

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #76      011EG2.2.37

While determining the need for Piggyback recirculation per 3-EOP-ES-1.3, the following conditions are noted:

- Containment temperature:      118°F
- FI-3-605:                              1300 gpm

The SRO has determined Piggyback recirculation is:

- A.    required based on the FI-3-605 indication.
- B.    NOT required based on the FI-3-605 indication.
- C.    required based on the Containment temperature indication.
- D.    NOT required based on the Containment temperature indication.

NOTE:      3-EOP-ES-1.3:      "Transfer to Cold Leg Recirculation"  
              FI-3-605:         RHR Flow Indicator  
              SRO:                Senior Reactor Operator  
              °F:                 degrees Fahrenheit  
              gpm:                gallons per minute

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #76

ANSWER: A

KA: 011EG2.2.37

As it relates to the Large Break LOCA: Ability to determine operability and/or availability of safety related equipment. 3.6/4.6 10CFR55: 41.7/43.5

Reference: 3-EOP-ES-1.3 Step 18

Cognitive Level: 2 Comprehension

Level 2 because the operator must evaluate the conditions given to determine if an internal transition is necessary. If piggyback is required, the SRO will perform one section of ES-1.3, if not needed the SRO will perform a different section. The SRO must recall the parameter values that will decide which procedural path to take. The 118°F temperature implies that piggyback is not required while the flowrate seen on FI-605 implies that it is required. The SRO must conclude that the flowrate seen on FI-605 implies a malfunction associated with the RHR flowpath and it will be the determining behavior.

SRO level because the SRO is assessing plant conditions and then prescribing a section of a procedure to mitigate the event. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question      PSA

Response Analysis:

- A. Correct because the flowrate seen on FI-605 is not adequate. Because it is too low, piggyback is required IAW Step 18.
- B. Incorrect because FI-605 flow is too low and piggyback recirculation is required. Plausible because the containment temperature value implies piggyback is not required.
- C. Incorrect because 118°F is below the threshold for requiring piggyback. Plausible because it is close to the threshold value of 122 °F.
- D. Incorrect because even though containment temperature is below 118°F, piggyback is still required based on the low flow exhibited by FI-605. Plausible because 118°F is below the threshold for requiring piggyback.

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# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #77      025AG2.4.8

Unit 3 is in Mode 5 on RHR cooling.

- The containment equipment hatch is open.
- The switchyard de-energizes and both Unit 3 EDGs lock out.

Which ONE of the following identifies how the SRO will respond to this event?

The SRO will first:

- A.    restore RHR using 3-EOP-ECA-0.0.  
      Containment closure actions will then be initiated using 3-ONOP-004.
- B.    restore RHR using 3-ONOP-004.  
      Containment closure actions will then be initiated using 3-ONOP-050.
- C.    initiate Containment closure actions using 3-EOP-ECA-0.0.  
      RHR will be subsequently restored using 3-ECA-0.0.
- D.    initiate Containment closure actions using 3-ONOP-050.  
      RHR will be subsequently restored using 3-ONOP-004.

NOTE:      3-ONOP-050:      “Loss of RHR”  
              3-ONOP-004:      “Loss of Offsite Power”  
              3-EOP-ECA-0.0:      “Loss of All AC Power”  
              RHR:              Residual Heat Removal  
              EDGs:             Emergency Diesel Generators  
              SRO:              Senior Reactor Operator

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #77

ANSWER: D

KA: 025AG2.4.8

As it relates to the loss of RHR system: Knowledge of how abnormal operating procedures are used in conjunction with EOPs. 3.8/4.5 10CFR55: 41.10, 43.5

Reference: 3-ONOP-050 NOTE prior to Step 1 3-EOP-ECA-0.0 Step 1.2  
3-ONOP-004 Steps 1, 2 and 9

Cog Level: 2 Comprehension

Level 2 because the SRO must analyze the situation presented and determine that RHR flow will be lost as a result of a loss of all AC power. Normally ECA-0.0 would be used to respond to this loss of all AC power. However if the unit is on RHR, ECA-0.0 cannot be used because it is only applicable in Modes 1, 2, or 3 with RCS pressure > 1000 psig. The SRO will have to respond with ONOP-004 as the controlling document and ONOP-050 as the subordinate document. ONOP-004 provides direction to restore RHR flow if lost due to a loss of power but the operator will rely on ONOP-050 to establish containment closure first.

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (ONOP-050), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question

Response Analysis:

- A. Incorrect because RHR will be restored using ONOP-004, not ECA-0.0. Plausible because ECA-0.0 actions provide for the restoration of 3A or 3B 4KV Bus, either of which will restore power for RHR. Also plausible because ONOP-004 directs operators to initiate containment closure (using ONOP-050).
- B. Incorrect because the order is reversed. Containment closure actions will be initiated first followed by RHR restoration. Plausible because the procedures are correctly identified (ONOP-004 for RHR restoration and ONOP-050 for containment closure).
- C. Incorrect because ECA-0.0 will not be used during this Mode 5 event. Plausible because ECA-0.0 is normally the correct procedure to use for Loss of All AC events and because ECA-0.0 actions provide for the restoration of 3A or 3B 4KV Bus, either of which will restore power for RHR. Also plausible because ECA-0.0 actions provide for containment isolation.
- D. Correct per the references. Containment closure actions will be initiated first using 3-ONOP-050 and RHR will be restored subsequently using ONOP-004,

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #78      026AA2.01

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

- Annunciator H8/6, CCW HEAD TANK HI/LO LEVEL alarms.
- Annunciator A4/6, VCT HI/LO LEVEL alarms.
- CCWS head tank level decreases.

Which ONE of the following describes the event and the directions the SRO should give to the RO?

A leak is occurring in the:

- A. Non-Regen Heat Exchanger. Contamination of the CCWS is occurring. Direct the RO to warn plant personnel of the radiation danger.
- B. Non-Regen Heat Exchanger. Dilution of the RCS is occurring. Direct the RO to prepare to borate in response to increasing Tavg.
- C. Seal Water Heat Exchanger. Dilution of the RCS is occurring. Direct the RO to prepare to borate in response to increasing Tavg.
- D. Seal Water Heat Exchanger. Contamination of the CCWS is occurring. Direct the RO to warn plant personnel of the radiation danger.

NOTE:	CCWS:	Component Cooling Water System
	RCS:	Reactor Coolant System
	RO:	Reactor Operator
	SRO:	Senior Reactor Operator

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #78

ANSWER: C

KA: 026AA2.01

Ability to determine and interpret the location of a leak in the CCWS as it applies to the Loss of Component Cooling Water. 2.9/3.5 10CFR55: 43.5

Reference: 3-ARP-097.CR H8/6 & A4/6 SD-040 Page 8

Cog Level: 1 Recall

The operator must recognize that both annunciators A4/6 and H8/6 alarm due to either high or low level. Although the two choices are primary system heat exchangers cooled by CCW only one has higher CCW pressure than primary system pressure; the Seal Water heat Exchanger. This is the only leak that will make CCW head tank level decrease. CCW water is not borated so this will cause a dilution of the RCS resulting in an increase in Tav<sub>g</sub>.

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (3-ARP-097.CR H8/6), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question

Response Analysis:

- A. Incorrect because the indications are not indicative of a Non-Regen heat exchanger leak. Plausible because the Non-Regen heat exchanger is cooled by CCW and if it did leak, contamination of the CCWS would occur.
- B. Incorrect because the indications are not indicative of a Non-Regen heat exchanger leak. Plausible because if dilution of the RCS occurs, the RO should be directed to prepare to borate in response to increasing Tav<sub>g</sub>.
- C. Correct per the reference. The leak is in the Seal Water heat exchanger. This will dilute the RCS and Tav<sub>g</sub> is expected to rise.
- D. Incorrect because contamination of the CCWS is not occurring. Plausible because if contamination of the CCWS was occurring, the RO should be directed to warn personnel of the radiation danger. Also plausible because the leak is in the seal water heat exchanger.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #79      056AA2.54

Unit 4 experienced a LOOP.

