*QNUM
*HNUM
*QCHANGE 11/15/99
*ACHOICE 11/15/99
*BCHOICE 11/15/99
*CCHOICE 11/15/99
*DCHOICE 11/15/99
*ANSCHANGE 11/15/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR G. Laska
*REFKEY
*KA1 001 K4.01
*KA1RO 3.5
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following:

- Unit 1 is ramping to 100% power.
- DRPI has experienced a DATA B Failure.
- Bank D rods indicate 222 steps on Group Rod Position Indicator (GRPI).
- Rod F-6 is mechanically stuck and indicates 210 steps on Digital Rod Position Indicator (DRPI).
- All other rods on Bank D indicate 222 steps on DRPI.

The **Maximum** possible deviation between demanded position (GRPI) and actual rod position (DRPI) for Rod F-6 would be:

*A. 4 steps

*B. 10 steps

*C. 16 steps

*D. 22 steps

*ANSWER D
*COGNITIVE Analysis
*REFSPECIFIC 052201F Digital Rod Position Indication pages 8,9,16 &17, ITS page 16-17
*MODULE OPS-52201F
*OBJECTIVE 052201F10, O52201F09
*ABASIS Incorrect – This would be the non-maximum difference if rod F-6 was at 220 steps half accuracy on DRPI
*BBASIS Incorrect - This would be the maximum difference if rod F-6 was at 220 steps half accuracy for DRPI
*CBASIS Incorrect – with rod F-6 12 steps below Bank D and using the +10/-4 accuracy for Data A inoperative, the answer of 16 steps could be achieved
*DBASIS Correct - with rod F-6 12 steps below the Bank and +4/-10 half accuracy, the maximum deviation becomes 22 steps

*QNUM
*HNUM
*QCHANGE 10/26/99
*ACHOICE 10/26/99
*BCHOICE 10/26/99
*CCHOICE 10/26/99
*DCHOICE 10/26/99
*ANSCHANGE 10/26/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 10/26/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 002 K4.10
*KA1RO 4.2
*KA1SRO 4.4
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 2:

- The plant is in Mode 4 with the RCS in solid water conditions.
- "A" Train RHR is maintaining RCS temperature at 210°F.
- "B" Train RHR is in Standby.

Which of the following conditions below will cause a complete loss of the Low Temperature Overpressure Protection System for the RCS while in solid plant conditions?

*A. 725 psig on PT-402 and 403, which would close MOV 8701A, 8701B, 8702A, and 8702B

*B. 725 psig on PT-403, which would close MOV 8702A and 8702B

*C. 402.5 psig on PT-402, which would close MOV 8701A and 8702A

*D. 402.5 psig on PT-402 and 403, which would close MOV 8701A, 8701B, 8702A, and 8702B

*ANSWER A.
*COGNITIVE Memory
*REFSPECIFIC RHR lesson 052101K
*MODULE 052101K page 6
*OBJECTIVE 052101K05
*ABASIS Correct. Per reference
*BBASIS Incorrect, this will only isolate one loop
*CBASIS Incorrect, wrong pressure to isolate a loop.
*DBASIS Incorrect, wrong pressure to isolate a loop.

*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00

*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY O52520P02001 (01/22/99); significantly modified
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 003A1.06
*KA1RO 2.9
*KA1SRO 3.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 2 conditions are as follows:

- Reactor is in Hot Standby.
- RCP 1A is OFF.
- Pressurizer pressure is 2235 psig.
- Tavg is 547°F.

Spray valve PCV-444D has just failed full open and cannot be manually closed.
Spray flow through PCV-444D will rise:
**Assume no operator actions are taken.**

*A. slightly; backup heaters will NOT be required to maintain RCS pressure.

*B. slightly; backup heaters will energize and maintain RCS pressure.

*C. to approximately 100%; backup heaters will energize and will maintain RCS pressure.

*D. to approximately 100%; backup heaters will energize but will NOT be able to maintain RCS pressure.

*ANSWER D.
*COGNITIVE Comprehension
*REFSPECIFIC ARP HC1; OPS 52201H/52520Q/52520P, pg 8 and Appendix 1 pg A1-3 to A1-5.
*MODULE OPS 52201H/52520Q/52520P
*OBJECTIVE 52520P02
*ABASIS Incorrect, This response would occur if PCV-444C failed open, because it taps off of RCS loop A, RCP 1A.
*BBASIS Incorrect, This response might also be plausible if PCV-444C failed open, because it taps off of RCS loop A, RCP 1A.
*CBASIS Incorrect, This response requires recognition that the flow through one spray valve cannot be controlled by heaters alone. (Refer to ARP HC1.)
*DBASIS Correct, Spray valve PCV-444D taps off of RCS loop B, RCP 1B. Therefore, pressurizer spray flow through the valve will be approximately 100%. Per ARP HC1, RCP 1B must be tripped to reduce spray flow to within the capacity of the pressurizer heaters.

*QNUM
*HNUM
*QCHANGE 2/25/00
*ACHOICE 2/25/00
*BCHOICE 2/25/00
*CCHOICE 2/25/00

*DCHOICE 2/25/00
*ANSCHANGE 2/25/00
*QHISTORY Significantly Modified from Bank #O52520S01014
*EXAM TYPE NRC
*QDATE 2/25/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR G.W. Laska
*REFKEY
*KA1 003AA2.01
*KA1RO 3.7
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- A reactor start-up is in progress
- N-35 indicates 5E-9 amps and N-36 indicates 1E-10 amps.
- Counts have stabilized after the last rod pull, SUR is at zero.
- Individual rod position indications for all Control Bank D (CB D) rods are at 6 steps.
- Control Bank D group step counters show 10 steps.
- When the operator withdraws control rods to continue the start-up, IR amps suddenly drop and continue to decrease at –0.1 dpm SUR; Tavg remains constant at 547°F.
- The CB D rods K-6, K-10, F-6 and F-10 indicate 0 steps; all other rod position indicators are unchanged.
- Annunciators FE3 (ROD AT BOTTOM) and FE4 (TWO OR MORE RODS AT BOTTOM) are NOT actuated.

Which one of the following can be deduced from these indications?

*A. The four DRPI rod position indicators have failed because annunciators FE3 and FE4 have NOT actuated.

*B. The four CB D rods are on the bottom and the reactor should be tripped for a dropped-rod accident.

*C. The CB D group 2 step counter has failed because it should read zero when all rods in this group are fully inserted.

*D. The four DRPI rod position indicators have failed because dropping more than one control rod will cause an automatic reactor trip on negative rate.

*ANSWER B
*COGNITIVE Analysis.
*REFSPECIFIC AOP-19, pg. 3.
*MODULE OPS-52520S and O52201F
*OBJECTIVE 052520S01
*ABASIS Incorrect, FE3 and FE4 should not be actuated per figure 7 of O52201F and page 9.
*BBASIS Correct, reactor is tripped for any rod dropped to bottom.
*CBASIS Incorrect, step counter reading is independent of DRPIper OPS-52201E page 22 and figure 10.
*DBASIS Incorrect, trip only occurs if negative rate seen by PR channels and this is still low in the IR.
*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE Modified
*CCHOICE Modified
*DCHOICE Modified

*ANSCHANGE 5/8/00
*QHISTORY BANK, Minor modification of O52101F09031, 02/27/96
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 004A3.09 Monitor automatic operation of CVCS, including VCT level.
*KA1RO 3.3
*KA1SRO 3.2
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following Unit 1 plant conditions:

- 100% power, steady-state
- 1A charging pump running with FCV-122 in automatic control
- Letdown flow (FI-150) = 60 gpm

Which one of the following will occur if volume control tank (VCT) level transmitter LT-112 fails HIGH? (Assume NO operator action is taken and all associated systems are in AUTOMATIC.)

*A. VCT level cycles 20% and 40%

*B. VCT level cycles between 71% and 81%

*C. VCT level continuously lowers; at less than 5%, charging pump suctions shift to the RWST

*D. VCT level continuously lowers; at less than 5%, 1A charging pump cavitates and trips on overcurrent

*ANSWER A.
*COGNITIVE Comprehension
*REFSPECIFIC Farley: OPS 52101F CVCS lesson plan page 20,21,34
*MODULE OPS 52101F
*OBJECTIVE O52101F09
*ABASIS Correct, LT-115 modulates level between 20% and 40% by stopping and starting makeup because LT-112 has failed high. Since letdown is only 60 gpm, make-up will keep up.
*BBASIS Incorrect, LT-112 modulates level between 71% and 81%.
*CBASIS Incorrect, With LT-115 failed high, if VCT level were to decrease to 5%, charging pumps would <u>not</u> swap to RWST
*DBASIS Incorrect, If both LT-112 and LT-115 sense VCT level $\leq$ 5% then suction of charging pumps swap to RWST.

*QNUM
*HNUM
*QCHANGE
*ACHOICE 2/25/00
*BCHOICE 2/25/00
*CCHOICE 2/25/00
*DCHOICE 2/25/00
*ANSCHANGE 2/25/00
*QHISTORY Modified from Bank #O52520S01006
*EXAM TYPE NRC
*QDATE 2/25/00
*FACILITY 348 Farley 1 & 2

*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR G. W. Laska
*REFKEY
*KA1 005AK3.06
*KA1RO 3.9
*KA1SRO 4.2
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 2:

- Currently at 98% power, ramping down to 60% power to tag out the 2B SGFP.
- Rod control is in AUTOMATIC.
- Annunciator FF5 COMP ALARM ROD SEQ/DEV OR PR FLUX TILT Alarms.
- Control Bank D Rod H14 is indicating 13 steps above its group step counter.
- There are no other alarms in, and all other plant parameters are normal for the power reduction.

Which one of the following states the required action for this situation in accordance with AOP-19.0, "Malfunction of Rod Control System".

*A. Immediately withdraw the bank D rods to within 12 steps of rod H14.

*B. Stop any load change in progress and determine if Rod H14 is movable.

*C. Immediately commence an emergency boration to restore Shutdown Margin to within ITS limits.

*D. Trip the reactor and perform EEP-0, "Reactor Trip or Safety Injection."

