LEVEL ALERT
- A-913, PZR CONTROL HI/LO LEVEL
- A-9/4, PZR LO LEVEL/HEATER CUTOFF/LTDN SECURED

The operator noticed that LI-459A, Pressurizer level instrument has failed low. Pressurizer level is no longer on program.

Which ONE of the following describes the required actions.?

- A. Place the CHANNEL SELECT PRESSURIZER LEVEL CONTROL switch in the CH 1&2 position and restore letdown and heaters to service using ONOP-041.6, Pressurizer Level Control Malfunction,
- B. Place the CHANNEL SELECT PRESSURIZER LEVEL CONTROL switch in the CH 2&3 position and restore letdown and heaters to service using ONOP-041.6, Pressurizer Level Control Malfunction.
- C. Place the CHANNEL SELECT PRESSURIZER LEVEL CONTROL switch in the CH 1&3 position, and start additional charging pumps to restore pressurizer level.
- D. Start additional charging pumps to restore pressurizer level and restore letdown and heaters to service using ONOP-041.6, Pressurizer Level Control Malfunction, and take action using ONOP-049.1, Deviation or Failure of Safety Related Protection Channels.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Question Source: Modified from Turkey Point Exam Bank Question #1.25.54.1.1,M

Distractor Analysis:

A - incorrect; The failed channel is Channel I and must be deselected by placing the Channel Select Pressurizer Level Control switch in a position other than channel I.

B - Correct; Per the ARP for A-914, approval date 7/23/02, if problem is due to an instrument failure L/D and heaters are restored per ONOP-041.6, and ONOQ-041.6 immediate action is to deselect the failed channel. Charging should back off and level will restore to program.

C - Incorrect; The failed channel is Channel I and must be deselected by placing the Channel Select Pressurizer Level Control switch in a position other than channel I. Additional charging pumps should not be started since the failed low channel will result in a level higher than program.

D - Incorrect; Pressurizer level will be higher than program for this event. Adding additional charging pumps is an incorrect response when level is high.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

32. 029A3.01 001

With a containment purge in progress the following events automatically happen:

- Containment Purge supply and exhaust fans tripped.
- Containment Purge supply and exhaust valves shut.

Which ONE of the following could cause the above events?

- A. Control Room HVAC Intake Hi Radiation, RAI 6643, in alarm.
- B. Manual initiation of Safety Injection.
- C. Plant Vent Gas Monitor, channel R-14, in alarm.
- D. Automatic Phase B Containment Isolation Signal.

Modified from Turkey Point 2000-301 NRC exam.
Facility Enabling Objective EO#6 of LP6902129

Distractor Analysis:

A - incorrect; Control Room HVAC alarm causes Control Room Ventilation Isolation but does not cause Containment Ventilation Isolation.

B - Correct; Manual initiation of Safety injection will result in Containment ventilation isolation actuation

C - Incorrect; Containment ventilation isolation actuates from Unit specific R-11 and 8-12 not from the combined Unit 8-14 vent stack radiation monitor.

D - Incorrect; Containment ventilation isolation actuates only from manual push button for Phase B

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

33. 029EA2.05 001

The following events occurred in the order shown:

- The crew is responding to an ATWS.
- FR-S.1, Response to Nuclear Power Generation/ATWS, has been entered.
- The RCO has started alignment for emergency boration per Step 4 of FR-S.1.
- The RCO has taken the switch for MOV-350, Emergency Boration Valve, to OPEN.
- The reactor is tripped and all rods fully insert.
- MOV-350 Valve Position Indication on the control board indicates GREEN.

Which ONE of the following describes the next action(s) required of the operators per FR-S.1?

- A. Emergency boration is no longer required and the switch for MOV-350 should be taken back to the CLOSED position.
- B. Open HCV-121, Charging Flow to Regen Heat Exchanger, verify Loop A Charging Isolation, CV-310A, is open and establish greater than 60 gpm boration flow on FI-110.
- C. Open FCV-113A, Boric Acid to Blender, FCV-113B, Blender Flow to Charging Pump, and Manual Emergency Boration Valve, 3-356. Then close FCV-113B.
- D. Take the switch for MOV-350 back to CLOSE and dispatch an Operator to verify the breaker to MOV-350 is closed and re-attempt to open MOV-350.

Distractor Analysis:

A - Incorrect; Operators must continue in FR-S.1 even after the reactor is tripped.

B - Incorrect; These are the actions associated with MOV-350 indicating OPEN. The VPI given in the stem is that of the valve still being SHUT.

C - Correct; MOV-350 VPI show that the system is not aligned for emergency boration. These are the actions of FR-S.1 (approval date 4/15/99) Step 4.d RNO. This lines up the alternate boration flow path, which is required when MOV-350 will not operate.

D - Incorrect; MOV-350 has power to the motor as evident by the VPI. These actions are not recognized by procedure.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

34. 029EG2 1 7 001

Unit 3 is at 100% reactor power when the following occurs:

- An RCS leak has caused Pressurizer pressure to decrease to 1950 psig.
- Power remains near 90% and efforts to manually trip the reactor **are** unsuccessful.

The operators are performing Step 1 of E-0, Reactor Trip or Safety Injection, when Pressurizer level decreases to 10%.

Which **ONE** of the following describes the correct direction to give the crew?

- A. Continue with E-0 and manually initiate SI.
- B. Transition to FR-S.1, Response to Nuclear Power Generation/ATWS and manually initiate SI.
- C. Continue with E-0 and **BO NOT** manually initiate SI.
- D. Transition to FR-S.1, Response to Nuclear Power Generation/ATWS and **DO NOT** manually initiate SI.

Question Source: Turkey Point Exam Bank Question #1.3.26.46.1.7,M

Distractor Analysis:

A - Incorrect; SI actuation criteria per the E-0 fold out page is inability to maintain greater than 10% pZR level, a crew transition to FR-S.1 is required to mitigate the ATWS.

B - Incorrect; The crew must immediately transition to FR-S.1 to mitigate the ATWS, the foldout page criteria for E-0 no longer applies while in FR-S.1. FR-S.1 has no instructions for manually initiating SI, only to verify SI equipment alignment per E-0 if an SI signal occurs.

C - Incorrect; The crew must immediately transition to FR-S.1. If the crew remained in E-0, no guidance is given to mitigate the ATWS.

D - Correct; The crew must immediately transition to FR-S.1. FR-S.1 has no instructions for manually initiating SI, only to verify SI equipment alignment per E-0 if an SI signal occurs. The E-0 foldout page criteria for initiating SI does not apply while in FR-S.1.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

35. 032AK1 01 001

I&C just completed a surveillance on the high voltage power source to the Source Range (SR) nuclear instruments. I&C determined the voltage was 1800 Vdc, (200 Vdc lower than the normal 2000 Vdc).

Which ONE of the following describes the effect (and the reason) this lower than normal voltage has on SR nuclear instrument performance.

SR indication will...

- A. ...not be affected because the high voltage only supplies power to the electronic circuitry of the amplifier.
- B. ...increase because the reduced voltage in the high voltage power supply results in more ion pairs reaching the electrodes due to lower potential applied to the detector.
- C. ...decrease because smaller pulses are generated by the alpha decay of U235 and gamma interactions.
- D. ✓ ...decrease because the reduced voltage in the high voltage power supply results in fewer ion pairs reaching the electrodes due to lower potential applied to the detector.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Question Source: Vogtle NRC Exam 2001-301

Bistractor Analysis:

A - Incorrect; Indicated power would decrease. The high voltage is set at 2000 Vdc in the plateau of SD004 Figure 15 so that small variations in high voltage will not greatly effect the count rate sensed by the detector. 200 Vdc decrease is not a small variation.

B - incorrect; Indicated would decrease because the fewer ions would be measured due to the lower voltage.

C - Incorrect; Pulses generated by the alpha decay are unaffected by the voltage, measurement of those pulses is affected.

D - Correct; The high voltage is set at 2000 Vdc in the plateau of SD004 Figure 15 so that small variations in high voltage will not greatly effect the count rate sensed by the detector. 200 Vdc decrease is not a small variation i.e. Large enough to cause annunciator **B-4/3** to alarm under normal operation and require deselecting the affected channel. The lower voltage places the detector lower on the Figure 15 curve showing that the indicated count rate will be less than expected. SB-004, dated 4/14/02, Pages 23, 26, 27, 30 & Figure 15.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

36. 033AG2120REPLACE001

The Unit is operating at 100% power. Intermediate Range channel **N36** is tagged out of service because of a power supply problem. Subsequently, IR channel **N35** fails. I&C informs you that it will take approximately 12 hours or longer to fix **N36**.

Which ONE of the following action(s) should be taken with respect to plant operation?

- A. Do not change plant power level until at least one IR channel is restored to operable status.
- B. Proceed to HOT STANDBY condition within the next 6 hours. The reactor must be shutdown under these circumstances.
- C. Place the **N35** IR channel LEVEL TRIP switch in the BYPASS position, and continue normal plant power operations.
- D. Verify the **N35** IR channel LEVEL TRIP switch in the NORMAL position, and continue normal plant power operations.

Question Source: Turkey Point Exam Bank Question #1.1.25.6.4.4,M

Distractor Analysis:

A - Incorrect; IR indication is not relied upon at this power level therefore not restrictions on power level exist.

B - Incorrect; These are the actions set out in ONOP-059.7 however, these actions are only applicable when below P-10.

C - Correct; Actions in ONOP559.7 (approval date 3/26/03) have the LEVEL TRIP switch placed in the BYPASS position. Normal operation is not prohibited by the loss of both IR indications at this power level.

D - Incorrect; Even though power operation may continue, the drawer needs to be taken OOS by placing its Level Trip Switch in BYPASS.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

37. 033G2 1.25 001

Which ONE of the following design features of the Spent Fuel Pool Cooling (SFPC) system mitigates inadvertent draining of the Spent Fuel Pool?

- A. All piping system openings, including pumps and valves, are located at or above the top of the fuel assemblies.
- B. The SFPC suction piping is provided with an anti-siphon hole.
- C. The SFPC demineralizer water supply valve automatically opens on a SFP low level alarm.
- D. The SFPC discharge piping is provided with an anti-siphon hole.

Question Source: Turkey Point Exam Bank Question #1.1.24.41.3.8,M

Distractor Analysis:

A - Incorrect; This will not mitigate the inadvertent draining of the SFP

B - Incorrect; The syphon break is not in the suction piping

C - Incorrect; This is the normal makeup source but the valve does not auto open on lowering level in the SFP.

D - Correct; This design feature of having a 1/2 inch hole in the discharge piping functions as a break to prevent the inadvertent syphoning of the water out of the SFP should a leak develop in the SFPC system.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

38. 034G2 1.7 001

Which ONE of the following is correct in accordance with procedure 3-ONOP-033.2, Refueling Cavity Seal Failure?

This procedure will:

- A. provide instructions for placing alternate cooling pumps in service to ensure levels can be maintained.
- B. instruct the operator to stop all fuel movement within the SFP in the event SFP level decreases below the siphon holes.
- C. instruct engineering support to be required to re-establish an adequate flowpath for level restoration.
- D. NOT allow irradiated fuel to be placed in the RCC change out baskets until an engineering evaluation is completed.

Distractor analysis:

Distractors A, B, and C were found in BD-ONOP-033.1, Spent Fuel Pit (SFP) cooling system Malfunction, Page 4.