- 4B EDG started but its output breaker, 4AB21, did not close.
- The Unit Supervisor directed the RO to perform bus stripping on the 4B Bus using Attachment 1 of 4-ONOP-004.3, "Loss of 3B 4KV Bus."
- The RO reports that Attachment 1 is complete with the following conditions noted:
  - 4B RCP has no light indication.
  - The station blackout tie permissive blue light is off.

Which ONE of the following describes the correct Unit Supervisor response?

- A. Continue performing 4-ONOP-004.3 and direct the RO to synchronize 4B EDG to the 4B Bus.
- B. Continue performing 4-ONOP-004.3 and direct the RO to energize 4B Bus from the Station Blackout tie line.
- C. Stop performing 4-ONOP-004.3 and direct the RO to dispatch an operator to locally open the 4B RCP breaker.
- D. Stop performing 4-ONOP-004.3 and direct the RO to contact Electrical Maintenance to investigate the failure of breaker 4AB21.

NOTE:      EDG:      Emergency Diesel Generator  
             LOOP:      Loss of Off Site Power  
             RO:      Reactor Operator  
             RCP:      Reactor Coolant Pump

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #79

ANSWER: C

KA: 056AA2.54

Ability to determine and interpret Breaker position (remote and local) as it applies to the loss of offsite power. 2.9/3.0 10CFR55: 43.5

Reference: 4-ONOP-004.3 Step 5, Attachment 1 Step 2, 5614-E-25, Sheet 1A

Cog Level: 2 Comprehension

Level 2 because the operator must analyze the situation presented and conclude that breaker 4AB01 is closed, based on the station blackout tie permissive blue light being off and no light indication on the 4B RCP. Bus stripping is not verified and Attachment 1 is not complete. Therefore performance of ONOP-004.3 must be stopped. If not, the next action is to synchronize the EDG onto the bus. It would be a significant error to attempt to close 4AB21 because manual closure of the EDG breaker is not protected by bus clearing. The EDG would energize the bus with the RCP attached.

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (4-ONOP-004.3), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question PSA

Response Analysis:

- A. Incorrect because ONOP-004.3 should be stopped and the EDG should not be synchronized to the bus. Plausible because Attachment 1 does not address the implication of the discovery of a component with no light indication and plausible because there is nothing wrong with the EDG or its breaker and if Attachment 1 were complete, the next step would be to synchronize the EDG to the bus.
- B. Incorrect because ONOP-004.3 should be stopped and because operators are not allowed to use the SBO tie line unless both buses have no power. Plausible because the SBO tie line is available and could power the bus if allowed by procedure.
- C. Correct per the references and discussion above. The SRO should stop performance of 3-ONOP-004.3. Even though the RCP breaker cannot be opened from the control room, there is the possibility of opening it locally. If the breaker can be opened locally, bus stripping via Attachment 1 would be complete.
- D. Incorrect because there is no failure of 4AB21. Plausible because the SRO should stop performance of 3-ONOP-004.3 and plausible because if there was a malfunction of 4AB21, Electrical Maintenance should investigate it.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #80      065AG2.2.4

A hurricane has caused extensive damage to Turkey Point systems including the switchyard and the Instrument Air system. Neither system will be available for several days.

Which ONE of the following describes an urgent concern that needs to be addressed by the Shift Manager?

Request the TSC to dispatch I&C to:

- A.    install a nitrogen supply to the Unit 4 Diesel Oil Day Tanks fill valves.
- B.    install a nitrogen supply to the Unit 3 Diesel Oil Day Tanks fill valves.
- C.    replace nitrogen bottles associated with the Unit 4 MSIVs.
- D.    replace nitrogen bottles associated with the Unit 3 MSIVs.

NOTE:      I&C:            Instrument and Control Department.  
              TSC:            Technical Support Center.  
              MSIVs:        Main Steam Isolation Valves

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #80

ANSWER: B

KA: 065AG2.2.4

As it relates to Loss of Instrument Air: Ability to explain the variations in control board/control room layouts, systems, instrumentation, and procedural actions between units at a facility. 3.6/3.6

10CFR55: 41.6, 41.7, 41.10

Reference: 0-ONOP-013 Step 22, NOTE prior to Attachment 2.  
5613-M-3022 Sheet 3, 5614-M-3022, Sheet 3  
5613-M-3072 Sheet3, 5614-M-3072 sheet 3  
SD-104 Page 8

Cog Level: 1 Recall

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (0-ONOP-013), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question

Response Analysis:

- A. Incorrect because the problem exists on Unit 3 not Unit 4. Plausible because the urgent concern is to apply nitrogen to the Unit 3 day tank fill valves before the day tanks run dry and the EDGs fail resulting in a LOAAC on Unit 3
- B. Correct per the references. This is an important difference between the Unit 3 and Unit 4 EDG systems. Upon loss of IA, the Unit 3 EDG Day Tank fill valves fail closed and will stay closed until air or nitrogen is applied. Unit 4 has an electrically operated solenoid valve and is not dependent upon air supply to fill the day tanks.
- C. Incorrect because Unit 4 uses backup IA reservoirs to ensure MSIVs close and remain closed. Plausible because Unit 3 relies on backup nitrogen that will close the MSIVs in the absence of instrument air.
- D. Incorrect because the loss of IA to the Unit 3 MSIVs is not urgent. The nitrogen bottles are required to ensure the MSIVs will close rapidly when needed. Given the conditions of the question the MSIVs would have been closed soon after the reactor was shutdown and the MSIVs would then stay closed due to the  $\Delta P$  across the MSIVs. Plausible because the Unit 3 MSIVs do have nitrogen backup bottles that will eventually become empty.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #81 WE04EA2.1

Operators are performing 3-EOP-E-0, "Reactor Trip or Safety Injection," in response to a Reactor trip and SI actuation on Unit 3.

- Pressurizer level 5% decreasing
- SG pressures: 900 psig stable
- SG levels: 5% NR increasing
- Process Rad. Monitors: CVCS Letdown Line, R-20 increasing
- Area Rad. Monitors: Aux Bldg North N/S Corridor RI-1415B increasing
- Containment pressure: 0.25 psig stable
- Containment sump level: 0-5 inches stable

Which ONE of the following identifies the procedure the Senior Reactor Operator will use next to mitigate this event?

3-EOP-:

- A. ECA-1.2, "LOCA Outside Containment"
- B. E-1, "Loss of Reactor or Secondary Coolant"
- C. FR-H.5, "Response to Steam Generator Low Level"
- D. FR-I.2, "Response to Low Pressurizer Level"

NOTE: SI: Safety Injection  
SG: Steam Generator  
CVCS: Chemical Volume and Control System  
Aux. Bldg.: Auxiliary Building  
Rad.: Radiation  
NR: Narrow Range  
N/S: North/South  
psig: pounds per square inch gauge

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #81

ANSWER: A

KA: WE04EA2.1

Ability to determine and interpret Facility conditions and selection of appropriate procedures during abnormal and emergency operations as they apply to the LOCA Outside Containment 3.4/4.3 10CFR55: 43.5

Reference: 3-EOP-E-0 Steps 15, 17, 20 3-EOP-F-0, Enclosures 3 and 6

Cog Level: 2 Comprehension

Level 2 because the operator must evaluate the given conditions and then select the EOP that will provide direction to mitigate this LOCA outside containment.

SRO level because the SRO is assessing plant conditions and then prescribing a procedure to mitigate the event. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question

Response Analysis:

- A. Correct per the reference. A process radiation monitor in the Pipe and Valve room and an area radiation monitor just outside the Pipe and Valve room are showing signs of abnormal radiation. These are both indicative of a LOCA outside containment requiring transition to ECA-1.2.
- B. Incorrect because the SRO should transition to ECA-1.2 to deal with the LOCA outside containment. Plausible because E- is the appropriate procedure to transition to for all other LOCAs and Pressurizer level is low and decreasing implying a LOCA is in progress.
- C. Incorrect because the SRO should transition to ECA-1.2 to deal with the LOCA outside containment. Plausible because the STA has been directed to monitor Critical Safety Functions in E-0, Step 17 and the STA will report a Yellow Path on Heat Sink due to the low SG levels.
- D. Incorrect because the SRO should transition to ECA-1.2 to deal with the LOCA outside containment. Plausible because the STA has been directed to monitor Critical Safety Functions in E-0, Step 17 and the STA will report a Yellow Path on Inventory due to the low Pressurizer level.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #82      003AA2.01

Unit 3 is at End of Core Life.

