

Final Submittal

**OCONEE JUNE 2005 EXAM
50-269, 270, & 287/2005-301**

**JUNE 20 - 24, 2005
JUNE 30, 2005 (WRITTEN)**

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

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

1. 001K6.13 001

Unit 1 Plant Conditions:

- Group 7 average position is 86%
- Rod 7-3 position indication is as follows:
 - Relative rod position indication (RPI) is 78%
 - Absolute Position indication (API) is 90%
 - Rx Engineering has determined that API is accurate

Which ONE of the following describes the condition of Rod 7-3 and the actions required to correct the current conditions?

- A. Rod 7-3 is misaligned; enter AP-15 "Dropped or Misaligned Control Rods" and position rod 7-3 to match the group 7 average.
- B. Rod 7-3 is NOT misaligned; select each rod in Group 7, then using the reset pulser align each rod to match the Group 7 average position as displayed on the OAC.
- C. Rod 7-3 is misaligned; enter AP-15 "Dropped or Misaligned Control Rods" and position all group 7 rods to match the current rod 7-3 position.
- D. Rod 7-3 is NOT misaligned; select rod 7-3 with Group/Single select switch, then use the reset pulser to align RPI to API.

Oconee Bank Question modified slightly. Lesson Plan OP-OC-IC-CRI objective # 11

- A. Incorrect, rod is not misaligned, only RPI is misaligned. Pulser must be used to realign RPI to API for just Rod 7-3.
- B. Incorrect, first part is correct, but only rod 7-3 needs to be reset.
- C. Incorrect, rod is not misaligned, only RPI is misaligned. Pulser must be used to realign RPI to API for just Rod 7-3.
- D. Correct, rod is not misaligned. Pulser must be used to realign RPI to API for just Rod 7-3.

K/A: Knowledge of the effect that a loss or malfunction of the following will have the control rod drive system: Location and operation of RPIS.

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

2. 003 K5.02 001

- Unit 1 reduced power to 70% to remove the 1B2 RCP from service due to a low oil pot level.
- Assume the operators take the correct actions and no equipment malfunctions occur.

Which ONE of the following describes the effects that securing the pump will have on plant parameters?

- A. "A" loop RCS flow will decrease to slightly less than 100%, "B" Loop RCS flow will increase to slightly greater than 50%, feed water flow will re-ratio to approximately 5.0E6 lbm/hour for the "A" SG and 2.5 E6 lbm/hour for the "B" SG.
- B. "B" loop RCS flow will decrease to slightly less than 50%, "A" Loop RCS flow will increase to slightly ^{more} ~~less~~ than 100%, feed water flow will re-ratio to approximately 5.0E6 lbm/hour for the "A" SG and 2.5 E6 lbm/hour for the "B" SG. ^{may}
- C. "A" loop RCS flow will decrease to slightly less than 100%, "B" Loop RCS flow will increase to slightly greater than 50%, feed water flow will re-ratio to approximately 5.7 E6 lbm/hour for the "A" SG and 1.8 E6 lbm/hour for the "B" SG.
- D. "B" loop RCS flow will decrease to slightly less than 50%, "A" Loop RCS flow will increase to slightly ^{more} ~~less~~ than 100%, feed water flow will re-ratio to approximately 5.7 E6 lbm/hour for the "A" SG and 1.8 E6 lbm/hour for the "B" SG. ^{may}

New Question developed to match K/A, used Part B questions B330 and 335 as reference. Lesson Plan OP-OC-PNS-CPM Objective # 4.

- A. Incorrect, A loop flow will increase to > 100% and B loop flow to < 50%, and FW will re-ratio to approximately these values.
- B. Correct, B loop RCS flow will decrease, A loop flow increase and FW will re-ratio to approximately these values.
- C. Incorrect A loop flow will increase to > 100% and B loop flow to < 50%, the feed water re-ratios have too much going to B SG and not enough for A SG.
- D. Incorrect A loop flow will increase to > 100% and B loop flow to < 50%, the feed water re-ratios have too much going to B SG and not enough for A SG.

K/A: 003K5.02 Knowledge of the operational implications of the following concepts as they apply to the Reactor Coolant pump: Effects of RCP coastdown on RCS parameters.

*change for phone conv 6/30/2005
R.S. Hagan*

Modified "B" to to read "'A" Loop RCS flow will increase to slightly **less**" to be more accurate. Modified flow values in "C" and "D" to insure they were incorrect.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

3. 004K3.07 001

- Unit 1 is operating at 70% power.
- An NEO reports that the actuator diaphragm for 1HP-120 (RC Volume Control) has blown.

Which ONE of the following describes the effect this will have on Pressurizer level and what action needs to be taken to mitigate the failure?

- A. Pressurizer level will decrease; cycle the running HPIP to control level.
- B. Pressurizer level will increase; throttle 1HP-27 ("B" loop HPI Emergency Makeup)
- C. Pressurizer level will decrease; throttle 1HP-7 (Letdown Flow Control)
- D. Pressurizer level will increase; reduce seal injection flow to control level.

Modified Bank Question Part B349 OP-OC-PNS-HPI Objective # 4.

- A. Incorrect, pressurizer level will decrease (1HP-120 will fail closed on a blown diaphragm), but this is not the approved method of controlling pressurizer level.
- B. Incorrect, pressurizer level will decrease, and this method would raise pressurizer level.
- C. Correct, pressurizer level will decrease, and throttling letdown will control level.
- D. Incorrect, pressurizer level will decrease, and seal injection would need to be raised to maintain level.

K/A: Knowledge of the effect that a loss or malfunction of the (CVCS) will have on the following PZR level and pressure.

Added the word "actuator" to stem for clarification. KA match (pressure)?

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

4. 005K1.13 001

- Unit 1 has had a SBLOCA
- RCS pressure is 1000 psig and stable.
- RB pressure is 3.5 psig and stable.
- BWST level is 45 feet
- RBES level is 0.5 feet
- HP-24 and HP25 (BWST SUCTIONS) will not open
- All other components operated as designed.

Which ONE of the following lineups would provide for core cooling with the above conditions?

- A. Open 1LP-19 and 1LP-20 (1A/1B RB SUCTION) to allow the RBES to supply the LPI pumps.
- B. Open 1LP-15 and 1LP-16 (1A/1B LPI TO HPI & RBS) to allow the RBES to supply the HPI pumps.
- C. Open 1LP-21 and 1LP-22 (1A/1B LPI BWST SUCTION) to allow the LPI pumps to supply the HPI pumps.
- D. Open 1LP-15 and 1LP-16 (1A/1B LPI TO HPI & RBS) to allow the LPI pumps to supply the HPI pumps.

Modified from Oconee bank question 216 (PNS122604). Lesson Plan OP-OC-PNS-LPI Objective #32.

- A. Incorrect, RBES sump is only .5 feet. There is not enough water in the RBES and RCS pressure is too high for LPI.
- B. Incorrect, this would be correct if the BWST was exhausted and there was water in the RBES.
- C. Incorrect, These are the normal suction for the LPI pumps and will not allow for injection into the RCS with pressure at 1000 psig.
- D. Correct, this action would allow provide for core cooling until the BWST was exhausted.

K/A: 005K1.13 Knowledge of the physical connections and or cause-effect relationships between residual heat removal and the SIS system.
Added valve noun names.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

5. 006K2.02 001

Unit 1 plant conditions:

- Reactor power = 100%

Which ONE of the following describes the power supply and correct position for 1CF-2 (1B CFT Discharge Isolation) for the current plant conditions?

1CF-2 is powered from...

- A. 1XO and the breaker is LOCKED OPEN.
- B. 1XP and the breaker is LOCKED OPEN.
- C. 1XO and the breaker is White Tagged CLOSED.
- D. 1XP and the breaker is White Tagged CLOSED.

Wrote new question to match KA that is more operationally significant.

Lesson Plan OP-OC-PNS-CF objective 5. Page: 10

- A. Incorrect, first part correct. Second part incorrect. 1CF-6 lights are not available.
- B. Correct, both parts correct.
- C. Incorrect, first part correct. Second part incorrect. 1CF-6 lights are not available.
- D. Incorrect, both parts incorrect.

K/A 006K2.02 (ECCS) Knowledge of electrical power supplies to the following: Valve operators for accumulators. (2.5/2.9)

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6. 006K2.04 001

- A Small Break LOCA has occurred on Unit 1.
- 1XS2 has had an Electrical Fault and remains de-energized.
- RCS Pressure 1500 psig
- ES Channels 1 and 2 have actuated

Which ONE of the following correctly describes the HPI flowpath based on the above conditions?

- A. HP-24 and 25 Open, HPI pumps A, B, and C running, HP- 26 and 27 open.
- B. HP-24 and 25 Open, HPI pumps A and B running, HP- 26 and 27 open.
- C. HP-25 Open, HPI pumps B and C running, HP- 27 open.
- D. HP-24 Open, HPI pumps A, B, and C running, HP- 26 open.

Lesson Plans OP-OC-PNS-HPI & EL-EPD-R23 OBJ # 44.(R50).

- A. Incorrect, HP25 and 27 do not have power and will not be open. All pumps should be running.
- B. Incorrect, HP25 and 27 do not have power and will not be open, and the C HPI pump will be running.
- C. Incorrect, HP25 and 27 do not have power and will not be open. All pumps should be running.
- D. Correct A, B, and C pumps will be running with HP-24 and 26 open.

K/A 006K2.04 (3.6/3.8) Knowledge of Electrical Power Supplies to the following:
ESFAS-operated valves.
Utility reviewed no changes.

QUESTIONS REPORT

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7. 007A2.04 001

- Unit 3 is in a refueling outage.
- RCS pressure is 50 psig
- Quench Tank Pressure is at 40 psig and needs to be lowered in accordance with OP/3/1104/017 "Quench Tank Operation", Enclosure 4.6 "Lower QT Pressure".
- During the Venting, 3GWD-12 (Quench Tank Vent Inside RB) and 3GWD-13 (Quench Tank Vent Outside RB) were fully opened and the Waste Gas system pressure reached +3 inches.

Which ONE of the following describes actions in the procedure that could have prevented this?

- A. Close 3GWD-13 (Quench Tank Vent Outside RB) to maintain vent header pressure < + 2inches, then cycle as required to lower quench tank pressure.
- B. Place the quench tank on recirc and reduce the temperature as much as possible.
- C. Throttle 3GWD-12 (Quench Tank Vent Inside RB) until Vent header pressure is reduced to < +2.5 inches, then re-open to lower quench tank pressure.
- D. Immediately begin draining the Quench Tank; level should have been lowered to less than 50 inches prior to venting.

New Question developed to match K/A. OP/3/110-4/017 "Quench Tank Operation", Enclosure 4.6 "Lower QT Pressure", used as reference.

- A. Correct, this method is used to prevent exceeding Vent Header Pressure Limit.
- B. Incorrect, lowering quench tank temperature at this point will have very little effect on pressure, and is not mentioned in the procedure.
- C. Incorrect, 3GWD12 is not throttled according to the procedure, and pressure should be less than +2 inches.
- D. Incorrect, draining the quench tank is not mentioned in the procedure and will have very little effect on reducing pressure in the vent header.

K/A: Ability to (a) predict the impacts of the following on the system and (b) based on those predictions use procedures to correct, control or mitigate the consequences of those abnormal operation: Overpressurization of the waste gas vent header. (2.5/2.9)

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

8. 007EK2.02 001

Which ONE of the following occurs when the RPS coincidence tripping logic in the "A" RPS channel calls for a reactor trip and opens the associated breaker?

- A. The undervoltage coil will energize and the shunt trip coil will energize to trip the associated breakers.
- B. The shunt trip coil will de-energize and the undervoltage coil will de-energize to trip the associated breakers.
- C. The undervoltage coil will de-energize and the shunt trip coil will energize to trip the associated breakers.
- D. The shunt trip coil will de-energize and the undervoltage coil will energize to trip the associated breakers.

Oconee bank question IC091701 (227). Lesson Plan OP-OC-IC-RPS objective # 16, pages 39 & 40.

- A. Incorrect, the UV coil de-energizes, and the shunt coil energizes to cause the breakers to open.
- B. Incorrect, the UV coil de-energizes, and the shunt coil energizes to cause the breakers to open.
- C. Correct, the UV coil de-energizes, and the shunt coil energizes to cause the breakers to open.
- D. Incorrect, the UV coil de-energizes, and the shunt coil energizes to cause the breakers to open.

K/A: 007EK2.02 Knowledge of the interrelations between Reactor trip and the following: Breakers, relays and disconnects. (2.6/2.8)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

9. 007K3.01 001

Unit 2 is operating at 100% Power

- INITIAL CONDITIONS:

- Time = 0200
- Reactor Building Pressure at 0.2 psig and stable
- Reactor Building Sump is 10 inches and stable
- Pressurizer level is 220 inches and stable
- Quench Tank level is 80 inches
- Quench Tank Pressure is 1.5 psig
- Quench Tank Temperature indicates 127°F

- CURRENT CONDITIONS:

- Time = 0315
- Reactor Building Pressure at 0.2 psig and stable
- Reactor Building Sump level is 12 inches and slowly increasing
- Pressurizer level is 220 inches and stable
- Quench Tank level is 87 inches and stable
- Quench Tank Pressure is 5.0 psig and stable
- Quench Tank Temperature indicates 145°F

Which ONE of the following correctly describes the event that could cause this to occur?

- A. PORV 1RC-66 is stuck open and the QT rupture disk has blown.
- B. A small main steam leak is in progress causing containment parameters to increase.
- C. RCP Seal leakage is draining to the sump.
- D. A Core flood tank relief valve has lifted.

Modified question from last NRC exam. Lesson plan OP-OC-PNS-PZR objectives 23 and 27.

- A. Incorrect, QT rupture disk is not blown.
- B. Incorrect, a small main steam line break would not cause QT conditions to change.
- C. Correct, leakage from RCP seals with high QT pressure would divert leakage to the RB sump.
- D. Incorrect, Core flood tank would not cause the QT level to increase.

K/A: Knowledge of the effect that a loss or malfunction of the Quench tank would have on the following: Containment (reactor building).

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS
Changed PRT to QT. Match ONS nomenclature.

modified question to be more plausible.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

10. 007K4.01 001

Unit 1 plant conditions:

INITIAL CONDITIONS:

- Reactor power = 100%
- Quench Tank (QT) level = 84 inches
- QT in recirc using the QT pump

CURRENT CONDITIONS:

QT level = 80.0 inches

Which ONE of the following describes how the quench tank contents are cooled and the current status of the QT pump?

The QT is cooled by...

- A. component cooling water and the QT pump will trip automatically.
- B. component cooling water and the QT pump can only be secured manually.
- C. low pressure service water and the QT pump will trip automatically.
- D. low pressure service water and the QT pump can only be secured manually.

Question Accepted: **changed to pump will and can only.**

New question to match KA. We do not operate the QT in recirc at less than 80 inches developed from lesson material and drawing. Reference OP-OC-PNS-PZR page 22, and Lesson plan OP-OC-PNS-CS Drawing HLP02 Component Cooling System. Objective 10

- A. Correct, both parts correct. QT pump trips off at 80".
- B. Incorrect, first part correct. Second part incorrect.
- C. Incorrect, first part incorrect. Second part correct.
- D. Incorrect, both parts incorrect.

K/A: 007K4.01 Knowledge of the quench tank design features and or interlocks which provide for the following: Quench tank cooling.
We do not operate the QT in recirc below 80 inches. Wrote new question to match KA.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

11. 008A1.02 001

- Unit 2 is operating at 100% power for two months.
- Flow has degraded through the CC system to approximately 600gpm.
- Temperature in the CC system has slowly risen over a 6 hour period.
- Computer point CC Clr Out Temp is rising.
- The in service demineralizer has been in service since the unit startup.

Which ONE of the following describes the effects that the above conditions will have on unit operation?

- A. HPI letdown temperature will rise, RCS temperature will rise, control rods will respond by inserting to lower RCS temperature.
- B. HPI letdown temperature will rise, RCS temperature will lower, control rods will respond by withdrawing to raise RCS temperature.
- C. HPI letdown temperature will decrease, RCS temperature will increase and control rods will respond by inserting to lower RCS temperature.
- D. HPI letdown temperature will decrease, RCS temperature will decrease and control rods will respond by withdrawing to raise RCS temperature.

New question developed from K/A. Lesson Plan OC-OP-PNS-CC page 7,16, 18.
Objective # 18.

- A. Incorrect, the rising temperature in the cc system will cause letdown temperature to increase this will in turn cause the demineralizer to release boron causing RCS temperature to decrease rods will withdraw to compensate.
- B. Correct, see A above.
- C. Incorrect, see A above.
- D. Incorrect, see A above.

K/A: 008A1.02 Ability to predict and or monitor changes in parameters associated with operating the Component Cooling System controls including CCW temperature.
(2.9/3.1)
Reworded second bullet.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

12. 008AA2.04 001

Unit 2 plant conditions:

- RCS heatup is in progress
- RCS pressure = 485 psig
- Quench Tank level = 89 inches and increasing
- Quench Tank pressure = 20 psig
- The following OAC points are in alarm:
 - O2A1568 (RC-66 RELIEF OUTLET TEMP)
 - O2A1569 (RC-67 RELIEF OUTLET TEMP)
 - O2A1570 (RC-68 RELIEF OUTLET TEMP)

Which ONE of the following sets of data would indicate that 2RC-67 is passing flow?