D - Correct; In accordance with 3-BD-ONOP-033.2, Refueling Cavity Seal Failure, with the present design of the refueling cavity and the RCC change out baskets, approx 12 inches of irradiated fuel would be above the terminal water level in the event of a complete Reactor to refueling cavity seal failure, consequently irradiated fuel will not be placed in the RCC change out baskets until an Engineering Evaluation has been completed.

Reference: 3-BB-ONOP-033.2, Refueling Cavity Seal Failure: Page 3.
3-ONOP-033.2, Refueling Cavity Seal Failure, Page 4, BB-ONOP-033.1, Page 4.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

39.039K1 09 001

Which **ONE** of the following describes how the Main Steam line radiation monitor, DAM-1, can be used to identify a ruptured Steam Generator?

- A. ✓ The DAM-1 system monitors all six S/Gs simultaneously and has manual valves that must be operated and the display checked.
- B. The operator can access the DAM-1 and SPING-4 information through ERDADS to determine the affected S/G, no local manipulation is necessary.
- C. The affected Unit's DAM-1 system monitors the three S/Gs simultaneously and has manual valves that must be operated and the display checked.
- D. The local display on DAM-1 can be checked since it has flow and radiation display locally for each sample line, no local manipulation is necessary.

Distractor Analysis:

A - Correct; Per SD068/SYS.066,067, dated 11/08/00, page 37 states that the DAM-1 has been installed as a common steam line radiation monitor. Sample lines from all six S/Gs run simultaneously through the detector. To identify a ruptured S/G, manual isolation valves must be operated and the display checked.

B - Incorrect; ERBADS does process the information from the **DAM-7** and SPING-4. The DAM-1 data displayed will show an elevated reading which will not identify the affected S/G. The SPING-4 will most likely show an elevated reading for the affected Units **SJAE** although this identifies the unit. it does not identify the S/G.

C - Incorrect; There is only one DAM-4 unit that monitors all six S/Gs.

D - Incorrect; At the **DAM-1** there is a local display that does show individual flow for each sample line but only a common radiation display. The individual flow indication will only verify that the S/Gs are providing a sample flow to the DAM-1 detector.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

40. 039K5.01 001

Which ONE of the following is a fundamental reason for keeping water out of the Main Steam lines?

- A. Water in the lines increases the corrosion and wear product buildup.
- B. Water elimination decreases heat losses therefore increasing plant efficiency.
- C. Water in the lines increases the possibility of detrimental water hammer.
- D. Water elimination reduces the number of steam traps required.

Question Source: Turkey Point Exam Bank Question #1.1.24.11.3.11.M

Distractor Analysis:

A - Incorrect; Water buildup may cause increased corrosion and wear product although will not be instrumental in the buildup.

B - Incorrect; Water build up will not have an appreciable decrease in plant efficiency.

C - Correct; Water build up could cause water hammer affects that could range from broken pipe hangers to Turbine blade impingement to pipe ruptures.

D - Incorrect; Steam traps are used to reduce the amount Water in the lines, Water elimination is not used to reduce the number of traps required.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

42. 040AA1 23 001

Unit 3 has experienced a steam line break outside of containment downstream of the MSIVs. The crew unsuccessfully attempted to close the MSIVs in Step 13 of E-0, Reactor Trip or Safety Injection.

The SRO transitions to E-2, Faulted Steam Generator Isolation, and then to ECA-2 1, Uncontrolled Depressurization of All Steam Generators.

The crew has just established feedwater flow to the Steam Generators using the 3A Main Feedwater Pump when the RCO reports the following update on Steam Generator Pressures:

3A S/G	35 S/G	3C S/G
PI-474 decreasing	PI-484 stable	PI-494 increasing
PI-475 decreasing	PI-485 decreasing	PI-495 increasing
PI-476 decreasing	PI-486 stable	PI-496 stable

Which ONE of the following describes the actions required?

- A. Stay in ECA9.1.
- B. Return to E-2.
- C. Transition to E-3, Steam Generator Tube Rupture.
- D. Transition to ES-0.0, Rediagnosis.

Distractor Analysis:

A - Incorrect; Foldout page criteria in ECA-2.1 states that any time that S/G pressure starts to increase then transition to E-2.

B - Correct; The stem puts the applicant in the beginning steps of ECA-2.1, namely step 2. The foldout page criteria (approval date 4130102) for transferring to E-2 has been satisfied and the recommendation should be for a transition.

C - Incorrect; This transition is made if any S/G level increases in an uncontrolled manner. The stem has not indicated that level is increasing in an uncontrolled manner.

D - Incorrect; There is no need to transition to rediagnosis since these indications are clearly addressed in the foldout page of ECA-2.1.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

42.041A2 02 001

Given the following:

- Unit 3 is at 100% power.
- A failure in the steam dump control circuitry cause 1 steam dump to condense valve to slowly open.

Which ONE of the following describes the approximate power level the plant could reach, and what action(s) will mitigate the event ?

Power could rise to approximately:

- A. 103%.
Insert control rods to maintain power less than 100%.
- B. 103%.
Reduce turbine load to maintain power less than 100%.
- C. 107%.
Insert control rods to maintain power less than 100%.
- D. 107%.
Reduce turbine load to maintain power less than 100%.**

Question Source: Summer NRC Exam 2002-301

Distractor Analysis:

A - Incorrect; Power level is too low. One SDTC valve has approx. 7% steam flow capability. Additionally, the correct response to secondary induced power transients is reduce turbine load per ADM-200.

B - Incorrect; Power level is too low. One SBTC valve has approx. 7% steam flow capability,

C - Incorrect; The correct response to secondary induced power transients is reduce turbine load per ADM-200.

D - Correct; One SDTC valve has approx. 7% steam flow capability. Additionally, the correct response to secondary induced power transients is reduce turbine load per ADM-200.

Reference: 0-ADM-200, Section 5.6.8.17. SD-105, Steam Bump System, Page 107

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

43. 041A2.03 001

Unit 3 has experienced a loss of Instrument Air.

Which ONE of the following describes the correct operation of the Unit 3 Steam Bump to Atmosphere valves?

Operate the Steam Dump to Atmosphere valve controllers in

- A. ✓ MANUAL only. If operated in AUTO, the valves will remain closed.
- B. MANUAL only. If operated in AUTO, the valves will fail open.
- C. AUTO only. If operated in MANUAL, the valves will remain closed
- D. AUTO only. If operated in MANUAL, the valves will fail open.

Distractor Analysis:

A - Correct; SDTA valves lose their pressure input as air pressure drops to the PT providing the signal. In AUTO, the valve controllers would see lower than actual pressure resulting in the valves remaining closed if left in AUTO. Reference: 0-ONOP-013, FO Page Item #1. 5613-M-3013, Sheet 4 Zones A6 & A8

B - Incorrect; If left in AUTO, the valves would remain closed, not fail open. Plausible, because the procedure directs the SDTA valves be operated in MANUAL only.

C - Incorrect: the procedure directs the SDTA valves be operated in MANUAL only. Plausible because the failure mode of the SDTA valves is failed closed and the controller has nitrogen backup and will still function.

D - Incorrect; the procedure directs the SDTA valves be operated in MANUAL only. Plausible because the controller has nitrogen backup and will still function.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

44. 051AG2 2 2 001

Unit 4 startup is in progress following a refueling outage. The turbine load was being increased per GOP-301, Hot Standby to Power Operation, when Annunciator E-5/3, CONDENSER LO VACUUM, alarmed.

Both sets of S/JAE's are in service and the hogging jet is in service. Turbine load is currently at 300 MWe and condenser vacuum is 24 inches Hg and stable.

Which ONE of the following actions should be taken by the crew to respond to this event?

- A. Secure from the load increase and immediately start reducing load per GOP-103, Power Operation to Hot Standby.
- B. Secure from the load increase, stabilize the plant at the current power level, and monitor condenser vacuum.
- C. Monitor condenser vacuum and continue with the load increase.
- D. Trip the reactor and turbine and perform the immediate actions of EOP-E-0, Reactor Trip or Safety Injection.

Bistractor Analysis:

A - Incorrect; These are the actions that would be performed if the condenser vacuum was in the operating range of ONOP-014, Enclosure 1 and vacuum still decreasing with the hogging jet in service.

B - Incorrect; These are the actions that would be performed if the condenser vacuum was in the operating range of ONOP-014, Enclosure 1.

C - Incorrect; The load increase should be stopped. Increasing load at this point on the ONOP-014 Enclosure 1 graph will increase the allowable vacuum.

D - Correct; The 24 inches of Hg places the condenser vacuum in the do not operate range of ONOP-014, Enclosure 1 graph. Per ONOP-014 (approval date 10/10/00) Step 5.4.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-3Q1 Questions

45. 054AK1 01 001

Unit 3 experienced an event 2 minutes ago and the following conditions now exist:

- Reactor power is 100% and stable.
- RCS T_{avg} is at normal operating temperature and STABLE.
- RCS pressure is at normal operating pressure and STABLE.
- Containment pressure is INCREASING.

The following conditions now exist on Unit 3 Steam Generators:

	"A"	"B"	"C"
Steam Flow	STABLE	STABLE	STABLE
Feed Flow	PEGGED HIGH	STABLE	STABLE
Pressure	STABLE	STABLE	STABLE
Level	DECREASING	STABLE	STABLE

Which ONE of the following events is in progress?

- A. 3A Feed Flow indicator has failed HIGH.
- B. Main Feed Line break INSIDE containment.
- C. Main Steam Line break INSIDE containment.
- D. 3A Main Feedwater Regulating valve has failed OPEN.

Question Source: Farley NRC Exam 2001-301

Distractor Analysis:

- A - Incorrect; Containment pressure is increasing.
- 5 - Correct; All indications support this conclusion.
- C - Incorrect; T_{avg} is stable.
- D - Incorrect; Containment pressure is increasing and S/G level is decreasing.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

46.055EA2.03001

Unit 3 is experiencing a Loss of All AC Power. The crew is performing the actions of ECA-0.0, Loss of All AC Power. The operators have been unable to restore power.

Which ONE of the following describes the actions required for the safeguards equipment and why?

- A. The control switches for the safeguards equipment are placed in Pull-to-Lock to prevent the possibility of an uncontrolled cooldown and depressurization of the RCS when power is restored.
- B. The control switches for the safeguards equipment are placed in Pull-to-Lock to prevent a potential bus overload when power is restored.
- C. The control switches for the safeguards equipment are verified to be in automatic alignment on the 4KV bus(es) that get power back so if SI is required, it will occur without operator action.
- D. The control switches for the safeguards equipment for ONE train are placed in Pull-to-hock and the control switches for the other train are verified to be in automatic. This ensures alignment for injection without operator action.

Distractor Analysis:

A - Incorrect; The action is correct but the reason is incorrect.

B - Correct; Operators are required to place the control switches for the safeguards equipment in Pull-to-Lock (ECA-0.0 (approval date 2/22/02) Step 11) to prevent the auto starting on a possible weak power source (ECA-0.0 Basis Document). This action permits the operator to evaluate the status of the restored 4Kv bus and sequence loads onto the bus consistent with bus status and plant conditions.

C - Incorrect; This action has the potential to overload the energized 4 Kv bus when power is restored consequently complicating the mitigation efforts.

D - Incorrect; both trains of safeguards equipment are placed in Pull-to-hock.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

47. 055EG2 4 22 001

Unit 4 is operating at 100% power with the 4A EDG out of service when the following sequence of events occur:

- The operators respond to an ATWS using FR-S.1, "Response to Nuclear Power Generation/ATWS."
- The reactor trips due to a loss of off-site power.
- The 4B EDG locks out and cannot be restarted.