- Control Bank D Rod M-8 drops into the core.
- One hour after retrieval of Rod M-8, the SRO directs the RO to:  
    “Verify all RCC Assemblies are Aligned to Within the Allowed Rod Misalignment of Step Counters.”
- The “D” Bank step counters currently read D-180

<u>Control Rod</u>	<u>RPI Indication</u>
M-8	167
H-8	166
D-8	195
H-4	160
H-12	199

As defined by Tech Specs, which ONE of the following describes the condition of Control Bank “D” rod indications and the required SRO response (if any)?

- A. Only Control Rod H-4 exceeds the Allowed Rod Misalignment.  
Direct the RO to restore H-4 to within alignment within 1 hour or reduce power to less than 75% within 1 hour.
- B. Only Control Rods H-4 and H-12 exceed the Allowed Rod Misalignment.  
Direct the RO to restore H-4 and H-12 to within alignment within 1 hour or be in Hot Standby within 6 hours.
- C. All control rods in Bank “D” exceed the Allowed Rod Misalignment.  
Direct the RO to restore all Bank “D” rods to within alignment within 1 hour or be in Hot Standby within 6 hours.
- D. All control rods in Bank “D” are within the Allowed Rod Misalignment.  
No SRO response is required.

NOTE:      SRO:      Senior Reactor Operator  
              RO:        Reactor Operator  
              RCC:      Rod Control Cluster  
              RPI:      Rod Position Indication

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #82

ANSWER: B

KA: 003AA2.01

Ability to determine and interpret the Rod position indication to actual rod position as they apply to the Dropped Control Rod 3.7/3.9 10CFR55: 43.5

Reference: 3-ONOP-028.3 Attachment 1, Step 13  
Tech Specs 3.1.3.1.a and Action c.

Cog Level: 2 Comprehension

Level 2 because the operator must recall that ONOP-028.3 directs operators to reduce power to less than 50% before retrieving the dropped rod. When power is less than 90%, the allowed rod misalignment (RPI to Step Counter) is 18 steps. H-4 and H-12 are misaligned by more than 18 steps so the current condition does not meet the Tech Spec requirement. The TS Action Statement for two rods misaligned says that if the rods are not realigned within one hour, the unit must be in HSB within 6 hours.

SRO level because the SRO is applying the required Tech Spec actions (Section 3) in accordance with the rules of application requirements. (Ref Guidance for SRO-only Questions Rev 0 - page 5 of 19)

Modified from Bank: 69022070402-ORQ

Response Analysis:

- A. Incorrect because H-4 and H-12 are misaligned by more than 18 steps. Plausible because H-4 is the most misaligned rod at 20 steps different from the step counters. With power at 50%, H-4 is being misaligned and operators would have to restore H-4 (if it was the only one misaligned) to within alignment within 1 hour or reduce power to less than 75% within 1 hour.
- B. Correct per the references and discussion above. Only Control Rods H-4 and H-12 exceed the Allowed Rod Misalignment. The SRO should direct operators to restore H-4 and H-12 to within alignment within 1 hour or be in Hot Standby within 6 hours.
- C. Incorrect because all control rods in Bank "D" except H-4 and H-12 are within the Allowed Rod Misalignment. Plausible because the Tech Spec action is correct for either two rods misaligned or all rods misaligned. Restore all Bank "D" rods to within alignment within 1 hour or be in Hot Standby within 6 hours.
- D. Incorrect because H-4 and H-12 are misaligned by more than 18 steps. Plausible because H-4 and H-12 are within 2 steps of being in alignment for this power level. Also plausible because no SRO action would be correct if all rods were in alignment.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #83      028AA2.03

Unit 3 is at 50% power.

- Only 3A Charging Pump is running.

Vital AC Bus 3P06 de-energizes.

Which ONE of the following identifies the directions the SRO should give to the RO to control Pressurizer level and pressure?

- A.    “Start 3B and 3C Charging pumps. Establish maximum charging. Isolate letdown.”
- B.    “Start 3B Charging pump and run it at minimum speed for seal injection. Stop 3A Charging pump. Establish excess letdown.”
- C.    “Take manual control of the Master Charging pump speed controller. Maintain Pressurizer level on program using the 3A charging pump.”
- D.    “Take manual control of the Master Charging pump speed controller. Maintain Pressurizer level on program using the 3B Charging pump.”

NOTE:      AC:            Alternating Current  
              SRO:          Senior Reactor Operator  
              RO:            Reactor Operator

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #83

ANSWER: B

KA: 028AA2.03

Ability to determine and interpret the Charging subsystem flow indicator and controller as they apply to the Pressurizer Level Control Malfunctions 2.8/3.3

10CFR55: 43.5

Reference: 3-ONOP-003.6 Steps 3 & 4

Cog Level: 1 Recall

NOTE: The loss of 3P06 isolated letdown and caused the 3A Charging pump and the master charging pump speed controller to go to auto-lockup. Pressurizer level and pressure are increasing. 3B Charging pump can be operated in Manual only. It should be started and run at minimum speed. Excess letdown needs to be established to stabilize pressurizer level and pressure.

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (3-ONOP-003.6), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

## New Question

### Response Analysis:

- A. Incorrect because the problem is high pressurizer level and pressure. Charging needs to be minimized and excess letdown needs to be established. Plausible because these corrective actions are typical for situations where pressurizer level is decreasing.
- B. Correct per the references and discussion above. The SRO should implement the strategy of 3-ONOP-003.6 by directing the RO to start 3B Charging pump and run it at minimum speed for seal injection. Then stop 3A Charging pump and establish excess letdown.
- C. Incorrect because the master charging pump speed controller and the 3A Charging pump are in auto-lockup and cannot be operated by the RO. Plausible because before the loss of 3P06, they were fully functional and if not affected by the loss of 3P06 would be the components of choice to respond to the increasing pressurizer level and pressure.
- D. Incorrect because the master charging pump speed controller is in auto-lockup and cannot be operated by the RO. Plausible because the 3B Charging pump is operable and can be used (except that it must be operated in Manual).

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #84      068AG2.4.20

- At 0300, Operators have evacuated the Control Room
- At 0318, the Outside SNPO has NOT yet reported to the Unit Supervisor that control of shutdown systems has been established.

Which ONE of the following describes the implications (if any) of the failure of the Outside SNPO to report?

The Emergency Coordinator (1) \_\_\_\_\_ the authority to downgrade the emergency classification and (2) \_\_\_\_\_ have to implement an Owner Controlled Area Evacuation.

- |    | (1)           | (2)      |
|----|---------------|----------|
| A. | retains       | does     |
| B. | no longer has | does     |
| C. | no longer has | does NOT |
| D. | retains       | does NOT |

NOTE:      SNPO:      Senior Nuclear Plant Operator

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #84

ANSWER: B

KA: 068AG2.4.20

As it relates to the Control Room Evacuation: Knowledge of the operational implications of EOP warnings, cautions and notes. 3.8/4.3

10CFR55: 41.10, 43.5

Reference: 0-ONOP-105 Attachment 2, NOTE prior to Step 18 & Step 18  
0-EPIP-20101 Enclosure 1, Section 15,  
0-EPIP-20101, Section 5.7, CAUTION prior to Step 5.7.1.1  
0-EPIP-20101, Section 5.7, Step 5.7.1.6

Cog Level: 2 Comprehension

Level 2 because the operator must recognize that 18 minutes have passed and control of shutdown systems has not yet been established. A Site Area Emergency must be declared. A Site Area Emergency will require an Owner Controlled Area Evacuation and the ability to de-escalate now resides with the Recovery Manager.

SRO level because the question deals exclusively with SRO responsibilities including emergency classification and evacuation and de-escalation.