*ANSWER B
*COGNITIVE Comprehension.
*REFSPECIFIC AOP-19.0 pg 3
*MODULE OPS-52520S.
*OBJECTIVE O52520S01
*ABASIS Incorrect, AOP 19.0 directs the team to stop any load change in progress if the rod is not dropped or if it does not have any unexplained rod motion.
*BBASIS Correct, this is the correct action IAW AOP-19.0
*CBASIS Incorrect, The Rod insertion lo-lo limit alarm is not in, this would be required if it were.
*DBASIS Incorrect, This is the correct action for a dropped rod, not a stuck rod.
*QNUM
*HNUM
*QCHANGE 11/15/99
*ACHOICE 11/15/99
*BCHOICE 11/15/99
*CCHOICE 11/15/99
*DCHOICE 11/15/99
*ANSCHANGE 11/15/99
*QHISTORY Exam Bank – 052101K8020
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B

*AUTHOR Rollins
*REFKEY
*KA1 005 K4.03
*KA1RO 2.9
*KA1SRO 3.2
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following plant conditions:

Unit 1 is performing a plant cooldown using the "A" Train RHR system.
1-RHR-HV-603A, "HX 1A OUTLET," is in manual control.
1-RHR-FCV-605A, "HX 1A Bypass," fails closed.

Which **ONE** of the following describes the effect on total RHR flow and cooldown rate?
**Assume no operator action is taken.**

*A. Total RHR flow will increase and cooldown rate will decrease

*B. Total RHR flow will decrease and cooldown rate will increase

*C. Total RHR flow will decrease and cooldown rate will decrease

*D. Total RHR flow will increase and cooldown rate will increase

*ANSWER B
*COGNITIVE Analysis
*REFSPECIFIC 052101K RHR lesson plan
*MODULE OPS-052101K
*OBJECTIVE 052101K10
*ABASIS Incorrect – due to 605A being closed causing a drop in Total flow, more flow through the Hx will cause an increase in the amount of heat being removed, ie. CDR will increase.
*BBASIS Correct - when FCV-605 fails closed, bypass flow is stopped. **Total** flow will drop, however more flow will be put through the Hx which will cause an increased cooldown.
*CBASIS Incorrect, more flow through the Hx will cause an increase in the amount of heat being removed, ie. CDR will increase.
*DBASIS Incorrect, due to 605A being closed causing a drop in Total flow

*QNUM
*HNUM
*QCHANGE 11/20/99
*ACHOICE 11/20/99
*BCHOICE 11/20/99
*CCHOICE 11/20/99
*DCHOICE 11/20/99
*ANSCHANGE 11/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3

*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 006 A3.05
*KA1RO 4.2
*KA1SRO 4.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions:

- Unit 1 was operating at 100% power, steady state with no inoperable equipment.
- B Train was on service with 1B charging pump running.
- An SI/LOSP has just occurred.
- At 22 seconds after the SI/LOSP annunciator EB1 “CHG PUMP OL TRIP” comes into alarm.
- The operator notices the amber light on the handswitch for the 1C Chg pump.

Which of the following is correct concerning 1B Chg Pump?

*A. 1B Chg Pump must be manually started.

*B. 1B Chg Pump will start from the LOSP sequencer.

*C. 1B Chg Pump will start due to 1C Chg Pump tripping on OL.

*D. 1B Chg Pump will remain running as per design.

*ANSWER C
*COGNITIVE Comprehension
*REFSPECIFIC 052101F CVCS lesson plan and Sequencer lesson plan
*MODULE OPS-052101Ffigure 13 and 14 and 52103F page 3 and 13
*OBJECTIVE 052101F11
*ABASIS Incorrect – 1B HHSI pump should have started and if it did not, it doesn’t have to be.
*BBASIS Incorrect – SI sequencer will run, not LOSP sequencer.
*CBASIS Correct – Since 1B HHSI pump is on B train, 1C HHSI pump should start on step 1 of ESF sequencer. Since 1B HHSI pump is the only pump running, it had to start for 1C HHSI. Figure 13and 14 show 1B HHSI pump will only start on an ESF sequencer if 1C or A pump is racked out. It automatically starts any time the 1A/C pump breaker trips.
*DBASIS Incorrect – The 1B HHSI pump will load shed.

Alternate question below

*QUESTION
Unit 1 is in Mode 1 - 100% power
B Train is on service
B charging pump is running

An SI/LOSP occurred. 22 seconds later, only the 1B charging pump is running.
EB1 “CHG PUMP OL TRIP” has come into alarm.
Which of the following is correct concerning the HHSI lineup?

*A. HHSI pump 1A should be started from the MCB.
HHSI pump 1B correctly started in place of HHSI pump 1C.

*B. HHSI pump 1C should be started from the MCB.
HHSI pump 1B correctly started in place of HHSI pump 1A.

*C. HHSI pump 1B did not load shed and should be secured.
The operator should wait for the SI/LOSP sequencer to start HHSI pumps 1A and 1C.

*D. HHSI pump 1B started in place of HHSI pump 1C.
The operator should wait for the SI/LOSP sequencer to start HHSI pump 1A.

*ANSWER A
*COGNITIVE Comprehension
*REFSPECIFIC
*MODULE OPS-
*OBJECTIVE
*ABASIS Correct
*BBASIS Incorrect
*CBASIS Incorrect
*DBASIS Incorrect

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Bank #052530A13045, with minor modifications
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts

*REFKEY
*KA1 007EG2.4.6
*KA1RO 3.1
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The reactor has tripped from 100% power due to an inadvertent testing error.
- The turbine did NOT trip when the operator actuated a MANUAL turbine trip signal for 6 seconds.

Which one of the following describes the required action(s)?

*A. Depress the TURBINE MANUAL, GV CLOSE, and FAST ACTION pushbuttons.

*B. Take the electrohydraulic (EH) fluid pumps A and B to OFF.

*C. Close the MSIVs and ensure the MSIV bypass valves are closed.

*D. Direct a system operator to mechanically trip the turbine at the pedestal.

*ANSWER B
*COGNITIVE Memory.
*REFSPECIFIC EEP-0, pg. 2.
*MODULE OPS-52530A
*OBJECTIVE 052530A13
*ABASIS Incorrect, per reference.
*BBASIS Correct, per reference
*CBASIS Incorrect, per reference.
*DBASIS Incorrect, per reference.

*QNUM
*HNUM
*QCHANGE 10/26/99
*ACHOICE 10/26/99
*BCHOICE 10/26/99
*CCHOICE 10/26/99
*DCHOICE 10/26/99
*ANSCHANGE 10/26/99
*QHISTORY Significantly modification from 10/19/93 NRC licensing exam.
*EXAM TYPE NRC
*QDATE 10/26/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR NRC Exam
*REFKEY
*KA1 008 A3.08
*KA1RO 3.6
*KA1SRO 3.7

*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 2 is at 100% power:

- B Train is the on service train
- All CCW pump Local/Remote handswitches are in “REMOTE”
- All CCW pump handswitches on the MCB are in “AUTO”

Which of the following describes a condition that will automatically start CCW pump 2B?

*A. An “S” signal occurs after CCW pump 2A has been secured from the MCB.

*B. An “S” signal occurs after CCW pump 2C breaker has been racked out.

*C. An “S” signal occurs after CCW pump 2A breaker has tripped on overload.

*D. An “S” signal occurs after CCW pump 2C Local/Remote selector switch has been taken to “Local”.

*ANSWER C
*COGNITIVE Comprehension
*REFSPECIFIC CCW lesson 052102G page 12,13, 17 and figure 5 and 5A
*MODULE 052102G page 12 and figure 5
*OBJECTIVE 052102G20
*ABASIS Incorrect, 2A breaker has to be tripped on overload or racked out to start on S signal.
*BBASIS Incorrect, 2C is on the A train and not applicable.
*CBASIS Correct.
*DBASIS Incorrect, 2C is on the A train and not applicable.

*QNUM
*HNUM
*QCHANGE 11/18/99
*ACHOICE 11/18/99
*BCHOICE 11/18/99
*CCHOICE 11/18/99
*DCHOICE 11/18/99
*ANSCHANGE 11/18/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR
*REFKEY
*KA1 009 EK2.03
*KA1RO 3.0
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
QUESTION

Given the following conditions on Unit 1:

- A small break LOCA has occurred.

Which one of the following parameter relationships indicates the SG's are acting as a heat source rather than as a heat sink?

*A. The RCS pressure is less than the intact SG pressures

*B. The RCS temperature is greater than the intact SG temperatures

*C. SG water level is rising and RCS temperature is falling

*D. Pressurizer level is falling and SG water level is rising

*ANSWER A
*COGNITIVE Comprehension
*REFSPECIFIC EEP-1 Loss of Reactor or Secondary Coolant
*MODULE OPS- O52530B page 34
*OBJECTIVE O52530B12, 13
*ABASIS Correct – correct per page 34 and step 20 of O52530B
*BBASIS Incorrect
*CBASIS Incorrect
*DBASIS Incorrect

Alternate question below

Modified question from exam bank O52530B13029

*QUESTION
A small break LOCA has occurred.
The operators are implementing procedure EEP-1, Loss of Reactor or Secondary Coolant.
Step 4 of this procedure directs the operator to check the intact SG water levels.

One purpose of this step is to ensure which of the following?

*A. To ensure SG water levels are sufficient to cover a ruptured SG tube.

*B. To detect an excessive water level rise which would indicate a SGTR.

*C. To ensure SG water level instrumentation is functioning properly, and the AFW throttle valves are adjusted correctly.

*D. To detect an excessive SG inventory to prevent overfilling the SG's.

| | |
|---|---|
| *ANSWER | B |
| *COGNITIVE | Memory |
| *REFSPECIFIC | EEP-1 Loss of Reactor or Secondary Coolant |
| *MODULE | OPS- O52530B |
| *OBJECTIVE | O52530B13 |
| *ABASIS | Incorrect |
| *BBASIS | Correct – correct per page 21 step 4 of O52530B |
| *CBASIS | Incorrect |
| *DBASIS | Incorrect |

| | |
|---|---|
| *QNUM | |
| *HNUM | |
| *QCHANGE | 3/09/00 |
| *ACHOICE | 3/09/00 |
| *BCHOICE | 3/09/00 |
| *CCHOICE | 3/09/00 |
| *DCHOICE | 3/09/00 |
| *ANSCHANGE | 3/09/00 |
| *QHISTORY | NEW |
| *EXAM TYPE | NRC |
| *QDATE | |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | B |
| *AUTHOR | G. W. Laska |
| *REFKEY | |
| *KA1 | 010 K3.01 |
| *KA1RO | 3.8 |

*KA1SRO 3.9
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Unit 1 is operating at 8 % power and ramping up to 12 % to roll the main turbine.