- A. O2A1568 = 298°F
O2A1569 = 330°F
O2A1570 = 310°F
- B. O2A1568 = 429°F
O2A1569 = 467°F
O2A1570 = 445°F
- C. O2A1568 = 238°F
O2A1569 = 260°F
O2A1570 = 212°F
- D. O2A1568 = 279°F
O2A1569 = 318°F
O2A1570 = 283°F

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

Question Accepted.

New Question developed to match K/A. 1SA-18/A1, lesson plan OP-OC-PNS-PZR, pages 20-24 used for reference. Objective 26.

A. Correct, 485 converts to 500 psia. Finding the point where this pressure line intersects the saturation curve the operator finds that the enthalpy of the water is 1205 BTU/LBM. Going across to the 35 psia line and then up to the saturation line the operator finds that the temperature should be 330°F.

B. Incorrect, used saturation for 485 psig.

C. Incorrect, saturation temperature for 20 psig.

D. Incorrect, used atmospheric pressure and misread Mollier.

K/A: 008A2.04 Ability to determine and interpret the following as they apply to Pressurizer Vapor Space accident: high-temperature computer alarm, and alarm type. (3.2/3.5)

QUESTIONS REPORT

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13. 009EK3.07 001

Unit 1 is operating at 100% power
Pressurizer level begins to drop rapidly
The crew trips the reactor due to inability to maintain pressurizer level.
1RIA-50 is in alarm
CC Surge Tank is overflowing.

Which ONE of the following describes the most likely component that is leaking and safety concern for isolating CC in accordance with AP/02, Excessive RCS Leakage?

- A. Letdown heat exchanger, CC must be isolated due to chromates rapidly exhausting the demineralizers that process LAWT water.
- B. Letdown heat exchanger, CC must be isolated because the water leaking out is not contained in the Reactor Building sump, and would not be available for recirc if required.
- C. RCP seal coolers, CC must be isolated due to chromates rapidly exhausting the demineralizers that process LAWT.
- D. RCP seal coolers, CC must be isolated because the water leaking out is not contained in the Reactor Building sump, and would not be available for recirc if required.

Question accepted

Oconee lesson plans OP-OC-PNS-CC objective # 6. OP-OC-EAP-APG AP2.
OP/1/1104/008

TOUGH K/A, may need some more work.

- A. Correct, this will isolate RCS input into the letdown cooler.
- B. Incorrect, this will isolate LD downstream of the letdown coolers.
- C. Incorrect, wrong component and will not isolate the leak.
- D. Incorrect, wrong component and will not isolate the leak.

K/A: Knowledge of the reason for the following responses as they apply to SBLOCA increasing indication on CCWS process monitor: indicates inleakage of radioactive liquids. (3.3/3.6)

Added name of AP/2, Excessive RCS Leakage.
Modified stem and distractors to make only one answer correct.
Updated answer explanations.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

14. 010A4.01 001

- Unit 2 Reactor Power is 100% and constant
- RCS Pressure is 2100 psig and decreasing
- Pressurizer level is 218" and constant
- Pressurizer temperature is decreasing
- LDST level is constant

Which ONE of the following is the correct cause of the above conditions?

- A. A pressurizer outsurge has occurred
- B. A pressurizer steam space leak is occurring
- C. Pressurizer spray valve 2RC-1 is failed open
- D. Turbine Bypass valves have failed open

Bank question developed from Oconee bank questions 438 and 443 from the PNS bank.

Lesson Plan OP-OC-PNS-PZR Objectives 11 and 33.

- A. Incorrect, an outsurge will cause some of these conditions, but LDST level would not be constant, and pressurizer temperature would not decrease until an insurge occurred.
- B. Incorrect, a steam space leak would cause pressurizer level to rise.
- C. Correct, a spray valve being open would cause these conditions.
- D. Incorrect, the TBVs opening would cause some of these indications, but power and LDST level would not be constant.

K/A 010A4.01 Ability to manually operate or monitor in the control room: PZR Spray Valve (3.7/3.5).

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

15. 010K6.01 001

- Unit 1 Reactor Power is 100%
- RPS Channel A NR Pressure indicates 2155 psig.
- RPS Channel B NR Pressure indicates 2155 psig.
- RPS Channel C NR Pressure indicates 2155 psig.
- RPS Channel D NR Pressure indicates 2155 psig.
- RPS Channel E NR Pressure indicates 1700 psig.

Which ONE of the following describes the effect on plant operation if 1KVIA supply breaker trips open?

- A. Pressurizer heaters will energize causing actual RCS pressure to increase.
- B. Pressurizer sprays and the PORV will open causing actual RCS pressure to decrease.
- C. Control Rod groups 1-7 drop into the core due to Low Pressure Trip.
- D. ES Channels 1 and 2 actuate due to RCS Low Pressure.

Change accepted.

Based on Oconee bank question PNS141901. Lesson plans OP-OC-IC-RPS objective 13 and OP-OC-IC-RCI objective 8.

- A. Correct, with median pressure control the system would see pressure low and energize heaters to raise pressure.
- B. Incorrect, RCS pressure would rise.
- C. Incorrect, the coincidence for a trip is not met.
- D. Incorrect, the coincidence for an ES actuation is not met.

K/A: Knowledge of the effect that a loss or malfunction of the following will have on the pressurizer pressure control system : pressure detection systems.(2.7/3.1)
Moved "1KVIA supply breaker trips open" to the stem to indicate proper sequence of events.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

16. 011EK2.02 001

Unit plant conditions:

INITIAL CONDITIONS:

- Time = 0100
- Reactor tripped from 100% power
- RCS pressure = 45 psig
- Core SCMs indicate reverse video

CURRENT CONDITIONS:

- Time = 0104
- Core SCMs indicate reverse video
- ALL reactor coolant pumps are operating
- Reactor coolant pump amps are fluctuating
- An RO is beginning to perform Rule 2 (Loss of SCM)

Which ONE of the following actions should the RO perform and why?

- A. Stop the RCPs because SCM is $\leq 0^{\circ}$ F.
- B. Stop the RCPs because the core is superheated.
- C. RCPs should remain operating because the core is superheated.
- D. RCPs should remain operating because RCP amps are fluctuating.

Question accepted.

Wrote new question that meets KA at the RO level.

- A. Incorrect, this would be true if less than 2 minutes had passed.
- B. Incorrect, this would be true if less than 2 minutes had passed.
- C. Incorrect, the ICCM tab directs starting 1 RCP/loop but this is not why they should not be tripped at this time.
- D. Correct, RCP should remain in operation if they are not secured within 2 minutes.

K/A: Knowledge of the interrelations between the and the following Large Break LOCA:
Pumps (2.6*/2.7*)

SRO question. Replace with RO actions Rule 2. Amps fluctuating.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

17. 011K4.02 001

- Unit 3 is at 100% power
- Pressurizer (PZR) Level instrument #1 is selected
- 3HP-120 "RC Volume Control" is in Automatic
- SASS is in Automatic

Which ONE of the following correctly describes the response of pressurizer level indication and the RC Volume Control valve if a "Data Link Failure" was displayed on 3A ICCM Train? (Assume 3A ICCM train screens are **not** blank).

- A. PZR level indication swaps to Instrument # 2, 3HP-120 controls level at setpoint and the PZR level Emergency High/Low statalarm remains operable.
- B. PZR level indication swaps to Instrument # 3, 3HP-120 controls level at setpoint, and the PZR level Emergency High/Low statalarm remains operable.
- C. PZR level indication fails as is, 3HP-120 controls level as demanded by the failed instrument and the PZR level Emergency High/Low statalarm is inoperable.
- D. PZR level indication fails low, 3HP-120 fully opens and both PZR level Emergency High/Low statalarm actuate.

Oconee Bank Question 276. Lesson PPlan Pressurizer PNS-PZR objective 19.

- A. Incorrect, SASS selects operable Pzr level signal in opposite train, and Emerg. S/A is inoperable.
- B. Incorrect SASS will not detect failure and will not select PZR Level # 3 following a ICCM Train A internal failure, and Emerg. S/A is not operable.
- C. Correct SASS will not detect failure as output from ICCM train has not changed.
- D. Incorrect, would be correct for power failure to ICCM train with SASS in manual.

011K4.02 Knowledge of PZR LCS design feature(s) which provide for the following: PZR level controller.

Removed "and most points are accurate" from the stem. Not correct.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

18. 012A3.02 001

Which ONE of the following RPS bistables will automatically reset when the monitored parameter returns to a non-tripped value?

- A. High Pressure
- B. Flux/Flow/Imbalance
- C. Pump/Power
- D. Both Feedwater Pumps Tripped Bypass

Lesson Plan OP-OC-IC-RPS Objectives 7 and 21. Modified from bank question Oconee Bank Question 234 (IC094).

- A. Incorrect, this bistable does not automatically reset must be reset manually.
- B. Incorrect, this bistable does not automatically reset must be reset manually..
- C. Incorrect, this bistable does not automatically reset must be reset manually.
- D. Correct, this bistable will automatically reset when the parameter returns to a non-tripped condition.

K/A 012A3.02 Ability to monitor automatic operation of the Reactor Protection System- Bistables. (3.6/3.6)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

19. 012K6.02 001

- Unit 1 is at 100% with no equipment Out of Service.
- Power Panel Board 1KVIB's incoming breaker trips.

Which ONE of the following describes the trip logic on Unit 1 for the Reactor Protection System until repairs can be made?

- A. The "B" RPS channel will trip, and two of the remaining channels are required to cause a reactor trip.
- B. The "B" RPS channel will not trip, two out of three remaining channels are required to cause a reactor trip.
- C. The "B" RPS channel will trip, and one of the remaining channels are required to cause a reactor trip.
- D. The "B" RPS channel will not trip, the channel must be bypassed, then the logic will be two out of three channels to cause a reactor trip.

Changed back to original wording.

Oconee bank question modified to match K/A. IC 103 (236). Lesson plan OP-OC-IC-RPS objectives 18 and 20.

- A. Incorrect, the channel will trip, but only one of the remaining channels have to trip to cause a trip.
- B. Incorrect the channel will trip.
- C. Correct, the channel will trip and only one additional channel is required to trip the unit.
- D. Incorrect, the channel will trip and if it is bypassed two additional channels are required to cause a trip.

K/A: Knowledge of the effect that a loss or malfunction of the following will have on the Reactor Protection System: Redundant Channels. (2.9/3.1)
Reworded stem for clarity.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

20. 013K4.07 001

- Unit 3 Reactor Power is at 100%
- 3KVIB AC Vital Power Panelboard supply breaker trips OPEN

Which ONE of the following describes the protective systems response during the time that the breaker is open?

- A. Automatic ES channels 1-6 actuation will be inoperable.
- B. Initiation occurs only when ES channels "A" and "C" actuate.
- C. Present conditions require ES to meet a two out of three logic.
- D. Initiation occurs when either ES channel "A" or "C" actuate.

Question developed from two oconee bank questions, IC031215 and IC030802. Lesson Plan OP-OC-IC-ES objectives 5 and 12, and page 14.

- A. Incorrect, only one more es channel needs to trip to cause an ES actuation.
- B. Incorrect, only one more es channel needs to trip to cause an ES actuation.
- C. Incorrect, only one more es channel needs to trip to cause an ES actuation.
- D. Correct, either A or C channels tripping will cause an ES actuation.

K/A: Knowledge of the ESFAS design features and or interlocks which provide for the following: Power Supply Loss. (3.7/4.1)
Added "channels 1-6" to make "A" incorrect.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

21. 014A1.02 001

- Unit 1 Reactor Power is 92%
- Group 7 rods are being withdrawn in Automatic
- Group 7 rod 5 becomes stuck

Which ONE of the following would be the FIRST indication to the operator of the stuck rod?

- A. Amber rod Fault Light on the diamond panel illuminates.
- B. 1SA-01 E-1 CRD Sequence Fault statalarm illuminates.
- C. Individual rod Relative Position Indication stops moving.
- D. Individual rod amber Fault (alarm) light illuminates on PI panel.

Oconee Bank Question IC020703 (20). Needs to be verified.

- A. Incorrect, Diamond fault illuminates at 9", this would not be the first indication.
- B. Incorrect, Sequence SA comes from RPI which is not unaffected.
- C. Incorrect, RPI is driven by CRDM phase sequencing, which will continue to occur.
- D. Correct, Amber light indicates 7" misalignment using API.

K/A: 014A1.02 Ability to predict and or monitor changes in parameters associated with operating the Rod Position Indication system including control rod position indication on control room panels. (3.2/3.6)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

22. 015/017AA1.12 001

- Unit 1 is operating at 68% power.
- Amps for RCP 1A1 indicate approximately 70 amps.
- "A" loop RCS flow indicates approximately 40 E6 lbm/HR and is lowering.
- "B" loop RCS flow indicates approximately 73 E6 lbm/HR and is rising.

Which One of the following describes the event that has occurred and the actions that the operator should take?

- A. 1A1 RCP has tripped, trip the reactor and close LPSW-7 and 8.
- B. 1A1 RCP has a sheared shaft, trip the reactor and close LPSW-7 and 8.
- C. 1A1 RCP has tripped, Verify ICS re-ratios feedwater to establish approximately 0 degrees delta Tc.
- D. 1A1 RCP has a sheared shaft, Verify ICS re-ratios feedwater to establish 0 degrees delta Tc.

LESSON PLANS REACTOR COOLANT PUMP MOTOR OP-OC-PNS-CPM and OP-OC--IC-RCI Enabling Objective # 4 of OP-OC-PNS-CPM.

This question needs to be verified, if the pump already trips will the crew trip the reactor?
(B or D may be correct)

- A. Incorrect, the pump has not tripped, the shaft is sheared.
- B. Incorrect, the correct action is to verify that ICS re-ratios fw flow.
- C. Incorrect, the pump has not tripped.
- D. Correct, the pump has a sheared shaft and this is the correct action.

K/A: 015AA1.12 Ability to operate and or monitor the following as they apply to RCP malfunction: Reactor Coolant Pump Flow meters. (2.8/3.1)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

23. 016A2.01 001

Unit 1 plant conditions:

- The SASS Channel for 1A OTSG Operating Range is in AUTOMATIC
- Key switch on 1UB1 is selected to level # 1
- The selected Operating Range signal for loop 1A slowly increases until a mismatch of 4% with the nonselected signal has occurred.

Which ONE of the following describes the operation that places the "good" Operating Range signal in operation?

- A. SASS remains in AUTO and automatically selects the "good" signal.
- B. SASS remains in AUTO initiating a mismatch alarm and the operator selects the good signal with the normal select switch.
- C. SASS trips to manual and the operator must position the key switch to the "good" signal with the normal select switch on 1UB1.
- D. SASS trips to manual and the operator must position the toggle switch to the "good" signal in RPS Cabinet "E".

Oconee Lesson Plan OP-OC-IC-RCI Objective 22, Page 19 - 21

K/A 016A2.01 (3.0/3.1) Non-Nuclear Instrumentation System Ability to a) predict the impacts of the following malfunctions or operations on the NNIS; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those malfunctions or operations: Detector Failure.

SASS does not control Thot. Changed to Operating Level.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

24. 017K5.02 001

- The Unit 1 subcooling margin monitors are selected to the ICCM mode
- RC Loop A WR Press 1 indicates 2085 psig
- ICCM - WR-RCS A Press indicates 2110 psig
- RC Loop B WR Press 1 indicates 2105 psig
- ICCM - WR-RCS B Press indicates 2135 psig
- RC Hot Leg A WR Temp indicates 605°F
- RC Hot Leg B WR Temp indicates 608°F
- Avg 5 highest ICCM Train A CETCs indicates 613°F
- Avg 5 highest ICCM Train B CETCs indicates 615°F

Which ONE of the following is the correct subcooling margin that would be displayed on the LOOP B?

- A. 29°F
- B. 31°F
- C. 36°F
- D. 38°F

Reference: Steam Tables.

Lesson plan OP-OC-IC-RCI pages 55-60, and objective 15

- A. Incorrect, this uses a incorrect temperature, and incorrect pressure (RC loop B WR press 1). $(644-615=29)$
- B. Inorrect, incorrect temp (615) and correct pressure (2135 psig) $(646 -615=31)$ This would be correct for the Core subcooling monitor but not the loop.
- C. Incorrect, correct temperature and incorrect pressure. $(2105) (644-608 = 36)$
- D. Correct, correct pressure, correct temperature. $(2135 \text{ psig}) (646 - 608 = 38)$

K/A: Knowledge of the operational implications of the following concepts as they apply to the ITM system: Saturation and subcooling of water. (3.7/4.0)

Added "ICCM" to ICCM computer points.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

25. 022AA1.05 001

- Unit 1 1A HPIP is running with 1B HPIP in Auto
- HP RC PUMP INLET HEADER FLOW HI/LOW statalarm (1SA-2, B-2) has alarmed
- RCP Seal Injection flow indicates 4 gpm per RCP and decreasing
- NLO reports a large packing leak on 1HP-132 (RCP Seal Filter 1B Inlet)

Which ONE of the following actions is required for these conditions?

- A. Open 1HP-116 (HPIP "1B" & "1C" DISCH CONNECTION). Start the "1C" HPI Pump to maintain pressurizer level > 80 inches.
- B. Open 1HP-116 (HPIP "1B" & "1C" DISCH CONNECTION). Start the "1C" HPI Pump to maintain adequate seal injection flow.
- C. Close 1HP-115 (1A & 1B HPIPs DISCH XCONN). Trip the "1B" HPI PUMP.
- D. Close 1HP-31 (RCP SEAL FLOW CONTROL). Trip the "1B" HPI PUMP.