Modified from Bank: 69022520201-ORQ

Response Analysis:

- A. Incorrect because the SM no longer has the authority to downgrade the classification. Plausible because the SM will have to implement an OCA evacuation.
- B. Correct per the references. The SM no longer has the authority to downgrade the emergency classification and will have to implement an OCA Evacuation.
- C. Incorrect because the SM will have to implement an OCA Evacuation. Plausible because the SM no longer has the authority to downgrade the emergency classification.
- D. Incorrect because the SM no longer has the authority to downgrade the emergency classification and will have to implement an OCA Evacuation. Plausible because this response would be correct if less than 15 minutes had expired and the classification had not been upgraded to a SAE.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #85      W/E10EG2.4.31

Operators are performing 4-EOP-ES-0.3, "Natural Circulation Cooldown with Steam Void in Vessel (With RVLMS)."

The RO is preparing to start the 4B RCP.

- RVLMS head indication:                    33%
- Pressurizer level:                            59%
- CET subcooling:                            80°F
- Pressurizer Pressure:                    1935 psig
- Pressurizer Steam Space Temp:           632°F
- Pressurizer Water Space Temp:           620°F

Which ONE of the following describes the directions the SRO should give the RO?

- A.    Increase charging flow to increase Pressurizer level and turn on Pressurizer Backup heaters to saturate the pressurizer water.
- B.    Increase charging flow to increase Pressurizer level and dump steam to increase RCS subcooling.
- C.    Decrease charging flow to decrease Pressurizer level and turn on Pressurizer Backup heaters to saturate the pressurizer water.
- D.    Decrease charging flow to decrease Pressurizer level and dump steam to increase RCS subcooling.

NOTE:      RCP:            Reactor Coolant Pump  
              RCS:            Reactor Coolant System  
              RVLMS:        Reactor Vessel Level Monitoring System  
              CET:            Core Exit Thermocouple  
              SRO:            Senior Reactor Operator  
              RO:             Reactor Operator  
              °F:             degrees Fahrenheit  
              psig:            pounds per square inch gauge  
              Temp:           Temperature

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #85

ANSWER: A

KA: W/E10EG2.4.31

As it relates to the Natural Circulation with Steam Void in Vessel with/without RVLIS: Knowledge of annunciator alarms, indications or response procedures.  
4.2/4.1

10CFR55: 41.10

Reference: 4-EOP-ES-0.3 Step 5

Cog Level: 1 Recall

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (3-EOP-ES-0.3), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question

Response Analysis:

- A. Correct because Pressurizer level is lower than the desired level of 68% and the Pressurizer is not saturated. The SRO should direct the RO to increase charging flow to increase Pressurizer level and turn on Pressurizer Backup heaters to saturate the pressurizer water.
- B. Incorrect because RCS subcooling is already above the minimum required value of 55°F. Plausible because the SRO should direct the RO to increase charging flow to increase Pressurizer level.
- C. Incorrect because Pressurizer level is lower than the desired level of 68%. Operators should increase charging flow, not decrease it. Plausible because the SRO should direct the RO to turn on Pressurizer Backup heaters to saturate the pressurizer water.
- D. Incorrect because Pressurizer level is lower than the desired level of 68%. Operators should increase charging flow, not decrease it and because RCS subcooling is already above the minimum required value of 55°F. Plausible because Pressurizer level at 59% is significantly above the usual no-load programmed level of 22% and CET subcooling at 80°F is significantly above the usual no-load value of 106°F.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #86      003G2.4.31

Unit 3 is at 100% power with all rods out.

The following annunciators alarm:

- A-1/5, RCP SEAL LEAKOFF HIGH FLOW
- G 2/2 - RCP "B" STANDPIPE HI LEVEL
  
- 3B RCP #1 Seal leak-off flow has increased to 5.6 gpm.

Which ONE of the following describes directions the Senior Reactor Operator will give the Reactor Operator?

- A. Prepare to shutdown using 3-GOP-103. Plan to be off-line in two hours.
- B. Trip the reactor immediately. When the reactor is tripped, stop the 3B RCP.
- C. Reduce load at a rate that will maintain the Tavg/Tref  $\Delta T$  band at 6°F.
- D. Set the Boric Acid Totalizer to 900 gallons and establish a 40 gpm boration.

NOTE:      3-GOP-103:      "Power Operation to Hot Standby"  
         RCP:            Reactor Coolant Pump  
         gpm:            gallons per minute  
          $\Delta T$ :            Delta Temperature

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #86

ANSWER: D

KA: 003G2.4.31

As it relates to the Reactor Coolant Pump: Knowledge of annunciator alarms, indications, or response procedures. 4.2/4.1 10CFR55: 41.10

Reference: 3-ARP-097.CR A 1/5, G 2/2  
3-ONOP-041.1 Steps 2, 16, 19, Enclosure 1  
3-ONOP-100 Step 2, Attachment 3 Steps 2, NOTE prior to Step 4, Steps 5 & 6

Cog Level: Level 3 Analysis

Level 2 because the operator must first recall the guidance of ONOP-041.1 when #1 Seal LO flow exceeds 5.5 gpm; perform a fast load reduction using ONOP-100. Then the operator must recall that ONOP-100 directs the initiation of boration that is 9 gallons per % with control rods completely withdrawn (9 X 100% = 900 gallons). Then the operator must recall that an initial pot setting of 8.0 is to be put into the boric acid flow controller. A pot setting of 8.0 is equivalent to 40 gallons per minute.

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (3-ONOP-041.1 & 3-ONOP-100), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question

Response Analysis:

- A. Incorrect because the operators must initiate a fast load reduction IAW ONOP-100. Plausible because if the leakage had been between 5.0 and 5.5 gpm, the correct procedure would have been GOP-103.
- B. Incorrect because the operators must initiate a fast load reduction IAW ONOP-100. Plausible because if the leakage had been in excess of 6.0 gpm, the correct response would have been to trip the reactor and stop the RCP.
- C. Incorrect because the  $\Delta T$  band must not exceed 5%. Plausible because there will be a significant  $\Delta T$  band that will approach 5%.
- D. Correct per the references. The SRO should direct the RO to set the Boric Acid Totalizer to 900 gallons and establish a 40 gpm boration.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #87      005G2.2.25

Unit 3 is in Mode 5.

- 3A RHR loop is in operation.
- 3B RHR loop is inoperable.
- Fill and Vent has been completed.
- RCS pressure is 400 psig.
- Steam Generator levels are:
  - 3A: 40%NR.
  - 3B: 15%NR
  - 3C: 0%WR

A pressure control malfunction results in RCS pressure decreasing to 50 psig.

Which ONE of the following describes the effect of this situation on Tech Spec compliance and the correct operator response?

The RCS Cold shutdown – Loops Filled Limiting Condition for Operation is:

- A. satisfied. Suspend all operations involving a reduction in RCS boron concentration until 3B RHR loop is restored to operable status.
- B. satisfied. Correct the problem with the RCS pressure control malfunction and restore RCS pressure to 400 psig.
- C. NOT satisfied. Immediately initiate corrective action to restore 3B RHR loop to operable status.
- D. NOT satisfied. Immediately initiate corrective action to restore 4C S/G level to greater than 10% NR.

NOTE:      RHR:      Residual Heat Removal  
              RCS:      Reactor Coolant System  
              NR:      Narrow Range  
              psig:     pounds per square inch gauge

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #87

ANSWER: C

KA: 005G2.2.25

As it relates to the Residual Heat Removal System: Knowledge of the bases in Technical Specifications for limiting conditions for operations and safety limits.  
3.2/4.2 10CFR55: 41.5, 41.7, 43.2

Reference: Tech Specs Section 3.4.1.4.1 & 0-ADM-536 Section 3/4.4.1

Cog Level: 2 comprehension

Level 2 because the Operator must recognize that the pressure reduction resulted in the RCS loops no longer being considered filled as defined in the Tech Spec bases (RCS pressure dropped below 100 psig). Operators were relying on 2 SGs with water level >10% to comply with the LCO while the 3B RHR loop was out of service. With pressure at 50 psig they can no longer take credit for the SGs and the LCO is no longer satisfied. The action statement requires restoration of the inoperable RHR loop as soon as possible.