- Pressurizer pressure control is in Automatic maintaining 2235 psig
- All of the Backup Heaters are ON to increase boron mixing during the ramp.
- An airline break inside containment has caused IA to CTMT HV-3611 to close.

Assuming no operator action is taken, which of the following describes the RCS pressure control system response?

*A. RCS pressure will rise until the spray valves open to maintain RCS pressure near its normal value.

*B. PORV 444B will open < its set point because of the time spent > 2235 psig (Normal RCS pressure) and will reduce RCS pressure.

*C. RCS pressure will rise until the Reactor Trip setpoint of 2385 psig is reached, and the reactor trips.

*D. PORV-445 will open when RCS pressure rises to >2335 psig, and will maintain RCS pressure between 2310 psig and 2335 psig.

*ANSWER C
*COGNITIVE Comprehension
*REFSPECIFIC 052201H
*MODULE OPS-52201H Page 5- 9
*OBJECTIVE 052201H05 , 052201H08, 052201H09, 52520Q02
*ABASIS Incorrect – The spray valves will not open because they do not have air to operate,
*BBASIS Incorrect – PORV 444B also uses air to operate, if it did have air it would open somewhat less than 2335 psig.
*CBASIS Correct – RCS pressure will rise due to the backup heaters being on and the reactor will trip at 2385 psig
*DBASIS Incorrect - PORV 445 also uses air to operate, if air was available it would open if pressure reached 2235 psig, it is not rate sensitive.

*QNUM
*HNUM
*QCHANGE 02/28/00
*ACHOICE 02/28/00
*BCHOICE 02/28/00
*CCHOICE 02/28/00
*DCHOICE 02/28/00
*ANSCHANGE 02/28/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 02/28/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR G. Laska
*REFKEY
*KA1 011EA1.03
*KA1RO 4.0
*KA1SRO 4.0
*KA2

*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Which of the following sets of conditions would require the operator to secure ALL RCP's while in EEP-0.0?

A. Containment pressure 3.5 psig, FI-943 indicating 400 gpm, Subcooling $17^0$ F in the CETC mode.

B. Containment pressure 8 psig, FI-943 indicating 400 gpm, Subcooling $50^0$ F in the CETC mode.

C. Containment pressure 18 psig, FI-943 indicating 0 gpm, Subcooling $17^0$ F in the CETC mode.

D. Containment pressure 28 psig, FI-943 indicating 0 gpm, Subcooling $50^0$ F in the CETC mode.

*ANSWER D
*COGNITIVE Comprehension
*REFSPECIFIC OPS-52530A, page 12,21 and 30-34
*MODULE OPS-52530A
*OBJECTIVE O52530A07 and O52530B06
*ABASIS Incorrect, With Containment pressure at <4 psig and >$16^0$ F in CETC mode, RCP's are not secured.
*BBASIS Incorrect, With Containment pressure > 4 psig and >$45^0$ F in CETC mode, RCP's are not secured.
*CBASIS Incorrect, At 18 psig in containment, with no HHSI flow then we do not secure RCP's.
*DBASIS Correct, At step 14 of EEP-0, if > 27 psig: all RCP's are stopped based on Containment pressure regardless of SCMM and/or HHSI flow. A phase B Isolation has occurred, and RCP's could become damaged.
*QNUM
*HNUM
*QCHANGE 11/04/99
*ACHOICE 11/04/99
*BCHOICE 11/04/99
*CCHOICE 11/04/99
*DCHOICE 11/04/99
*ANSCHANGE 11/04/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 012 K5.01
*KA1RO 3.3
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Which of the following contains only protective trips that are intended to protect the reactor from a DNB concern?

*A. OPΔT, OTΔT, and High pressurizer Level

*B. Lo-Lo SGWL, Low pressurizer pressure, and OPΔT

*C. Low pressurizer pressure, OTΔT, and Reactor coolant low flow trips

*D. Reactor coolant low flow trips, Lo-Lo SGWL, and High pressurizer Level

*ANSWER C
*COGNITIVE Memory
*REFSPECIFIC Reactor protection lesson O52201I pages30-34 and Accident Analysis O52702 page 37-41
*MODULE OPS-052201I / 52702
*OBJECTIVE 05220104 and 06 - 05270205
*ABASIS Incorrect - OPΔT (overpower concern) and High pressurizer Level (Hi Pressurizer pressure concern) are not DNB concerns
*BBASIS Incorrect - Lo-Lo SGWL (preserves heat sink)and OPΔT are not DNB concerns
*CBASIS Correct – per lesson plan
*DBASIS Incorrect - Lo-Lo SGWL and High pressurizer Level are not DNB concerns

*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 013A2.05
*KA1RO 3.7
*KA1SRO 4.2
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following plant conditions:

- Unit 1 and 2 were stable at 100% power.
- 1A Battery was removed from service to replace several bad cells.
- A tornado has just caused a loss of the Start-up Transformers and Reactor trip on both units.
- A Safety Injection has occurred on Unit 1.
- 1B DG is providing power to the B Train Emergency Bus.

Which one of the following will result from the above conditions?

*A. 1-2A D/G will NOT auto start.

*B. All Unit 1 “A” Train safeguard systems will actuate.

*C. 1A MDAFW pump will NOT auto start.

*D. Unit 1 RCS temperature will be controlled with the atmospherics.

*ANSWER C
*COGNITIVE Analysis
*REFSPECIFIC OPS-52103C ,Industry event and page T-3 and 5
*MODULE OPS-52103F01, 052103C03
*OBJECTIVE O52103F01, O52103C03
*ABASIS Incorrect, 1-2A DG will auto start due to ABT from other unit.
*BBASIS Incorrect, Due to A Train 4160 v bus being de-energized and DC not available, SSPS output is not available.
*CBASIS Correct, This is correct because the sequencer will not load it on and there is no DC control power available to the F BUS.
*DBASIS Incorrect, No DC power to the steam dumps per App. A of 052103C.

Given the following plant conditions:

- Both units were stable at 100% power.
- A nearby earthquake has caused a complete loss of the 230 KV and 530 KV grid inputs to Farley switchyard.
- Both reactors have tripped; 1B and 2B DGs are providing power to their respective B Train Emergency Buses.
- The earthquake also caused a loss of 125v DC Bus 1A and a Safety Injection actuation on Unit 1 only.
- No other electrical abnormalities have occurred.

Which one of the following states the expected response of Diesel Generator (DG) 1-2A and its output breaker to 4160v bus 1F for this event?

*A. DG 1-2A will NOT start because Sequencer B1F is de-energized.

*B. DG 1-2A will start, but its field will NOT flash because DG 1-2A control power is de-energized.

*C. DG 1-2A will start, and its output breaker to Bus 1F will close because DG 1-2A control power is energized.

*D. DG 1-2A will start, but its output breaker to bus 1F will NOT close because Sequencer B1F is de-energized.

*ANSWER D
*COGNITIVE Analysis
*REFSPECIFIC OPS-52103F,Table 3
*MODULE OPS-52103F
*OBJECTIVE O52103F01
*ABASIS Incorrect, DG 1-2A will be started by SIAS signal.
*BBASIS Incorrect, DG 1-2A control power will transfer to 125v DC bus 2A, which remains de-energized.
*CBASIS Incorrect, DG 1-2A control power will transfer to 125v DC bus 2A which remains de-energized. However the output breaker will not close because control power to the breaker is de-energized and the sequencer also.
*DBASIS Correct, DG 1-2A output breaker will not have control power to close and needs signal from sequencer B1F which will be de-energized.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 014 G2.1.12
*KA1RO 2.9
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- A plant startup and ramp to full power are in progress.
- Both channels of DRPI for rod K-6 in Control Bank D (CB D), Group 2 went out of service when reactor power was at 54%.
- In accordance with LCO 3.1.7, Rod Position Indication, the position of rod K-6 was promptly verified to be near the CB D, Group 2 step counter position of 144 steps using movable incore detectors.
- The plant startup and ramp up were continued.
- In the 6 hours since K-6 DRPI went out of service, plant power has been increased to 71%.

Which one of the following events will IMMEDIATELY require initiation of action to reverify the position of rod K-6 using movable incore detectors?

*A. Reactor power is increased to 75% with NO further rod motion.

*B. CB D, Group 2 is withdrawn to 169 steps by step counter indication.

*C. All DRPI indication is lost on rod F-8 in CB C, Group 2.

*D. All DRPI indication is lost on rod P-8 in CB D, Group 1.

*ANSWER B

*COGNITIVE Memory.
*REFSPECIFIC LCO 3.1.7 of ITS
*MODULE OPS-52201F
*OBJECTIVE O52201F12
*ABASIS Incorrect, There is no requirement to do anything on just an increase of power with no rod motion.
*BBASIS Correct, group counter >168 steps indicates >24 steps movement since position last verified. This requires IMMEDIATE action to verify the position of the rod using incore detectors per 3.1.7 C.
*CBASIS Incorrect, This would initiate action A for one DRPI per group for 1 or more groups which is an 8 hour completion time.
*DBASIS Incorrect, This would initiate action A for one DRPI per group for 1 or more groups which is an 8 hour completion time.