Which ONE of the following describes the correct operator response?

- A. Complete the actions of FR-S.1 and then go to ECA-0.0, "Loss of All AC Power." Power will be restored to a 4KV bus using the appropriate QNQP upon completion of ECA-0.0.
- B. Complete the actions of FR-S.1 and then go to ECA-0.0, "Loss of All AC Power." Power will be restored to a 4KV bus using the appropriate QNQP while performing the actions of ECA-0.0.
- C. Stop performance of FR-S.1 and immediately go to ECA-0.0, "Loss of All AC Power." Power will be restored to a 4KV bus using the appropriate ONQP upon completion of ECA-0.0.
- D. Stop performance of FR-S.1 and immediately go to ECA-0.0, "Loss of All AC Power." Power will be restored to a 4KV bus using the appropriate ONQP while performing the actions of ECA-0.0.

Question Source: Turkey Point Exam Bank Question #1.1.26.20.5.3,M

Distractor Analysis:

A - Incorrect; FR-S.1 assumes at least one emergency 4KV bus has power. When both busses are deenergized, ECA-0.0 takes precedence over FR-S.1. Operators should not wait until completion of ECA-0.0 to repower a bus.

E - Incorrect; FR-S.1 assumes at least one emergency 4KV bus has power. When both busses are deenergized, ECA-0.0 takes precedence over FR-S.1.

C - Incorrect; Operators should not wait until completion of ECA-0.0 to repower a bus.

D - Correct; ABM-211 (approval date 8/17/00), step 5.1.2 and step 5.13.2 first example; and ECA-0.0 (approval date 2/22/02), step 10 RNO.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

48.056AA1 24 001

Unit 4 has lost off-site power and is maintaining MODE 3 steady-state conditions.

Which ONE of the following is an indication that Natural Circulation is successfully occurring in the WCS?

- A. RCS subcooling indication is decreasing.
- B. S/G pressure indications are increasing.
- C. Core Exit thermocouple temperatures are decreasing
- D. RCS hot leg temperatures are increasing.

Question Source: Turkey Point Exam Bank Question # 1.1.26.23.3.11,M

Distractor Analysis:

A - Incorrect; Subcooling indication should not be decreasing.

B - Incorrect; S/G pressure should not be increasing.

C - Correct; Obvious sign of natural circulation is the CET displaying a decreasing trend.

D - Incorrect; Hot leg temperatures should not be increasing.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

49. 056G2 I 2001

Which ONE of the following describes the purpose and function of the Seal Water to the Condensate Pump(s) and when operators must ensure it is in service?

- A. Provides a seal between the atmosphere and the vacuum in the condenser which prevents air introduction into the condenser and is required to be in service only when a condensate pump is in service.
- B. Serves to iublicate the seal faces and the upper condensate pump bearings to prevent excessive wear and is required to be in service only when a condensate pump is in service.
- C. Serves to lubricate the seal faces and the upper condensate pump bearings to prevent excessive wear and provides a seal to prevent the introduction of air into the condensate system which could cause condensate pump cavitation and is required to be in service any time there is a vacuum in the condenser, a condensate pump is running and the pump discharge valve is open.
- D. Provides a seal between the atmosphere and the vacuum in the condenser which prevents air introduction into the condenser, it also serves to lubricate the seal faces and the upper condensate pump bearings to prevent excessive wear and is required to be in service any time there is a vacuum in the condenser and the pump suction valve is open.

Distractor Analysis:

A - Incorrect; This is a correct reason for the system however, when it is required to be in service is incorrect. If a vacuum exists in the condenser and the suction valve is open the seal water must be in service regardless of whether the pump is running

B - incorrect; This is a correct reason for the system however, when it is required to be in service is incorrect.

C - Incorrect; It does not prevent air intro into the condensate system, it will not result in pump cavitation. If a vacuum exists in the condenser and the suction valve is open the seal water must be in service regardless of whether the pump is running or the discharge valve is open.

D - Correct; The seal water system provides for both the functions and is fundamental to prevent the air introduction into the condenser. SDI12/SYS.073,074 dated 4/10/00, Page 10.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

50. 057AA2 19001

Unit 3 is at 100% power with all systems in normal alignment when 120V Vital Instrument panel 3P09 loses power.

In the absence of operator response, which ONE of the following describes the response of Unit 3 S/G narrow range levels?

- A. 3A S/G: Trending toward program level
38 S/G: Lowering Uncontrollably
3C S/G: Trending toward program level
- B. 3A S/G: Trending toward program level
3B S/G: Rising Uncontrollably
3C S/G: Trending toward program level
- C. 3A S/G: Rising Uncontrollably
3B S/G: Trending toward program level
3C S/G: Trending toward program level
- D. 3A S/G: Lowering Uncontrollably
38 S/G: Trending toward program level
3C S/G: Trending toward program level

Distractor Analysis:

A - Incorrect; 38 S/G level will be rising uncontrollably due to the cyclic runback induced by the failure.

B - Correct; 38 S/G level will be rising uncontrollably due to the cyclic runback induced by the failure. 3A and 3C S/G levels will remain at 60% (unaffected by the failure).

C - Incorrect; 3A S/G level will be stable at 60% and 3B level will be rising uncontrollably.

D - Incorrect; 3A S/G level will be stable at 60% and 38 level will be rising uncontrollably.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

51. 058AA2 03 001

Unit 3 is at 100% power. A loss of DC Bus 3D01 occurs. Off-site power is still available.

Which ONE of the following will occur as a result of the loss of 3D01 DC Bus?

- A. Loss of AFW pump 'C' control and protection.
- B. All Main Steam Isolation Valves will close.
- C. The 38 Emergency Diesel Generator will lose DC power.
- D. All Safeguards actuation will be lost.

Question Source: Modified from Turkey Point Exam Bank Question #1.1.25.53.2.1,M

Distractor Analysis:

A - Incorrect; This would be a result of a loss of the 3823 DC bus.

B - Correct; Per ONQP-003.4 (approval date 1/21/99) Section 3.0. As a result of the loss of the DC power source 3D01, MSIVs Channel A air solenoid valves de-energize. This lost load will result in the closure of the MSIVs.

C - Incorrect; 3B EDG will remain operable. 38 EDG DC power is supplied by the 3D23 DC bus.

D - Incorrect; Safeguards actuation train B is supplied from the 3D23 DC bus.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

52. 059K4.16 001

Which ONE of the following conditions will result in a Main Feedwater pump trip?

- A. " A Main Feedwater pump will trip if the lube oil pressure decreases to 7 psig
- B. "A" and "B" Main Feedwater pumps will trip on a wide range SIG HI level trip signal of 93%.
- C. "B" Main Feedwater pump will trip if suction pressure decreases to 250 psig for \geq 5 seconds.
- D. "A" Main Feedwater pump will trip if a loss of voltage condition occurs on " A 4160Kv bus.

Question Source: North Anna NRC Exam 2002-301

Distractor Analysis:

A - Incorrect; trip at 3 psig

B - Incorrect; trip on narrow range at 80%

C - Incorrect; trip at suction press of <200 psig for > 5 secs

D - Correct; SD 112/SYS.073,074 dated 4/10/00 Pages 16, 19 & 20

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

53. 061A1 01 001

Unit 4 has experienced a loss of feedwater at 100% reactor power which resulted in a reactor trip. The transient has also resulted in a break in the RCS which has caused Containment temperature to increase to 185 OF. The crew is performing the actions of E-0, Reactor Trip or Safety Injection.

The crew has experienced problems with controlling Auxiliary Feedwater (AFW) flow and have one AFW pump running. Operators are working to get a second AFW pump running. The crew has initiated the monitoring of Critical Safety Functions using F-0, Critical Safety Function Status Trees.

Which ONE of the following describes when the limits for establishing bleed and feed cooling have been reached?

- A. Narrow range level in any Steam Generator drops below 32% with AFW flow less than 345 gpm to that Steam Generator.
- B. Wide range level in any Steam Generator drops below **22%** with AFW flow less than 345 gpm to that Steam Generator.
- C. Narrow range level in all Steam Generators drops below 32% with total AFW Row less than 345 gpm.
- D. Wide range level in all Steam Generators drops below 22% regardless of AFW flow.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Bistractor Analysis:

A - Incorrect; Narrow range level must be below 32% in all S/Gs with total AFW flow less than 345 gpm.

B - Incorrect; Wide range level in any S/G less than 22% with total AFW flow less than 345 gpm.

C - Correct; With narrow range level in all S/G less than 32% and total AFW flow less than 345 gpm without the ability to immediately restore it then F&B must be established to prevent exceeding the design limits of the core. The condition of having narrow range level in all S/Gs less than 32% coupled with total AFW flow **less** than 345 gpm under adverse containment conditions (>180 °F) will force the entry into FR-H.1. FR-H.1 (approval date 4/30/02) caution prior to step 2 supported by the basis document for FR-H.1.

D - Incorrect; The criteria for F&B is not contingent only on S/G level, but also AFW flow.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

54. 061AA2.05001

Unit 3 is in a refueling outage, currently performing refueling operations, when containment radiation Area Monitor RI-3-1402B reaches 12 mrem/hr. The RCO identifies the alarming channel on ARMS Panel R-30.

Which ONE of the following describes the correct priority of operator response?

- A. 1) Notify HP to survey the area.
2) Using the page, notify personnel to clear the area.
3) Confirm validity of the alarm by pressing the HIGH alarm PB on Panel R-30.
- B. 1) Confirm validity of the alarm by pressing the HIGH alarm PB on Panel R-30.
2) Using the page, notify personnel to clear the area.
3) Notify HP to survey the area.
- C. 1) Using the page, notify personnel to clear the area.
2) Confirm validity of the alarm by pressing the HIGH alarm PB on Panel R-30.
3) Notify HP to survey the area.
- D. 1) Using the page, notify personnel to clear the area.
2) Notify HP to survey the area.
3) Confirm validity of the alarm by pressing the HIGH alarm PB on Panel R-30.

Distractor Analysis:

A - Incorrect; Highest priority is to warn personnel in the area.

B - Incorrect; Highest priority is to warn personnel in the area.

C - Incorrect; HP should be notified prior to confirming the validity of the alarm.

D - Correct; Per the immediate actions of **3-QNOP-066**, Steps 4.1-5.1, approval date 4/21/98

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

55. 061K6.02 001

Which ONE of the following would be a consequence of fire involving the " A Auxiliary Feedwater (AFW) pump, rendering it inoperable?

- A. Unit 3 safe shutdown capability would be compromised because there would be inadequate AFW flow for decay heat removal.
- B. ✓ Unit 3 safe shutdown capability would NOT be compromised because adequate AFW flow would remain available for decay heat removal.
- C. Both Standby Feedwater pumps must be verified operable within 2 hours and Unit 3 must be placed in Mode 3 within the next 6 hours for compliance with Technical Specification action requirements.
- D. Unit 3 would be required to be in at least Mode 3 in 6 hours and in Mode 4 within the following 6 hours for compliance with Technical Specification action requirements.

Question Source: Vogtle NRC Exam 2001-301

Distractor Analysis:

A - Incorrect; Fire only effects that pump, 2 AFW pumps remain operable which is adequate for heat removal needs.

B - Correct; 2 AFW pumps remain operable which is adequate for heat removal needs.

C - Incorrect; These are the actions for both trains of AFW being affected. Neither train is inoperable according to Table 3.7-3 of TS section 3.7 for Auxiliary Feedwater System.