SRO level because the SRO is recalling knowledge of Tech Spec bases that is required to analyze Tech Spec required actions and terminology (loops filled) (Ref Guidance for SRO-only Questions Rev 0 - page 5 of 19)

New Question

Response Analysis:

- A. Incorrect because the LCO is not satisfied. Plausible if the operator does not know that the Tech Spec bases definition of loops filled includes RCS pressure >100 psig and because suspension of boron concentration reduction operations is an action statement associated with the same LCO.
- B. Incorrect because the LCO is not satisfied. Plausible if the operator does not know that the Tech Spec bases definition of loops filled includes RCS pressure >100 psig and because restoring pressure to the previous value effectively restores the system to the previous condition of being in compliance.
- C. Correct because the LCO is not satisfied and operators should immediately initiate corrective action to restore 3B RHR loop to operable status.
- D. Incorrect because restoring 3C SG level will not correct the situation or restore compliance with the LCO. Plausible because the LCO is not satisfied and if the operator does not know that only 2 SGs are needed to satisfy the LCO.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #88      007A2.02

Unit 4 is at 100% power when annunciator  
A 7/1, PRT HI/LO LEVEL HI PRESS / TEMP alarms.

The RO reports the following PRT parameter values:

- level                      Stable at 62%
- temperature              Stable at 110°F
- pressure                    Stable at 4 psig

Which ONE of the following identifies the parameter(s) that is/are out of normal limits, the possible consequence of the parameter(s) being out of limit(s), and the direction the SRO should give to the RO?

- A.    Only PRT level is below normal limits.  
      PRT sparging nozzles may uncover.  
      Increase PRT level in accordance with 4-OP-041.3.
- B.    Only PRT temperature is above normal limits.  
      PRT water will not be effective in collapsing steam from Pressurizer safeties.  
      Increase PRT level in accordance with 4-OP-041.3.
- C.    Both PRT level and pressure are below normal limits.  
      Oxygen concentration in the PRT may increase.  
      Increase PRT level then increase PRT pressure if needed in accordance  
      with 4-OP-041.3.
- D.    PRT temperature is above normal limits and pressure is below normal limits.  
      PRT water will not be effective in collapsing steam from Pressurizer safeties.  
      Increase PRT level then increase PRT pressure if needed in accordance  
      with 4-OP-041.3.

NOTE:      4-OP-041.3:      “Pressurizer Relief Tank.”  
              SRO:              Senior Reactor Operator  
              RO:                Reactor Operator  
              PRT:              Pressurizer Relief Tank  
              °F:                degrees Fahrenheit  
              psig:              pounds per square inch gauge

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #88

ANSWER: C

KA: 007A2.02

Ability to (a) predict the impacts of the following malfunctions or operations on the PRTS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Abnormal pressure in the PRT. 2.6/3.2 10CFR55: 41.5, 43.5

Reference: 4-ARP-097.CR A7/1 4-OP-041.3 Section 5.1, Section 7.3  
SD-009, Page 31 and 44

Cog Level: 1 Recall

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (4-ONOP-041.3), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question

Response Analysis:

- A. Incorrect because both PRT level and pressure are below normal limits and sparging nozzles are not in danger of uncovering. Plausible because PRT level is below normal limits and operators should increase PRT level IAW 4-OP-041.3
- B. Incorrect because PRT temperature is not above normal limits. Plausible because temperature is approaching normal limits and high water temperature would reduce effectiveness in collapsing steam and plausible because increasing PRT level is the correct method to reduce PRT temperature.
- C. Correct per the references. Both PRT level and pressure are below normal limits. Oxygen concentration in the PRT may increase. Operators should increase PRT level then increase PRT pressure if needed in accordance with 4-OP-041.3.
- D. Incorrect because PRT temperature is not above normal limits. Plausible because temperature is approaching normal limits and high water temperature would reduce effectiveness in collapsing steam and plausible because increasing PRT level is the correct method to reduce PRT temperature. Also plausible because PRT pressure is below normal limits.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #89      010G2.1.19

Unit 4 is at 100% power.

- Pressurizer Spray valve, PCV-4-455A, fails open and cannot be closed.
- The RO trips the Reactor and associated RCP.
- Average CET temperature and Tavg stabilize at 547°F.
- RCS pressure stabilizes at 1385 psig.
- The Unit Supervisor reviews the Core Cooling CSF Status Tree.

Which ONE of the following describes the indication as the Unit Supervisor reviews the Core Cooling CSF Status Tree and the correct Unit Supervisor response?

- A. The “TRIP RCPs” indicator will be illuminated.  
Direct the RO to stop the remaining RCPs.
- B. The Green Path will be highlighted.  
Continue implementation of the procedure in progress.
- C. The Yellow Path will be highlighted.  
Continue implementation of the procedure in progress or transition to 4-EOP-FR-C.3, “Response to Saturated Core Cooling,”
- D. The Orange Path will be highlighted.  
Transition to 4-EOP-FR-C.2, “Response to Degraded Core Cooling,”

**NOTE: Steam Tables Provided**

NOTE:	RO:	Reactor Operator
	RCPs:	Reactor Coolant Pumps
	RCS:	Reactor Coolant System
	CET:	Core Exit Thermocouples
	CSF:	Critical Safety Function
	°F:	degrees Fahrenheit
	psig:	pounds per square inch gauge

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #89

ANSWER: B

KA: 010G2.1.19

As it relates to Pressurizer Pressure Control: Ability to use plant computers to evaluate system or component status 3.9/3.8 10CFR55: 41.10

Reference: 4-EOP-E-0, FO Page Item 2  
4-EOP-F-0 Page 8, Attachment 1 Steps 3, 4, 5

Cog Level: 3 Analysis

Level 3 because the operator will have to evaluate the CET temperature and RCS pressure using Steam Tables to determine that the CET subcooling is 40°F. Then the operator will have to recall that the ERDADS "Trip RCPs" indicator will not illuminate until RCS subcooling drops to 25°F and the Orange Path will not be highlighted until CET temperatures exceed 700°F and the Yellow Path will not be highlighted until CET subcooling drops to 30°F. Then the operator must recall the strategy called for in EOP-E-0 (RCP Trip Criteria) and EOP-F-0 (Status Trees rules of Usage)

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (4-EOP-E-0 and 4-EOP-F-0), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question

**NOTE: Provide Steam Tables to operators.**

Response Analysis:

- A. Incorrect because the Trip RCPs indicator will not illuminated until RCS subcooling drops to 25°F. Plausible because RCS subcooling has approached 25°F and the action to stop the remaining RCPs is correct if 25°F subcooling is reached.
- B. Correct per the reference. CET Subcooling is 40°F so the only path that will be highlighted is the green path.
- C. Incorrect because the yellow path will not be highlighted until CET subcooling drops to 30°F. Plausible because if the yellow path was highlighted, the Unit Supervisor would have the option to continue the procedure in effect or to go to FR-C.3.
- D. Incorrect because the orange path will not be highlighted until CET temperatures exceed 700°F. Plausible because if the orange path was highlighted, the Unit Supervisor would have to transition to FR-C.2.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #90      026A2.07

Operators have transitioned to 3-EOP-ECA-1.1, "Loss of Emergency Coolant Recirculation," in response to clogged recirculation sump screens.

- RWST level is 80,000 gallons.
- Containment pressure is 21 psig.

If no ECCs are operating, then the SRO should ensure:

- A. one CSP is operated with suction aligned to the RWST.
- B. two CSPs are operated with suction aligned to the RWST.
- C. one CSP is operated with suction aligned to the RHR pump's discharge.
- D. two CSPs are operated with suction aligned to the RHR pump's discharge.

NOTE:      ECCs:      Emergency Containment Coolers  
              CSPs:      Containment Spray Pumps  
              RWST:     Refueling Water Storage Tank  
              RHR:      Residual Heat Removal  
              SRO:      Senior Reactor Operator

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #90

ANSWER: A

KA: 026A2.07

Ability to (a) predict the impacts of the following malfunctions or operations on the Containment Spray; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Loss of Containment Spray pump suction when in recirculation mode, possibly caused by clogged sump screen, pump inlet high temperature (exceeded cavitation, voiding), or sump level below cutoff (interlock) limit. 3.6/3.9 10CFR55: 41.5, 43.5

Reference: 3-EOP-ES-1.3 CAUTION prior to Step 2, Steps 2, 13, 16, 17  
3-EOP-ECA-1.1 Step 8 5613-M-3062 Sheet 1 5613-M-3068 Sheet 1

Cog: Level: 2 comprehension

Level 2 because the operator must recognize that although the RHR pump suction has been realigned to the containment sup, the CSPs have not yet been realigned; Their suction source is still the RWST. Then the operator must recall the guidance of Step 8 of ECA-1.1 that says at the given RWST level and containment pressure with no ECCs running, operators will operate only one CSP.