*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY BANK # O52520R12019, 10/02/97 Significantly modified
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR M. G. Rollins
*REFKEY
*KA1 015A1.04 Ability to predict and/or monitor changes in parameters to prevent exceeding design limits associated with quadrant power tilt ratio.
*KA1RO 3.5
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

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

| Instrument: | N41 | N42 | N43 | N44 |
|---|---|---|---|---|
| Upper: | .9900 | 1.010 | .9900 | .9800 |
| Lower: | .9600 | 1.07 | .9500 | .9400 |

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

*A. 94%

*B. 85 %

*C. 79%

*D. 73%

*ANSWER D.
*COGNITIVE Analysis
*REFSPECIFIC FNP-STP-7.0 and ITS 3.2.4
*MODULE O52501D, pg 34
*OBJECTIVE O52201D46
*ABASIS Incorrect, QPTR UPPER: 1.0176; 1.0176 – 1.00 = 1.76% (rounded up = 2%); 100% RTP – (2*3%) = 94%
*BBASIS Incorrect, 1.07-1.02=5%; 3%*5%=15%; 100%-15%=85%
*CBASIS Incorrect, 1.07 – 1.00 = 7%; 100% RTP – (7*3%) = 79%
*DBASIS Correct, QPTR lower: Average of lower excore detectors is 0.98. 1.07/0.98 = 1.0918;
1.0918-1.00 = 9%; 9%*3%= 27%; 100% RTP – 27% = 73% power limit.
For every 1% above QPTR of 1.00, reduce power by 3%, when QPTR exceeds 1.02.
*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY Significantly Modified from Bank #052202E24008
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 017A4.02
*KA1RO 3.8
*KA1SRO 4.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

After a small-break LOCA, the following RCS temperatures are indicated:

| | Loop 1 | Loop 2 | Loop 3 |
|---|---|---|---|
| T-cold | 534°F | 536°F | 535°F |
| T-hot | 540°F | 550°F | 560°F |

The following RCS and pressurizer pressures are indicated:

| | | | |
|---|---|---|---|
| PT-402 | 1782 psig | PT-455 | 1747psig |
| PT-403 | 1772 psig | PT-457 | 1787 psig |

The following core exit thermocouple (CETC) and upper head thermocouple (UHTC) signals also exist:

Hottest Channel A CETC = 557°F; Hottest Channel B CETC = 552°F.
Hottest Channel A UHTC = 565°F; Hottest Channel B UHTC = 565°F.

Which one of the following pairs of temperature values will be displayed on the Subcooled Margin Monitor displays on the Main Control Board if Channel A is selected to “CETC” and Channel B is selected to “RTD”?

| | Channel A | Channel B |
|---|---|---|
| *A. | 53°F | 60°F |
| *B. | 55°F | 58°F |
| *C. | 61°F | 60°F |
| *D. | 63°F | 58°F |

*ANSWER C.
*COGNITIVE Analysis
*REFSPECIFIC OPS-5220E, pg. 7, 8.
*MODULE OPS-5220E
*OBJECTIVE O52202E24
*ABASIS Incorrect, UHTC not used for CETC mode.
*BBASIS Incorrect, UHTC not used for CETC mode.

*CBASIS For Channel A:
Saturation temperature for PT-455 pressure (1762 psia) is 618°F
618°F – 557°F (CETC) = 61°F

For Channel B:
Saturation temperature for PT-403 pressure (1787 psia) is 620°F
620°F - 560°F (RTD) = 60°F

*DBASIS Incorrect, PT-455 is lowest pressure feeding Channel A; PT-403 is lowest pressure feeding Channel B.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 022AK3.02
*KA1RO 3.5
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 2:

- The plant is stable at 100% power.
- All normal control systems are in Auto.
- An automatic make-up is in progress to the VCT with level at 25% and rising.

Annunciator DF3, VCT LEVEL HI-LO, has just come into alarm due to an instrument failure. Which one of the following annunciators, if it alarms coincidentally with DF3, indicates a condition that could cause loss of all charging flow to the RCS if the operator actions required by the ARPs are NOT taken?

*A. DF1, LTDN TO DEMIN DIVERTED – TEMP HI.

*B. DF2, LTDN DIVERTED TO RHT – VCT LVL HI.

*C. DK3, AUTO MAKEUP START SIGNAL BLOCKED.

*D. DF4, VCT PRESS HI-LO.

| | |
|---|---|
| *ANSWER | B |
| *COGNITIVE | Analysis. |
| *REFSPECIFIC | OPS-52101F, pg. 20. |
| *MODULE | OPS-52101F |
| *OBJECTIVE | O52101F09 |
| *ABASIS | Incorrect, VCT level not affected by this alarm or the ARP operator actions. |
| *BBASIS | Correct, LT-115 failing high would cause both of these alarms and can cause VCT draining if the ARP operator action is not taken. |
| *CBASIS | Incorrect, LT-115 failing low gives one part of this alarm; also need MKUP MODE switch not in Auto and it is in Auto since auto makeup in progress per the given conditions. |
| *DBASIS | Incorrect, VCT level not affected by this alarm or the ARP operator actions. |

| | |
|---|---|
| *QNUM | |
| *HNUM | |
| *QCHANGE | 5/8/00 |
| *ACHOICE | 5/8/00 |
| *BCHOICE | 5/8/00 |
| *CCHOICE | 5/8/00 |
| *DCHOICE | 5/8/00 |
| *ANSCHANGE | 5/8/00 |
| *QHISTORY | New |
| *EXAM TYPE | NRC |
| *QDATE | 5/8/00 |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | B |
| *AUTHOR | Sonalysts, Inc. |
| *REFKEY | |
| *KA1 | 022K2.01 Knowledge of the power supplies to the Containment Cooling Fans |
| *KA1RO | 3.0 |
| *KA1SRO | 3.1 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |

*QUESTION

During a LOCA on Unit 2, all containment cooling fans are running in SLOW speed.

Which one of the following lists the containment cooling fans which will CONTINUE RUNNING in SLOW speed if 600 VAC Load Centers 2B and 2E are deenergized due to faults?

*A. Fans 2A and 2B

*B. Fans 2A and 2D

*C. Fans 2C and 2B

*D. Fans 2C and 2D

*ANSWER A.
*COGNITIVE Memory
*REFSPECIFIC OPS-O52102C, Table 3
*MODULE OPS-O52102C10
*OBJECTIVE OPS-O52102C10
*ABASIS Correct, In slow speed, fans 2A and 2B powered by 600V LC D
*BBASIS Incorrect, In fast speed, fans 2A and 2D powered by 600V LC A and C, respectively, which remain energized in the given conditions.
*CBASIS Incorrect, In fast speed, fans 2C and 2B powered by 600V LC B, which is lost in the given
*DBASIS Incorrect, In slow speed, fans 2C and 2D powered by 600V LC E, but could be confused with 600V LC D which powers fans 2A and 2B In slow speed.

Power supplies for containment cooling fans are listed below.

| CTMT CLG FAN | FAST | SLOW |
|---|---|---|
| A | 600V LC A | 600V LC D |
| B | 600V LC B | 600V LC D |
| C | 600V LC B | 600V LC E |
| D | 600V LC C | 600V LC E |

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 024AK1.04
*KA1RO 2.8
*KA1SRO 3.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

With the concentration of boric acid in 1A Boric Acid Tank (BAT) at 4.2 wt %, what is the setpoint for the 1A BAT temperature alarm that is designed to prevent boric acid from coming out of solution and crystallizing in the transfer piping, which could prevent emergency boration?

*A. 65°F.

*B. 70°F.

*C. 77°F.

*D. 100°F.

*ANSWER B
*COGNITIVE Memory.
*REFSPECIFIC OPS-52101I, pg. T-2.
*MODULE OPS-52101I.
*OBJECTIVE O40301I03
*ABASIS Incorrect, design low temperature limit.
*BBASIS Correct, per reference.
*CBASIS Incorrect, batching tank low temperature design limit.
*DBASIS Incorrect, high temperature alarm setpoint.

*QNUM
*HNUM
*QCHANGE 11/17/99
*ACHOICE 11/17/99
*BCHOICE 11/17/99
*CCHOICE 11/17/99
*DCHOICE 11/17/99
*ANSCHANGE 11/17/99
*QHISTORY Exam Bank O52102C09024
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR MG Rollins
*REFKEY
*KA1 026 A4.01
*KA1RO 4.5
*KA1SRO 4.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
A steamline break has occurred and the containment spray system has actuated.
In order to close the "CS pump to spray header" valves (MOV-8820A and B) and have them remain closed, what <u>minimum</u> action must the operator take prior to closing the valves?

*A. Reset the Phase B actuation signal by depressing a pair of reset pushbuttons on the MCB.

*B. Reset the containment spray actuation signal by depressing a pair of reset pushbuttons

on the MCB.

*C. Reset both the containment spray actuation signal and the Phase B actuation signal by depressing 2 sets of reset pushbuttons on the MCB.

*D. No action required; the open signal is only present for one minute after the valves open.

| | |
|---|---|
| *ANSWER | B |
| *COGNITIVE | Memory |
| *REFSPECIFIC | Containment Spray and Cooling O52102C |
| *MODULE | OPS- O52102C |
| *OBJECTIVE | O52102C09,C08 |
| *ABASIS | Incorrect – Phase B is a containment isolation signal and does not go to MOV8820A/B |
| *BBASIS | Correct – P signal or CS actuation opens this valve and remains Sealed in with an R/L logic and is reset with 2 sets of reset Pushbutttons |
| *CBASIS | Incorrect – this is not the min. since Phase B does not need to be reset |
| *DBASIS | Incorrect – If the CS actuation signal is not reset then the valves will roll back open |

| | |
|---|---|
| *QNUM | |
| *HNUM | |
| *QCHANGE | 02/22/00 |
| *ACHOICE | 02/22/00 |
| *BCHOICE | 02/22/00 |
| *CCHOICE | 02/22/00 |
| *DCHOICE | 02/22/00 |
| *ANSCHANGE | 02/22/00 |
| *QHISTORY | NEW |
| *EXAM TYPE | NRC |
| *QDATE | |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | B |
| *AUTHOR | GT Ohmstede |
| *REFKEY | |
| *KA1 | 027 AA2.15 |
| *KA1RO | 3.7 |
| *KA1SRO | 4.0 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |
| *QUESTION | |

Given the following:

- Unit 2 is at 75% power
- Tavg is $565^0$ F
- PT- 444 reads greater than 2500 psig
- PT- 445 is 2180 psig and decreasing
- HC1, PZR Press Hi-Lo alarm is in

Which of the following actions should be taken next?

*A. Trip the reactor and then trip 2A and 2B RCP's and implement EEP-0.

*B. Take manual control of the pressurizer spray valves, heaters and PORV's.

*C. Turn on all heaters and commence a rapid power reduction.