D - Incorrect; These are the TS actions for a single train being affected.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

56.062A1 Q1001

With both units initially at 100% power, operators were forced to evacuate the control room. Both units are stable in Mode 3 with all initial actions of ONOQ-105, Control Room Evacuation, having been completed successfully.

All sequencers have been disabled.

A loss of offsite power occurs.

Which ONE of the following describes the required operator actions PRIOR to closing the '3B' Emergency Diesel Generator (EDG) breaker?

- A. At the EDG panel 3C12B, the EDG Master Control switch must be placed to NORMAL.
- B. At the EDG panel 3C12B, the EDG Synchronizing switch must be placed in OFF.
- C. At the Alternate Shutdown Panel, transfer switches for the '38' 4Kv bus loads and associated Load Center loads must be placed in REMOTE.
- D. At the Alternate Shutdown Panel, control switches for the '35' 4Kv bus loads and associated Load Center loads must be placed in STOP/TRIP.

Question Source: Turkey Point Exam Bank Question #1.1.25.52.4.22,M

Distractor Analysis:

A - Incorrect because the EDG Master Control Switch is not placed in NORMAL.

B - Incorrect because the EDG Sync switch will be placed in ON, not OFF.

C - Incorrect because the transfer switches at the ASP are placed in LOCAL, not REMOTE.

D - Correct; Per ONOP-105 (approval date 4/24/02) Attachment 1, NOTE prior to Step 8 this action must be performed to prevent EDG failure.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

57. 062A3.04 001

A Vital Instrument inverter developed a fault that caused auto-transfer. After the transfer, the fault immediately cleared.

Which ONE of the following describes the automatic operation of the inverter?
(Assume the RETRANSFER switch is in its normal position)

The AUTOMATIC STATIC TRANSFER switch transferred the load to the

- A. CVT. The load must be manually transferred back to the NORMAL inverter.
- B. SPARE inverter. The load must be manually transferred back to the NORMAL inverter.
- C. CVT and automatically transferred back to the NORMAL inverter.
- D. SPARE inverter and automatically transferred back to the NORMAL inverter.

Question Source: Turkey Point Exam Bank Question #1.1.24.39.6.3,M

Bistractor Analysis:

A - Incorrect; The load will transfer to the CVT but will not have to be manually transferred back since this will happen automatically.

B - incorrect: The load will transfer to the CVT not the SPARE inverter.

C - Correct; The load will automatically transfer to the CVT when the fault occurs and will automatically transfer back to its preferred normal source when the fault clears. SD 144/(SYS.003) dated 2/3/03, Pages 16, 19 & 20.

D - Incorrect; The load will transfer to the CVT not the SPARE inverter

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

58.062AK3 03 001

All AC power was lost on Unit 4 and subsequently restored to one 4Kv bus. The crew has made a transition to ECA-0.2, boss of All AC Power Recovery With SI Required.

Which ONE of the following describes the operator action(s) contained in ECA-0.2 with regards to safeguards equipment?

Operator actions in accordance with ECA-0.2 will:

- A. cause the sequencer to load on the SI equipment in the proper order.
- B. manually start safeguards equipment in the same order as would the sequencer
- C. verify proper safeguards equipment lineup using E-0, Reactor Trip or Safety Injection.
- D. manually start ICW and CCW pumps first to provide cooling to the other safeguards equipment prior to their operation.

Question Source: Turkey Point Exam Bank Question #1.1.26.50 3.1.M

Distractor Analysis:

A - Incorrect; ECA-0.2 actions do not setup for sequencer activation.

B - Incorrect; The actions to start equipment in ECA-0.2 are not in the same order as the sequencer.

C - Incorrect; ECA-0.2 provides its own guidance in this area

D - Correct; Per ECA-0.2 (approval date 2/22/02) steps 5 & 6.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

59. 063K3 02 001

Which ONE of the following identifies the AFW steam supply MOV's that may be deenergized in the event of a loss of vital DC power?

- A. MOV-1403, 3A Stm Supply to Aux Feedwater Pumps
MOV-1404, 3B Stm Supply to Aux Feedwater Pumps
MOV-1405, 3C Stm Supply to Aux Feedwater Pumps
- B. MOV-1404, 3B Stm Supply to Aux Feedwater Pumps
MOV-1405, 3C Stm Supply to Aux Feedwater Pumps
- C. MOV-1403, 3A Stm Supply to Aux Feedwater Pumps
MOV-1405, 3C Stm Supply to Aux Feedwater Pumps
- D. MOV-1403, 3A Stm Supply to Aux Feedwater Pumps
MOV-1404, 3B Stm Supply to Aux Feedwater Pumps

Question Source: Turkey Point 2000-301 NRC Exam

Distractor Analysis:

A, B & D - Incorrect; MOV-1404 power supply is from 30833 AC power source

C - Correct; BKR 4D01-28 off 4D01 225 Volt Vital DC, powers MOV-1403
BKR 3D01-27 off 3D01 125 Volt Vital DC, powers MOV-1405

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

60.064A3 07 001

Which ONE of the following describes the sequencer operation if an SI actuation occurs while the sequencer is sequencing on boss of Off-site Power (LOOP) loads?

- A. The sequencer opens then re-closes the DG output breaker and subsequently loads all SI and LOOP equipment.
- B. The LOOP signal will lock out the SI signal and no additional SI equipment is loaded.
- C. The sequencer resets and then sequences all SI and LOOP equipment.
- D. SI mode sequence begins after the LOOP sequence times out and then the additional SI equipment is loaded.

Question Source: Turkey Point Question Bank # 1.1.24.57.6.23, M

Bistractor Analysis:

A - Incorrect; Sequencer will not open the DG output bkr

B - Incorrect; The LOOP will not result in a lock-out of the SI signal

C - Correct; Per SD170/SYS.024 dated 7/21/00 pages 14,17, & 18

D - Incorrect; This occurs after the sequencer is complete, the stem states that the sequencer is sequencing.

0-ONOP-013, Loss of Instrument Air, states to Determine the Actual Instrument Air

- A. If either unit is experiencing symptoms of a loss of Instrument Air **AND** system pressure reaches **95** psig and is still decreasing, trip the affected unit's reactor and start the temporary diesel air compressor.
- B. If Instrument Air pressure reaches **95** psig and is still decreasing **OR** the available Instrument Air compressor(s) is/are unable to restore pressure, then trip the affected unit(s).
- C. If Instrument Air pressure cannot be maintained above **90** psig **AND** nitrogen backup systems cannot be maintained, then trip the affected unit(s).
- D. If Instrument Air pressure reaches **65** psig and is still decreasing **AND** the available Instrument Air Compressor(s) is/are unable to restore pressure, then trip the affected unit(s).

Reference: 0-ONOP-013, Loss of Instrument Air, Page 6.

Maintain Instrument Air pressure greater than 65 psig on PI*-1444 (VPA). If pressure is less than 65 psig **AND** the available Instrument Air Compressor(s) is/are unable to restore pressure, **THEN** trip the affected unit(s) and enter 3/4-EOP-E-0 while continuing with this procedure.

Instrument Air pressure less than 95 psig then dispatch an operator to check operation of Instrument Air Compressor After Coolers. If the cooler is not operating properly, **THEN** place the other unit's Instrument Air Compressor(s) in service.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

62. 067AA2.13 001

Unit 3 is at 108% power when an alarm is received on the fire panel for the Auxiliary Transformer. Subsequently annunciators F5/4, AUX TRANSFORMER PANEL TROUBLE and 6/6 XFMR HYDROGEN SEAL OIL DELUGE OPERATING, alarm. Investigation reveals a major fire on the Unit 3 Auxiliary Transformer.

Which ONE of the following actions should be directed by the NPS?

- A. ✓ Transfer loads to the Startup Transformer, shutdown rapidly using QNOP-100, Fast Load Reduction.
- B. Remain on the Auxiliary Transformer, commence a shutdown using GOP-103, Power Operation to Hot Standby.
- C. Transfer loads to the Startup Transformer, commence a shutdown using GOP-103, Power Operation to Hot Standby.
- D. Remain on the Auxiliary Transformer, parallel the '3A and '3B' Emergency Diesel Generators to their respective buses for backup power. Shutdown rapidly using ONOP-100, Fast Load Reduction.

Question Source: Turkey Point Exam Bank Question #1.1.25.22.3.3,M

Distractor Analysis:

A - Correct; IAW ONOP-092.2, Auxiliary Transformer Malfunction, loads should be transferred off of the burning transformer and a fast load reduction performed. ONOP-092.2, approval date 4/14/00, Steps 1 and 44.

B - Incorrect; Load should be transferred off of the burning transformer. The plant should be shutdown using the fast load reduction vice slowly shutting down per GOP-103.

C - Incorrect; The plant should be shutdown using the fast load reduction vice slowly shutting down per GOP-103.

D - Incorrect; Load should be transferred off of the burning transformer,

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

63.067AK1.02.001

There is a fire in the hydrogen generator cooling system. Initial fire fighting efforts caused the Fire Main header pressure to drop to 81 psig. The Fire Main pressure slowly increased and has subsequently stabilized at 87 psig.

Which ONE of the following describes the current status of the fire pumps?

- A. The Diesel Fire pump auto started and the Electric Fire pump remained in standby.
- B. The Electric Fire pump auto started, then the Diesel Fire pump auto started.
- C. The Electric Fire pump auto started and the Diesel Fire pump remained in standby.
- D. The Diesel Fire pump auto started, then the Electric Fire pump auto started.

Question Source: Modified from Vogtle NRC Exam 2002-301 and Turkey Point Exam Bank Question #1.1.24.43.5.17,M

Distractor Analysis:

A - Incorrect; The Diesel Fire pump does not auto start until pressure drops to between 70 and 80 psig. Fire main pressure never decreased to this setpoint.

B - Incorrect; The Electric Fire pump would have started since it receives an auto start signal when fire main pressure drops to between 80 and 88 psig. The Diesel Fire pump would not have auto start until pressure drops to between 70 and 80 psig. Fire main pressure never decreased to this setpoint.

C - Correct; The Electric Fire pump would have started since it receives an auto start signal when fire main pressure drops to between 80 and 88 psig.
SD153/SYS.016,017,091 dated 6/9/03 Pages 17 & 18.

D - Incorrect; The Diesel Fire pump would not have auto start until pressure drops to between 70 and 80 psig. Fire main pressure never decreased to this setpoint.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

64. 071K1.06 001

A release is in progress from Waste Gas Decay Tank 'A'. A loss of Instrument bus 3P08 occurs.

Which ONE of the following describes the effect that this failure will have on the Waste Gas discharge in progress?

(Assume all systems operate normally.)

RCV-014, Waste Disposal System Gas Decay Tank Discharge valve, will

- A. automatically close due to loss of power resulting in the trip of the Auxiliary Building exhaust fans.
- B. automatically close due to loss of power to PRMS-R-14, Plant Vent Gas Monitor.
- C. have to be manually closed since the loss of power resulted in the loss of automatic protection from PRMS-R-14, Plant Vent Gas Monitor.
- D. have to be manually closed since the loss of power resulted in the loss of power to the Waste Boron Recycle Panel.

Question Source: Modified from Turkey Point Exam Bank Question #1.1.25.60.3.19,M

Distractor Analysis:

A - Incorrect; The loss of power to the 3P08 Instrument bus will not result in the tripping of the Aux Bldg Exh fans however, if the fans did trip it would result in the closure of RCV-014.

B - Correct; loss of the 3P08 Instrument bus results in the loss of power to the R-14 monitor which results in the automatic closure of RCV-014.