Oconee Bank Question 145

- A. Incorrect, Using the C HPIP will still be feeding the leak.
- B. Incorrect, Using the C HPIP will still be feeding the leak.
- C. Correct, By closing HP-115 and tripping the 1B HPIP, per AP/14. the leak will not be fed. The A HPIP will supply makeup CC will cool RCPS
- D. Incorrect, Only required if seal injection is lost.

K/A 022AA1.05 Loss of Reactor Coolant Makeup : Ability to operate and or monitor the following as they apply to the Loss of Reactor Coolant Pump Makeup: RCP seal back pressure regulator valves and flow indicators

Added leak location to stem to ensure only one correct answer.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

26. 022K4.03 001

Which ONE of the following describes the isolations that will occur to the Unit 2 Reactor Building Cooling system as a direct result if ES Channel 5 were to inadvertently actuate? (Assume No Operator Action)

- A. 2LPSW-1054 (RBAC Supply Controller) and 2LPSW-1062 (RBAC Supply Controller) will close.
- B. 2LPSW-1055 (RBAC LPSW Supply Block) and 2LPSW-1061 (RBAC LPSW Return Block) will close.
- C. 2LPSW-1055 (RBAC LPSW Supply Block) and 2LPSW-1062 (RBAC Supply Controller) will close.
- D. 2LPSW-1054 (RBAC Supply Controller) and 2LPSW-1061 (RBAC LPSW Return Block) will close.

Oconee Lesson Plan OP-OC-PNS-RBC objective 15. Modified questions PNS 150502 and 150503.

- A. Incorrect, this valves get a direct signal on an ES channel 6 actuation.
- B. Correct, these valves get a direct signal to close on an ES Channel 5 actuation.
- C. Incorrect, first part channel 5, second part channel 6.
- D. Incorrect, first part channel 6, second part channel 5.

K/A: Knowledge of Containment cooling design features and or interlocks which provide for the following Automatic Containment Isolation. (3.6/4.0)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

27. 024AK1.01 001

- Unit 1 is in UNPP (Unanticipated Nuclear Power Production) procedure as a result of an ATWS.

Which ONE of the following describes the effect the emergency boration will have on this event, and how it is controlled.

Assume Main Turbine and Main FDW pumps remain in operation

- A. RCS Temperature will decrease until the reactor is shutdown, emergency boration is then limited by throttling HPI per rule 6 to limit plant cooldown.
- B. Emergency Boration will have no effect on RCS temperature, and is controlled by adjusting letdown flow to limit RCS inventory.
- C. RCS Temperature will decrease until the reactor is shutdown, emergency boration is then limited by throttling HPI per rule 6 to limit RCS inventory.
- D. Emergency Boration will have no effect on RCS temperature, and is controlled by adjusting letdown flow to limit plant cooldown.

New question developed using OP-OC-EAP-UNPP. Objective 7 and 13.
Many pages from lesson plan.

- A. Incorrect, Boration will cause temperature to decrease but after the plant is shutdown it has no effect on controlling temperature, throttling is performed to reduce RCS inventory.
- B. Incorrect, Boration will cause temperature to decrease.
- C. Correct, Boration will cause temperature to decrease, and throttling per HPI stops "emergency boration" and limits RCS inventory.
- D. Incorrect, Boration will cause temperature to decrease .

K/A: Knowledge of the operational implications of the following concepts as they apply to the Emergency Boration: Relationship between boron addition and changes in Tave. (3.4/3.8)

Added assumption to ensure a correct answer. If FDW pumps or turbine trip the RCS will heat up.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

28. 025 AK3.02 001

- Unit 1 is performing a cooldown to begin a refueling outage.
- The RCS is intact and the RCS loops are full.
- "C" LPI is operating in the switchover mode.
- A loss of 1TC, TD, and TE occurs.
- AP/26 "Loss of Decay Heat Removal" has been entered.

Which ONE of the following describes the actions that need to be taken to mitigate the event and why?

- A. IF RCS pressure approaches 125 psig close 1LP-3 (LPI Hot Leg Suction), to prevent overpressurization of the LPI system.
- B. IF RCS pressure approaches 295 psig close 1LP-3 (LPI Hot Leg Suction), to prevent overpressurization of the LPI system.
- C. IF RCS pressure approaches 125 psig close 1LP-3 (LPI Hot Leg Suction), to keep RCS pressure less than the RCS NDT limits.
- D. IF RCS pressure approaches 295 psig close 1LP-3 (LPI Hot Leg Suction), to keep RCS pressure less than the RCS NDT limits.

New Question developed to match K/A. Lesson Plan OP-OC-PNS-LPI objectives # 5, 10, 35, and AP/1/1700/026 "Loss of Decay Heat Removal".

- A. Incorrect, this is the correct action and reason but the pressure is for the normal mode of operation.
- B. Correct, this is the correct action and reason and this is the maximum pressure in the switchover mode.
- C. Incorrect, wrong pressure wrong reason.
- D. Incorrect, wrong reason.

K/A: 025AK3.02 Knowledge of the reasons for the following responses as they apply to Loss of RHR system: Isolation of RHR low-pressure piping prior to pressure increase above specified level. (3.3/3.7)

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

29. 026K1.01 001

Which ONE of the following describes the interrelation of the Reactor Building Spray system and the Low Pressure Injection system?

- A. Low pressure injection discharge supplies the Reactor Building Spray pump suction source when aligned to the RBES.
- B. Reactor Building Spray pumps take a suction from the Low Pressure Injection suction line when aligned to the RBES.
- C. Low Pressure injection coolers are aligned to cool the Reactor Building Spray pumps during extended periods of operation.
- D. Reactor Building Spray pumps normally take a suction from the Low Pressure Injection coolers when the BWST is isolated.

New Question developed to match K/A. OP-OC-PNC-BS objective # 5.

- A. Incorrect, this is no longer the case according to the lesson plan.
- B. Correct, the low pressure injection suction line is connected to the RBES via LP -19 and LP-20.
- C. Incorrect, the Low pressure injection coolers are no longer aligned to RBS.
- D. Incorrect, the RBS takes a suction from the RBES when the BWST is isolated.

K/A: 026K1.01 Knowledge of the physical connections and or cause effect relationships between containment spray and the following: ECCS.
Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

30. 027AK2.03 001

Unit 3 has had a LOHT event
RCS Pressure is 2490 psig and is slowly rising
RCS Temperature is rising rapidly
"LOHT TAB" is in progress.
Rule 3 is being performed
No FDW or EFW has been established

Which ONE of the following describes the actions that the operator must perform to ensure the PORV is in the required position.

- A. Verify selector switch for 1RC-66 to the HIGH Position and verify that the valve is open.
- B. Place selector switch for 1RC-66 to the OPEN Position and verify the valve opens.
- C. Place selector switch for 1RC-66 to the HIGH Position depress the open permit push button and verify the valve opens.
- D. Place selector switch for 1RC-66 to the OPEN Position, depress the open permit push button and verify the valve opens.

New question developed to meet K/A.

PORV should already be open at this pressure.

- A. Incorrect, selector switch should already be in the high position and the valve should already be open.
- B. Incorrect, just selecting open will not open the valve, open permit must be depressed.
- C. Incorrect, the selector switch should be in High already, and depressing open permit will not open the valve.
- D. Correct, according to the lesson plan in order to open the PORV manually 1RC-66 must be placed in open and the open permit push button depressed.

K/A: 027AK2.03 Knowledge of the interrelations between a pressurizer pressure control system malfunction and : Controllers and positioners. (2.6/2.8)

Editorial changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

31. 027K2.01 001

- Unit 2 has just entered Mode 5 and has an increased level of Iodine in the Reactor Building.
- Chemistry requests that the RB Mini Purge Fan be run to lower iodine levels
- Unit 1&2 SFP Filtered Exhaust Fan F-1 is operating

Which ONE of the following is correct?

The RB Mini-Purge fan is powered from 600V MCC...

- A. 2XR and fan F-1 will trip off when the Mini-Purge fan is started.
- B. 2XR and will trip if Unit 2 Main Purge fan is started.
- C. 2XS1 and fan F-1 will trip off when the Mini-Purge fan is started.
- D. 2XS1 and will trip if Unit 2 Main Purge fan is started.

Licensee developed new question acceptable.

Lesson Plan PNS-RBP objective #10 and 4

- A. Incorrect, first part correct. Second part incorrect. The Main Purge Fan, if started, will trip the SFP Ventilation Exhaust Fan (Units 2 and 3 only). Mini Purge fans are NOT interlocked with the SFP Ventilation Exhaust Fans.
- B. Correct, both parts correct.
- C. Incorrect, both parts incorrect.
- D. Incorrect, first part incorrect. Second part correct.

K/A Knowledge of electrical power supplies to the following Containment Iodine Removal Fans. (3.1/3.4)

Modified question to ensure only one correct answer.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

32. 028K3.01 001

- Unit 1 has had an ES Actuation due to a Large Break LOCA.
- The reactor building Hydrogen Analyzers (RBHAs) have been placed in service.
- Heat tracing has just been lost on RBHA Channel 1A

Which ONE of the following describes the effect that a loss of heat tracing will have on the RBHAs?

- A. 1A channel must be declared inoperable, and should be manually tripped.
- B. 1A channel can continue to operate, heat tracing will have no effect on its operation.
- C. 1B hydrogen indication will read higher than the 1A hydrogen indication.
- D. 1B hydrogen indication will read lower than the 1A hydrogen indication.

Oconee Bank Question PNS100503. Lesson Plan OP-OC-HDC objective 3. Substituted Hydrogen Analyzers for Recombiners.

- A. Incorrect, does not have to be declared inoperable.
- B. Incorrect, the loss of heat tracing will have an effect.
- C. Incorrect, the loss of heat tracing will cause the 1A to read greater than 1B.
- D. Correct, the loss of heat tracing will cause the 1A to read greater than 1B.

K/A: 028K3.01 Knowledge of the effect that a loss or malfunction of the (Hydrogen analyzer) will have on the following: Hydrogen in containment. Oconee does not use a hydrogen recombiner (deleted). So analyzers were substituted. (3.3/4.0)

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

33. 029EG2.2.22 001

Which ONE of the following actions is performed directly to help prevent the Unit from exceeding a Technical Specification Safety Limit during an ATWS?

- A. Tripping the main turbine
- B. Stopping all RCPs
- C. Opening 1RC-4 and 1HP-5
- D. Tripping both Main Feed pumps

Removed RCS Pressure from stem directed applicant to only look for items that affected pressure.

New Question developed to match K/A. Oconee lesson plan OP-OC-EAP-UNPP, objective # 12, and pages 8,9, and 12. Technical Specification 2.0 safety limits.

- A. Incorrect, this is an action that is performed but to limit plant cooldown not prevent exceeding a safety limit.
- B. Incorrect, this is an action that is performed in the RNO portion of the ATWS procedure but will not limit the RCS Pressure peak.
- C. Correct, opening the PORV block valve and letdown isolation allow paths for RCS pressure to be reduced limiting the challenge to the pressure safety limit of 2750 psig.
- D. Incorrect, this action is performed if an uncontrolled cooldown is in progress.

K/A: 029EG2.2.22 Knowledge of limiting conditions for operations and safety limits. (3.4/4.1)

Added "for RCS pressure" to stem to ensure only one correct answer. Tripping the Main Turbine will help prevent exceeding the safety limit on power peaking (fuel center line temperature).

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

34. 034K1.04 001

- Unit 2 is in the process of being defueled

Which ONE of the following correctly describes the NIs that must be operable to continue moving fuel?

- A. Ni-3 (Wide Range) and Ni-4 (Source Range)
- B. Ni-2 (Source Range) and Ni-3 (Wide Range)
- C. Ni-3 (Source Range) and Ni-1 (Source Range)
- D. Ni-2 (Wide Range) and Ni-1 (Source Range)

Bank Question FH049 Ensure Monitors are correct. Lesson Plan OP-OC-FH-FHS # 19

- A. Incorrect, two source range instruments required.
- B. Incorrect, two source range instruments required.
- C. Correct, these two monitor will satisfy TS requirements.
- D. Incorrect, two source range instruments required.

K/A: 034K1.04 Knowledge of the physical connections and or cause effect relationships between Fuel Handling Equipement and the following NIS. (2.6/3.5)
Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

35. 035A4.02 001

- Unit 1 has had a loss of Main Feedwater
- "B" OTSG has boiled Dry
- Both RCPs in loop "B" have tripped and cannot be started.

Which ONE of the following describes the limitations on feeding the "B" OTSG?

- A. Neither EFDW or MFDW may be fed to the OTSG due to inducing unanalyzed OTSG tube to shell differential temperatures.
- B. Neither EFDW or MFDW may be fed to the OTSG due to inducing excessive RCS loop differential temperatures.
- C. EFDW or MFDW must be fed slowly to the OTSG to prevent further RCS overcooling and limit unanalyzed OTSG stresses.
- D. EFDW or MFDW must be fed via the auxiliary nozzles to prevent excessive stresses on the lower tube sheet.

Oconee Bank Question Part B 203. Lesson Plan OP-OC-EAP-EHT objective # 6.

- A. Incorrect, OTSG may be fed via the aux nozzles.
- B. Incorrect, OTSG may be fed via the aux nozzles.
- C. Incorrect, OTSG stresses have been analyzed, and the OTSG must be fed via aux nozzle.
- D. Correct, OTSG may be fed with either EFW or MFDW via the aux nozzle to prevent excessive stresses on the lower tube sheet.

K/A: 035 A4.02 Ability to manually operate and or monitor in the control room fill of dry steam generator (2.7/2.8)

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

36. 039K5.05 001

Which ONE of the following describes the reason the operator is directed to place both TBV stations to HAND before resetting the Control Rod Drive Breakers?

- A. To ensure that the + 50 psi bias applied to the TBVs setpoint remains selected.
- B. To ensure that the TBVs are controlling primary temperature instead of the Turbine Master.
- C. The TBVs must be in hand in order for the reactor trip breakers to be reset.
- D. To prevent exceeding cooldown limits when the TBVs bias shifts to setpoint.

Bank Question STG 245. Objective R13 and 9.

- A. Incorrect, 50# bias is determined only by the load status flag which is always false (zero bias) below 10% CTP.
- B. Incorrect, Turbine of-line and in manual, will not be able to control. TBVs take THP control cue from Load Status flag which is not tied to CRD status.
- C. Incorrect, No interlock to TBVs. CRD interlocks are CC flow and group 1-7 rod in-limits.
- D. Correct Removes the 125# bias which causes the TBVs to open seeing a lower THP setpoint. This causes SG temp decrease and RCS temperature decrease.

K/A 039K5.05 (2.7/3.1) Knowledge of the operational implications of the following concepts as they apply to the Main and Reheat Steam system: Bases for RCS cooldown limits.

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

37. 045A2.17 001

- Unit 1 shutdown in progress.
- Main turbine speed is currently 70 rpm.
- Digital EHC "Active" speed signal is lost.

Which ONE of the following describes the impact of losing the "active" speed signal and the action(s) that the operator should take?

- A. The EHC signal will be the higher of the two passive signals and the turning gear will automatically engage when turbine RPM < 1 rpm, verify that the turning gear engages properly.
- B. The EHC signal will be the lower of the two passive signals and the turning gear will automatically engage when turbine RPM < 1 rpm, verify that the turning gear engages properly.
- C. When turbine speed is less than 60 rpm the turning gear will attempt to engage even if the turbine is not stopped, place turning gear in pull to lock, and engage turning gear manually when turbine stops.
- D. When turbine speed is less than 60 rpm the 1 hour permissive for chest and shell warming will prevent automatic engagement of the turning gear, after one hour verify that the turbine turning gear has engaged.

New question developed to match K/A. Lesson Plan OP-OC-STG-EHC objective # 22.3.

- A. Incorrect, both passive speed signals are lost when turbine rpm < 60 rpm.
- B. Incorrect, both passive speed signals are lost when turbine rpm < 60 rpm.
- C. Correct, both passive speed signals are lost when turbine rpm < 60 rpm, and with the active speed signal gone, the turning gear will attempt to engage.
Lesson plan pages 64 & 65.
- D. Incorrect, this circuit is no longer in place with the active speed channel lost.

K/A: Ability to predict the impacts of the following on the Main Turbine Generator and (b) use procedures to correct, control or mitigate the consequences of those abnormal operation: Malfunction of EHC Control (2.7/2.9)
Modified "C" to improve readability.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

38. 054AA1.02 001

- Blackout in progress on Unit 2 **only**
- Unit 3 is in Mode 5 with secondary drained
- Unit 1 is in MODE 1 at 100% power
- Unit 2 TDEFWP is inoperable

Which ONE of the following actions will be taken next to feed Unit 2 steam generators per Rule 3 during blackout conditions?

- A. Manually start Unit 3 TDEFW Pump.
- B. Manually start Unit 1 TDEFW pump
- C. Start the SSF ASW pump
- D. Start the Station ASW pump

Modified from Oconee Bank Question EAP210301 (352). Lesson plan OP-OC-EAP-BO objective # 3 and page 9.

- A. Incorrect, Unit 3 secondary drained.
- B. Correct, Since Unit 2 TDEFWP is not available, an alternate units EFDW is the next priority.
- C. Incorrect, this would be correct if no EFW source available from any Unit.
- D. Incorrect, the Tornado Pump is the last resort used if no FDW nor the SSF ASW pump is available.

K/A: 054AA1.02 Ability to operate and or monitor the following as they apply to Loss of main feedwater: Manual startup of electric and steam driven AFW (EFW) pumps.
(4.4/4.4)

Modified stem to improve readability.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

39. 056AK1.04 001

- A loss of 1TA and 1TB has caused a reactor trip on Unit 1.
- A decision has been made to cooldown by Natural Circulation.