*D. Close PORV-445A and its associated block valve.

| | |
|---|---|
| *ANSWER | B |
| *COGNITIVE | analysis |
| *REFSPECIFIC | Pressurizer Pressure and Level control |
| *MODULE | OPS-052201H/052520Q/52520P, HC1 Immediate actions |
| *OBJECTIVE | 052520Q02 |
| *ABASIS | Incorrect - This is done if it is a mechanically stuck open spray valve prior to reaching 2000 psig |
| *BBASIS | Correct – correct per HC1 |
| *CBASIS | Incorrect – This is never an action taken for a loss of pressure. |
| *DBASIS | Incorrect – PORV – 445A will not be open for a PT-444 failure. It will be closed due to PT-445 being at 2180 psig. If the PORV were to be stuck open, this would be a correct action. |
| *QNUM | |
| *HNUM | |
| *QCHANGE | 1/20/99 |
| *ACHOICE | 1/20/99 |
| *BCHOICE | 1/20/99 |
| *CCHOICE | 1/20/99 |
| *DCHOICE | 1/20/99 |
| *ANSCHANGE | 1/20/99 |
| *QHISTORY | Modified from Bank #052102D02023 |
| *EXAM TYPE | NRC |
| *QDATE | 1/20/99 |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | B |
| *AUTHOR | Sonalysts |
| *REFKEY | |
| *KA1 | 028K5.02 |
| *KA1RO | 3.4 |
| *KA1SRO | 3.9 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |

*QUESTION

After a LOCA inside containment, EEP-1.0, "Loss of Reactor or Secondary Coolant," directs that the hydrogen recombiners should be placed in operation if the containment hydrogen concentration is less than _____% because _____.

*A. 3%, because above this level a fire could be started by the recombiners.

*B. 3%, because above this level the recombiners become ineffective in reducing the hydrogen concentration.

*C. 4%, because above this level a fire could be started by the recombiners.

*D. 4%, because above this level the recombiners become ineffective in reducing the hydrogen concentration.

*ANSWER C
*COGNITIVE Memory.
*REFSPECIFIC OPS-52102D, pg. 2 and EEP-1 page 7 Caution
*MODULE OPS-52102D
*OBJECTIVE 052102D02
*ABASIS Incorrect, per reference.
*BBASIS Incorrect, per reference.
*CBASIS Correct, Fire or explosion may occur if the post LOCA hydrogen recombiners are placed in service when containment Hydrogen concentration is > 4%.
*DBASIS Incorrect, per reference.
*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 029K4.02 Knowledge of design feature(s) and/or interlock(s) which provide for negative pressure in containment.
*KA1RO 2.9
*KA1SRO 3.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 1 is operating at 90% rated power when the following alarms are received.

- BG5 CTMT TO PENE RM ΔP HI-LO
- BK1 PENE RM TO ATMOS A TRN ΔP HI-LO
- BK2 PENE RM TO ATMOS B TRN ΔP HI-LO

The operating crew observes that the following valves have isolated.

- Instrument Air Supply to CTMT Isolation Valves
- Nitrogen Supply to CTMT Isolation Valves
- Steam Generator 1A, 1B, and 1C Blowdown Sample Isolation Valves
- Pressurizer Steam and Liquid Sample Isolation Valves
- Reactor Loops 1A, 1B, and 1C Sample Isolation Valves

Which one of the following pressure signals caused the isolations?

*A. Penetration room is at least 3.0 inches $H_2O$ greater than atmospheric pressure.

*B. Penetration room is at least 3.0 inches $H_2O$ greater than containment pressure.

*C. Penetration room is at least 1.5 inches $H_2O$ less than atmospheric pressure.

*D. Penetration room is at least 1.5 inches $H_2O$ less than containment pressure.

*ANSWER A.
*COGNITIVE Analysis
*REFSPECIFIC ARP-1.2, Annunciator BK1 and BK2
*MODULE OPS-52107A
*OBJECTIVE O52107A08
*ABASIS Correct, PENE RM TO ATMOS ΔP HI: 3.0 ± 0.25 inches $H_2O$ will cause the valve isolations that are given in the conditions above. For the given conditions, CTMT TO PENE RM ΔP HI-LO alarm is caused by high penetration room pressure resulting from an unknown pipe break.
*BBASIS Incorrect, CTMT TO PENE RM ΔP HI-LO alarm is received when containment pressure is less than the penetration room pressure by 1.5 psi; ARP-1.2, Annunciator BG5. Annunciator is also received when CNTMT pressure is greater than 3.0 psig above penetration room pressure.
*CBASIS Incorrect, PENE RM TO ATMOS ΔP LOW setpoint is -1.5 + 0.5 inches $H_2O$.
*DBASIS Incorrect, CTMT TO PENE RM ΔP LO setpoint is –1.5 ± 0.25 inches $H_2O$.

**FNP-1-ARP-1.2**

LOCATION BG5

| | |
|---|---|
| G5 | CTMT TO PENE RM ΔP HI-LO |

SETPOINT:
1. HI: 3.0 + 0.5 PSIG
   - 0
2. LO: -1.5 ± 0.25 PSIG

ORIGIN:
1. Diff. Pressure Switch (N1C14PDSH3317-N)
2. Diff. Pressure Switch (N1C14PDSL3317-N)

LOCATION BK1

| | |
|---|---|
| K1 | PENE RM TO ATMOS A TRN ΔP HI-LO |

SETPOINT:
1. Variable Current/Time
2. HI: 3.0 ± 0.25 inches $H_2O$
3. LO: -1.5 + 0.5 inches $H_2O$
   - 0

ORIGIN:
1. Overload Aux. Relay, 49X
2. Diff. Pressure Switch (Q1E15PDSH3367A-A)
3. Diff. Pressure Switch (Q1E15PDSL3367A-A)

LOCATION BK2

| | |
|---|---|
| K2 | PENE RM TO ATMOS B TRN ΔP HI-LO |

SETPOINT:
1. Variable Current/Time
2. HI: 3.0 ± 0.25 inches $H_2O$
3. LO: -1.5 + 0.5 inches $H_2O$
   - 0

ORIGIN:
1. Overload Aux. Relay, 49X
2. Diff. Pressure Switch (Q1E15PDSH3367B-B)
3. Diff. Pressure Switch (Q1E15PDSL3367B-B)

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99

*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Modified from Bank #052520R04007
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 032AA2.04
*KA1RO 3.1
*KA1SRO 3.5
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 2:

- The reactor was stable at 100% power.
- A reactor trip has just occurred due to an inadvertent trip of a reactor trip breaker.

Which one of the following will result if both IR channels are **significantly** undercompensated?

*A. Both source range channel indications will remain above $10^5$ cps.

*B. The reactor operator will NOT be able to verify proper SR/IR overlap.

*C. Both IR SUR channels will have a more negative SUR than negative one third.

*D. The source range instruments will energize prematurely when the first IR channel drops below the P-6 setpoint.

*ANSWER B
*COGNITIVE Analysis.
*REFSPECIFIC 052201D, pg. 20.
*MODULE OPS-52201D
*OBJECTIVE 052520R04
*ABASIS Incorrect, SRs will not energize automatically and are de-energized (low reading
*BBASIS Correct, SRs will not energize automatically; IRs will not be decreasing when problem corrected, so can't verify overlap.
*CBASIS IncorrectThis is indicative of an overcompensated IR channel.
*DBASIS Incorrect, SRs will not energize automatically.

*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00

*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 033A2.03 Ability to (a) predict the impacts of an abnormal spent fuel pool water level or loss of water level on the SFPC system; and (b) based on those predictions, use procedures to correct, control, or mitigate the condition.
*KA1RO 3.1
*KA1SRO 3.5
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
A refueling outage is in progress on Unit 2. Plant conditions are as follows:

- All fuel has been offloaded to the spent fuel pool (SFP).
- SFP temperature is 105 deg F and steady.
- The Weir Gate was installed for refueling canal maintenance.
- While taking logs in the SFP, the systems operator reports that the level is 153'4" and requires makeup.
- Makeup to the SFP was last performed 15 days ago.

Which one of the following describes the source of water required by procedures to be used to restore SFP level and maintain the SFP boron concentration?

*A. RWST

*B. CVCS blender

*C. Demineralized Water

*D. Reactor Makeup Water

*ANSWER C.
*COGNITIVE Analysis (Application of procedure.)
*REFSPECIFIC SOP-54.0, Section 4.9
*MODULE OPS52108D
*OBJECTIVE OPS52108D05
*ABASIS Incorrect, RWST is the means of filling when the loss of SFP level is due to causes other than evaporation.
*BBASIS Incorrect, CVCS blender is an alternate makeup to the SFP. Per SOP 2.3, Note Section 4.25, this procedure is intended for situations when normal makeup to the SFP is not available and should not be used for normal makeup to the SFP.
*CBASIS Correct, Must analyze stem to determine that water loss is due to evaporation then select the source of water that will not increase boron concentration. Demineralized Water makeup is used for boron concentration control due to evaporation of the SFP water, see procedure caution SOP-54, Step 4.9.2 below.
*DBASIS Incorrect, Reactor Makeup Water is the LAST resort source of makeup, which requires connecting to a hose station.

**SOP 54.0** Step 4.9.2 Makeup from the demineralized water system.
CAUTION: This mode of makeup is used to replace SFP inventory lost due to means other than evaporation.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99

*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 036AA1.01
*KA1RO 3.3
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant is in Mode 6 conducting refueling operations.
- A refueling accident in containment has caused high radioactivity on local portable air samplers.
- The radioactivity readings on the purge exhaust duct monitors have slightly increased, but NOT to the alarm setpoint.
- In anticipation of increasing radiation levels in containment, the SRO has directed manual initiation of Phase A Containment Isolation.
- Step 11.1 of AOP-30.0, “Refueling Accident,” requires the operator to verify containment ventilation isolation.

Which one of the following containment purge system fan units, if running, would NOT be stopped by the Phase A containment isolation actuation?

*A. Minipurge Exhaust Fan.

*B. Main Purge Exhaust Fan.

*C. Containment Purge Air Handling Unit in Slow Speed.

*D. Containment Purge Air Handling Unit in Fast Speed.

*ANSWER A
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52107A, pg. 7, 8, Fig. 4, 7.
*MODULE OPS-52107A
*OBJECTIVE 052521H06
*ABASIS Correct, per reference. Minipurge supply and exhaust fans and purge duct dampers do not stop/isolate on Containment Ventilation Isolation.
*BBASIS Incorrect, per reference.
*CBASIS Incorrect, per reference.
*DBASIS Incorrect, per reference.