C - Incorrect; RCV-014 will automatically shut if all systems operate normally. Automatic protection from R-14 does occur this is why RCV-014 will automatically close.

D - incorrect; RCV-014 will automatically shut if all systems operate normally.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

65. 073K5.01 001

The Waste Disposal Liquid release line radioactivity monitor PRMS (R-18) uses a _____ and causes _____ when its high radiation alarm setpoint is reached

- A. G-M tube; Liquid Effluent Discharge valve, RCV-18, to automatically close
- B. G-M tube; no automatic action
- C. Scintillation detector; Liquid Effluent Discharge valve, RCV-18, to automatically close
- D. Scintillation detector; no automatic action

Question Source: Modified from Turkey Point Exam Bank Questions #1.1.24.68.6.24,M & #1.1.24.68.6.13,M

Distractor Analysis:

A - Incorrect; Wrong detector type.

B - Incorrect; Wrong detector type and incorrect action.

C - Correct; Per SD068/SYS.066,067 dated 11/08/00, pages 29 & 30

D - Incorrect; Wrong action

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

66.074EG2 4 16 001

Unit 3 has experienced a reactor trip and safety injection due to a Large Break Loss of Coolant Accident (LOCA).

The following complications have occurred:

- Three control rods have failed to fully insert.
- Only the 'A' AFW pump has started and problems with its turbine is limiting feedwater flow.
- Containment Spray pumps have failed to start.
- The crew has been able to get only one Emergency Containment Cooler unit running.

The crew is at Step 22 of E-0, Reactor Trip or Safety Injection, for verifying proper AFW flow, preparing to transition to FR-H.1, Response to Loss of Secondary Heat Sink, per the Step 22 RNO.

The STA reports the following Critical Safety Function status per FR-F.0, Critical Safety Function Status Trees:

- | | |
|----------------------------|----------------------|
| - Subcriticality is ORANGE | - Heat Sink is RE5 |
| - Core Cooling is RED | - Containment is RED |

Which ONE of the following is the correct procedure to implement based on the above information?

- A. FR-S.I, Response to Nuclear Power Generation/ATWS, based on the Subcriticality ORANGE path.
- B. FR-C.I, Response to Inadequate Core Cooling, based on the Core Cooling RED path.
- C. FR-H.1 based on the Heat Sink RED path and the direction from E-0 Step 22 RNO.
- D. FR-Z.1, Response to High Containment Pressure, based on the Containment RED path.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Distractor Analysis:

A - Incorrect; The 3 rods stuck out gives credence to this distractor however, IAW FR-F.0ORANGE paths do not have priority over RED paths

B - Correct; FR-F.0 hierarchy states that the RED path on core cooling takes precedence.

C - Incorrect; The trouble in the AFW system gives credence to this distractor along with E-0, Step 22 RNO. IAW FR-F.0, RED paths require the immediate stopping of the procedure in effect and initiating the functional recovery procedure.

D - incorrect; The problems with the containment spray and ECC add credence to this distractor however, IAW FR-F.0 the RE5 path on containment pressure does not have priority over the core cooling RED path.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

67, 076A2 01 001

Unit 3 is at 100% power with the '3C' ICW Pump out of service. Annunciator E-2/2, TURB BEARING HI TEMP, is in alarm.

The SNPO reports a massive grass influx has resulted in ICW/CCW and ICWITPCW basket strainer clogging.

The following conditions exist:

- Component Cooling Water heat exchanger outlet temperature is currently 118 °F and stable.
- Turbine bearing temperatures are 181 °F and slowly increasing.
- '3A and '3B' TPCW heat exchangers are at 4200 gpm ICW flow.
- '3A', '3B, and '3C' CCW heat exchangers are at 3000 gpm ICW flow each.

Which ONE of the following describes the actions that should be taken due to the above conditions?

- A. Trip the reactor and turbine and enter EOP-E-0, Reactor Trip or Safety Injection.
- B. Reduce turbine load as necessary to return temperatures within normal bands and implement ONOP-011, Screen Wash System/intake Malfunction.
- C. Increase cooling water flow to the turbine lube oil cooler to reduce bearing temperatures and implement ONOP-011, Screen Wash System/intake Malfunction.
- D. Enter into Technical Specification 3.0.3 and commence a reactor shutdown per GOP-103, Power Operation to Hot Standby.

Question Source: Modified from Turkey Point NRC Exam 2002-301

Distractor Analysis:

A - Correct; Conditions on the turbine bearing are degrading and the Annunciator E-2/2 trip criteria for has been met due to bearing temperatures unable to be maintained below 180 °F.

B - Incorrect; Correct action if temperature problem was with the TPCW and maintainable below 180 OF.

C - Incorrect; This is the action to reduce the turbine bearing temperature and should be initiated if the temperature were able to be maintained less than the trip criteria.

D: Incorrect, Correct for total flow of ICW dropping below minimum flow rate of 12,400 gpm for more than 5 minutes.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

68. 076K4.02 001

Unit 3 is at 100% power. The 'B' Intake Cooling Water (ICW) pump breaker is racked out when an SI signal occurs.

Which ONE of the following describes the ICW pumps that will receive an automatic start signal?

- A. 'A' only.
- B. 'C' only.
- C. 'A and 'C' if the 'D' bus is aligned to 'A' bus.
- D. 'A and 'C' if the 'D' bus is aligned to 'B' bus.

Question Source: Turkey Point Exam Bank Question #1.1.24.54.6.11,M

Distractor Analysis:

A - Incorrect; With the 'B' ICW breaker racked out and open the 'C' ICW pump will receive a start signal and start.

B - Incorrect; 'A' ICW pump will receive a start signal.

C - Incorrect; With the 'D' bus aligned to the 'A' bus the 'C' ICW pump will not start.

D - Correct; Per logic diagrams 5610-T-L1 sheet 29A and 139A and SD165/SYS.019 dated 11/11/02 pages 9 and 11.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

69. 078K3 01 001

Which ONE of the following will cause letdown orifice isolation valve, CV-200A, to close?

- A. Loss of Instrument Air to Containment.
- B. Manual initiation of Safety Injection.
- C. VCT level increase to 86%.
- D. Annunciator A-9/3, PZR CONTROL HI/LO LEVEL, alarms under no load conditions.

Question Source: Turkey Point Bank Question #1.1.24.13.6.60,M. Two distractors changed from those originally specified in the bank question. Original distractors did not appear credible.

Distractor Analysis:

A - Correct; Per SD013/SYS.046,047 dated 10/16/02, Page 18. Loss of control air to containment will close the orifice isolation valves since they are air to open fail close valves.

B - Incorrect; Manual initiation of SI does not activate Phase A. Phase A signal will result in the closure of the orifice isolation valves.

C - incorrect; VCT level increase will result in level divert but will not cause the orifice isolation valves to close.

D - Incorrect; No load PZR level is 22.2%. Pressurizer control hi/lo level annunciator alarms at 5% below program level i.e. 17%. Letdown orifice isolation occurs at 14%.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

70. 078K4.02 001

Unit 3 and Unit 4 Instrument Air systems are in their normal alignment with both units operating at 100% reactor power. The Instrument Air system on Unit 3 develops a leak and pressure in the system starts to decrease.

Which QNE of the following describes the actions that will occur as a result of the Instrument air pressure decrease?

Instrument Air header isolation valves CV-3-1605 and CV-4-1605 will automatically throttle:

- A. closed to protect Unit 4 and Service Air supply valve 40-2059 will automatically open to supply Service Air to the Unit 3 Instrument Air system.
- B.** closed to protect Unit 4 and Service Air supply valve 40-2059 should be manually opened to supply Service Air to the Unit 3 Instrument Air system.
- C. open in an attempt to raise Unit 3 Instrument Air pressure and Service Air supply valve 40-2059 should be manually opened to supply Service Air to the Instrument Air system if Instrument Air pressure drops below 75 psig.
- D. open in an attempt to raise Unit 3 Instrument Air pressure and Service Air supply valve 40-2059 will automatically open to supply Service Air to the Instrument Air system if Instrument Air pressure drops below 75 psig.

Distractor Analysis:

A - Incorrect; Valve 40-2059 must be manually opened, Service Air is not automatically supplied to the Instrument Air system on decreasing pressure.

B - Correct; The Unit Instrument Air systems are normally cross-connected through open valves, CV-3-1605 and CV-4-1605, these valves automatically throttle close at 88 psig and are fully closed at 75 psig. Service Air can be supplied to the Instrument Air system to increase pressure, valve 40-2059 must be manually opened.

C - Incorrect; CV-3-1605 and CV-4-1605 are normally open valves that throttle close on decreasing pressure to ensure both units are not affected by the air leak.

D - Incorrect; CV-3-1605 and CV-4-1605 are normally open valves that throttle close on decreasing pressure to ensure both units are not affected by the air leak. Valve 40-2059 must be manually opened, Service Air is not automatically supplied to the Instrument Air system on decreasing pressure.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-302 Questions

71.086K5.04.001

Which ONE of the following describes the type of fire suppression system that is installed in the Inverter Rooms (Zones 108A and 108B) and what are the hazards to personnel if they are in the room during system actuation?

- A. A deluge manual sprinkler system is installed. An electrical shock hazard exists due to the large amounts of water used to combat the fire.
- B. An automatic high pressure wet pipe system is installed. An electrical shock hazard exists due to the large amounts of water used to combat the fire.
- C. An automatic halon system is installed. An asphyxiation hazard exists due to the oxygen scavenging attributes of the halon.
- D. A manual Carbon Dioxide (CO₂) system is installed. An asphyxiation hazard exists due to the resulting heavy concentrations of CO₂.

Question Source: Farley NRC Exam 2003-301

Distractor Analysis:

A - Incorrect; no sprinkler system

B - Incorrect; no wet sprinkler system

C - Correct; SD 153/SYS.016,017,091 Dated 6/9/03

D - Incorrect; no dry pipe system

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

72. 103A3 01 001

Which ONE of the following describes the complete action an AUTOMATIC safety injection signal will have on the Unit 3 Containment systems?

- A. Close all containment isolation Phase 'B' valves, stop the containment purge fans and start the 'A' and 'C' ECCs.
- B. Close all containment isolation Phase 'B' valves, start the containment purge fans and start the 'A', 'B', and 'C' ECCs.
- C. Close all containment isolation Phase 'A' valves, stop the containment purge fans and start the 'A' and 'C' ECCs.
- D. Close all containment isolation Phase 'A' valves, start the containment purge fans and start the 'A', 'B', and 'C' ECCs.

Question Source: Turkey Point 2002-301 NRC Exam

Distractor Analysis:

A - Incorrect; Phase B **does** not actuate on an SI signal

B - Incorrect; Phase B does not actuate on an SI signal and only one ECCs per train

C - Correct; SD-029, Containment Ventilation and Heat Removal systems

D - Incorrect; all three ECCS do not get started, only one per train.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

73. G2111001

Unit 3 is currently at 100% reactor power. Annunciator G-5/1, AXIAL FLUX T.S. LIMIT EXCEEDED, has just been declared inoperable. I&C does not expect to get the parts needed for repair of the annunciator for several days.

Which ONE of the following describes the operator action(s) required?

- A. Reduce thermal power to less than 50% within 30 minutes and reduce the Power Range Neutron Flux - High Trip setpoint to less than or equal to 55% within the next 4 hours.
- B. ✓ Monitor and log the indicated AFD at least once per hour for the first 24 hours and at least once per 30 minutes thereafter.
- C. Monitor and log the indicated RPI at least once per hour for the first 24 hours and at least once per 30 minutes thereafter.
- D. Reduce thermal power to less than 50% within 30 minutes and implement ONOP-059.4, Excess Axial Flux Difference.