Which ONE of the following is the MINIMUM RCS pressure allowed for a CETC temperature of 445°F in accordance with the EOP?

- A. 2155 psig
- B. 1800 psig
- C. 1510 psig
- D. 1438 psig

Changes accepted

Question developed from Oconee bank question Part B122 (127) modified to be less than 450°F and testing the requirement to have 150°F of subcooling.

- A. Incorrect, this is the pressure that would be maintained if temperature was > 450 °F
- B. Incorrect, this is the pressure that would be maintained if 200°F of subcooling were required.
- C. Correct, this is the minimum value that pressure could be reduced to maintain 150 °F of subcooling as required by EP/1A/1800/001
- D. Incorrect, this value is obtained by using the temperature and PSIA in stead of PSIG and would result in < 150 °F

K/A: Knowledge of the operational implications of the following concepts as they apply to the Loss of Offsite Power: Definition of saturation conditions and implication for the systems. (3.1/3.2)

1472 psig is the minimum pressure. $445 + 150 = 595^{\circ}\text{F}$.

$595^{\circ}\text{F} = 1457 \text{ psia}$

$1457 \text{ psia} + 15 = 1472 \text{ psig}$

"D" would be too low and "C" is correct.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

40. 057AA2.13 001

- Unit 1 is at 100% power
- LDST level 1 is selected on 1UB1
- A loss of KVID occurs
- 1SA-02 B1 "HP letdown tank level High/Low" actuates

Which ONE of the following describes what has happened to the LDST level indicators and HPI pump suction source?

- A. LDST level 1 has failed low; 1HP-24 and 1HP-25 (1A/1B HPI BWST Suction) will open, and 1SA-02 D5 HP LDST LEVEL INTERLOCK INITIATED will alarm.
- B. LDST level 1 has failed low; 1HP-24 and 1HP-25 (1A/1B HPI BWST Suction) will remain closed.
- C. LDST level 2 has failed low; 1HP-24 and 1HP-25 (1A/1B HPI BWST Suction) will open, and 1SA-02 D5 HP LDST LEVEL INTERLOCK INITIATED will alarm.
- D. LDST level 2 has failed low; 1HP-24 and 1HP-25 (1A/1B HPI BWST Suction) will remain closed.

New Question developed to match K/A. References 1SA-02 B1, and 1SA-02 D5. Lesson Plan OP-OC-EL-VPC Objective #7. **(NEED TO VERIFY POWER SUPPLY)**

- A. Incorrect, 1 HP-24/25 will not open 2/2 logic.
- B. Correct, this powers LDST 1, it will fail low without power but 2/2 logic will keep valve closed.
- C. Incorrect, LDST level 1 will fail low and 1HP-24/25 will not stroke 2/2 logic.
- D. Incorrect, LDST level 1 will fail low.

K/A: Ability to interpret the following as they apply to Loss of Vital Inst. Bus: VCT level and pressure indications and recorders. (3.0/3.4)

Moved alarm to stem to improve readability. Added both HPI valves to distractors after technical review of interlock. Interlock is not train specific. Control board setup required in stem to determine if Statalarm actuates.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

41. 059A1.07 001

Which ONE of the following describes how Feedwater Pump Turbine speed is controlled during start-up operation and with with ICS in automatic?

- A. The Motor Gear Unit controls speed during start-up at 0 - 2800 RPM and the Motor Speed Changer controls speed with ICS in automatic at 2800 - 4900 RPM.
- B. The Motor Speed Changer controls speed during start-up at 0- 2800 RPM and the Motor Gear Unit controls speed with ICS in automatic at 2800- 4900 RPM.
- C. The Motor Gear Unit controls speed during start-up at 0-3500RPM and the Motor Speed Changer controls speed with ICS in automatic at 3500 - 5200 RPM.
- D. The Motor Speed Changer controls speed during start-up at 0 -3500 RPM and the Motor Gear Unit controls speed with ICS in automatic at 3500 - 5200 RPM.

New question developed to match K/A. Oconee lesson plan OP-OC-CF-FPT. Lesson Plan Objective # 7.

- A. Incorrect, the MSC controls speed during startup and the MGU controls speed when in automatic on ICS.
- B. Correct, MSC controls speed during startup and the MGU controls speed when in automatic on ICS. MSC 0-2800 and MGU 2800 - 4900 rpm.
- C. Incorrect, MSC controls speed during startup and the MGU controls speed when in automatic on ICS. RPM is not correct.
- D. Incorrect, the RPM is not correct.

K/A: 059A1.07 Ability to predict and or monitor changes in parameters associated with operation the Main Feedwater controls including Feed pump speed, including normal control speed for ICS. (2.5/2.6)
Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

42. 059AK1.01 001

Unit 1 plant conditions:

- Reactor Power is 100%.
- 50 gpd Tube Leak
- An increase in activity is reported in Chemical Treatment Pond (CTP) #3

Which ONE of the following describes the most probable cause of this increase?

- A. 1RIA-42 (RCW) activity is increasing and this will increase activity levels in CTP #3.
- B. 1RIA-31 (LPI Cooler) activity is increasing and this will increase activity levels in CTP #3.
- C. 1RIA-54 (TBS) interlock has failed and the Turbine Building Sump is being continually pumped.
- D. 1RIA-33 (LW Release) interlock has failed and a Waste Monitor Tank release continues from the Radwaste Building.

New question developed from lesson plan OP-OC--RAD-RIA page 25 and objective # 5. (Utility wrote this question to replace original) Still a new question.

- A. Incorrect, RCW is a closed system. The RCW cooler is cooled by CCW which goes to the discharge not CTP #3.
- B. Incorrect, LPSW goes to the discharge not to #3 CTP.
- C. Correct, TBS pump goes to CTP #3. Due to the tube leak, activity could be high in the sump. If the interlock failed it could pump high activity to CTP #3.
- D. Incorrect, The waste monitor tanks discharge to the Keowee tailrace not CTP # 3.

K/A: Knowledge of the operational implications of the following concepts as they apply to accidental liquid radwaste release: Types of radiation their units of intensity and the location of the sources of radiation in a nuclear power plant. (2.7/3.1)

Modified question to ensure a correct answer.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

43. 061A3.03 001

- Unit 1 has tripped from 70% Reactor Power.
- Five minutes have elapsed since the reactor tripped.
- 1A MS pressure is 1000 psig and slowly lowering.
- 1B MS pressure is 450 psig and steadily decreasing
- 1A SG XSUR = 30 inches
- 1B SG XSUR = 9 inches
- 1SA-02 D-8 "AFIS HEADER B INITIATED" is illuminated

Which ONE of the following describes the operating status of the Emergency Feedwater system with the above conditions?

ASSUME NO OPERATOR ACTIONS HAVE BEEN TAKEN

- A. The 1B MDEFWP and the TDEFWP will be off. 1FDW-42 (1B S/U FDW Block Valve), 1FWD-44 (1B S/U FDW Control Valve) and 1FDW-316 (1B OTSG EFW Control Valve) will be closed.
- B. The 1B MDEFWP and the TDEFWP will be off. 1FDW-42 (1B S/U FDW Block Valve) and 1FWD-44 (1BS/U FDW Control Valve) will be closed, and 1FDW-316 (1B OTSG EFW Control Valve) will be open.
- C. The 1A and 1B MDEFWP will be off and the TDEFWP will be running. 1FDW-42(1B S/U FDW Block Valve) and 1FDW-316 (1B OTSG EFW Control Valve) will be closed, 1FWD-44 (1BS/U FDW Control Valve) will be open.
- D. The 1A and 1B MDEFWP and the TDEFWP will be off and 1FDW-42(1B S/U FDW Block Valve) and 1FWD-44 (1BS/U FDW Control Valve) will be closed 1FDW-316 (1B OTSG EFW Control Valve) will be open.

Modified from Oconee bank question CF025802 (question 86 from CF bank)
Alarm Response Guide 1SA-02 D-8. Lesson Plan OP-OC-CF-EFW # 29.

- A. Incorrect, 1FDW-316 does not get a isolation signal on an AFIS actuation.
- B. Correct, The AFIS signal will close 1FDW-42 and 1FDW-44. The affected MDEFWP and the TDEFWP will be off.
- C. Incorrect, The TDEFWP will be off, and 1FDW-44 will be closed, 1FDW-316 will be open.
- D. Incorrect, The 1A MDEFWP will be running.

K/A: 061A3.03 Ability to monitor automatic operations of the Emergency Feedwater system including: Automatic EFW isolation. (41./4.2)
Added SG level information to clarify question.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

44. 061K5.04 001

- Unit 2 is at 100% power.
- The "B" MDEFDW pump has been run for a PT.
- 2 Hours after the pump is secured, it is reported that the pump discharge temperature is 160 °F by contact pyrometer.

Which ONE of the following describes the condition that exists and its operational implications?

- A. The "B" MDEFDW pump 2FDW-382 (2B MDEFDWP Discharge Block) was inadvertently closed; this would cause a water hammer event if an auto start condition occurred.
- B. The "B" MDEFDW pump ARC valve failed open causing temperature to rise; this could result in steam/vapor binding of the pump if an auto start condition occurred.
- C. The "B" MDEFDW pump outlet check valve failed to reseal; this could result in pump run-out if an auto start condition occurred.
- D. The "B" MDEFDW pump outlet check valves failed to reseal; this could result in steam/vapor binding of the pump if an auto start condition occurred.

Bank Question from Summer NRC exam. Oconee lesson plan OP-OC-CF-EFW pages 48 and 49. Objective # 59 (R47).

- A. Incorrect, the FCV being closed would not cause the discharge temperature to rise.
- B. Incorrect, the mini-flow valve being closed should not cause the temperature to remain this high after two hours of the pump being secured.
- C. Incorrect, the cause is correct, however this would not cause pump run-out.
- D. Correct, this would cause these indications, and this is the correct implication.

K/A: Knowledge of the operational implications of the following concepts as they apply to the Auxiliary Feed water: feed line voiding and water hammer. (2.7/3.2)

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

45. 062AA2.01 001

- Unit 1 is at 100%.
- LPSW Header A/B Pressure is 80 psig and decreasing.
- RBNS Level is increasing
- LPSW RBCU "A" COOLER RUPTURE is in alarm.
- "A" DELTA FLOW INCR is determined to be 330 gpm
- RBCU "C" Outlet flow rate exceeds the inlet flow rate.

Which ONE of the following describes the location of the LPSW leak, and the action and reason be taken to mitigate the leak?

- A. The RBCU "C" is leaking, isolate the "C" RBCU outlet, then inlet to prevent LPSW pump runout.
- B. The RBCU "A" is leaking, isolate the A RBCU outlet, then inlet to prevent LPSW pump runout.
- C. The RBCU "C" is leaking, isolate the "C" RBCU inlet, then outlet to prevent having to call the LPSW and containment inoperable.
- D. The RBCU "A" is leaking, isolate the "A" RBCU inlet, then outlet to prevent having to call the LPSW and containment inoperable.

New question developed based on Oconee bank question PNS151021 (290).OP-OC-SSS-LPW Objectives, 10, 11, and 15.

- A. Incorrect, wrong valve manipulations, wrong cooler, wrong reason.
- B. Incorrect correct cooler, wrong valve manipulations, wrong reason.
- C. Incorrect, wrong cooler correct manipulations and reason.
- D. Correct, correct cooler, manipulations and reason.

K/A 062AA2.01 Ability to determine and interpret the following as they apply to Loss of Nuclear Service water, location of a leak in SWS. (2.9/3.5)

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

46. 062K1.04 001

Unit 2 is at 100% power

230 KV Switchyard Yellow bus voltage is 225 KV and has been stable for 5 minutes.

Keowee Unit 1 output is 60 MWe.

ACB - 4 is closed.

Unit 2 has an ES1 and 2 actuation.

Which ONE of the following describes the effect this will have on the electrical system?

- A. ACB-1 will trip open and remain open.
ACB-4 will trip open may be reclosed after ACB-1 is closed.
- B. ACB-1 will trip open and remain open.
ACB-4 will remain closed.
- C. ACB-1 will trip open and re-close in 11 seconds.
ACB-4 will remain closed.
- D. ACB-1 will trip open and re-close in 11 seconds.
ACB-4 will trip open and may be reclosed after ACB-1 is closed.

Oconee Bank Question EL041105 (107). Lesson plan OP-OC-EL-EPD, objective 15.

- A. Incorrect, ACB-1 will reclose, and ACB-4 will not open.
- B. Incorrect, ACB-1 will reclose after 11 seconds.
- C. Correct, ACB 1 will re-close after 11 seconds, and ACB-4 will remain closed.
- D. Incorrect, ACB-4 will not trip open.

K/A Knowledge of the physical connections and or cause effect relationships between the AC electrical distribution system and the following: Off-site power sources. (3/7/4.2).

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

47. 063G2.1.30 001

Which ONE of the following describes the location of the Unit 3 Isolating diode Assemblies associated with the Essential DC power system?

- A. Unit 3 Cable Room near panel board 3KI.
- B. On the 3rd floor of the turbine building near the power battery chargers.
- C. On the 5th floor of the turbine building near the power Battery Room.
- D. Unit 3 Equipment Room near the 3CA battery charger.

Bank question EL197 (207). Lesson plan OP-OC-EL-DCD page 35 and objective # 6.

- A. Incorrect, the assemblies are located in the Equipment room.
- B. Incorrect, the assemblies are located in the Equipment room.
- C. Incorrect, the assemblies are located in the Equipment room.
- D. Correct, the assemblies are located in the Equipment room.

K/A: 063G2.1.30 DC Electrical distribution, Ability to locate and operate components including local controls. (3.9/3.4)

Added "3" to KI and CA.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

48. 064G2.4.48 001

- Unit 1 has experienced a LOCA and RCS pressure decreased to 1500 psig.
- A loss of power has caused both Keowee Units to emergency start.
- MFBs have been re-energized through CT-4.

Which ONE of the following sets of actions is required to reset the **Load Shed** signals?

- A. Energize the start-up source and depress the load shed "reset" push buttons.
- B. Depress "Manual" on the load shed ES modules and then simultaneously depress the reset push buttons for MFB monitor panels load shed circuit.
- C. Reset "ES Channels 1 and 2" and then secure both Keowee Units.
- D. Restore an offsite power source to the 230KV "Yellow Bus" and reset both the Keowee emergency start signals in Unit 1 and 2 control room.

Oconee bank Question # EL050801 (133). Changed this K/A, and the question still may not match K/A exactly.

- A. Incorrect, no loadshed reset buttons, there are keowee reset buttons.
- B. Correct, depress manual on the load shed ES modules and simultaneously depress reset push buttons for MFB monitor panels load shed circuit.
- C. Incorrect securing keowee units not required.
- D. Incorrect, will not reset loadshed.

K/A: Emergency Diesel Generators (Keowee Hydro Units at Oconee). Ability to interpret control room indications to verify the status and operation of system, and understand how operator actions and directives affect plant and system conditions.
(3.5/3.8)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

49. 065AG2.1.27 001

- A loss of Instrument Air has occurred on Unit 1
- Auxiliary Instrument Air is in Automatic
- Unit 1 Reactor has been tripped

Which ONE of the following describes the actions that would be taken and the reason for the action?

- A. Trip the Main FDWPs and start EFW; a loss of condenser vacuum is imminent.
- B. Trip the Main FDWPs; Feed water control valves will fail as is and an excessive overfeed condition will occur
- C. Manually control the Feed water control valves; FWPT speed control has been lost
- D. Manually control FWPT speed; Feed water control valves have failed full open

Oconee bank question 599

- A. Incorrect, Condenser vacuum should be maintained. The FW pumps would auto trip at 21.5" vacuum decreasing.
- B. Correct, the main and startup feedwater control valves will fail as is and an OTSG overfeed would occur if the pumps were not tripped.
- C. Incorrect, FWPT speed control has not been lost, and the feedwater control valves will fail as is without air.
- D. Incorrect, the feedwater control valves will fail as is without air.

K/A 065AG2.1.27 Knowledge of system purpose and or function, for a loss of Instrument Air.

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

50. 067AK3.04 001

- The Fire Brigade has extinguished a Major Turbine Bulding Fire on Unit 1
- All HPI, Main and Emergency Feedwater Capability have been lost
- The SSF has been activated

Which ONE of the following actions is taken to prevent a subsequent overcooling in accordance with AP/25 SSF EOP?

- A. All RCPs are stopped.
- B. 1TA and 1TB switchgear are De-energized
- C. Flowpaths on the MS lines are isolated
- D. SG levels are established at 180" with SSF ASW

Oconee Bank Question 235 **May need to be revised**

- A. Incorrect, RCPs are stopped to decrease heatload, not prevent overcooling.
- B. Incorrect, RCP switchgear is isolated if a fire has occurred to prevent spurious RCP restarts which would add heat to the system
- C. Correct, the MS line flowpaths are isolated to prevent a subsequent overcooling event
- D. Incorrect, SG levels are raised to 240-260".

K/A 067AK3.04 (3.3/4/1) Knowledge of the reasons for the following responses as they apply to the Plant Fire on Site: Actions contained in EOP for plant fire on site.
Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

1. 069AA2.01 001

Unit 1 is at 100% power.

1A CFT is experiencing inleakage.

It has been decided to drain the CFT to the MWHUT Via 1CF-7 "CF to MWHUT."

Which ONE of the following precautions must be adhered to when draining "1A" CFT in accordance with OP/1104/01 Core Flooding System Enclosure 4.17?