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (3-EOP-ES-1.3 and 3-EOP-ECA-1.1), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19)

New Question PSA

Response Analysis:

- A. Correct per the references. The SRO should ensure one CSP is operated with suction aligned to the RWST.
- B. Incorrect because operators are allowed to run only one CSP when RWST level is < 155,000 gallons. Plausible because the suction is still aligned to the RWST.
- C. Incorrect because the CSP suction is still aligned to the RWST. Plausible because only one CSP will be operated.
- D. Incorrect because the CSP suction is still aligned to the RWST and because operators are allowed to run only one CSP. Plausible because if sump blockage had not occurred, then suction would be from the RHR pump discharge.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #91      034A3.02

Operators are performing a full core off-load on Unit 4.

- As the manipulator crane operator raises a fuel element using the manipulator hoist, the load indicator increases to 2390 pounds.
- The overload light on the manipulator console comes on and the hoist motion stops.

Which ONE of the following describes the Refueling SRO's response allowed by 0-OP-038.10, "Manipulator Crane Operating Instructions"?

- A. Do not allow the overload interlock to be bypassed because the fuel element is hung up on an adjacent fuel element.
- B. Grant permission to bypass the overload interlock because this fuel element contains a control rod making it heavier than elements without fuel rods.
- C. Grant permission to bypass the overload interlock due to an apparent interlock malfunction.
- D. Request permission from the Shift Manager to bypass the overload interlock due to an apparent interlock malfunction.

NOTE:      SRO:      Senior Reactor Operator

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #91

ANSWER: D

KA: 034A3.02

Ability to monitor automatic operation of the fuel handling system, including Load Limits 2.5/3.1 10CFR55: 41.7

Reference: 0-OP-038.10 Steps 4.2, 4.3, 4.21.3.4, 4.21.4.11, 4.21.4.12

NOTE prior to Step 4.21.4.17, Step 4.21.4.17.e, CAUTION prior to Step 5.3.2.7

Cog Level: 2 comprehension

Level 2 because the operator must recognize that 2390# is the expected weight for a fuel element without an RCCA. The operator must then recall that the overload interlock set point is 2700#. Then the operator must recall that the interlock can be bypassed but only with Shift Manager permission and then only if it is due to an apparent interlock malfunction.

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (0-OP-038.10), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19) and SRO level because the use of interlock bypass switches is SRO-only responsibility.

New Question

Response Analysis:

- A. Incorrect because there is no indication that the fuel element is hung up. Load would have to exceed 2500# before the element would be suspected of hanging up. Plausible because if it were hung up, it would be the correct response to not bypass the interlock.
- B. Incorrect because only the shift Manager has the authority to bypass an interlock. Plausible because this is the expected weight for an element with a control rod insert.
- C. Incorrect because only the shift Manager has the authority to bypass an interlock. Plausible because this is an apparent interlock malfunction.
- D. Correct per the reference and discussion above. Only the shift Manager has the authority to bypass an interlock and this is an apparent interlock malfunction.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #92      072G2.2.44

Unit 3 is in Mode 6.

Annunciator X4/1, ARMS HI RADIATION, unexpectedly alarms.

- Unit 3 Containment Channel 3 (In-Core Drive) is in alarm and reading 25 mr/hr.
- Unit 3 Containment Channel 1 (Mezzanine) is reading 4 mr/hr.
- Unit 3 Containment Channel 2 (Operating Floor) is reading 9 mr/hr.

Which ONE of the following describes the event that has most probably occurred and the directions the SRO will give to the RO?

- A. A flux map detector has been withdrawn from its storage position.  
Direct the RO to evacuate only the personnel in the area of the 32' elevation.
- B. A flux map detector has been withdrawn from its storage position.  
Direct the RO to evacuate all personnel from the Containment.
- C. A fuel element has been breached.  
Direct the RO to evacuate only the personnel in the area of the 58' elevation.
- D. A fuel element has been breached.  
Direct the RO to evacuate all personnel from the Containment.

NOTE:	SRO:	Senior Reactor Operator
	RO:	Reactor Operator
	mr/hr:	millirem per hour
	':	feet

# DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #92

ANSWER: B

KA: 072G2.2.44

As it relates to the Area Radiation Monitoring System: Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions. 4.2/4.4

10CFR55: 41.5, 43.5

Reference: 0-ONOP-066 Steps 3 and 4, Attachment 1 4-ARP-097.CR X4/1

Cog level: 2 Comprehension

Level 2 because the operator must evaluate the ARMs channels readings (Channel 3 just over its setpoint and Channels 1 and 2 below their setpoints) and match the ARMS channel locations with the activities inside containment. The operator must then recall that a single ARMs channel alarming would only require evacuation of the immediate area unless the alarm is inside containment where a single channel alarming requires evacuation of all personnel inside containment.

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (0-ONOP-066), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19).

New Question

Response Analysis:

- A. Incorrect because the SRO should direct the RO to evacuate all personnel inside containment. Plausible because the event is most probably a flux map detector that has been withdrawn from its storage position. Also plausible because if the event had occurred in a location other than inside the containment, only the affected area (32' elevation) would be evacuated as a result of a single ARMs channel alarming.
- B. Correct per the references. The event is most probably a flux map detector that has been withdrawn from its storage position and because the event occurred inside containment, a complete containment evacuation has to be initiated.
- C. Incorrect because the channel in alarm is remote from the refueling floor. Plausible because Channel 2 is very near its alarm set point (10mr/hr) and plausible because if the event had occurred in a location other than inside the containment, only the affected area (58' elevation) would be evacuated as a result of a single ARMs channel alarming.
- D. Incorrect because the event is most probably a flux map detector that has been withdrawn from its storage position. Plausible because the SRO should direct the RO to evacuate all personnel inside containment.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #93      079G2.2.44

The Service Air pressure indicator on the console is cycling between 90 psig and 100 psig.

Which ONE of the following describes the condition of the Service Air System, the correct Shift Manager response, and limitations (if any) on using Service Air to back up Instrument Air?

The \_\_\_\_\_ Service Air compressor is loading and unloading.

Dispatch an operator to verify the LEAD compressor indicates \_\_\_\_\_.

If both compressors cannot be operated, Service Air may \_\_\_\_\_ be used to back up Instrument Air.

- A.    LAG  
      Pressure Band 2  
      still
- B.    LAG  
      Pressure Band 1  
      NOT
- C.    LEAD  
      Pressure Band 1  
      still
- D.    LEAD  
      Pressure Band 2  
      NOT

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #93

ANSWER: B

KA: 079G2.2.44

As it relates to Station Air System: Ability to interpret control room indications to verify the status and operation of a system, and understand how operator actions and directives affect plant and system conditions 4.2/4.410 CFR55: 41.5, 43.5

Reference: 0-OP-013.1 NOTES prior to Step 5.1.2, Step 5.1.2.1.i.(1)  
5610-M-3013 Sheet 1 0-ONOP-013 Step 4 RNO 2

Cog Level: 2 Comprehension

Level 2 because the operator must recognize that the range that the air pressure is cycling in implies a malfunction of the lead service air compressor. One cause could be that the lead compressor has been selected for pressure band 2 incorrectly. An operator should be dispatched to verify the lead compressor is in Pressure band 1. If either compressor is unable to function, it negates the ability of the service air system to act as backup for the IA system.

SRO level because the SRO is assessing plant conditions and then recalling what strategy (one air comp in Lead and the second in Lag/Need both comps running to backup IAS) is written into a plant procedure (0-OP-013.1 & 0-ONOP-013), including when the strategy is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19).