Question Source: Modified from Turkey Point Exam Bank Question # 1.4.28.22.3.10,M

Distractor Analysis:

A - Incorrect; These are the actions required by TS if the AFD is out of specification not just the annunciator.

B - Correct; These are the actions required for the annunciator being inoperable as required by TS 3.2.1

C - Incorrect; The RPI is not the required parameter to be checked, the required parameter is AFD.

D - Incorrect; These are the actions required per the annunciator if the AFB is out of specification.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

74. G2.1.20.001

Which ONE of the following describes the use of the foldout page in EOPs and ONOPs?

The foldout page contains information or action steps that are:

- A. only applicable while executing steps in the right-hand column of the procedure in use.
- B. only applicable while executing steps in the left-hand column of the procedure in use.
- C. applicable during the execution of any step in the procedure in use, unless stated otherwise by the SRO.
- D. applicable during the execution of any step in the procedure in use, unless stated otherwise in the procedure.

Question Source: Turkey Point exam bank question #1.1.26.20.1.2.M

Distractor Analysis:

A - Incorrect; Foldout page is applicable at all times during the procedure usage.

B - Incorrect; Foldout page items are also applicable while executing RNO steps.

C - Incorrect; Foldout page items are applicable at all times unless specified by the procedure and their execution is not at the discretion of the SRO.

D - Correct; 0-ADM-211 section 5.6, states that foldout page items are applicable at any procedure step unless stated otherwise in the procedure.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

75. G2 1 27 001

Which ONE of the following completes the description of the ECCS design basis **single** failure criteria for the injection phase of an accident?

The ECCS is designed to withstand any single _____ failure and still perform its intended safety function.

- A. active
- B. passive
- C. active or passive
- D. active and passive

Question Source: Turkey Point Exam Bank Question #1.1.24.21.3.16,M.

Distractor analysis:

- A - Correct; can handle only an active failure
- B - Incorrect; Not just passive
- C - Incorrect: Not both
- D - Incorrect; can not handle either active or passive

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

76. G2 133 001

The following conditions exist on Unit 3, while in Mode 3 with operators preparing for a reactor startup:

- **The Shift Manager** receives word that the containment air lock has failed the leakage rate surveillance test due to excessive air lock leakage.

Which ONE of the following is correct concerning the containment personnel access airlock?

(Reference Provided)

Restore the air lock to OPERABLE status within 24 hours or be in COLD SHUTDOWN within the following:

- A. 30 hours. Entry into MODE 2 **is not** permissible.
- B. 36 hours. Entry into **MODE 2 is not** permissible.
- C. 30 hours. Entry into MODE 2 **is** permissible.
- D. 36 hours. Entry into MODE 2 **is** permissible.

Distractor Analysis:

A - Correct; The unit must be in cold shutdown within 30 hours. Tech Spec Bases does not allow the 6 hours to be in Hot Stby because the unit is already in Mode 3. Additionally, Tech Spec 3.0.4 does not allow a Mode change for these conditions.

B - Incorrect; The unit must be in cold shutdown within 30 hours. Tech Spec Bases does not allow the 6 hours to be in Hot Stby because the unit is already in Mode 3. Additionally, Tech Spec 3.0.4 does not allow a Mode change for these conditions.

C - incorrect; The unit must be in cold shutdown within 30 hours. Additionally, Tech Spec 3.0.4 does not allow a Mode change for these conditions.

D - Incorrect; Tech Spec Bases does not allow the 6 hours to be in Hot Stby because the unit is already in Mode 3. Additionally, Tech Spec 3.0.4 does not allow a Mode change for these conditions.

Reference: TS Sections 3.0.4 & 3.6.1.3; ABM 536, Pg 23

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

77. G2.1 33 SECOND 001

Unit 4 is in Mode 1, being shutdown when the following conditions are noted:

- Pressurizer pressure: 2205 psig
- RCS dissolved O₂: 0.05 ppm
- 4A S/G tube leakage: 0.5 gpm
- RCS LOOP A T_{avg}: 543 °F

Which ONE of the following identifies the Tech. Spec. Limiting Condition for Operation **that** is NOT satisfied?

- A. TS 3.2.5, DNB Parameters
- B. TS 3.4.7, Chemistry
- C. TS 3.4.6.2, Operational Leakage
- D. TS 3.1.1.4, Minimum Temperature for Criticality

Distractor Analysis:

- A - Incorrect; TS 3.2.5 is satisfied because pressurizer pressure is >2200 psig
- B - Incorrect; TS 3.4.7 is satisfied because O₂ concentration is > 0.1 ppm
- C - Correct; TS 3.4.6.2 is not satisfied because the 4A S/G tube leakage is > 500 gpd (0.33 gpm).
- D - Incorrect; TS 3.1.1.4 is satisfied because the lowest RCS loop temp is > 541F.

Reference: TS 3.2.5, 3.4.7, 3.4.6.2, 3.1.1.4

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

78. G2.2.11.001

Which ONE of the following describes a procedure change that would be allowed to be approved as a One Time Only OTSC?

- A Changing a definition in 0-EPIP-20101, Duties of the Emergency Coordinator.
- B Changing an instruction in an Administrative Procedure.
- C Deleting a form contained in an Operations Surveillance Procedure for an operator log taken via the NOMS Program.
- D Changing a responsibility in a Quality Instruction (QI) procedure.

Distractor analysis:

A - incorrect; ADM-102 does not allow OTSCs to be written on EPIPs.

B - Correct; Changing Admin procedures via an OTSC is allowed if the change is made using a one-time-only OTSC

C - Incorrect; ADM-102 does not allow OTSCs to be written on forms contained in NOMS program.

D - Incorrect; ADM-102 does not allow OTSCs to be written on QIs.

Reference: ADM-103, Steps 5.1.2 & 5.7.3

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

79. G2 2 17 001

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 "AA" maintenance per O-ADM-701, "Control of Plant Work Activities" ?

- A. "A" Charging Pump must be removed from service for motor repair.
- B. Surveillance testing has not been performed on the "B" Containment Spray Pump within its required surveillance interval.
- C. The "A" Auxilliary Feedwater Pump is inoperable due to a bearing failure.
- D. Two RPIs are determined to be inoperable.

Question Source: Modified from Summer 2000-301 NRC Exam

Distractor Analysis:

A - Incorrect; 30 day action statement with other unit in Mode 1,2 and 3

B - Incorrect; Missed surveillance does not meet criteria for "AA" PWO.

C - Incorrect; 72 hour action statement for this failure. See tech specs - 3.5.2, 3.6.1.3, 3.7.1.1, 3.7.1.2

D - Correct; 2 RPIs OOS represents a TS 3.0.3 situation. "AA" priority PWO needed.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

80. G2 2 27 001

Refueling operations are in progress on Unit 3 when the following takes place:

- Annunciator X-4/1, ARMS HI RADIATION, alarms
- Area Radiation Monitor, R-7, in the Spent Fuel Pit is the affected channel

Operators quickly entered ONOP-066, High Area Radiation Monitoring System Alarm, and determined that the high alarm is not valid and the R-7 has failed.

Which ONE of the following is correct regarding the Refueling operations in progress?

Refueling operations...

- A. ... are unaffected and may continue without restrictions.
- B.** ... shall be stopped immediately. Refueling operations can continue if a portable radiation monitor with an alarm is used in the Spent Fuel Pit.
- C. ... shall be stopped until HP has completed surveys to ensure there is no source of high radiation in the Spent Fuel Pit area.
- D. ... shall be stopped immediately. Refueling Operations can continue ONLY after ARM R-7 has been repaired and declared OPERABLE.

Question Source: Turkey Point NRC Exam 2002-301

Distractor Analysis:

A - Incorrect; OP-0381, Preparation for Refueling Activities, step 5.2.2.2 is not satisfied therefore the operations cannot continue.

B - Correct; refueling operations shall be stopped immediately when the annunciator alarms, the limitations of not having the detector available to provide alarms is not to allow refueling operations until the portable detector is made available. **OP-038.1**, Approval date 2/28/03.

C - Incorrect; **HP** is required to start performing surveys until the alarm is determined to be invalid, at which time they can terminate the performance of the surveys.

D - Incorrect; do not need to wait for the repair of R-7 if a portable detector is made available.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

81. G2.2.31.001.....

Which ONE of the following correctly identifies the maximum Spent Fuel Pool (SFP) temperature allowed for the Commencement of refueling core off-load AND the SFP temperature at which core off-load shall be suspended?

	<u>Start Off-Load</u>	<u>Stop Off-Load</u>
A.	120 °F	170 °F
B.	120 °F	140 °F
C.	200 °F	170 °F
D.	100 °F	140 °F

Distractor analysis:

A - Incorrect; The correct limits are 100F and 140F respectively. Plausible because 170F is a temperature limitation related to shutdown of the SFP cooling system for maintenance.

B - Incorrect; The correct limits are 100F and 140F respectively. Plausible because 140F is a correct limit per 3-OP-038.1, CAUTION prior to Step 5.2.2.15.

C - Incorrect; The correct limits are 100F and 140F respectively. Plausible because 100F is a correct limit per 3-OP-038.1, Step 5.2.2.15 and because 170F is a temperature limitation related to shutdown of the SFP cooling system for maintenance.

D - Correct; The correct limits are 100F and 140F respectively. 100F is a correct limit per 3-QP-038.1, Step 5.2.2.15 and 140F is a correct limit per 3-OF-038.1, CAUTION prior to Step 5.2.2.15.

Reference: 3-OP-038.1, Step 5.2.2.15 and CAUTION

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

82. G2.2 34 001

Operators are reducing unit load with the control rods in AUTO
During the load reduction, T_{ref} decreases to 4 °F below T_{avg} .

Based on this T_{avg}/T_{ref} mismatch, which ONE of the following identifies the speed at which rods should be inserting?

- A. 8 steps/min.
- B. 24 steps/min.
- C. 40 steps/min.
- D. 72 steps/min.

Distractor Analysis:

- A - Incorrect; 8 steps/min is the rate associated with 3F mismatch.
- B - Incorrect; 24 steps/min is the rate associated with 3.5F mismatch.
- C - Correct; 40 steps/min is the rate associated with 4F mismatch.
- D - Incorrect; 72 steps/min is the rate associated with 5F mismatch.

Reference: SD-005, Full Length Rod Control, Figure 14

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

83. G2 3 10001

Given the following conditions at a work site:

- Radiation level is 40 mrem/hr
- Radiation level with shielding is 10 mrem/hr
- Time for one worker to install and remove shielding is 15 minutes
- Time to conduct the task with one worker is 1 hour
- Time to conduct the task with two workers is 20 minutes

Assumptions:

- A dose rate of 40 mrem/hr will be received while installing and removing the shielding.
- Shielding is installed and removed by one worker only.

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

Conduct the task with:

- A. two workers with shielding.
- B. two workers without shielding.
- C. one worker with shielding.
- D. one worker without shielding.

.....
Distractor analysis:

A - Correct; 10 mrem (placing shielding) + 3.33 mrem (conduct task) each worker = 16.7 mrem.

B - Incorrect; 13.33 mrem (conduct task) each worker = 26.7 mrem.

C - Incorrect; 10 mrem (placing shielding) + 10 mrem (conduct task) = 20 mrem.

D - Incorrect; 40 mrem (conduct task) = 40 mrem.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

84.G2 3 4 REPLACEMENT 001

A plant worker is unconscious and presumed badly injured in a Very High Radiation Area.