*QNUM
*HNUM

*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Modified from Bank #052530D03004
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 038EK3.06
*KA1RO 4.2
*KA1SRO 4.5
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant was stable at 100% power when a large load rejection occurred, followed by an immediate steam generator tube rupture.
- The shift crew has implemented EEP-0 and EEP-3, “Steam Generator Tube Rupture.”
- RCS average temperature is 550°F and decreasing slowly.
- The crew is ready to commence an RCS cooldown to 485°F.
- Both the C-7A and C-9 lights are illuminated on the Bypass and Permissives panel.

Which one of the following actions, if any, should be taken with the steam dumps?

*A. They should be opened fully to obtain the maximum cooldown rate possible.

*B. They are NOT available as indicated by the C-7A and C-9 lights both being energized.

*C. They should NOT be opened past 10% demand to prevent overshooting the required CETC temperatures.

*D. They should be opened the maximum amount that can be controlled to prevent main steam isolation.

*ANSWER D
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52530D, pg. 48.
*MODULE OPS-52530D
*OBJECTIVE 052530D03
*ABASIS Incorrect, opening the dump valves fully with RCS above P-12 could cause MS isolation.
*BBASIS Incorrect, C-9 must be lit for steam dump ops; C-7 being lit does not prevent SD ops.
*CBASIS Incorrect, overshooting required CETC temp not a problem.
*DBASIS Correct, per reference.
*QNUM
*HNUM
*QCHANGE 1/20/99

*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 040AK3.06
*KA1RO 3.4
*KA1SRO 3.9
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- The plant was at 100% power when the 1C SG steam line ruptured inside containment.
- Plant trip, safety injection, and Phase A containment isolation have actuated per design.
- The shift crew has performed applicable steps of EEP-0.0 and EEP-2.0 to isolate 1C SG.
- The shift crew is currently implementing EEP-1.0, “Loss of Reactor or Secondary Coolant.”
- Containment pressure spiked to 35 psig.
- Containment pressure is continuing to decrease slowly.

Which one of the following meets or exceeds prerequisites for securing Containment Spray (CS) IAW EEP-1.0?

*A. When CS has been aligned to the containment sump for 10 hours and containment pressure is 18 psig.

*B. When CS has been aligned to the containment sump for 16 hours and containment pressure is 10 psig.

*C. When CS has been aligned to the RWST for 10 hours and containment pressure is 18 psig.

*D. When CS has been aligned to the RWST for 16 hours and containment pressure is 10 psig.

*ANSWER B
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52530B
*MODULE OPS-52530B
*OBJECTIVE O52530B10
*ABASIS Incorrect, Containment pressure too high.
*BBASIS Correct, per EEP-1, CS on recirc for at least 8 hours and CONTAINMENT pressure <16psig
*CBASIS Incorrect, has to be aligned to containment sump & Containment pressure too high
*DBASIS Incorrect, has to be aligned to containment sump.
*QNUM
*HNUM
*QCHANGE 1/20/99

*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Bank #052520M04003 with significant modifications
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 054AK3.04
*KA1RO 4.4
*KA1SRO 4.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- Reactor power is stable at 41%.
- Only 1A SGFP is running with SGWLC and SGFP control systems in Auto.

Which one of the following statements provides the correct response and reason concerning tripping the reactor if the 1A SGFP trips under these conditions?

*A. The reactor should NOT be manually tripped until the main turbine is tripped in order to minimize the RCS cooldown.

*B. The reactor should be manually tripped before the main turbine is tripped to maximize S/G water inventory for decay heat removal.

*C. Reactor power should be reduced to less than 35%, and then the main turbine tripped; the reactor should NOT be tripped automatically (or manually) to reduce the number of Condition II events.

*D. The main turbine should be tripped manually; the reactor should then be tripped manually only if it does NOT trip automatically in order to minimize the RCS cooldown.

.

*ANSWER B
*COGNITIVE Memory.
*REFSPECIFIC OPS-52520M, pg. 6, 7 and AOP-13 step 1-3, Immediate action steps.
*MODULE OPS-52520M
*OBJECTIVE 052520M04
*ABASIS Incorrect, LOF causes heatup, reactor should be tripped first.
*BBASIS Correct, per reference.
*CBASIS Incorrect, with no SGFP's running the correct action is to trip the Rx and this is already a Condition II event.
*DBASIS Incorrect, reactor should be tripped first.

*QNUM
*HNUM

*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 055EA1.07
*KA1RO 4.3
*KA1SRO 4.5
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- Both units were operating at 100% power.
- A dual unit LOSP has occurred.
- NO emergency diesel generators (EDGs) can be started.
- The shift crews have implemented ECP-0.0, “Loss of All AC Power” and are at step 5 attempting to regain power.
- The 2C Station Blackout (SBO) DG has been started and is supplying Unit 2.
- A ground fault and lockout has occurred on the 1F 4160V Bus.
- Now the switchboard operator reports that he has restored power to Startup Transformer 1A only.

Which one of the following actions are required to be taken on Unit 1 to restore emergency 4160V power IAW ECP-0.0?

*A. Stop 2C SBO DG, shift Unit Selector Switch to Unit 1, and restart 2C DG.

*B. Continue with of ECP-0.0 to defeat autostart of safeguards equipment while making attempts to get power back.

*C. Cross-connect 1G 4160V Bus to 1A Startup Transformer by closing breaker DG01-1.

*D. Jumper the lockout contact in breaker DF01-1 control circuitry and close DF01-1 to power 1F 4160V Bus from 1A Startup Transformer

*ANSWER C
*COGNITIVE Comprehension.
*REFSPECIFIC ECP-0.0, pg. 16, step 5.9.2 RNO.
*MODULE OPS-52532A
*OBJECTIVE O52532A09
*ABASIS Incorrect, 2C SBO DG needed on Unit 2.
*BBASIS Incorrect,we can restore power per ECP-0 and the operator would not continue in this procedure.
*CBASIS Correct, per ECP-0.0 step 5.9.2 RNO

*DBASIS Incorrect-this action is not allowed by procedure.
*QNUM
*HNUM
*QCHANGE 11/04/99
*ACHOICE 11/04/99
*BCHOICE 11/04/99
*CCHOICE 11/04/99
*DCHOICE 11/04/99
*ANSCHANGE 11/04/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 055 EK1.01
*KA1RO 3.3
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following for Unit 1:

-A Loss of All AC Power has occurred.
-At step 1 of ECP-0.0, the total current available from 1B Battery is 1380 Amp-hours.
-The crew is at the step to **Minimize DC Loads.**
-EM personnel report that 420 Amp-hours have been expended and the discharge rate from the battery is 1000 amps.
-Off-site power will be restored in 8 hours.

Assuming loads can be reduced immediately, what is the **maximum** discharge rate that needs to be achieved to keep essential DC Loads from this train available for the 8-hour time period?

*A. 47.5 Amps

*B. 120 Amps

*C. 172.5 Amps

*D. 225 Amps

*ANSWER B
*COGNITIVE Analysis
*REFSPECIFIC ECP-0.0 Loss of All AC and EMP-1340.09
*MODULE OPS-052532A page 21 and 22
*OBJECTIVE 052532A17
*ABASIS Incorrect – 1380 – 1000 = 380 amp-hrs / 8 amps = 47.5 amps. This will equal to 20 hours
*BBASIS Correct - 1380 – 420 = 960 amp-hrs / 8 hrs = 120 amps. This will equal 8 hours
*CBASIS Incorrect – 1380 / 8 hours = 172.5 amps. This will equal 5.6 hours
*DBASIS Incorrect - 1380 + 420 = 1800 / 8 = 225 amps. This will equal 4.2 hours

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Significantly Modified from Bank #052520E08005
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 056AK3.02
*KA1RO 4.4
*KA1SRO 4.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 2:

- The reactor is at 6% power during a plant startup, preparing to roll the main turbine.
- SG level is being maintained on program using the Main Feedwater Bypass valves.
- Due to a 230KV switchyard operating error, the 2B Startup Transformer has been inadvertently de-energized.
- The 2B D/G failed to automatically start.

Which one of the following statements describes the immediate operator actions?

*A. Perform EEP-0 immediate operator actions due to automatic reactor trip on loss of flow.

*B. Perform a reactor shutdown within 1 hour per AOP-4.0, “Loss of Reactor Coolant Flow.”

*C. Trip the reactor manually and proceed to EEP-0 to ensure service water isolation is performed at the appropriate time.

*D. Perform immediate operator actions of AOP-5, “Loss of Electrical Train A or B,” except do NOT trip the reactor because the turbine is already tripped.

*ANSWER C
*COGNITIVE Memory.
*REFSPECIFIC OPS-52520E, pg. 9 and AOP- 5 step 1.
*MODULE OPS-52520E
*OBJECTIVE 052520E08
*ABASIS Incorrect, won’t get LOF trip when <10%and only losing 1 RCP.
*BBASIS Incorrect, trip must be immediate per AOP-5, IA step 1 and entry conditions of a loss of 1 train of Emergency buses.
*CBASIS Correct, per AOP-5.
*DBASIS Incorrect, per AOP-5.

*QNUM
*HNUM
*QCHANGE 11/01/99
*ACHOICE 11/01/99
*BCHOICE 11/01/99
*CCHOICE 11/01/99
*DCHOICE 11/01/99
*ANSCHANGE 11/01/99
*QHISTORY Bank minor modification 052104C26024
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR MG Rollins
*REFKEY
*KA1 056 K1.03
*KA1RO 2.6
*KA1SRO 2.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

The shaft seal system for the 2B SGFP is supplied sealing water from the _____ .

*A. Condensate system

*B. 2B SGFP discharge

*C. Service Water system

*D. Demineralized Water system

*ANSWER A
*COGNITIVE Memory
*REFSPECIFIC Condensate and Feedwater lesson OPS-52104C page 11
*MODULE OPS-52104C
*OBJECTIVE 052104C26
*ABASIS Correct – page 11, 052104C
*BBASIS Incorrect
*CBASIS Incorrect
*DBASIS Incorrect

*QNUM
*HNUM
*QCHANGE 11/03/99
*ACHOICE 11/03/99
*BCHOICE 11/03/99
*CCHOICE 11/03/99
*DCHOICE 11/03/99
*ANSCHANGE 11/03/99
*QHISTORY Significantly modified from 052103D20014
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2

*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 057 AA2.19
*KA1RO 4.0
*KA1SRO 4.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

The following conditions exist on Unit 1:

- 33% power, ramp in progress to 100%.
- Rods in auto, Bank D @ 195 steps.
- 120V AC Vital Bus 1B becomes de-energized.