- A. A Boric Acid concentration calculation **MUST** be performed prior to any level adjustment on a CFT.
- B. Heat Tracing for the drain line **MUST** be verified operable prior to draining a CFT to the MWHUT.
- C. Constant communication with an operator is **REQUIRED** to ensure 1CF-7 is closed if ES actuates.
- D. Constant communication with an operator is **REQUIRED** to ensure 1CF-7 is closed to prevent overflowing the MWHUT.

Accepted Changes.

Oconee Bank Question PNS051202 (72). Need to verify this is still accurate.

- A. Incorrect, this is a precaution prior to makeup to the CFTs.
- B. Incorrect, this is not a caution statement in enclosure 4.16 for draining the CFT to the MWHUT.
- C. Correct, Since the reactor is at 100% power, containment isolation is required. When CF-7 is opened containment integrity is breached and the operator must remain in the vicinity of the valve which is in the penetration room.
- D. Incorrect, this is a requirement while performing a fill of the CFTs during plant startup.

K/A: 069AA2.01 Ability to determine and interpret the following as they apply to loss of containment integrity: Loss of containment integrity. (3.7/4.3)

Modified "C" and "D" to ensure only one correct answer.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

52. 073A4.01 001

Which ONE of the following correctly describes what will automatically terminate a Gaseous waste release on Unit 1?

- A. RIA-37 (NORM WD Gas) and 38 (HIGH WD Gas) must alarm, closes GWD release valves, and stops the Waste Gas Exhauster.
- B. RIA-37 (NORM WD Gas) or 38 (HIGH WD Gas) must alarm, closes GWD release valves, and stops the Waste Gas Exhauster.
- C. RIA-37 (NORM WD Gas) and 38 (HIGH WD Gas) must alarm, closes GWD release valves, an operator must manually stop the Waste Gas Exhauster.
- D. RIA-37 (NORM WD Gas) or 38 (HIGH WD Gas) must alarm, closes GWD release valves, an operator must manually stop the Waste Gas Exhauster.

New Question developed to match K/A. Oconee lesson plan OP-OC-RAD-RIA Objective 14.

- A. Incorrect, either 37 or 38 will isolate the GWD release and stop the exhauster.
- B. Correct, either 37 or 38 will isolate the GWD release and stop the exhauster.
- C. Incorrect, either 37 or 38 will isolate the GWD release and stop the exhauster.
- D. Incorrect, the exhauster will stop when 37 or 38 alarms.

K/A: 073A4.01 Ability to manually operate and or monitor in the control room: Effluent release. (3.9/3.9)

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

53. 076G2.4.31 001

- Unit 1 is operating at 100%.
- 1SA-09/D8 HPSW JOCKEY PUMP OFF alarms.
- EWST Level indicates 90,000 gal.

Which ONE of the following describes the actions that the operator should perform in accordance with the response guide D-8

- A. Verify that 1HPSW-25 (Altitude Valve) will open to maintain system pressure.
- B. Verify that the STANDBY HPSW auto starts pump to maintain system pressure.
- C. Manually start the BASE HPSW pump to maintain system pressure.
- D. Verify that the BASE HPSW pump auto starts pump to maintain system pressure.

New question developed to match K/A. Reference Automatic actions of 1SA-09/D8.

- A. Correct, the first automatic action that will occur is that 1HPSW-25 will open to maintain pressure, the operator should then attempt to start the jockey pump one time.
- B. Incorrect, the standby pump will autostart, but it will start on low level in the Elevated Storage Tank level, not pressure or jockey pump trip.
- C. Incorrect, the procedure does not direct the manual starting of the base or Standby pump unless they fail to autostart on appropriate level.
- D. Incorrect, the base pump will autostart, but it will start on low level in the Elevated Storage Tank level, not pressure or jockey pump trip.

K/A: 076G2.4.31 Service Water Knowledge of annunciators, alarms, and indications and use of the response instructions. (3.3/3.4)

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

54. 078K2.01 001

Plant conditions:

- ALL off-site power sources have been lost (230 KV and 525 KV transmission lines)
- Keowee has energized the MFB via the overhead power path
- IA pressure = 85 psig and decreasing
- ALL Diesel air compressors are OFF
- No operator actions have been taken

Which ONE of the following is correct?

- A. ONLY the Back-up Instrument Air compressors will be operating
- B. ONLY the Auxiliary Instrument Air compressors will be operating
- C. ALL Auxiliary Instrument Air compressors and All Back-up Instrument Air compressors will be operating
- D. ALL Auxiliary Instrument Air compressors and the Primary Instrument Air compressor will be operating

Replaced original question with new one accepted.

Oconee Lesson Plan OP-OC-SSS-IA objective # 35 and 37, and pages 14 and 37

- A. Incorrect, the Back-up Instrument Air Compressors will not be operating because they are powered from a load shed power supply.
- B. Correct, Auxiliary Instrument Air compressors will be operating because they are power from a non-load shed source.
- C. Correct, first part correct. Second part incorrect.
- D. Incorrect, the Primary Instrument Air Compressors will not be operating because it is fed from the 230 KV or 525 KV switchyard.

K/A: 078K2.01 Knowledge of the electrical power supplies to the following: Instrument Air Compressor (2.7/2.9).

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

55. 103A3.01 001

Which ONE of the following describes the effect that an inadvertent ES-5 actuation will have on the CC system?

- A. only CC-7 will close.
- B. only CC-8 will close.
- C. CC-7 will close and the running CC pump will trip.
- D. CC-8 will close and the running CC pump will trip.

Oconee lesson plan OP-OC-PNS-CC, objective 17 and pages 15 and 19. Modified from Question PNS021502 (39).

- A. Incorrect, CC-7 will close, but the CC pump will trip as a result.
- B. Incorrect, CC-8 will not close it gets a signal from ES-6.
- C. Correct, CC-7 will close, and the CC pump will trip as a result.
- D. Incorrect, CC-8 will not close but the pump will trip.

K/A: 103A3.01 Ability to monitor automatic operation of the containment including containment isolation (3.9/4.2)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

56. 103A4.01 001

- Unit 1 is making preparations to return to service after a refueling outage.
- Pressure Makeup to the 1A CFT is required.

Which ONE of the following describes the operator actions required to perform a CFT pressurization rate set-up to raise pressure in the 1A CFT?

- A. Open 1N-137 (CFT supply isol) and 1N-298 (N2 Fill Core Flood Tank 1A) from the control room, locally throttle 1N-128 (CFT 1A Supply) not to exceed 150 psig /15min. Raise pressure to required value then close 1N-298 and 1N-137.
- B. Open 1N-137 (CFT supply isol) and open 1N-128 (CFT 1A Supply) locally, then throttle 1N-298 (N2 Fill Core Flood Tank 1A) from the control room, raise not to exceed 150 psig /15min. Raise pressure to required value then close the valves.
- C. Open 1N-137 (CFT supply isol) locally, then open 1N-298 (N2 Fill Core Flood Tank 1A) from the control room, locally throttle 1N-128 (CFT 1A Supply) not to exceed 100 psig /15min. Raise pressure to required value then close 1N-298 and 1N-137.
- D. Open 1N-137 (CFT supply isol) and 1N-298 (N2 Fill Core Flood Tank 1A) from the control Room, Locally throttle 1N-128 (CFT 1A Supply) not to exceed 100 psig /15min. Raise pressure to required value then close the valves.

New Question developed to match K/A. Oconee Lesson plan OP-OC-PNS-CF objectives 5 and 7.

- A. Incorrect, N-137 is operated locally, N-298 is operated from the control room, and this is too high of a rate.
- B. Incorrect, N-298 is not a throttle valve, pneumatically controlled from the control room, wrong rate.
- C. Correct, this is the method described for pressure rate setup in the lesson material.
- D. Incorrect, N137 not controlled from control room.

K/A: 103A4.01 Containment: Ability to manually operate and or monitor in the control room; flow control, pressure control and temperature control valves including pneumatic valve controller

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

57. BA01AA1.2 001

Which ONE of the following automatic responses will result from the loss of "1A1" RCP while at 82% power?

(All systems are in automatic control with four RCPs initially running)

- A. An ICS runback to 74% at 25% per minute will occur with final FDW flow approximate to 100% in the "B" Loop.
- B. An ICS runback to 74% at 25% per minute will occur with the affected loop SG being on low level limits.
- C. An Initial 2:1 FDW ratio followed by a reactor trip due to RPS variable low pressure bistables tripping.
- D. Tave input to ICS from Loop 'A' selected and delta Tcold near zero.

Oconee Bank Question STG102301.

- A. Correct, 74% is load limit. No RPS trip due to initial powerlevel at 82%. Re-ratio will require approx. 5.5E6 lbm/hr in "B" header which equals the 100% value for that header.
- B. Incorrect FDW header flow in A header will be 2.5 lbm/hr well above that for 25" SU level and LLL.
- C. Incorrect, ratio will be 1:2, RPS trip will not be generated.
- D. Incorrect, loop "B" tave will be selected.

K/A: BA01AA1.2 Ability to operate and or monitor the following as they apply to plant runback; Operating behavior characteristics of the facility. (3.2/3.5)
Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

58. BA03AK3.3 001

Unit 1 Plant Conditions:

- Reactor Power is 45% and stable.
- S/G Master in HAND
- All other ICS Stations are in Automatic

Current Conditions:

- All load Control Panel indications go blank.
- ICS AUTO POWER FAILURE statalarm lit.
- EL ICS INVERTER SYSTEM TROUBLE statalarm lit.

Which one of the following describes the initial response of the MFDW flow control valves and how the operator will control Feedwater Pump Turbine (FWPT) speed?

ASSUME REACTOR DOES NOT TRIP

Main FDW flow control valves will _____ AND / FWPT speed will be controlled by the...

- A. Open / Main FDW Pump Bailey toggle switch.
- B. Open / Motor Speed Changer.
- C. remain in their last position / Main FDW Pump Bailey toggle switch.
- D. remain in their last position / Motor Speed Changer.

Licensee to develop another question to cover loss of KU.

- A. Incorrect, both parts incorrect.
- B. Incorrect, first part incorrect, second part correct.
- C. Incorrect, first part correct, second part incorrect.
- D. Correct, The loss of indication on Load Control Panel and the statalarms are indicative of a loss of 1KI essential power board. ICS reverts to manual on loss of KI power for greater than 1/4 AC line cycle. Therefore load control panel demands that the plant be stabilized at its previous load/power. SG master has lost Hand power while in hand the s/g controller will fall to 50%.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

59. BA07AK2.2 001

- AP/30 (Auxiliary Building Flood) is in progress
- LPSW has been determined to be the source of flooding water
- Steps for the isolation of LPSW to Auxiliary Building AHUs are being performed

A temporary drain hose has been attached to LPSW-1023 (CHILLED WATER HIGH POINT VENT).

LPSW-1023 is open and water is being directed via the hose to storm drains.

Which ONE of the following correctly describes the effect this will have on system operations?

- A. Ensures a return flow path of cooling water from the Unit 1&2 HPIPs.
- B. Ensures a return flow path of cooling water from the Unit 1&2 LPIPs.
- C. Provides a LPSW return flow path for the Auxiliary Building AHUs.
- D. Provides a LPSW return flow path for A&B Station Chillers.

Oconee Bank Question 256

Distractor C may need to be enhanced.

- A. Correct, Vent valve hose line provides an alternate return path for HPI motor coolers.
- B. Incorrect, Vent valve hose line provides an alternate return path for HPI motor coolers.
- C. Incorrect, LPSW piping to AB AHUs is being drained therefore a return path is not required.
- D. Incorrect, The A&B chillers will be removed from service.

K/A BA07AK2.2 (3.3/3.3) Knowledge of the interrelations between **Flooding** and the following: Facility's heat removal systems, including primary coolant, emergency coolant the decay heat removal systems, and relations between the proper operation of these systems to the operation of the facility.

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

60. BA13EG2.4.4 001

Which ONE of the following would require the operator to enter Rule 2 (LOSCM) following a Reactor Trip?

- A. Subcooling margin digital indicators are lost.
- B. OAC PT display indicates saturation conditions.
- C. Any subcooling margin indicates zero.
- D. An AFIS actuation occurs due to a main steam line break.

Accepted changes.

Oconee Bank Question EAP060101. (87)

- A. Incorrect, various indications are available to deemine SCM including ICCM, P/T displays, OAC data etc. If indication is lost, a transfer is not required until it is determined that a vliid LOSCM exists.
- B. Incorrect, this is indication is not safety related and is not used for EOP implementation.
- C. Correct, form the parallel actions page a transfer to the LOSCM tab should be made is any SCM = 0.
- D. Incorrect, this alone is not an entry condition for rule 2.

K/A: EOP Rules and Enclosures, Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for Emergency and Abnormal operating procedures. (4.0/4.3)

Rewrote "B" to ensure only one correct answer. Added "require" to stem.
Updated answer explanations.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

61. BE02EK3.2 001

- A reactor trip has occurred on Unit 2 and IMAs and SAs are in progress.
- It has been determined that an ES actuation is not required.
- Enclosure 5.5 "PZR and LDST Level Control" is in progress
- Pressurizer level is approximately 85 ".

Which ONE of the following describes the action to be taken and the reason why?

- A. Immediately maximize HPI flow to raise level to 220 inches to establish normal plant conditions in preparation for restart.
- B. Control HPI flow to establish PZR level greater than 100 inches to maintain pressurizer heaters energized and enhance RCS pressure control.
- C. Immediately maximize HPI flow to raise level to 220 inches to enhance RCS pressure control.
- D. Control HPI flow to ensure LDST level 40"-50", to prevent having to close HP-5 "letdown isolation" and causing seal injection fluctuations.

New question developed from OP-OC-EAP-SA lesson plan, pages 19 and 20.
Objective # 10.

- A. Incorrect, this action will increase pressurizer level, but will fill the pressurizer too fast and cause pressure control problems. Regaining pressurizer level should be at a control rate to also maintain pressure control. It would also be better to have PZR level closer to 100" for the restart.
- B. Correct, Controlling HPI flow to establish PZR level will allow heaters to remain energized and offer better pressure control and will be more optimum for restart.
- C. Incorrect. This will not enhance RCS pressure control it will make it more difficult.
- D. Incorrect, Letdown flow is not maintained 40-50" and it is allowed to close HP-5 if required.

K/A: BE02EK3.2 Knowledge of the reasons for the following responses as they apply to Reactor Trip Stabilization-Recovery: Normal abnormal and emergency operating procedures associated with VSSV. (3.0/4.0)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

62. BE04EG2.4.6 001

- Unit 1 has had a Loss of ALL Feedwater
- LOHT has occurred
- LOHT tab is in progress
- RCS Pressure is 2210 psig and slowly increasing
- SGs are not being fed
- 1A and 1B SGs are intact
- 1FDW-313 and 1FDW-314 are open
- 2FDW-313 and 2FDW-314 are open

Which ONE of the following actions should be performed next?

- A. Confirm the ability to feed an intact Steam Generator
- B. Start Both Unit 2 MDEFDWP's
- C. Start All Unit 2 EFDWPs
- D. Start the Unit 2 TDEFDWP

Oconee Bank Question 257 EAP 142602

- A Incorrect, Not at that point in Rule # 3 yet.
- B. Incorrect, MDEFWPs are not started if a TDEFW pump is available.
- C. Incorrect, No direction to start all EFWPs.
- D. Correct, Rule #3 step 22 starts the alternate unit's TDEFWP.

K/A: Inadequate Heat Transfer-Loss of Secondary Heat Sink Knowledge of symptom based EOP mitigation strategies. (3.4/4.0)

Modified stem to add "ALL Feedwater" Similar to question 38.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

63. BE05EA1.1 001

Initial conditions:

- Unit 1 at 100% power
- Switchyard Isolation Occurs.

Conditions 10 minutes after the trip:

- RCS Pressure is 1450 psig and slowly rising.
- 1"A" SG Pressure is 10 psig and stable.
- 1"B" SG Pressure is 500 psig and stable.
- Tc is 435 °F and stable
- PZR level is 85" and rising
- Rule 5 has been completed.

Which ONE of the following describes the action required to be taken and the equipment that will be used?

- A. Reduce RCS pressure using the PORV to minimize SCM, then hold RCS temperature stable for 1 hour.
- B. Reduce RCS Temperature using ADVs to minimize SCM, then hold RCS temperature stable for 1 hour.
- C. Reduce RCS pressure using normal pressurizer spray valves, to minimize SCM, then hold RCS temperature stable for 1 hour.
- D. Reduce RCS Temperature using TBVs to minimize SCM, then hold RCS temperature stable for 1 hour.

Based on Oconee Bank Question EAP 081206 (154). Rule 8 From EHT.

- A. Correct, the correct way to reduce SCM is to reduce RCS pressure and the PORV is the only listed method available.
- B. Incorrect, the correct way to reduce SCM is to reduce RCS pressure.
- C. Incorrect, the correct way to reduce SCM is to reduce RCS pressure but the normal spray valves are not available due to no RCPs.
- D. Incorrect, the correct way to reduce SCM is to reduce RCS pressure.
Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

64. BE10EK1.1 001

- Unit 1 operating at 100% power
- Both MFW pumps trip.
- The Reactor has been tripped.
- All RCPs continue to operate.
- EOP actions are in progress.

Which ONE of the following describes the emergency equipment that will start and the capacity that they will initially provide?

- A. All EFW pumps will start and deliver approximately 800 gpm total flow to maintain SG levels at 30 inches XSUR level.
- B. Only the MDEFW pumps will start and deliver approximately 800 gpm total flow to maintain SG levels at 25 inches S/U level.
- C. Only the TDEFW pump will start and deliver approximately 880 gpm total flow to maintain both SG levels at 30 inches XSUR level.
- D. All EFW pumps will start and deliver approximately 2000 gpm total flow to maintain SG levels at 240 inches XSUR level.