New Question

Response Analysis:

- A. Incorrect because the operator should verify the lead compressor is in pressure band 1 and service air cannot be used as a backup to the IAS. Plausible because the LAG compressor is loading and unloading.
- B. Correct per the references and discussion above. The LAG Service Air compressor is loading and unloading. The SRO should dispatch an operator to verify the LEAD compressor indicates Pressure band 1 and if the LEAD Compressor cannot be operated, Service Air may not be used to back-up Instrument Air.
- C. Incorrect because the LAG Service Air compressor is loading and unloading and service air cannot be used as a backup to the IAS. Plausible because The SRO should dispatch an operator to verify the LEAD compressor indicates Pressure band 1.
- D. Incorrect because the LAG Service Air compressor is loading and unloading and because The SRO should dispatch an operator to verify the LEAD compressor indicates Pressure band 1. Plausible because service air cannot be used as a backup to the IAS.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #94      G2.1.18

Operators have stabilized Unit 3 after a reactor trip from 100% power.

Which ONE of the following describes the Shift Manager's documentation responsibilities related to this event?

- A. An Event Notification Worksheet has to be completed and the notification to the NRC has to be recorded in the Unit Narrative Log and a Condition Report has to be generated.
- B. A Florida Nuclear Plant Emergency Notification form has to be completed and the notification to the State has to be recorded in the Unit Narrative Log and a Condition Report has to be generated.
- C. An Event Notification Worksheet has to be completed and a Condition Report has to be generated. The notification to the NRC does NOT have to be recorded in the Unit Narrative Log
- D. A Florida Nuclear Plant Emergency Notification form has to be completed and the notification to the State has to be recorded in the Unit Narrative Log. A Condition Report does NOT have to be generated.

NOTE:      NRC:      Nuclear Regulatory Commission

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #94

ANSWER: A

KA: G2.1.18

Ability to make accurate, clear, and concise logs, records, status boards, and reports 3.6/3.8

10CFR55: 41.10

Reference: 0-ADM-115 Step 2.2.3, Enclosure 1, Page 1,  
Attachment 1, Step 1.a

Cog Level: 1 Recall

SRO level because the SRO is recalling responsibilities that are exclusively owned by the Shift Manager.

New Question

Response Analysis:

- A. Correct per the references. The Shift Manager is responsible for completion of an Event Notification Worksheet and the recording of the notification to the NRC in the Unit Narrative Log and the generation of a Condition Report.
- B. Incorrect because this event does not have to be reported to the State. Plausible because the event has to be recorded in the narrative log and a CR has to be generated.
- C. Incorrect because the notification to the NRC has to be recorded in the Unit Narrative Log. Plausible because the Shift Manager is responsible for completion of an Event Notification Worksheet and a CR has to be generated.
- D. Incorrect because this event does not have to be reported to the State and a CR has to be generated. Plausible because event has to be recorded in the narrative log

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #95      G2.2.1

A reactor startup is in progress on Unit 4.

After the second doubling, the 1/M plot predicts reactor criticality at rod height C-170 which is 420 pcm different from the ECC rod height.

Which ONE of the following describes the SRO response allowed by 0-OSP-040.4, "Estimated Critical Conditions"?

- A. Allow the startup to continue. If the difference is the same after the third doubling, it will take permission from the Operations Manager to continue.
- B. Allow the startup to continue. If the difference is the same after the third doubling, it will take permission from the Reactor Engineering Supervisor to continue.
- C. Stop the startup. It will take permission from the Operations Manager to continue.
- D. Stop the startup. It will take permission from the Reactor Engineering Supervisor to continue.

NOTE:      1/M:      One Over M  
              ECC:      Estimated Critical Condition  
              SRO:      Senior Reactor Operator  
              pcm:      percent milli rho

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #95

ANSWER: B

KA: G2.2.1

Ability to perform pre-startup procedures for the facility, including operating those controls associated with plant equipment that could affect reactivity. 4.5/4.4

10CFR55: 41.5, 41.10, 43.5, 43.6

Reference: 0-OSP-040.4 Attachment 3 Page 1

Cog Level: 1 Recall

SRO level because the SRO is recalling what strategy or action is written into a plant procedure (0-OSP-040.4), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19).

New Question

Response Analysis:

- A. Incorrect because the Shift Manager needs the permission of the Reactor Engineer, not the Operations Manager to continue. Plausible because the startup may continue at this time because it is only the second doubling and because if the difference exceeded 500 pcm, the Operations Manager would be part of the decision to continue.
- B. Correct per the references because the SM may allow the startup to continue. If the difference is the same after the third doubling, it will take permission from the Reactor Engineering Supervisor to continue.
- C. Incorrect because the startup does not have to be stopped at this time and permission from the Ops Mgr does not have to be obtained. Plausible because after one more doubling, the startup will have to be stopped and because because if the difference exceeded 500 pcm, the Operations Manager would be part of the decision to continue.
- D. Incorrect because the startup does not have to be stopped at this time. Plausible because after one more doubling, the startup will have to be stopped until permission is given by the Reactor Engineer to continue.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #96      G2.2.39

Unit 3 is in Mode 3 and Unit 4 is in Mode 4.

- 0900:      4K MCC de-energizes.

Which ONE of the following describes how the Shift Manager will comply with the Tech Spec requirements associated with the loss of 4K MCC?

Direct the Reactor Operator to:

- A.      test the operability of only the 4A Emergency Diesel Generator within 24 hours.
- B.      test the operability of the 3A, 3B and 4A Emergency Diesel Generators within 24 hours.
- C.      perform operability verification on only the Unit 4 Startup Transformer within 1 hour.
- D.      perform operability verification on both Startup Transformers by 1000 and again by 1800.

NOTE:      MCC:      Motor Control Center

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #96

ANSWER: D

KA; G2.2.39

Knowledge of the less than or equal to one hour Technical Specification action Statements for Systems. 3.9/4.5 10CFR55: 41.7, 41.10, 43.2

Reference: Tech Spec 3.8.1.1 Pages ¾ 8-1 through 8-2

Cog Level: 2 Comprehension

Level 2 because the operator must recognize that MCC 4K is a support system for 4B EDG and 4B EDG is inoperable when MCC 4K is de-energized. Then the operator must realize that with both Units in Mode 4 or higher, all 4 EDGs must be operable to satisfy the LCO. Because the required 4B EDG is inoperable, both SU XFRs must have operability verification within one hour and every 8 hours thereafter. Finally the operator must recognize that because the original problem was the failure of a support system, operability testing of the other EDGs is not required.

SRO level because the SRO is applying required Tech Spec Actions (TS 3.8.1.1) in accordance with the rules of application requirements. (Ref Guidance for SRO-only Questions Rev 0 - page 5 of 19).

New Question

Response Analysis:

- A. Incorrect because 4A EDG operability testing is not required. Plausible because if testing was required, the time frame stated in the response is correct except that the testing would be for all operable EDGs.
- B. Incorrect because EDG operability testing is not required. Plausible because if testing was required, the time frame stated in the response is correct.
- C. Incorrect because Startup Transformer operability verification must be performed on both Startup Transformers. Plausible because it must take place for the Unit 4 Startup Transformer within 1 hour.
- D. Correct per the references and discussion above. Startup Transformer operability verification must be performed on both transformers within 1 hour and again within the following 8 hours.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #97      G2.3.4

A female SNPO declares on September 1, 2008 that she has been pregnant since June 1.

Her dose history for 2008 is as follows:

January	0 mrem
February	0 mrem
March	200 mrem
April	0 mrem
May	0 mrem
June	50 mrem
July	50 mrem
August	50 mrem

The declared pregnant SNPO wishes to continue to work in the Radiation Controlled Area.

Assuming the pregnancy lasts 9 months, which ONE of the following correctly describes the future dose limitations that the Shift Manager will have to impose on the SNPO?

The SNPO may receive an additional dose of:

- A. 650 mrem during 2008 with no monthly rate limitation.
- B. 650 mrem during 2008 at a rate not to exceed 250 mrem/month.
- C. 300 mrem during the pregnancy with no monthly rate limitation.
- D. 300 mrem during the pregnancy at a rate not to exceed 50 mrem/month.