Which of the following statements is correct for the above conditions?
**NO operator action has been taken**

A. No automatic actions occur; determine the cause for the loss of 1B 120V AC Vital Bus.

B. Automatic rod withdrawal is blocked but operator can still withdraw rods in manual.

C. SSPS will receive a signal to open both reactor trip breakers.

D. "B" Train SSPS is inoperable due to losing the 120V AC supply to the output cabinet.

* ANSWER: C
*COGNITIVE Comprehension
*REFSPECIFIC 120 Volt AC Distribution & O52201I & EEP-0
*MODULE OPS-52103D & O52201I
*OBJECTIVE 52103D20 and O52201I12
*ABASIS Incorrect - several automatic actions can and/or do occur per the ARP-WD2 .
*BBASIS Incorrect – High Power Rod stop prevents outward rod motion.
*CBASIS Correct – SLLOF occurs at 30% Reactor power on 1/3 loops.
*DBASIS Incorrect – 1B Vital Bus goes to A Train, not B Train.

**ALTERNATE QUESTION**

The following conditions exist for Unit 1:

- 29% power, Ramping up.
- Rod control is in manual, Bank D @ 185 steps.
- VCT level transmitter (LT-115) failed low 30 minutes ago.

If 120V AC vital bus 1C becomes de-energized, which of the following statements is correct?
**NO operator action has been taken**

*A. A reactor trip will occur at 35% reactor power if the ramp continues.

*B. A boration of the RCS will occur and the operator will need to stop the ramp.

*C. The ramp can continue with the operator pulling rods outward in manual.

*D. Letdown will isolate and the ramp can continue with excess letdown available.

ANSWER B

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Bank #052103C03007 with significant modifications
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 058AK1.01
*KA1RO 2.8
*KA1SRO 3.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- Reactor power is being held at 58% power during a plant startup.
- The 2-hour action statement of LCO 3.8.4 has been entered for Auxiliary Building DC Electrical power subsystem due to the 1A battery breaker being open for jumpering an inoperable battery cell.
- An LOSP has just occurred on the 1F 4160V bus.

Which one of the following describes the effect on the Auxiliary Building 125 VDC “A” Train?

*A. “A” Train battery bus will be re-energized by the diesel generator sequencer via the swing battery charger.

*B. Loss of “A” Train 125 VDC power will result in a reactor trip due to closure of several DC solenoid-operated valves.

*C. “A” Train battery bus will be automatically aligned to receive DC power from “B” Train via the swing battery charger.

*D. Diesel generator 1-2A will start and re-energize the 600V load center that supplies electrical power to the “A” Train battery charger.

*ANSWER B
*COGNITIVE Memory.
*REFSPECIFIC Bank Question.
*MODULE OPS-52103C.
*OBJECTIVE 052103C03
*ABASIS Incorrect, Table 4 of O52103F shows that the A batt. Chgr and the C batt. Chgr will only go to A Train and that only the Chgr O/S prior to the event will come back. Since the Batt. Breaker is open, the sequencer will not run due to no DC.
*BBASIS Correct, DC solenoids to FRV will cause them to close and cause a loss of Feed.
*CBASIS Incorrect, same as A above.
*DBASIS Incorrect, will start but cannot re-energize the LC automatically due to loss of DC on that Train.
*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 059A2.04 Ability to (a) predict impact feeding a dry SG on MFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of feeding a dry SG
*KA1RO 2.9
*KA1SRO 3.4
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 1 plant conditions are as follows:

- Uncontrolled depressurization of all SGs has occurred.
- All SGs have just been isolated per ECP 2.1, “Uncontrolled Depressurization of All SGs.”
- Subsequently, all AFW is lost and cannot be restored.
- Condensate pump 1B is running to provide feed to the SGs.

- <u>SG parameters:</u> <u>WR Level</u> <u>Pressure</u>

| | | |
|---|---|---|
| SG 1A | 8% | 75 psig, falling |
| SG 1B | 9% | 150 psig, rising |
| SG 1C | 11% | 145 psig, rising |

Which one of the following describes the SGs in which level will be restored and the method from the Control Room that the operator will use to control feed to the selected SGs?

*A. Control feed to SGs 1B and 1C using MAIN feedwater regulating valves.

*B. Control feed to SGs 1B and 1C using feedwater regulating BYPASS valves.

*C. Control feed to SGs 1A, 1B, and 1C using MAIN feedwater regulating valves.

*D. Control feed to SGs 1A, 1B, and 1C using feedwater regulating BYPASS valves.

*ANSWER B.
*COGNITIVE Analysis
*REFSPECIFIC FNP-1-ECP-2.1, Note for Step 5; FNP-1-FRP-H.1, Step 9.19
*MODULE OPS-52533F pages 17-19
*OBJECTIVE O52533F16
*ABASIS Incorrect, If FNP-1-FRP-H.1, Step 9.19—control feedwater regulating BYPASS valves to supply main feedwater to intact SGs cannot be performed, then the operator implements RNO 9.19 locally unlock and control main feedwater regulating valves with handwheels.
*BBASIS Correct, SG 1A is still faulted (lower pressure and decreasing) and should not be fed when intact SGs are available. Per FNP-1-FRP-H.1, Step 9.19—control feedwater regulating BYPASS valves to supply main feedwater to intact SGs.
*CBASIS Incorrect, SG 1A is faulted and should not be fed. If FNP-1-FRP-H.1, Step 9.19—control feedwater regulating BYPASS valves to supply main feedwater to intact SGs cannot be performed, then the operator implements RNO 9.19 locally unlock and control main feedwater regulating valves with handwheels.
*DBASIS Incorrect, SG 1A is faulted and should not be fed. Per FNP-1-FRP-H.1, Step 9.19—control feedwater regulating BYPASS valves to supply main feedwater to intact SGs.
*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 059A2.04 Ability to (a) predict impact feeding a dry SG on MFW; and (b) based on those predictions, use procedures to correct, control, or mitigate the consequences of feeding a dry SG
*KA1RO 2.9
*KA1SRO 3.4
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 1 plant conditions are as follows:

- Uncontrolled depressurization of all SGs has occurred.
- All SGs have just been isolated per ECP 2.1, “Uncontrolled Depressurization of All SGs.”

- Subsequently, all AFW is lost and cannot be restored.
- Condensate pump 1B is running to provide feed to the SGs.

- SG parameters:

| SG parameters: | WR Level | Pressure |
|---|---|---|
| SG 1A | 8% | 75 psig, falling |
| SG 1B | 9% | 150 psig, rising |
| SG 1C | 11% | 145 psig, rising |

Which one of the following describes the SGs in which level will be restored and the method from the Control Room that the operator will use to control feed to the selected SGs?

*A. Control feed to SGs 1B and 1C using MAIN feedwater regulating valves.

*B. Control feed to SGs 1B and 1C using feedwater regulating BYPASS valves.

*C. Control feed to SGs 1A, 1B, and 1C using MAIN feedwater regulating valves.

*D. Control feed to SGs 1A, 1B, and 1C using feedwater regulating BYPASS valves.

*ANSWER B.
*COGNITIVE Analysis
*REFSPECIFIC FNP-1-ECP-2.1, Note for Step 5; FNP-1-FRP-H.1, Step 9.19
*MODULE OPS-52533F pages 17-19
*OBJECTIVE O52533F16
*ABASIS Incorrect, If FNP-1-FRP-H.1, Step 9.19—control feedwater regulating BYPASS valves to supply main feedwater to intact SGs cannot be performed, then the operator implements RNO 9.19 locally unlock and control main feedwater regulating valves with handwheels.
*BBASIS Correct, SG 1A is still faulted (lower pressure and decreasing) and should not be fed when intact SGs are available. Per FNP-1-FRP-H.1, Step 9.19—control feedwater regulating BYPASS valves to supply main feedwater to intact SGs.
*CBASIS Incorrect, SG 1A is faulted and should not be fed. If FNP-1-FRP-H.1, Step 9.19—control feedwater regulating BYPASS valves to supply main feedwater to intact SGs cannot be performed, then the operator implements RNO 9.19 locally unlock and control main feedwater regulating valves with handwheels.
*DBASIS Incorrect, SG 1A is faulted and should not be fed. Per FNP-1-FRP-H.1, Step 9.19—control feedwater regulating BYPASS valves to supply main feedwater to intact SGs.
*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR G.Laska
*REFKEY
*KA1 059AK2.01
*KA1RO 2.7
*KA1SRO 2.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant is stable at 100% power.
- A Steam Generator Tube leak is in progress.
- Chemistry reports that RCS activity is elevated.

If FCV-1152 fails to close, which one of the following radiation monitors will normally detect, alarm and automatically stop the Accidental Liquid RadWaste Release to the environment in progress?

*A. R-23A.

*B. R-23B.

*C. R-19.

*D. R-26B.

| | |
|---|---|
| *ANSWER | B |
| *COGNITIVE | Memory. |
| *REFSPECIFIC | OPS-52106D, Fig. 2. Page 12-13 |
| *MODULE | OPS-52106D |
| *OBJECTIVE | 052106C14 |
| *ABASIS | Incorrect, this shuts 1152 which does not shut per distractor. |
| *BBASIS | Correct, R-23B shuts RCV-23B which stops release. |
| *CBASIS | Incorrect, this isolate SGBD sample. |
| *DBASIS | Incorrect, waste evaporator Condensate not involved. |

| | |
|---|---|
| *QNUM | |
| *HNUM | |
| *QCHANGE | 1/20/99 |
| *ACHOICE | 1/20/99 |
| *BCHOICE | 1/20/99 |
| *CCHOICE | 1/20/99 |
| *DCHOICE | 1/20/99 |
| *ANSCHANGE | 1/20/99 |
| *QHISTORY | New |
| *EXAM TYPE | NRC |
| *QDATE | 1/20/99 |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | B |
| *AUTHOR | Sonalysts |
| *REFKEY | |
| *KA1 | 061AA1.01 |
| *KA1RO | 3.6 |
| *KA1SRO | 3.6 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |
| *QUESTION | |

Select the combination below that completes the following statements.