Changes Accepted. May want to look at capacity portion?

New Question developed to match K/A. Used EOP actions as guidance along with OP-OC-CF-EFW page 15 for capacities, and objective # 5.

- A. Correct, all EFW pumps will start on a loss of both MFW pumps, total Flow will be about 800gpm and level will control at 25 inches S/U level.
- B. Incorrect, The TDEFW pump will also start, this is the correct capacity. Level is incorrect.
- C. Incorrect, All EFW pumps will start, this is the correct flow rate and level.
- D. Incorrect, All EFW pumps will start, however this is the flow rate would be correct if feeding to 240 inches XSUR. This would be correct if RCPs were off.

K/A: knowledge of the operational implications of the following concepts as they apply to Reactor Trip Stabilization/recovery: Components, capacity and function of emergency systems.

Modified question to ensure a correct answer.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

65. BE14EK1.1 001

- A loss of Main Feedwater has occurred on Unit 1
- EFDW is supplying Feed water to the OTSGs
- 1A EFDW header flow is 900 gpm
- 1B EFDW header flow is 750 gpm
- MDEFDW pump 1A flow is 480 gpm
- MDEFDW pump 1B flow is 0 gpm
- EFDW suction is supplied from the UST
- Rule 7 applies

Based on the above conditions which ONE of the following correctly describes the conditions of the EFW pumps?

- A. Only MDEFW pump "A" is exceeding its procedural capacity limits.
- B. Both the "A" MDEFW pump and the TDEFW pump are exceeding procedural capacity limits.
- C. Only the TDEFW pump is exceeding its procedural capacity limits.
- D. Both EFDW pumps are within their procedural limits.

Oconee Bank Question EAP050901 Reference EOP rule 7.

- A. Incorrect, The TDEFW pump exceeds 1000 gpm, and the A EFDW pump is with its allowed flow of 600 gpm.
- B. Incorrect, The A EFDW pump is with its allowed flow of 600 gpm.
- C. Correct, The TDEFW pump exceeds 1000 gpm, allowed value is 950 gpm.
- D. Incorrect, The TDEFW pump exceeds 1000 gpm.

K/A BE14EK1.1 Knowledge of the operational implications of the following concepts as they apply to the EOP Enclosures: components, capacity, and function of emergency systems.

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

66. GEN 2.1.10 001

Unit 2 is in core reload during a refueling outage.

Due to valve leakage during the process a dilution to the refueling canal has occurred.

Chemistry reports that the boron concentration of the canal is less than that required by the COLR.

Fuel Insertion is in progress.

Which ONE of the following describes the actions that are required to be taken in accordance with technical specifications?

- A. Suspend core alterations immediately, initiate actions to restore boron concentration to within the limit within 30 minutes.
- B. Suspend positive reactivity additions immediately, initiate actions to restore boron concentration to within the limit within 30 minutes.
- C. Suspend core alterations, positive reactivity additions **and** initiate actions to restore boron concentration to within the limits immediately.
- D. Suspend core alterations and positive reactivity additions immediately, **or** initiate action to restore boron concentrations to within limits immediately.

Oconee Technical Specifications 3.9.1 Boron concentration.

- A. Incorrect, first part correct, second part must be done immediately.
- B. Incorrect, first part correct, second part must be done immediately.
- C. Correct, these are the actions required by tech specs.
- D. Incorrect, all of these actions must be met, tech specs does not allow for an or.

K/A: Knowledge of conditions and limitations in the facility license. (2.7/3.9).

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

67. GEN 2.1.19 001

- Unit 1 has had a MSLB on the 1B SG.
- 1B SG level is 0" XSUR
- 1B SG Tube/Shell DT indicates + 110 °F on the OAC loop PT display.
- CETC (AVG of 5 highest) indicates 487 °F
- Tave is 478 °F
- SCM is 20 °F
- Computer PT. for 1B SG indicates shell temperature of 590 °F

Which ONE of the following describes the correct "B" SG Tube to Shell Delta T that the operator would use and the type of stresses felt by the SG tubes?

- A. +110 °F Delta T; Compressive Stresses.
- B. +110 °F Delta T; Tensile Stresses.
- C. +103 °F Delta T; Compressive Stresses.
- D. +103 °F Delta T; Tensile Stresses.

Modified Bank Question that has an Admin hold because manual calculation of delta T is not allowed by procedure. This question test the use of the OAC for information and also has the operator interpret this information.

- A. Incorrect, this is the correct Delta T, wrong stress.
- B. Correct, correct Delta T, correct stress.
- C. Incorrect, incorrect Delta T, incorrect stress.
- D. Incorrect, incorrect Delta T, correct stress.

K/A: G2.1.19 Ability to use plant computer to obtain and evaluate parametric information on system or component.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

68. GEN 2.1.29 001

A quarterly valve verification checklist is in progress.

Which ONE of the following describes the method of verifying the position of a Locked throttled valve in accordance with NSD-700, Verification Techniques?

- A. Visually inspect the valve stem position to ensure valve is at the approximate position.
- B. Close and reopen the valve counting the turns to verify that the valve is in the correct throttled position.
- C. Ensure the locking device is installed.
- D. Observe the initial positioning of the valve.

Changed distractor A. Question Acceptable.

Modified from Bank question ADM 494. Lesson Plan ADM-SD objective # 9.

- A. Incorrect, when a valve is being verified in the throttled position the locking device is ensured to be in place.
- B. Incorrect, this is the way to initially position the valve, not verify it.
- C. Correct, this is the technique listed in NSD 700 to verify a throttled valve is in the correct position.
- D. Incorrect, this is not an independent verification as required by NSD 700.

K/A: Knowledge of how to conduct and verify valve line-ups (3.4/3.3)

Added "A quarterly valve verification checklist is in progress" to stem to indicate verification is not occurring during initial valve lineup.

Added name to NSD-700.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

69. GEN 2.1.32 001

- Heatup is in progress on Unit 1
- RCS Temperature is 89 °F
- The CC system startup is in progress per OP/1/A/1104/08, Component Cooling System
- A Limit and Precaution in OP/1/A/1104/08 states the CC system must be in operation prior to 190 °F in the RCS.

Which ONE of the following describes the basis for this Limit and Precaution?

- A. Protects purification IX resin from overheating
- B. Prevents water hammer in the letdown coolers
- C. Prevents overheating of RCP seals
- D. Prevents damage to the CRD Stators from overheating

Bank 451 Moved to RO exam and swapped with G2.2.25

- A. Incorrect, The high temperature interlock of HP-5 performs this function.
- B. Incorrect, CC is established to the LD coolers when RCS temperature is > 120 °F and letdown is established.
- C. Incorrect, CC is required to the Thermal Barrier but it is not based on 190 °F.
- D. Correct The CRD are protected by ensuring the CC system is providing cooling prior to the RCS heating up to > 190 °F.

K/A G2.1.32 Ability to explain and apply all system limits and precautions. (3.4/3.8)

SRO only?

Changed plant Aux Service Water to SSF. The ADVs are required for plant ASW operability.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

70. GEN 2.2.24 001

Unit 2 plant conditions:

Initial Conditions:

- Reactor Power is 100%
- 2A BS pump OOS to repair an oil leak.

Current Conditions:

- 2A BS pump will be returned to service in 1 hour.
- An OPS Test technician enters the Control Room to stroke test 2BS-2 (1B RBS HEADER ISOLATION) per PT/2A/0152/002 (Building Spray System Valve Stroke Test)

Which ONE of the following describes the correct actions the RO should take and why regarding the stroke test?

- A. Allow the stroke test to be performed because only ONE BS Train is required to be operable.
- B. Allow the stroke test to be performed because the 2A BS pump will be returned to service before the stroke test is completed.
- C. Do not allow the stroke test to be performed because the test could result in water flowing into the RB from the spray header.
- D. Do not allow the stroke test to be performed because both BS trains will be inoperable.

New Question developed by Utility to match K/A at RO level.

- A. Incorrect, the stroke test should not be allowed.
- B. Incorrect, the stroke test should not be allowed.
- C. Incorrect, the stroke test should not be allowed, but for a different reason.
- D. Correct, the stroke test should not be allowed because it will result in both BS trains being OOS. This will require entry inot TS 3.0.3

K/A G2.2.24 Ability to analyze the affect of maintenance activities on LCO status.

(2.6/3.8)

SRO only

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

71. GEN 2.2.3 001

Which ONE of the following describes the differences between the Oconee LPI System designs?

- A. Units 1&2 have a High Pressure Mode of LPI, Units 2&3 require the use of LP- 4 (Return Line Manual Block), Units 2&3 have LPI cooler bypass valves.
- B. Units 2&3 have a Switchover mode of LPI, Unit 3 requires the use of LP- 4 (Return Line Manual Block), Unit 3 has LPI cooler bypass valves.
- C. Units 1&2 have a High Pressure Mode of LPI, Units 1&2 require the use of LP- 4 (Return Line Manual Block), Unit 3 has LPI cooler bypass valves.
- D. Units 2&3 have a Switchover mode of LPI, Unit 1 requires the use of LP- 4 (Return Line Manual Block), Unit 1 has LPI cooler bypass valves.

Oconee Bank question PNS120702 (192). OP-OC-PNS-LPI objective # 7, pages 17 and 18.

- A. Incorrect, Units 1&2 require the Use of LP-4, and Unit 3 has cooler bypass valves.
- B. Incorrect, Unit 3 does not require switchover, or LP-4.
- C. Correct, HP mode must be used on units 1&2, they also require the use of LP-4 and unit 3 has LPI cooler bypass valves.
- D. Incorrect, Unit 3 does not require switchover, and unit 3 has LPI cooler bypass valves.

K/A: G2.2.3 Knowledge of the design, procedural and operational differences between units. (3.1/3.3)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

72. GEN 2.3.2 002

- Unit 1 is at 100% power
- A Crud Burst has occurred which resulted in increased radiation levels throughout the Auxiliary Building.
- A maintenance technician has a work order to repair a faulty vacuum breaker on the 1A BHUT.
- Radiation levels in the 1A BHUT room are 2000 mrem/hr.

Which ONE of the following correctly describes the requirements for entry into this room?

- A. No key is required for entry, authorization from RP must be obtained PRIOR to Entry.
- B. No key is required for entry, authorization from the Operations Shift Manager and RP must be obtained PRIOR to Entry.
- C. A Key must be obtained from RP and RP surveillance is required on INITIAL entry only.
- D. A Key must be obtained from RP and continuous RP surveillance is required until the room is exited.

Oconee Bank Question Part B 484.

Needs to be verified by licensee, did not send an HP manual.

- A. Incorrect, this is a high radiation area, the room is required to be locked and continuous RP surveillance is required.
- B. Incorrect, this is a high radiation area, the room is required to be locked and continuous RP surveillance is required.
- C. Incorrect, this is a high radiation area, and continuous RP surveillance is required.
- D. Correct, this is a high radiation area, the room is required to be locked and continuous RP surveillance is required.

K/A: G2.3.2 Knowledge of the facility ALARA program. (2.5/2.9)

Utility reviewed no changes.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

73. GEN 2.3.9 001

- Unit 1 is in MODE 5.
- Plans are to begin a Reactor Building Purge.
- Sample results for a reactor building purge were received at the beginning of the day shift.
- Due to I&E testing on 1PR-1 and 1PR-6 valves, the reactor building purge will be delayed until the beginning of the next day shift.

Which ONE of the following describes what must be done to begin the Purge when the I&E testing is complete?

- A. A new Reactor building purge sample request must be submitted and sample taken for the rescheduled purge based on the time delay.
- B. A new Reactor building purge sample request must be submitted and sample taken for the rescheduled purge due to possible meteorological condition changes.
- C. The Reactor Building purge may be started as soon as testing conditions permit not to exceed 36 hours.
- D. The Reactor Building purge may be started as soon as testing conditions permit not to exceed 24 hours.

Oconee bank question PNS616 (463).

- A. Incorrect, the sample is good for 24 hours, and a new sample is not required until then.
- B. Incorrect, the sample is good for 24 hours, and a new sample is not required until then.
- C. Incorrect, the sample is only good for 24 hours.
- D. Correct, the sample is good for 24 hours.

K/A: G2.3.9 Knowledge of the process for performing a containment purge. (2.5/3.6)
Added "day" to stem to clarify timing of events.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

74. GEN 2.4.11 002

ICS is in the fully integrated mode at 100% on Unit 2.
An RCS temperature failure has just occurred

Which ONE of the following would indicate that the controlling loop "A" Tc has failed low in accordance with AP/28, ICS Instrument Failures?

- A. Control Rod Insertion, Feedwater flow decrease, Feedwater flow re-ratio, Unit to Track due to Rx cross limits
- B. Control Rod Withdrawal, Feedwater flow decrease, Feedwater flow re-ratio, Unit to Track due to Rx cross limits.
- C. Unit to Track due to Rx cross limits, Control Rod Withdrawal, Feedwater flow increase.
- D. Unit to Track due to Rx cross limits, Control Rod Insertion, Feedwater flow increase.

New Question developed from AP/2/A.1700/028. Lesson Plan OP-OC-IC-RCI objectives 7 and 11.

- A. Incorrect, Unit to Track due to RX cross limits, Control Rod withdrawal, Feedwater flow decrease and feedwater re-ratio is indicative of a Tave instrument failed low IAW AP/28.
- B. Correct, Unit to Track due to RX cross limits, Control Rod withdrawal, Feedwater flow decrease and feedwater re-ratio is indicative of a Tave instrument failed low IAW AP/28.
- C. Incorrect, Feed water flow would need to decrease.
- D. Incorrect, this is indicative of a Tave failed high.

K/A: G2.4.11 Knowledge of Abnormal condition Procedures. (3.4/3.6)
Changed stem to read "fully integrated mode". ONS nomenclature.

Changed failure to "A" Tc. This makes "B" correct.

QUESTIONS REPORT

for OCONEE RO 2005-301 (Final) QUESTIONS UTILITY COMMENTS

75. GEN 2.4.4 001

Unit 1 plant conditions:

- Core SCM = 2 °F.
- PZR Level is 0 inches.
- 1"A" OTSG pressure is 430 psig and decreasing.
- 1"A" RC Loop Tc is 425°F and decreasing.
- RCS Pressure is 1500 psig and decreasing
- Reactor Building pressure is 1.7 psig and increasing.

Which ONE of the following describes the event in progress and the procedure that is required to be entered after IMAs and SA are completed?

- A. Small Break LOCA on 1A1 Tc leg, perform Rule 2 (Loss of SCM).
- B. Excessive Heat Transfer, perform Rule 8 (Pressurized Thermal Shock PTS).
- C. Small Break LOCA on 1A1 Tc leg, perform Rule 4 (Initiation of HPI Forced Cooling).
- D. Excessive Heat Transfer, perform Rule 5 (Main Steam Line Break).

Bank Question modified to meet K/A. Oconee bank question EAP080102 (140).
OP-OC-EAP-EHT Objective # 1.

- A. Incorrect, This is not a Small Break LOCA, and SCM is not required.
- B. Incorrect, this is a EHT event, but conditions are not met to go to SCM TAB.
- C. Incorrect, wrong event , but this would be the procedure to go to if this event were in progress.
- D. Correct, right event, correct procedure.

K/A: Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures. (4.0/4.3)

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

1.

- Unit 1 is operating at 95% Power.
- 1SA-9/D2 (RCP Vibration High) actuated.
- 1SA-16/D2 (RC Pump Motor 1B1 Oil Pot Low Level) actuated.
- All RCPs seal leakage flow = 0 gpm.
- 1B1 Seal Return Temperature = 190 °F and stable.

- 1B1 Motor Bearing temperatures:
 - Upper Thrust Bearing = 180 °F and slowly rising.
 - Upper Guide = 175 °F and stable.
 - Lower Guide = 165 °F and stable.

Which ONE of the following actions and the reasons for the actions are required to be performed in accordance with AP/16 "Abnormal Reactor Coolant Pump Operation"?

- A. Trip the reactor, Stop 1B1 RCP due to high seal temperature, exit AP/16.
- B. Reduce Power using Enclosure 5.2 "Rapid Power Reduction", when reactor power is less than 70 % stop 1B1 RCP due to high seal temperature, continue actions of AP/16.
- C. Trip the reactor, Stop 1B1 RCP due to high upper thrust bearing temperature, exit AP/16.
- D. Reduce Power using Enclosure 5.2 "Rapid Power Reduction", when reactor power is less than 70 % stop 1B1 RCP due to upper thrust bearing temperature, continue actions of AP/16.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments
New Question, developed using Oconee Bank question EAP210701 RCP AP (RCP Trip Criteria), and AP/1/1700/016.

- A. Incorrect, with the current plant conditions seal temperature is stable, and there is no reason to trip the pump immediately.
- B. Incorrect, these are the correct actions but for the wrong reason.
- C. Incorrect, Conditions do not warrant tripping the RCP immediately.
- D. Correct, these are the actions directed by AP/1/1700/016 to control or mitigate the conditions occurring at this time.

K/A 002A2.03 Ability to (a) predict the impacts of the following on the Reactor Coolant system and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation, Loss of forced circulation.
(4.1/4.3)

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

2.

- A Large Break LOCA is in progress on Unit 1.
- BWST level is 18.5'.
- Encl 5.12 "ECCS Suction Swap" is in progress.
- 1A and 1B LPI Pumps are running, with Total LPI flow of 2800gpm.
- Total HPI flow is 900 gpm.
- BOP operator reports that 1LP-15 will not open.