NOTE:      SNPO:      Senior Nuclear Plant Operator  
              mrem:      milli roentgen equivalent man

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #97

ANSWER: D

KA: G2.3.4

Knowledge of radiation exposure limits under normal or emergency conditions.  
3.2/3.7 10CFR55: 41.12, 43.4

Reference: 0-ADM-600 Step 5.1.5.2 , 5.7.1.4.a, 5.7.1.6

Cog Level: 3 Analysis

Level 3 because the operator must first recall that a declared pregnant worker may only receive 450 mrem over the term of the pregnancy and is further limited to 50 mrem/month. Then the operator must determine how much exposure the fetus has already received (150 mrem) and subtract that from 450 to get 300 mrem allowe for the remainder of the pregnancy.

SRO level because the SRO performs analysis and interpretation of radiation doses as they pertain to implementation of 0-ADM-600. (Ref Guidance for SRO-Only Questions, Rev.0, Page 6 of 19). Also SRO level because it will be the Shift Manager's accountability to manage the operator's work activities to ensure the monthly and term limits are not exceeded.

New Question

Response Analysis:

- A. Incorrect because the operator may only receive 300 mrem additional dose. Plausible because 650 mrem represents the usual margin to 1000 mrem that a worker is allowed to receive in a year and no monthly rate limitation normally applies.
- A. Incorrect because the operator may only receive 300 mrem additional dose. Plausible because 650 mrem represents the usual margin to 1000 mrem that a worker is allowed to receive in a year.
- C. Incorrect because there is a monthly limit of 50 mrem that applies. Plausible because 300 mrem is the correct limit for the remainder of the pregnancy.
- D. Correct per the references and discussion above. The operator may receive an additional dose of 300 mrem during the pregnancy at a rate not to exceed 50 mrem/month.

DRAFT



# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #98

ANSWER: D

KA: G2.3.7

Ability to comply with radiation work permit requirements during normal or abnormal conditions. 3.5/3.6

10CFR55: 41.12

Reference: 0-ADM-600 Step 5.6.1.2, 5.6.1.3

Cog Level: 2 Comprehension

Level 2 because the operator must recognize that a dose rate of 1100 mr/hr qualifies this as a locked high radiation area and that entry into a locked high radiation area requires a job specific RWP.

SRO level because the SRO is analyzing radiation and activity readings as they pertain to administrative procedures (0-ADM-600). (Reference Guidance for SRO-only Questions Rev. 0 Page 6 of 19)

New Question

Response Analysis:

- A. Incorrect because entry into an area with dose rates equivalent to a Locked High Radiation Area will require a job specific RWP. Plausible because the Operations General Entry RWP allows entry into High Radiation Areas and this valve check will result in low radiation dose.
- B. Incorrect because entry into an area posted as an Airborne Radioactive Area due to noble gases does not require a job specific RWP. Plausible because if the posting was due to airborne activity other than noble gases, a job specific RWP would be required.
- C. Incorrect because entry into a contaminated area that is less contaminated than 10,000 dpm/100 cm<sup>2</sup> does not require a job specific RWP. Plausible because the area is contaminated and if it were contaminated in excess of 10,000 dpm/100 cm<sup>2</sup> a job specific RWP would be required.
- D. Correct per the references. A job specific RWP is required for entry into areas with dose rates equivalent to a Locked High Radiation Area.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #99      G2.4.17

Operators are performing 3-EOP-E-1, "Loss of Reactor or Secondary Coolant."

- Core Exit Thermocouple temperatures are 715°F.
- Reactor power is increasing on both NIS Intermediate ranges.

Which ONE of the following describes the correct Unit Supervisor response?

The Unit Supervisor should perform:

- A. a Crew Brief that informs the crew of transition to 3-EOP- FR-S.1, "Response to Nuclear Power Generation/ATWS."
- B. an Update that informs the crew of transition to 3-EOP- FR-S.1, "Response to Nuclear Power Generation/ATWS."
- C. a Crew Brief that informs the crew of transition to 3-EOP- FR-C.2, "Response to Degraded Core Cooling."
- D. an Update that informs the crew of transition to 3-EOP- FR-C.2, "Response to Degraded Core Cooling."

NOTE:      NIS:      Nuclear Instrumentation System  
         °F:      degrees Fahrenheit

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #99

ANSWER: B

KA: G2.4.17

Knowledge of EOP terms and definitions. 3.9/4.3 10CFR55: 41.10

Reference: 0-ADM-211 Step 5.4.4, 5.5.1, 5.5.4, 3-EOP-F-0 Enclosures 1 & 2

Cog Level: 2 Comprehension

Level 2 because the operator must recognize that both intermediate ranges increasing while in EOP-E-1 is an orange Path on subcriticality and operators must immediately transition to FR-S.1. Note that an orange path on core cooling also exists but the subcriticality orange path has priority. The operator must then recall that a crew brief is specifically not allowed by ADM-211 when transitioning to an Orange FRP and that an Update is the correct course of action when a crew brief is not allowed.

SRO level because the SRO is recalling what strategy or action is written into plant procedures (0-ADM-211 and 3-EOP-F-0), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19).

New Question

Response Analysis:

- A. Incorrect because a Crew brief is not allowed for this transition. Plausible because FR-S.1 is the correct procedure to transition to.
- B. Correct per the references. The Unit Supervisor should perform an Update that informs the crew of transition to 3-EOP- FR-S.1, "Response to Nuclear Power Generation/ATWS."
- C. Incorrect because a Crew brief is not allowed for this transition and FR-S.1 is the correct procedure to transition to. Plausible because an orange path exists on Core cooling and if the operator does not recognize the orange path on subcriticality, the correct transition would be to FR-C.2.
- D. Incorrect because FR-S.1 is the correct procedure to transition to. Plausible because an Update is the correct course of action when a Crew brief is not allowed.

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #100      G2.4.35

A large break LOCA has occurred on Unit 3.

Which ONE of the following correctly describes a SRO responsibility?

Ensure that sodium tetraborate decahydrate is injected into the reactor within:

- A.    12 hours of the LOCA to ensure continued shutdown margin.  
      Use the 4A Boric Acid Transfer Pump and MOV-3-350.
- B.    12 hours of the LOCA to satisfy equipment qualification requirements.  
      Use the 4B Boric Acid Transfer Pump and MOV-3-350.
- C.    8 hours of the LOCA to ensure continued shutdown margin.  
      Use the 4B Boric Acid Transfer Pump and MOV-3-350.
- D.    8 hours of the LOCA to satisfy equipment qualification requirements.  
      Use the 4A Boric Acid Transfer Pump and MOV-3-350.

NOTE:	LOCA:	Loss of Coolant Accident
	SRO:	Senior Reactor Operator
	MOV-3-350:	Emergency Boration Valve

DRAFT

# TURKEY POINT DRAFT NRC EXAM – 11/09/08

Q #100

ANSWER: D

KA G2.4.35

Knowledge of local auxiliary operator tasks during an emergency and the resultant operational effects. 3.8/4.0

10CFR55: 41.10, 43.5

Reference: 3-EOP-E-1 Step 28, Attachment 1 NOTE prior to Step 1, NOTE prior to Step 2, Step 2.a, Step 13.d

Cog Level: 1 Recall

SRO level because the SRO is recalling what strategy or action is written into plant procedures (3-EOP-E-1), including when the strategy or action is required. (Ref Guidance for SRO-only Questions Rev 0 - page 7 of 19).

New Question

PSA

Response Analysis:

- A. Incorrect because the borax must be injected into the core within 8 hours, not 12 and the reason is to satisfy equipment qualification requirements. Plausible because 4A Boric Acid pump is available for use.
- B. Incorrect because the borax must be injected into the core within 8 hours, not 12 and the 4B Boric Acid pump is not available for use. Plausible because the reason the borax is injected is to satisfy equipment qualification requirements.
- C. Incorrect because the reason the borax is injected is to satisfy equipment qualification requirements, not to ensure continued shutdown margin and because the 4B Boric Acid pump is not available for use.
- D. Correct per the references. The SRO is responsible to ensure the borax is injected within 8 hours of the LOCA to satisfy equipment qualification requirements and operators should use the 4A Boric Acid Transfer Pump.

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