A 50-year-old volunteer member of the rescue team is attempting to reach the man. The rescuer has already received a whole body exposure of 4 REM.

Which ONE of the following identifies the additional allowable exposure the rescue worker may receive in this rescue attempt?

- A. 1 REM
- B. 6 REM
- C. 21 REM
- D. No Limit

Reference: 0-EPIP-20111, Enclosure 1

- A. Incorrect because there is no dose limit to save a life. ~~Plausible~~ because 5 REM is listed in Enclosure limit associated with Emergency Worker Exposure Limits.
- B. Incorrect because there is no dose limit to save a life. Plausible because 10 REM is listed in Enclosure limit associated with Emergency Worker Exposure Limits.
- C. Incorrect because there is no dose limit to save a life. Plausible because 25 REM is listed in Enclosure limit associated with Emergency Worker Exposure Limits.
- D. Correct because there is no limit to save a life. Note that the injured person is in a Very High Radiation Area which is defined as an area with dose rate in excess of 500 RADS/hr. making this a life saving rescue.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

85. G2.3.9 001

Which ONE of the following describes an operational concern associated with initiating a containment purge?

An uncontrolled radioactive release can result if the:

- A. Containment Purge Exhaust Isolation Valves (POV-2602 & POV-2603) are opened before the Containment Purge Supply Isolation Valves (POV-2600 & POV-2601) are opened.
- B. Containment Purge Exhaust fan is started without the equipment hatch and emergency hatch secured and at least one personnel door is closed.
- C. Containment Purge Supply fan is started without the equipment hatch and emergency hatch secured and at least one personnel door is closed.
- D. Containment Purge Exhaust fan is started before the Containment Purge Supply Fan.

Bistractor Analysis:

A - Incorrect; The exhaust isolation valves are opened before the supply isolation valves prior to commencing containment purge.

B - Incorrect; The potential for uncontrolled radioactive release exists if the supply fan is started, not the exhaust fan.

C - Correct; Per the CAUTION prior to step 5.1.2.9 of 0-OP-053, Containment Purge System.

D - Incorrect; The purge exhaust fan is started before the purge supply fan.

Reference: 0-OQ-053, Containment Purge System, CAUTION prior to Step 5.1.2.9.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

86. G2 4.18 001

Which ONE of the following describes the basis for isolating feedwater to a faulted Steam Generator in EOP-E-2, Faulted Steam Generator Isolation?

- A. Prevent inadequate Auxiliary Feedwater flow to the intact Steam Generators,
- B. ✓ Minimize RCS cooldown and mass energy release.
- C. To ensure a steam supply to the Auxiliary Feedwater pumps.
- D. Prevents cold feeding of a hot dry Steam Generator which could result in a Steam Generator tube rupture.

Question Source: Turkey Point Exam Bank Question #1.1.26.34.4.1,M

Distractor Analysis:

A - Incorrect; Excessive AFW flow to a faulted S/G is prevented by flow restrictions in the AFW lines.

B - Correct; Per EOP-E-2 (approval date 4/15/99) basis document PTN procedure step 4 and WOG step 4

C - Incorrect; Steam to the AFW pumps will be via an intact S/G unless there is no intact S/G in which case a faulted S/G is fed.

D - Incorrect; The procedures have provisions for feeding dry S/Gs if no others are intact.

QUESTIONS REPORT

for Turkey Point Final Exam 2803-301 Questions

87. G2 4 45 001

Unit 3 is at 100% reactor power when the following annunciators are received

- B-2/2, POWER RANGE UPPER BETHI FLUX DEV/AUTO DEFEAT.
- B-6/4, POWER RANGE CHANNEL DEVIATION
- B-9/2, AXIAL FLUX TILT
- B-9/3, SHUTDOWN ROD OFF TOP/DEVIATION

Which ONE of the following describes the event that has occurred and the appropriate action to be taken?

- A. Control Rod B-10 (bank 'B', edge of the core) dropped to 110 steps. Implement ONOP-028.1, RCC Misalignment.
- B. Control Rod H-8 (bank 'D', middle of the core) dropped to 110 steps. Implement ONOP-028.1, RCC Misalignment.
- C. Control Rod H-8 (bank 'D', middle of the core) dropped to 110 steps. Implement QNOP-028.3, Dropped WCC.
- D. Control Rod H-8 (bank 'D', middle of the core) fully dropped. Implement ONOP-028.3, Dropped RCC.

B - Incorrect; Rod H-8 is from the control group i.e. not consistent with B-9/3.

C - Incorrect; If rod would have fully dropped annunciator B-7/1, NIS/RPI ROD DROP ROD STOP, would have alarmed.

D - Incorrect; Rod H-8 is from the control group i.e. not consistent with B-9/3. If rod would have fully dropped annunciator B-7/1, NIS/RPI ROD DROP ROD STOP, would have alarmed.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

88. G2.4.46 001

The following events have occurred:

- All Main Steam Isolation valves (MSIVs) and bypass valves closed.
- Containment Isolation Phase 'B' actuated.
- Sequencer equipment begins to load.
- Containment Spray pumps started.

Which ONE of the following was the initiating event?

- A. High pressure inside Containment.
- B. High Steam flow coincident with bo T_{avg} only.
- C. High Steam flow coincident with either Lo S/G pressure or Lo T_{avg} .
- D. High Steam line differential pressure coincident with Lo Pressurizer pressure.

Distractor Analysis:

A - Correct; MSIV closure coincident with Phase B isolation can only occur as a result of high containrnnnet pressure. Drawing 5610-T-L1, SYS 63, Rev 26, Safeguards actuation & Steam line actuation.

B - Incorrect; This will not cause a Phase B isolation.

C - Incorrect: Neither of these will result in a Phase B isolation.

D - Incorrect: Neither of these will cause a Phase B isolation.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

89. G2.4.7 001

Which ONE of the following identifies the Major Action Categories in their proper order for responding to a Steam Generator Tube Rupture (SGTR) using EOP-E-3, "Steam Generator Tube Rupture"?

- A. Identify and isolate the ruptured Steam Generator.
Depressurize RCS to restore inventory.
Cool down to establish RCS subcooling margin.
Terminate SI to stop primary to secondary leakage.
Prepare for cooldown to cold shutdown.
- B. Identify and isolate the ruptured Steam Generator.
Cool down to establish RCS subcooling margin.
Terminate SI to stop primary to secondary leakage.
Depressurize RCS to restore inventory.
Prepare for cooldown to cold shutdown.
- C. Identify and isolate the ruptured Steam Generator.
Cool down to establish RCS subcooling margin.
Depressurize RCS to restore inventory.
Prepare for cooldown to cold shutdown.
Terminate SI to stop primary to secondary leakage.
- D. Identify and isolate the ruptured Steam Generator.
Cool down to establish RCS subcooling margin.
Depressurize RCS to restore inventory.
Terminate SI to stop primary to secondary leakage.
Prepare for cooldown to **cold** shutdown.

Distractor Analysis:

A - Incorrect; The cooldown to establish subcooling must take place prior to the depressurization to restore inventory.

B - Incorrect; SI should not be terminated until RCS inventory is restored.

C - Incorrect; The preparation for cooldown to cold shutdown is the last major action category to be accomplished.

D - Correct; Per the LP 6902339, TP-2 and EQP-E-3 Response to SGTR.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

90. WE02EK3.4 001

Step 7 of EOP-ES-1.1, SI Termination, states to check if Containment Spray should be stopped. Step 7.c of ES-1.1 states to verify that containment Temperature is less than 122 °F.

Which ONE of the following is correct concerning the 122 °F temperature limit for resetting the Containment Spray signal?

The _____ event is a much shorter duration event than the _____ event. Therefore, the 122 °F Containment Spray termination criterion _____ apply for the shorter duration event.

- A. Loss of Coolant Accident (LOCA); Main Steam Line Break (MSLB); does NOT
- B. Loss of Coolant Accident (LOCA); Main Steam Line Break (MSLB); does
- C. Main Steam Line Break (MSLB); Loss of Coolant Accident (LOCA); does NOT
- D. Main Steam Line Break (MSLB); Loss of Coolant Accident (LOCA); does

Distractor Analysis:

A & B - Incorrect; LOCA is of longer duration due to high volume and large amount of water added by the SI activation to keep the core covered.

C - Correct; The MSLB event is a much shorter duration event than the design basis LOCA. Therefore, the 122 °F containment spray termination criterion does not apply. Basis document for EOP-ES-1.1, dated 1/3/02, Page 18, WOG step 8.

D - Incorrect; The 122 °F containment spray termination criterion does not apply.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

91. WE04EA2.2 001

EOP-ECA-1.2, LOCA Outside Containment. Step1 directs the operator to check RWR pump suction stop valves, MOV-750 and 751, position on the alternate shutdown panel.

Which ONE of the following is the basis for checking the valve position on the alternate shutdown panel?

- A. ✓ Power is removed from the RHR loop suction valves. Therefore, control room position indication lights are also de-energized.
- B. Control room indication is not reliable because actual valve position and indicated valve position are not linked. All alternate shutdown valve positions are powered from a vital DC source. Actual position is equal to indicated position.
- C. RHR pump suction stop valves can only be manipulated from the alternate shutdown panel because any flow path which is isolated to stop a LOCA outside containment is required to be maintained isolated during subsequent recovery actions.
- D. RHR pump suction stop valves have no Control Room position indicating lights. The only place valve position can be verified is at the alternate shutdown panel.

Bistractor Analysis:

A - Correct; At Turkey Point, power is removed from RHR loop suction valves. In this condition, Control room position lights are also de-energized. Substep 'a' was added to use the indicator lights on the Alternate shutdown panel to determine valve positions. Due to the addition of Substep 'a', a single RNO action is not feasible. Each subsequent substep was provided with an appropriate RNO.

Reference: BD-EOP-ECA-1.2. LOCA Outside Containment, Page 8; EOP-ECA-1.2, LOCA Outside Containment, Page 5.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

92. WF04EG2418 001

EOP-ECA-1.2, LQCA Outside Containment, Step 3, states "Check If Break Is isolated." If the break is not isolated, Step 3 directs you to EOP-ECA-1.1, Loss of Emergency Coolant Recirculation, Step 1.

Which ONE of the following is the reason the RNO column directs you to EOP-ECA-1.1, Step 1?

- A. RCS water level is approaching mid-loop which will cause the RHR pumps to cavitate.
- B. A phase "A" isolation caused a loss of Instrument Air in containment. Subsequently, emergency coolant recirculation is not available until Phase "A" has been reset.
- C. There is no inventory in the containment sump.
- D. A Containment Ventilation Isolation signal caused a loss of Instrument Air in containment. Subsequently, emergency coolant recirculation is not available until the Containment Ventilation Isolation signal has been reset.

Distractor Analysis:

C - Correct; The operator transfers to E-1, Loss Of Reactor Or Secondary Coolant, if the break has been *isolated*, for further recovery actions. If the break has not been isolated, the operator is sent to ECA-1.1, Loss Of Emergency Coolant Recirculation, for further recovery actions since there will be no inventory in the sump.

A. Incorrect

B. Incorrect, instrument air is not isolated by a containment isolation signal although an SI signal is received which causes a Phase 'A' isolation and containment vent isolation.

D. Incorrect, instrument air is not isolated by a containment isolation signal although an SI signal is received which causes a Phase 'A' isolation and containment vent isolation.