Which ONE of the following describes the impact that the valve failure will have and what actions/limitations will be required?

- A. Piggy-Back flow will be supplied to **ONLY** one train of HPI; limit Total HPI flow to less than 750 gpm.
- B. Piggy-Back flow will be supplied to **BOTH** trains of HPI; limit Total HPI flow to less than 750 gpm.
- C. Piggy-Back flow will be supplied to **ONLY** one train of HPI; maximize Total LPI flow < 3100 gpm by increasing HPI flow.
- D. Piggy-Back flow will be supplied to **BOTH** trains of HPI; maximize Total LPI flow < 3100 gpm by increasing HPI flow.

New question developed to match K/A. Referenced Enclosure 5.12 .Lesson Plan OP-OC-EAP-ESA objective # 9, and OP-OC-EAP-LCD objective # 7.

- A. Incorrect, both trains of HPI will be supplying water to the core the suction line is coss-connected.
- B. Correct, flow will be provided to both trains, and HPI flow should be limited to < 750 gpm.
- C. Incorrect, both trains will have flow total LPI flow is not limited.
- D. Incorrect, total LPI flow is not limited.

K/A: Ability to (a) predict the impacts of the following on the RHR system; and (b) based on those predictions , use procedures to correct, control, or mitigate the consequences of those abnormal operation. (2.9/2.9)

No Utility comments.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

1. 006A2.11 001

-A CFT/LPI nozzle line break has occurred on Unit 1 at the connection to the RCS.

Which ONE of the following describes the impact this will have on the plant, and what actions are required to mitigate this event?

- A. One CFT and HPI header is adequate to provide for adequate core cooling, operators must manually open 1LP-10 and close 1LP-18, transfer to LOCA CD TAB if each header flow is greater than or equal to 1000 gpm.
- B. One CFT and HPI header is adequate to provide for adequate core cooling, operators can close 1LP-10 and 1LP-18, transfer to LOCA CD TAB if a single header flow is greater than or equal to 1000 gpm.
- C. Adequate core cooling criteria is not met, operators must manually open 1LP-10 and close 1LP-18, transfer to ICC TAB.
- D. Adequate core cooling criteria is met, transfer to LOCA CD TAB if combined flows are greater than or equal to 3500 gpm.

Need to rewrite question for new mod or change K/A.

Question Changed to test new modification (5/20/05).

New question developed to match K/A. OP-OC-PNS-LPI page 44. Objective 35.

- A. Incorrect, this alignment is adequate to provide for adequate core cooling, but these actions would not mitigate the event, not the correct transfer point.
- B. Incorrect, this alignment is adequate to provide for abundant core cooling, but these actions would isolate the B train LPI pump, and is not the correct transfer point.
- C. Incorrect, adequate core cooling exists. These actions are not required to mitigate.
- D. Correct, this is the correct impact, and the actions to mitigate.

K/A: Ability to (a) predict the impacts of the following on the emergency core cooling and (b) based on those predictions use procedures to correct, control or mitigate the consequences of those abnormal operations Rupture of ECCS header.

Due to LPI X-tie mod being implemented on all three units, this KA is no longer viable for LPI.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

4. Initial Conditions:

- Unit 3 power level is 45%.
- 3C HPIP is OOS
- Condensate flow rapidly decreases to 0 gpm.

Current Conditions:

- Total loss of feed occurred
- Power is at 37% and slowly decreasing
- RCS pressure is 2410 psig and increasing
- Pressurizer level is 380" and increasing
- 3HP-26 (3A HP INJECTION) fully open

Which ONE of the following is the correct actions to take at this time?

- A. The BOP should perform RULE 1 ATWS; Open 3HP-24 and 25, START 3B HPIP and throttle 3-HP- 410 (3HP-26 BYPASS) to achieve ≤ 475 gpm in the 3B HPI Crossover Header.
- B✓ The OATC should perform RULE 1 ATWS; Open 3HP-24 and 25, START 3A or 3B HPIP and open 3HP-409 (3HP-27 BYPASS).
- C. The BOP should perform RULE 4 INITIATION OF HPI FORCED COOLING; From RULE 3 LOSS OF MAIN OR EMERGENCY FDW and open 3-HP-410 (HP-26 BYPASS).
- D. The OATC should perform RULE 4 INITIATION OF HPI FORCED COOLING; From RULE 3 LOSS OF MAIN OR EMERGENCY FDW and START 3A or 3B HPIP and open 3RC-66 (Pressurizer PORV).

Modified from Oconee bank question EAP 110801 (212) Rule 1,3 and 4.

- A. Incorrect, correct procedure, but not required to throttle HPI flow if two HPI pumps are operating in the header.
- B. Correct, correct procedure, and actions IAW Rule 1.
- C. Incorrect, this would be applicable if an ATWS was not in progress.
- D. Incorrect, the B HPIP should remain in service due to 3C tripping, wrong procedure.

K/A: Ability to determine and interpret the following as they apply to Reactor Trip: if reactor should have tripped but has not done so, manually trip reactor and carry outactions in ATWS EOP. (4.6/4.4)

Modified stem and distractors to ensure only one correct answer. Added specific operator to answers to ensure "D" incorrect.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

5.

- Unit 1 is operating at 100% power.
- RCS Pressure is 2020 psig and slowly decreasing
- Pressurizer levels are as follows:
 - Channel 1 is 220" and slowly rising
 - Channel 2 (selected) is 225" and slowly rising
 - Channel 3 indicates 290" and rapidly rising
- RCS leakage rate has been determined to be 25 gpm.
- Relief Valve tailpipe temperature is 110°F and rising very slowly.

Which ONE of the following describes the event in progress and the procedure that would be used to mitigate or correct the event?

- A. PZR PORV 1-RC-66 is leaking by, enter AP/02 "Excessive RCS Leakage", and close 1RC-4 PORV BLOCK valve then refer to Technical Specification 3.4.9 "Pressurizer" for LCO.
- B. Pressurizer Level channel 3 is failing high, enter AP/28 "ICS Instrument Failures"; then refer to Technical Specification 3.3.1 "RPS Instrumentation" for LCO.
- C. Pressurizer Level Channel 3 has a vapor space leak on the variable leg, trip the reactor and enter the EOP IMA and SAs.
- D. Pressurizer Level Channel 3 has a vapor space leak on the reference leg, enter AP/02 "Excessive RCS Leakage", and initiate a unit shutdown.

New question developed to match K/A.

- A. Incorrect, conditions listed are not indicative of a PORV leaking by.
- B. Incorrect, Pressurizer level is failing high, but ICS instrument failure procedure has no actions for a pressurizer level failure.
- C. Incorrect, leak is on the reference leg and pressure is not low enough yet to trip the reactor.
- D. Correct, leak is on the reference leg and this procedure is appropriate.
Utility comment, make A more incorrect. added tailpipe temperatures 110 degrees and slowly rising (due to being in the leak area). also wanted bullets for channels.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

6.

- Unit 1 is at 100% Power.
- RCS Pressure is 2135 psig.
- 1B1 RCP indications:
 - Seal leakage flow is .09 gpm
 - Seal return temperature is 168 °F and slowly rising.
 - Upper and Lower Oil Pot level is - .25" and steady.
 - Upper Guide bearing is 185 °F and slowly increasing.
 - Lower Guide bearing is 175 °F and slowly increasing.
 - Radial bearing temperature is 227 °F.
 - Lower Cavity pressure is 2035 and increasing.

Which ONE of the following describes the actions that are required to be taken based on the above conditions?

- A. Reduce reactor power to 65% using Enclosure 5.2 "Rapid power Reduction" of AP/16 "Abnormal Reactor Coolant Pump Operation", secure the 1B1 RCP within 8 hours, and close 1HP-232 (1B1 Seal Return Stop Valve).
- B. Reduce reactor power to 65% using Enclosure 5.2 "Rapid power Reduction" of AP/16 "Abnormal Reactor Coolant Pump Operation", then trip 1B1 RCP within 100 hours.
- C. Immediately reduce reactor power to <70% using AP/29 "Rapid Unit Shutdown", then immediately trip 1B1 RCP.
- D✓ Immediately Trip the reactor and secure 1B1 RCP in accordance with Enclosure 5.1 "Immediate Trip Criteria" of AP/16 "Abnormal Reactor Coolant Pump Operation", then enter the EOP and the perform IMAs and SAs.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

Oconee Bank Question PNSPNS061602. Modified slightly to include procedures entered. Changed the reason for immediate RCP Trip NEED TO VERIFY CORRECT VALVE IN DISTRACTOR A.

Why is closing 1HP-232 (228 in original) in the question? all steps in procedure direct opening this valve.

A. Incorrect, immediate trip criteria are met.

B. Incorrect, immediate trip criteria are met.

C. Incorrect, immediate trip criteria are met.

D. Correct, seal return temperature is at the immediate trip criteria level.

K/A: 015/017AG2.4.4 RCP Malfunctions Ability to recognize abnormal indications for system operating parameters which are entry level conditions for emergency and abnormal operating procedures. (4.0/4.3)

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

7.

- Unit 1 had a SBLOCA
- 1.5 hours have elapsed since the start of the event.
- CETC's indicate 1239°F and are slowly rising
- Self-Powered Neutron Detectors (incores) are spiking full scale.
- EOP ICC TAB is in progress

Which ONE of the following describes the parameter that indicates that core damage may have occurred and the actions that are required to be taken?

- A. CETCs readings; notify the TSC to enter the OSAGs.
- B. CETCs readings; raise S/G Levels to the point of spilling into the MS lines.
- C. Self-Powered Neutron Detector Chart recorders spiking full scale; notify the TSC to enter the OSAGs.
- D. Self-Powered Neutron Detector Chart recorders spiking full scale; raise S/G Levels to the point of spilling into the MS lines.

New Question developed from Oconee bank questions TA020201 (789) and EOP 100901 (194). Objective 8 and 10 of OP-OC-EOP-ICC, and Lesson Plan OP-OC-TA-AM3.

- A. Correct, Core damage can be assessed by CETCs and the TSC must be operable by this point in the event so this is the correct transition.
- B. Incorrect, Core damage can be assessed by CETCs , this is the correct action to take if the TSC was not operational.
- C. Incorrect, SPNDs are not used alone to asses core damage , this is the correct action to take.
- D. Incorrect, SPNDs are not used alone to asses core damage, this is the correct action to take if the TSC was not operational.

K/A: 017A2.02 Ability to (a) predict the impacts of the following on the In Core Temperature Monitoring System and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation: **Core Damage**. (3.6/4.1)

Modified stem to agree with ONS nomenclature.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

8.

- Unit 1 is operating at 100% power.
- 1A RBS pump is tagged out for a seal replacement. LCO 3.6.5 (Reactor Building Spray and Cooling) Condition A entered.
- A& B RBCUs are running in high speed.
- While attempting to start 1C RBCU in High speed the fan experiences an overcurrent trip as soon as it is started.

Which ONE of the following describes the effect that an overcurrent trip of 1C RBCU would have on plant status and what action is required?

SEE ATTACHED

- A. Minimum required Fans/Spray for ES function are not met. Return either the 1A RBS pump or the 1C RBCU to operable status within 7 days, or be in mode 3 within 12 hours.
- B. Minimum required Fans/Spray for ES function are not met. Return either the 1A RBS pump or the 1C RBCU to operable status within 24 hours, or be in mode 3 within 12 hours.
- C. 1C RBCU is operable in slow speed. Return 1A RBS pump to operable status within 7 days, or be in mode 3 within 12 hours.
- D. 1C RBCU is operable in slow speed. Return 1A RBS pump to operable status within 24 hours, or be in mode 3 within 12 hours

New Question developed to match K/A. Reference TS 3.6.5 required. (TS only not Bases). Lesson Plan OP-OC-PNS-RBC objective #s 17 and 18.

- A. Incorrect, first part is correct, either 1A RBS or 1C RBCU must be returned to service within 24 hours.
- B. Correct, the ESF functions are not met, three trains of RBCUs are required along with two trains of RB spray, this is the correct actions IAW TS 3.6.5 action "C".
- C. Incorrect, if the applicant believes that the because the RBCU was started in high speed that it is still operable in slow speed (fans actually energizes slow speed windings first, then high speed, the pump tripping immediately indicates a problem with the slow speed winding.
- D. Incorrect. Same as C.

K/A: 022A2.01: Ability to (a) predict the impacts of the following on the (Containment Cooling System) and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of those abnormal operation. (2.5/2.7)

Fan Motor Overcurrent
Utility had no comments.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

9.

Unit 2 Plant Conditions:

- Reactor Power is 100%
- RCS Controlling NR pressure signal fails low.

Which ONE of the following correctly describes the effect this will have on the plant?

ASSUME NO OPERATOR ACTIONS

- A. The PORV is inoperable; immediate entry in TS 3.0.3 is required.
- B. The PORV is inoperable; TS entry is required until I&E selects an alternate RCS pressure instrument.
- C. RCS pressure will increase; PZR code relief valves will prevent exceeding the TS Safety limit.
- D. RCS pressure will increase; PZR PORV will prevent exceeding the TS Safety limit.

New question developed to match K/A by Utility.

- A. Incorrect, PORV is inoperable. PORV is not required by TS.
- B. Incorrect, PORV is inoperable. PORV is not required by TS.
- C. Correct, pressurizer heaters will fail on and spray will be inoperable, this will cause RCS pressure to increase up to the RPS trip setpoint. The reactor will Trip, pressure will then increase again up to the code safety relief setpoint.
- D. Incorrect, PORV will not open its signal is failed low.

K/A: 027AA2.17 - Ability to determine and interpret the following as they apply to Pressurizer Control Malfunction TS limits for RCS pressure.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

10.

- Unit 1 is reducing power to enter a refueling outage.
- Turbine Load is approaching 150 MWE, using OP/1/A/1106/001 Enclosure 4.2 "Turbine Generator Shutdown".

Which ONE of the following describes the actions that are to be taken at this point in the shutdown and the basis for those actions?

- A. Reduce the rate of load reduction to $< 5\%/min$ to reduce high exhaust hood spray temperatures.
- B. Reduce the rate of load reduction to $< 5\%/min$ to allow the TBVs time to begin to control turbine header pressure.
- C. Reduce the rate of load reduction to limit the rate of change of turbine first stage temperature to $< 150^{\circ}F/HR$.
- D. Reduce the rate of load reduction to limit first stage shell inner and outer metal temperature delta T to less than $75^{\circ}F$.

Modified Oconee bank question STG010102 to make it an SRO question. Reference OP/1/A/1106/001 precautions and limitations. Lesson Plan OP-OC-STG-015 objective # 1.

- A. Incorrect, this is the correct rate of load reduction, but it will not reduce high exhaust hood spray temperatures.
- B. Correct, this is the correct rate of load reduction, and allows the TBVs time to begin to control Turbine header pressure.
- C. Incorrect, this is a startup (rolling up the turbine limit).
- D. Incorrect, this is a startup (rolling up the turbine limit).

K/A: 041G2.1.32 Turbine Bypass Control: Ability to explain all system precautions and limitations. (3.4/3.8)

Utility had no comments.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

11.

- Unit 2 is operating at 100% power.
- The input breaker for 2DP MCC opens due to an electrical fault.

Which ONE of the following describes the effect that this will have on unit operation?

- A✓ The TDEFW pump has lost its autostart capability, declare the TDEFW pump inoperable and enter TS 3.7.5 "Emergency Feedwater (EFW) System".
- B. # 1 Keowee Hydro Unit has lost Unit Control Circuitry and Relaying Power, declare the hydro unit inoperable and enter TS 3.8.1 "AC Sources-Operating".
- C. The Power Battery System is inoperable, enter SLC 16.8.3 "Power Battery Parameters".
- D. CRD Breaker control power has been lost, declare the ATWS system inoperable and enter SLC 16.7.2 "Anticipated Transient Without Scram".

New question developed to match K/A. Used bank question CF021301 for guidance. Lesson plan OP-OC-EL-DCD pages 35 to 39, Objective #7.

- A. Correct, if DC power from 1DP motor control center is lost the TDEFWP would not auto start due to the auxiliary oil pump not having power, this is the correct TS to enter.
- B. Incorrect, Hydro Unit control power is from Keowee DC power and is not effected by a loss of 1DP, this is the correct TS to enter if the unit was inoperable.
- C. Incorrect, Two batteries would have to be inoperable to declare the Power battery System inoperable, this is the correct SLC to enter if it were inoperable.
- D. Incorrect CRD Breaker control is from Vital DC and would not be affected, this is the correct SLC for the ATWS system.

K/A 058AA2.03 Ability to determine and interpret the following as they apply to the Loss of DC power: DC loads lost; impact on ability to operate and monitor plant systems. (3.5/3.9)

Utility had no comments.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

12.

- Unit 1 Reactor Power is 100%.
- Both Main FWDPTs stop valves indicate GREEN.
- The Reactor did not trip automatically or manually.
- The Main Turbine did not trip automatically.

Which ONE of the following describes what action should be taken concerning the main turbine and the technical bases for the action?

- A. As soon as Reactor power is less than 5%, trip the main turbine to ensure on site AC electrical power is transferred to a more reliable source.
- B. As soon as Reactor power is less than 5%, trip the main turbine to prevent damage to the turbine generator from being motorized.
- C. Trip the main turbine immediately to minimize the chance of an overcooling event adding additional positive reactivity to the core?
- D. Trip the main turbine immediately to allow RCS temperature to rise adding negative reactivity to the core?