Reference: BD-EQP-1.2, LOCA Outside Containment, Step 3, Pages 9-10. PTN 3-EOP-ECA-1.2, LQCA Outside Containment, Page 6.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

93. WE05EA1 1001

EOP-FR-H.1, Response to Loss of Secondary Heat Sink, Step 1 states: "Check if Secondary Heat Sink is Required."

Which ONE of the following statements is correct for a Large Break Loss of Coolant Accident (LOCA) where the RCS will depressurize below intact S/G pressures?

- A. The secondary heat sink is NOT required and actions to restore secondary heat sink are NOT necessary.
- B. Feed and bleed MUST be established within 30 minutes and before intact S/G wide range level reaches 22%.
- C. Feedwater MUST be established prior to intact S/G wide range levels reaching 22% to avoid thermal stress damage to the S/G(s).
- D. Feed and bleed MUST be established within 30 minutes or before core exit thermocouples reach 700 °F

Distractor Analysis:

A - Correct; Before implementing actions to restore flow to the S/Gs, the operator should check if secondary heat sink *is* required. For larger LOCA break sizes, the RCS will depressurize below the intact S/G pressures. The S/Gs no longer function as a heat sink and the core decay heat is removed by the RCS break flow. For this range of LOCA break sizes, the Secondary heat sink is NOT required and actions to restore secondary heat sink are NOT necessary. The operator should then transfer back to the procedure and the step in effect, to address the issue that was driving the response to the event prior to the transition to FR-H.1.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

94. WE05EA2.2 REPLACEMENT 001

Operators are performing EOP-FR-H.1, Response to Loss of Secondary Heat Sink, and have successfully initiated Bleed and Feed.

The BOP subsequently announces secondary heat sink is restored using "A" Standb Steam Generator Feed Pump.

Which ONE of the following describes the correct operator response?

- A. Continue performing FR-H.1 to completion.
- B. Return to procedure and step in effect when feed flow is verified to be > 345 gpm.
- C. Return to procedure and step in effect when narrow range level in any S/G is > 64 [32%].
- D. Return to procedure and step in effect only when narrow range levels in all S/Gs are > 6% [32%].

References: FR-H.1, step 7, 27

A. Correct because after Bleed and Feed is established, Fr-H.2 must be completed to ensure ~~S~~ reduction/termination and PQRV closure are completed. Restoration of secondary heat sink is not enough to transition from FR-H.1 beyond step 12 of the procedure.

B. Incorrect because after Step 12 restoration of secondary heat sink is not enough to transition from FR-H.1. Plausible because 345 gpm is a normal indicator of adequate heat sink.

C. Incorrect because after Step 12 restoration of secondary heat sink is not enough to transition from FR-H.1. Plausible because 6% in any S/G is a normal indicator of adequate heat sink.

D. Incorrect because after Step 12 restoration of secondary heat sink is not enough to transition from FR-H.1. Plausible because > 6% in all S/Gs is a goal of the procedure.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

95. WE07EG2.4.35 001

A Steam Generator Tube Rupture and a Loss of Coolant Accident has occurred.

EOP-ECA-3.2, SGTR With LOCA - Saturation Recovery Desired, Step 6, states "Initiate RCS Cooldown to Cold Shutdown by dumping steam to the condenser from the intact SG(s)."

SGs "B" and "C" are NOT available.

SG "A" is faulted and ruptured.

Which ONE of the following actions *is* correct if the steam dump to condenser control system is not functioning from the control room?

- A. Immediately isolate the accumulators locally and depressurize the RCS to 700 psig and reinitiate SI.
- B. Immediately isolate the accumulators locally and depressurize the RCS to less than 250 psig and commence WHR shut *down* cooling.
- C. If RHR is NOT in service, then manually dump steam (using steam dump to atmosphere valves) from the "A" SG.
- D. Check RHR in service then manually dump steam (using steam dump to atmosphere valves) from the "A" SG.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Distractor Analysis:

C - Correct; The RCS must be cooled and depressurized to cold shutdown conditions as quickly as possible to minimize both leakage of reactor coolant and radiological releases from the ruptured steam generator. This step established a 100 degree/hr cooldown rate, which balances the need for rapid RCS cooldown with **the** concern of PTS of the reactor vessel. The preferred method is steam release from the intact SG to the condenser since this conserves feedwater supply and minimizes radiological releases. If steam dump to the condenser is unavailable, atmospheric steam releases via the intact SG steam dump to atmosphere valve provides an alternative means of cooling the RCS. In the unlikely event that no intact SG is available, one must select either a faulted SG or ruptured SG to cool the RCS until the RHR system can support further cooldown to cold shutdown.

A: Incorrect

B: Incorrect

D: Incorrect

Reference: PTN procedure 3-EQP-ECA-3.2, SGTR With LQCA - Saturation Recovery Desired, Step 6. BD-EOP-ECA-3.2, Page 21.

QUESTIONS REPORT
for Turkey Point Final Exam 2003-301 Questions

96. WE08EK3 2001

EOP-FR-P.1, Response to Imminent Pressurized Thermal Shock Condition, states in Step 7, to "Check If SI Should Be Terminated."

Which ONE of the following events may result in a condition where analysis shows SI flow may NOT be able to be terminated?

- A. Small Break Loss of Coolant Accident (SBLOCA).
- B. Ruptured Steam Generator.
- C. Steam line break upstream of the MSIVs.
- D. Steam line break downstream of the MSIVs.

Distractor Analysis:

A - Correct; Per FR-P.1 Step 7 basis.

B, C & D: Incorrect; These events are not listed in the basis as a transient that will preclude SI termination. Plausible because events are likely to **cause** conditions resulting in entry into FR-P.1.

Reference: PTN procedure 3-EOP-FR-P.1, Response to Imminent Pressurized Thermal Shock Condition, Step 7, BD-EOP-FR-P.1, Page 19.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

97. WE10EK2 2001

EOP-ES-0.4, Natural Circulation Cooldown With Steam Void in Vessel (Without RVLMS). Step 6 states "Establish Pressurizer Level To accommodate Void Growth." Prior to this step, there is a note that states "Saturated conditions in the pressurizer are required to be established before trying to decrease pressurizer level."

Which ONE of the following choices is correct with respect to the thermodynamic relationship between Pressurizer pressure and Pressurizer level and their effect on the plant?

If the Pressurizer is not saturated, decreasing Pressurizer level (using charging and letdown) will cause the Pressurizer pressure to _____ than if the Pressurizer were saturated. Though the Pressurizer pressure still decreases when level is reduced under saturated conditions, the rate of decrease is _____ since vapor *is* created as the pressure drops.

- A. increase slower; faster
- B. increase slower; slower
- C. decrease faster; faster
- D. decrease faster; slower

Distractor Analysis:

D - Correct; To reduce the PZR level in a controlled manner, saturated conditions should first be established. If the PZW is not saturated, decreasing PZR level (using charging and letdown) will cause the PZR pressure to **decrease faster** than if the PZR were saturated. Though the PZR pressure still decreases when level is reduced under saturated conditions, the rate of decrease is **slower** since vapor *is* created as the pressure drops.

- A: Incorrect
- B: Incorrect
- C: Incorrect

Reference: PTN procedure 3-EOP-ES-0.4, Natural Circulation Cooldown With Steam Void In Vessel (Without WVLMS), note prior to Step 6, BD-EOP-ES-0.4, Page 20.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

98. WE11EK1 2 001

EOP-ECA-1.1, Loss of Emergency Coolant Recirculation, Step 12 directs operators to "Verify NO Backflow from RWST to Sump."

Which ONE of the following identifies the condition with the minimum number of open valves in which backflow from the RWST to the containment sump could exist?

- A. Both Recirculation sump suction line valves MOV-860A AND MOV-861A are OPEN when both WHR Pump Suction Isol. valves MOV-862A AND MOV-862B are OPEN.
- B. Both Recirculation sump suction line valves MOV-860A AND MOV-860B are OPEN when both RHR Pump Suction Isol. valves MOV-862A AND MOV-862B are OPEN.
- C. Either Recirculation sump suction line valve MOV-860A OR MOV-861A is OPEN when either RWR Pump Suction Isol. valve MOV-862A OR MOV-862B is OPEN.
- D. Either Recirculation sump suction line valve MOV-860A OR MOV-860B is OPEN when either RHR Pump Suction Isol. valve MOV-862A OR MOV-862B is OPEN.

Distractor Analysis:

A - Correct; Per Step 12 of ECA-1.1, a flowpath from the RWST to the containment sump exist when MOV-860A and MOV-861A are open when both MOV-862A and MOV-862B are open.

B - Incorrect; MOV-860A and MOV-860B open at the same time does not define a path from the RWST to the containment sump.

C - Incorrect; The lineup described does not define a path from the RWST to the containment sump.

D - Incorrect; The lineup described does not define a path from the RWST to the containment sump.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

99. WE12EK2.2 001

EOP-ECA-2.1, Uncontrolled Depressurization of All Steam Generators, Step 40, states "Verify SI Flow NOT Required."

Which ONE of the following describes the basis for this step?

The combination of _____ ensures that RCS conditions are under adequate operator control. Loss of control will require SI flow.

- A. pressurizer level and narrow range SG level
- B. subcooling and adequate core flow
- C. subcooling and pressurizer level
- D. adequate core flow and wide range SG level

Distractor Analysis:

C - Correct; The combination of subcooling and PRZ level ensures that RCS conditions are under adequate operator control. Loss of control will require SI flow.

Reference: PTN procedure 3-EOP-ECA-2.1, Uncontrolled Depressurization of All Steam Generators, Step 40; BD-EOP-ECA-2.1, Page 66.

QUESTIONS REPORT
for Turkey Point Final **Exam** 2003-301 Questions

100. WE14EK3.3 001

Operators are performing EOP-ECA-1.1, Loss of Emergency Coolant Recirculation, and have established two Emergency Containment Coolers (ECCs) and one Containment Spray pump (CSP) running as directed by ECA-I.1.

Containment pressure subsequently exceeds 20 psig and operators transition to EOP-FR-Z.1, Response to High Containment Pressure.

Step 8 of FR-Z.1 directs operators to start the second CSP.

Step 10 of FR-Z.1 directs operators to verify ECCs running.

Which **ONE** of the following describes the correct operator response to the directions given by FR-Z.1?

- A. Start the second CSP as directed by FR-Z.1.
Verify only two ECCs are running.
- B. Start the second CSP as directed by FR-Z.1.
Verify three ECCs are running.
- C. Maintain only one CSP running.
Verify only two ECCs are running.
- D. Maintain only one CSP running.
Verify three ECCs are running.

QUESTIONS REPORT

for Turkey Point Final Exam 2003-301 Questions

Distractor Analysis:

A - Incorrect; ECA-1.1 has precedence over FR-Z.1 as it relates to CSP operation. The second CSP may not be started per the CAUTION. Plausible because verifying two ECCs running is correct.

B - Incorrect; ECA-1.1 has precedence over FR-Z.1 as it relates to CSP operation. The second CSP may not be started per the CAUTION. Plausible because verifying three ECCs running would provide maximum ECC cooling potential for this containment overpressure procedure. However, three ECCs may not be run.

C - Correct; ECA-1.2 has precedence over FR-Z.1 as it relates to CSP operation. The second CSP may not be started per the CAUTION. Additionally, verifying two ECCs running **is** correct.

D - incorrect; Three ECCs may not be run. Plausible because the second CSP may not be started per the CAUTION.

Reference: PTN procedure 3-EOP-FR-Z.1, Response to High Containment Pressure, Step 8; BD-EOP-FE-Z.1, Page 14 & 15.