Need to check to see if question used on last two exams? did not appear to be.

Oconee Bank Question EAP110501. Lesson Plan OP-OC-EAP-UNPP objective # 6. The indications of the stop valves being green indicate that the feedwater pumps are tripped, initiating a loss of main feed.

A. Incorrect, Tripping the MT does not by itself ensure a swap to a reliable AC power source. By tripping the MT, you are relying on the interlocks to work correctly. A manual transfer of auxiliaries will ensure a swap to a reliable source of AC power.

B. Incorrect, The turbine generator is designed to handle being motorized and this is not why the turbine is tripped when less than 5%.

C. Incorrect, Tripping the main turbine if reactor power is greater than 5% does not prevent an overcooling event from adding positive reactivity. When the reactor is shutdown and the turbine is still operating an overcooling event could occur.

D. Correct the tripping of the MT in coincidence with the loss of MFW will allow the RCS to heatup and the doppler and moderator coefficients to add negative reactivity which will aid in shutting the reactor down.

K/A:Main Feedwater: Ability to perform specific and integrated plant procedures during all modes of plant operation. (3.9/4.0)

No comments from Utility.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

13.

Unit 1 is at 100%

Unit 2 is at 100%

Unit 3 Plant Conditions:

- Mode 5
- 3A LPSW is tagged out for bearing replacement
- Annunciator 3SA-9/A9 "LPSW HEADER A/B PRESSURE LOW is in alarm

Which ONE of the following describes the actions that are required to be taken to mitigate the above conditions?

- A. Verify that the standby LPSW pump started; refer to AP/26 "Loss of Decay Heat Removal" to restore LPSW system operation to normal.
- B. Verify that the standby LPSW pump started; refer to AP/24 "Loss of LPSW" and cross connect Unit 1&2 LPSW system with Unit 3.
- C. Refer to AP/26 "Loss of Decay Heat Removal" and cross connect the LPSW system with the HPSW system.
- D✓ Refer to AP/24, "Loss of LPSW" and cross connect Unit 1&2 LPSW system with Unit 3 and start an additional Unit 1&2 LPSW pump.

Slightly Modified Bank Question SSS051503.

- A. Incorrect, there is not a standby pump available, and AP/24 is required to be entered, AP/26 Loss of DHR does not provide the actions to deal with a loss of LPSW.
- B. Incorrect, no standby pump available, correct procedure, but additional pumps are required.
- C. Incorrect, wrong procedure, LPSW and HPSW not cross connected by procedure.
- D. Correct, correct procedure and it is required for another pump to be started to ensure cooling.

K/A: 062AG2.4.50 Ability to verify system alarm setpoints and operate control identified in the alarm response manual.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

14. Unit 1 plant conditions:

- Reactor Power 100%
- ACB-3 Closed

Current Conditions:

- Switchyard Isolation.
- Keowee Unit 1 emergency locked out.
- ACB-2 will not close.
- Immediate Manual Actions are being performed.

Which ONE of the following correctly describes ALL the required actions of the SRO?

- A. Go to Subsequent Actions and then initiate Enclosure 5.38 "Restoration of Power"
- B. Initiate AP/11 "Recovery from Loss of Power" and then complete Subsequent Actions.
- C. Go to Subsequent Actions, then transfer to the Blackout TAB and then initiate AP/25 "SSF EOP".
- D. Initiate AP/25 "SSF EOP", then go to Subsequent Actions, and then parallel action transfer to the Blackout TAB.

Question developed by Utility believed to be bank.

- A. Incorrect, Enclosure 5.38 will be initiated from the Blackout Tab and AP/25 must be initiated.
- B. Incorrect, if power had returned with a Keowee Unit this would be correct.
- C. Incorrect, this is correct except AP/25 must be initiated.
- D. Correct, a blackout has occurred. IMA will require initiating AP/25 due to the loss of HPI and CC. After IMAs are complete transfer to the Blackout TAB is required.

K/A: 062G2.1.23 AC Electrical Distribution System - Ability to perform specific system and integrated plant procedures during all modes of plant operation. (3.9/4.0)

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

15. Unit 2 Plant Conditions:

Time = 0800

- Reactor Power 100%.
- Group 6 Rod 4 drops into the core.

Time = 2000

- Reactor Power 55%
- RIA-47 and 49 show a small increase in counts

Which ONE of the following describes an indication that the transient caused some fission products to be released into the RCS?

- A. An Increase in Cobalt-58 and Cobalt-60 activity above equilibrium values.
- B. An Increase in Tritium, Xenon-133, Iodine-131, and Cesium-137 above equilibrium values.
- C. An increase in Chromium-51, Iron-59, and Cadmium-115 above equilibrium values.
- D. Chemistry reports a small decrease in the calculated E-bar value.

Bank Question CH030501

- A. Incorrect, these are activation products, a crud burst would cause these indicators to increase.
- B. Correct, these are some of the radionuclides that would show an increase if there were leaks in the fuel.
- C. Incorrect, these are other activation/corrosion products.
- D. Incorrect, E-bar would increase not decrease if fuel leaks occurred.

K/A: 076G2.1.34. High RCS activity: ability to maintain primary and secondary plant chemistry with allowable limits. (2.3/2.9)

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

16. - Unit 2 was at 100% power.
- Control Rod group 6 rod 1 has dropped into the core.
 - The OAC and PI panel indicate the rod is at 0%.
 - Power was stabilized at 60% power after the runback
 - Group 7 Rods are at 30% withdrawn.

Which ONE of the following describes ALL of the actions required for the above conditions?

SEE ATTACHED

- A. Restore group 7 rods to at least 45% withdrawn within two hours.
- B. Begin a boration within 15 minutes and restore group 7 rods to at least 45%
- C. Within 2 hours reduce thermal power to less than or equal to 47%.
- D. No Actions are required rod position is in the acceptable region.

Bank questions B582 and 579. Technical Specifications and COLR graphs.
Reference COLR graphs to determine if regulating rod position is acceptable.

- A. Incorrect, with the regulating rods in the unacceptable region a boration is required.
- B. Correct, T/S 3.2.1 states that if regulating rod groups are positioned in restricted or unacceptable region to initiate a boration in 15 min. and restore rod position within two hours.
- C. Incorrect, A boration is required.
- D. Incorrect, A boration is required.

K/A: BA01AG 2.2.22 Knowledge of limiting conditions for operations and safety limits:
Plant Runback (3.4/4.1)

Utility requested that TS also be allowed. Did not want to allow this < 1hr action required.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

17.

- AP/30 "Auxiliary Building flood" is in progress.
- An NEO at the site of flooding reports to the Control Room that "The Flooding has stopped".

Which ONE of the following describes the actions the SRO is required to direct in accordance with AP/30 "Auxiliary Building flood"?

- A. Stop AP/30 performance immediately, take actions to immediately restore previously isolated non-leaking systems.
- B. Stop AP/30 performance immediately, take no further actions, wait for the WCC/TSC to determine recovery plan.
- C. Complete all remaining steps in the appropriate section then exit AP/30.
- D. Complete the remaining steps to completely isolate the system discovered to be leaking, then exit AP/30.

Oconee Bank Question EAP213004 SRO only.

- A. Incorrect, if at any time the leak is stopped, then stop and immediately allow the WCC/TSC to determine a recovery plan.
- B. Correct, the leak has stopped so AP/30 should be stopped and the WCC/TSC should determine a recovery plan.
- C. Incorrect, if at any time the leak is stopped, then stop and immediately allow the WCC/TSC to determine a recovery plan.
- D. Incorrect, if at any time the leak is stopped, then stop and immediately allow the WCC/TSC to determine a recovery plan.

K/A: BA07AA2.2 Ability to determine and interpret the following as they apply to the (Flooding); adherence to appropriate procedures and operation within the limitations in the facility's License and Amendments.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

18.

- Unit 2 reactor trip occurred from 100% power.
- ES 1 and 2 actuation has occurred.
- RCS Pressure is stable at 1400 psig.
- Pressurizer level is 5"
- RCS Temperature is 540°F
- A OTSG pressure 980 psig
- B OTSG pressure 990 psig

Which ONE of the following describes the EOP enclosure and/or tabs that would be used to mitigate these plant conditions?

- A. Enclosure 5.1 and "LOCA Cooldown"
- B. "LOSCM" and "HPI Cooldown"
- C. Enclosure 5.1 and "LOSCM"
- D. "EHT" and "HPI Cooldown"

New Question developed from K/A. OP-OC-EAP-LCD objective T1 and E3 and 4

- A. Correct, A SBLOCA is occurring, and a post loca cooldown is required.
- B. Incorrect, Subcooling has not been lost, and once through cooling is not required.
- C. Incorrect, first part correct, but a lost of subcooling has not occurred.
- D. Incorrect, an excessive heat transfer event is not in progress, and once through cooling is not required.

K/A BE08EA2.1 Ability to determine and interpret the following as they apply to (LOCA Cooldown-dep) Facility conditions and selection of appropriate procedures during abnormal and emergency operations. (2.8/4.2)

Modified stem to improve readability. Modified procedure names to met ONS common usage.

Changed PZR level to 5" to ensure "C" incorrect.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

19.

- All Units are at 100% Power
- Unit I "A" HPI pump has been inoperable and Condition "A" of TS 3.5.2 ECCS/HPI has been exceeded.
- An NLO/NEO is Designated as the Fire Brigade Leader, due to an SRO not being available
- No other groups have extra individuals available to stand a fire brigade position

Which ONE of the following describes the minimum number of NLOs/NEOs required to meet shift manning requirements in accordance with SLC 16.13.1 for the above plant conditons?

SEE ATTACHMENT

- A. 8
- B. 9
- C. 10
- D✓ 11

Discuss References Reference Provided.

New Question developed from Oconee ADM010401 Station Staffing Requirements.

- A. Incorrect, this is the number of NLOs required for normal shift complement with all Units at 100 % power.
- B. Incorrect, this is the number of NLOs required for normal shift complement with all Units at 100 % power, and having an NLO designated as the Fire Brigade leader.
- C. Incorrect, this is the number of NLOs required for normal shift complement with all Units at 100 % power, and having 2 NLOs for being in TS 3.5.2 conditon B.
- D. Correct, This is the total number of NLOs required for being in TS 3.5.2 and having an NLO designated as the Fire Brigade Leader.

K/A G2.1.4 Knowledge of Shift Staffing Requirements (2.3/3.4)

TS 3.5.2 and SLC 16.13.1 are needed to answer this question.

QUESTIONS REPORT

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20.

- A PT is in Progress on the midnight shift to return to service a TS piece of equipment, that must be completed prior to day shift.
- The operator performing the task informs you (the Relief OSM) that the PT can not be completed as written.
- After reviewing the procedure you concur that the procedure must be changed.

Which ONE of the following describes the process that must be followed to change the procedure and who can approve the change.

- A. A temporary procedure change is required until the QR review is completed and can be approved by the Relief OSM.
- B. Changes to procedures can be made in accordance with OMP 1-09 by completing the Minor change section, and can be approved by the Relief OSM.
- C. Changes to procedures can be made in accordance with OMP 1-09 using the Temporary change section, and approval from the Superintendent of operations may be obtained via a phone call.
- D. Changes to procedures can be made in accordance with OMP 1-09 Attachment "A" (Processing A Procedure Change), and approval from the Superintendent of operations may be obtained via a phone call.

Question developed using OMP-1-9 Administrative Control of operations procedures.

- A. Incorrect, the Relief OSM can not approve the procedure and the temporary change section has been discontinued.
- B. Incorrect, correct procedure section but the Relief OSM can not approve the procedure.
- C. Incorrect, wrong section correct approval.
- D. Correct, right section and approval.

K/A: G 2.2.11 Knowledge of the process for controlling temporary changes. (2.5/3.4)
Modified answers to ensure one correct answer.

QUESTIONS REPORT

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21.

Which ONE of the following describes the bases for ADV flow path operability with the Unit 1 at 65% power and "B" HPI Train OOS?

- A. One ADV flowpath must be operable to maintain the SSF Auxiliary Service Water operable.
- B. Two ADV flowpaths must be operable to maintain the SSF Auxiliary Service Water operable.
- C. One ADV flowpath must be operable to mitigate certain small break loss of coolant accidents.
- D. Two ADV flowpaths must be operable to mitigate certain small break loss of coolant accidents.

Bank 451 Move to RO exam and swap with G2.2.25

Bank Question STG141102 (305). Modified slightly. Lesson Plan OP-OC-STG-MS objective # 7 and pages 11 and 12. TS Bases 3.7.4.

- A. Incorrect, this is not the bases for the technical specification on ADV operability.
- B. Incorrect, this is not the bases for the technical specification on ADV operability.
- C. Correct, Per TS 3.7.4 bases one ADV flow path for one SG must be operable as a compensatory measure in the event of an HPI train oos and power less than or equal to 75% during certain SBLOCAs.
- D. Only one is required.

K/A: G2.2.25 Knowledge of bases in technical specifications for limiting conditions for operations and safety. (2.5/3.7)

Utility reviewed no changes.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

1. G2.2.26 001

- Refueling is in progress on Unit 1.
- A new fuel assembly must be placed in an alternate core location.

Which ONE of the following describes who must evaluate the alternate location and who must approve the fuel assembly move.

- A. A Qualified Reactor Engineer must evaluate the location, and the OSM must approve the move.
- B. Operations Shift Manager must evaluate the location, and the refueling SRO must approve the move.
- C. A Qualified Reactor Engineer must evaluate the location, and the refueling SRO must approve the move.
- D. Operations Shift Manager must evaluate the location, and a qualified Reactor Engineer must approve the move.

Modified Oconee Bank Question FH043601. Referenced NSD 304 section 304.6.6.1 #5.

- A. Incorrect, the refueling SRO must approve all fuel moves.
- B. Incorrect, the Qualified Reactor Engineer must evaluate the location.
- C. Correct, a Qualified Reactor Engineer must evaluate the location, and the refueling SRO must approve all fuel moves.
- D. Incorrect, A qualified Reactor Engineer must evaluate the location and the refueling SRO must approve all fuel moves.

K/A: G2.2.26 Knowledge of refueling administrative requirements. (2.5/3.7)

QUESTIONS REPORT

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23.

- A plant emergency is in progress requiring a high does exposure.
- An individual is injured and an operator has volunteered to perform a rescue.
- The individual has had the required extensions and has accumulated the following doses:
 - Committed Dose Equivalent (CDE) is 450 mr (Thyroid)
 - Shallow Dose Equivalent (SDE) is 350 mr
 - Deep Dose Equivalent (DDE) is 2350 mr
 - Committed Effective Dose Equivalent (CEDE) is 50 mr.
 - Lens Dose Equivalent is (LDE) 400 mr.

Which ONE of the following correctly describes the individuals Total Effective Dose Equivalent (TEDE) and the **maximum** total dose the volunteer will be allowed to receive?

- A. 2.4 rem / 10 rem
- B. 2.8 rem / 10 rem
- C. 2.4 rem / 25 rem
- D. 2.8 rem / 25 rem

Need to verify Oconee Limits for this

Modified Oconee bank question RAD022501 (42).

- A. Incorrect, correct dose, limit is for saving a piece of equipment.
- B. Incorrect, incorrect dose, limit is for saving a piece of equipment.
- C. Correct, correct dose and limit.
- D. Incorrect, incorrect dose, correct limit

Utility reviewed no changes.

QUESTIONS REPORT

for Oconee SRO 2005-301 (Final) Questions Utility Comments

24.

Unit 2 Conditions are as follows:

- Reactor Tripped, ES1-8 Actuations have occurred.
- "A" OTSG pressure 300 psig.
- "B" OTSG pressure 280 psig.
- BWST Level 17.5'

Which ONE of the following is the correct action for the SRO to direct in accordance with the EOP for the current conditions?

- A. Notify RP to survey both MS lines for radiation.
- B. Notify RP and Chemistry to check for indications of a SGTR.
- C. Notify Chemistry to commence caustic addition.
- D. Notify Chemistry to sample RCS boron concentration hourly.

New question developed to match K/A. Referenced EP/2/A/1800/001 Enclosure 5.1. Question Sat Utility requested change from EOP/2/A... to just IAW the EOP. comment accepted.

- A. Incorrect, SG pressures are low due to the LOCA.
- B. Incorrect, SG pressures are low due to the LOCA, but this is not indicative of a SGTR.
- C. Correct, with BWST level at 17.5' Enclosure 5.12 will be implemented and it directs that chemistry be notified to add caustic.
- D. With a large break LOCA in progress a RCS boron concentration will not be able to be taken every hour this is performed for a TBF.

K/A: G2.4.36 Knowledge of chemistry/health physics tasks during emergency operations. (2.0/2.8)

QUESTIONS REPORT

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25.

- An Emergency has been declared on Unit 1
- The Station Manager is not on site.
- The OSM is performing the duties of the Emergency Coordinator.
- The OSC, TSC, and EOF are not staffed.

Which ONE of the following duties can the OSM delegate to another individual on site?

- A. Recommending Protective Action guides for the protection of the public.
- B. Classify the Emergency Event
- C. Escalate or de-escalate or terminate an Emergency event if the EOF is not operational.
- D. Authorize Exposures in excess of routine yearly exposure limits for equipment repair missions.

Reference Figure B-5 Oconee Emergency Plan.

- A. Incorrect, this may not be delegated.
- B. Incorrect, this may not be delegated.
- C. Incorrect, this may be delegated only if the EOF is operational.
- D. Correct, the RP manager can authorize exposures in excess of routine yearly exposure limits from the OSC.

Utility reviewed no changes.