If one of the Low Level RadWaste Building (LLRWB) area rad monitors, (R-66A-F), reaches ___(X)___ mr/hr, the LLRWB ventilation system is automatically secured. If one of the area radiation monitors in the LLRWB reaches ___(Y)___ mr/hr, the building's magenta flashing lights are automatically actuated.

*A. (X) 50 (Y) 10.

*B. (X) 10 (Y) 50.

*C. (X) 100 (Y) 10.

*D. (X) 10 (Y) 100.

*ANSWER D
*COGNITIVE Memory.
*REFSPECIFIC OPS-52106D, pg. 6 and table 1 page T-1d.
*MODULE OPS-52106D
*OBJECTIVE O52106D08
*ABASIS Incorrect, per reference.
*BBASIS Incorrect, per reference.
*CBASIS Incorrect, per reference.
*DBASIS Correct, per reference.
*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 062A1.01
*KA1RO 3.4
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

The design response of the Unit 1 and Unit 2 AC electrical distribution systems to a complete loss of the 230 KV switchyard is determined in part by the continuous load limits of the emergency diesel generators (EDGs).

Assume the following:

- Both units are operating at full power.
- All EDGs are operable with all selector switches in the normal positions for both Units operating.

If a complete loss of the 230 KV switchyard occurs simultaneously with a Safety Injection actuation on Unit 2, which one of the following states the 4160V buses that will be automatically energized by 1C DG?

*A. 1F and 1K only.

*B. 1F, 1K, and 1H.

*C. 2F and 2K only.

*D. 2F, 2K, and 2H.

*ANSWER B
*COGNITIVE Memory.
*REFSPECIFIC OPS-52103F, Fig. 10 and pages 10-11.
*MODULE OPS-52103F.
*OBJECTIVE O52103F06(G)
*ABASIS Incorrect, 1C DG goes to Unit1 and powers up 1H,1F **AND** 1K.
*BBASIS Correct,1C DG goes to Unit1 and powers up 1H,1F AND 1K .
*CBASIS Incorrect, 1C DG goes to the unit without the SI on a Dual unit LOSP which is Unit 1.
*DBASIS Incorrect, 1C DG goes to the unit without the SI on a Dual unit LOSP which is Unit 1.
*QNUM
*HNUM
*QCHANGE 11/01/99
*ACHOICE 11/01/99
*BCHOICE 11/01/99
*CCHOICE 11/01/99
*DCHOICE 11/01/99
*ANSCHANGE 11/01/99
*QHISTORY Significantly modified from 052102F14011
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR bank
*REFKEY
*KA1 062 AA1.02
*KA1RO 3.2
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Which of the following could be an effect on plant operation if the " B" Train of the Service Water system were lost?

*A. Containment air temperature could rise due to loss of cooling to the RCP motor air coolers

*B. SGBD could isolate due to high heat exchanger outlet temperature

*C. In the event of a fire in containment, fire protection to containment would be lost

*D. 139' Rad side Aux. Building air temperatures could rise due to a loss

of cooling to “A” MCC air cooler

*ANSWER A
*COGNITIVE Comprehension
*REFSPECIFIC AOP-10.0, Loss of SW and Service Water lesson plan
*MODULE OPS-52520J, 52102F
*OBJECTIVE 052102F14, 052102F08,52102F02
*ABASIS Correct – B Train SW supplies RCP motor air coolers
*BBASIS Incorrect – A Train supplies SGBD
*CBASIS Incorrect – both trains supply fire protection to containment
*DBASIS Incorrect - A Train SW supplies A MCC air cooler

*QNUM
*HNUM
*QCHANGE 11/01/99
*ACHOICE 11/10/99
*BCHOICE 11/01/99
*CCHOICE 11/01/99
*DCHOICE 11/01/99
*ANSCHANGE 11/01/99
*QHISTORY 1994 SRO Audit exam – Modified significantly
*EXAM TYPE NRC
*QDATE 11/01/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR G T Ohmstede
*REFKEY
*KA1 062 AK3.03
*KA1RO 4.0
*KA1SRO 4.2
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following on Unit 1:

- DG15 (1B Startup Transformer to 1G 4160 V bus) tripped open due to an electrical fault.
- 1B Diesel Generator has started and tied on the bus.
- DG02 (1G 4160 V bus tie to 1L 4160 V bus) has subsequently tripped open.
- Service Water cannot be restored and the 1B D/G is required.

IAW AOP-10.0, when is it required to stop the affected D/G?

*A. As soon as it is determined that SW cannot be restored to protect the D/G from damage due to overheating.

*B. Three minutes after the Loss of SW to the D/G occurred because a D/G can operate three minutes without overheating.

*C. The D/G is not stopped as long as it is required to supply the emergency buses with power to protect the core.

*D. If the local Lube Oil temperature alarm cannot be maintained clear to protect the D/G from damage due to overheating.

*ANSWER D
*COGNITIVE Comprehension
*REFSPECIFIC AOP-10.0 Loss of Service Water
*MODULE OPS-52520J page 5 – 6 and AOP-10 step 4.2
*OBJECTIVE 52520J02
*ABASIS Incorrect – AOP-10 has the operator isolate SW to the TB and other components as well as line-up SW flow from the other unit first.
*BBASIS Incorrect – Same as above and the time requirement is not in the procedure
*CBASIS Incorrect - The D/G will be stopped if the alarm cannot be cleared
*DBASIS Correct – Step 4.2.6 says that if the LO temp alarm cannot be cleared then Stop the D/G

*QNUM
*HNUM
*QCHANGE 11/15/99
*ACHOICE 11/15/99
*BCHOICE 11/15/99
*CCHOICE 11/15/99
*DCHOICE 11/15/99
*ANSCHANGE 11/15/99
*QHISTORY Test Bank- SRO audit exam
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR G Rollins
*REFKEY
*KA1 063 K3.01
*KA1RO 3.7
*KA1SRO 4.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
**Which of the following best describes the status of the Diesel Generators**
to a loss of DC power to the air start solenoids?

*A. Neither the “Big” nor the “Little” Diesels can be started

*B. Only the “Little” Diesels can be started

*C. Only the “Big” Diesels can be started

*D. Both the “Big” and the “Little” Diesels can be started

*ANSWER C
*COGNITIVE Memory
*REFSPECIFIC 052102I Diesel Generator lesson page 8 & 9
*MODULE OPS-52102I
*OBJECTIVE 052102I05
*ABASIS Incorrect – The Big diesels have a manual start mechanism, and can be started
*BBASIS Incorrect – The Little diesels do not have a manual start mechanism

*CBASIS Correct - The Big diesels have a manual start mechanism, and can be started
*DBASIS Incorrect - – The Little diesels do not have a manual start mechanism

*QNUM
*HNUM
*QCHANGE 10/31/99
*ACHOICE 10/31/99
*BCHOICE 10/31/99
*CCHOICE 10/31/99
*DCHOICE 10/31/99
*ANSCHANGE 10/31/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 10/31/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 064 K2.03
*KA1RO 3.2
*KA1SRO 3.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following:

- DC power has been completely lost to 125 volt DC Bus 1B.
- During this time period an LOSP occurs on Unit 1.

Concerning the Diesel Generators and their output breakers:

*A. 2C Diesel Generator is available to be started and the Unit 1 output breaker will automatically close.

*B. 2C Diesel Generator is available to be started and the Unit 1 output breaker must be locally closed.

*C. 1B Diesel Generator will automatically start and the output breaker will automatically close.

*D. 1B Diesel Generator will automatically start and the output breaker must be locally closed.

*ANSWER B.
*COGNITIVE Comprehension
*REFSPECIFIC 125v DC distribution page 5 and Sequencer lesson plan Figure 20
*MODULE 052103C and 052102I
*OBJECTIVE 052103C03, 052102I13
*ABASIS Incorrect, 2C DG is available due to the ABT transfer , DC power is not available to the output breaker so it will have to be closed manually
*BBASIS Correct.
*CBASIS Incorrect. No DC power to DG for starting solenoids, field flash or sequencer and breaker control
*DBASIS Incorrect. No DC power to DG for starting solenoids or field flash

*QNUM
*HNUM
*QCHANGE 11/01/99

*ACHOICE 11/01/99
*BCHOICE 11/01/99
*CCHOICE 11/01/99
*DCHOICE 11/01/99
*ANSCHANGE 11/01/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 065 AA2.08
*KA1RO 2.9
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following on Unit 1:

- An unisolable leak in the Instrument Air system has occurred.
- IA pressure is 40 psig and falling.
- Annunciator BK1 “PENE RM TO ATMOS A TRN ΔP HI-LO” has come into alarm.
- VCT level is 25% and lowering.

Which one of the following statements is correct for the above conditions?

*A. Auto make-up starts and aligns.

*B. Charging pump suctions shift to the RWST.

*C. LCV-115A diverts to the RHT.

*D. The running charging pump begins to cavitate.

*ANSWER B
*COGNITIVE Comprehension
*REFSPECIFIC OPS-52520F Loss of Instrument Air page 2-3, AOP-6.0 page 5-6
OPS-52108A page 13 and figure9 OPS-52101F page 20
FNP-1-ARP-1.2 Annunciator BK1 page 1-3
*MODULE OPS-52520F
*OBJECTIVE 052520F02
*ABASIS Incorrect – FCV’s 114B,114A AND 113B fail closed on loss of air
*BBASIS Correct – as VCT level decreases to 5% on both LT-115/112, RWST suctions will open
*CBASIS Incorrect – LCV-115A fails to the VCT position
*DBASIS Incorrect – Due to the RWST suctions opening, charging pumps will have a suction.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99

*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 067AA2.16
*KA1RO 3.3
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Select the combination below that completes the following blanks.

One criterion of Appendix R to 10CFR50 for an alternate safe shutdown capability is that the equipment/systems used to achieve and maintain cold shutdown conditions in the event of a plant fire must be identified.
Appendix R identified equipment that is expected to be used ___(X)___ hours from fire initiation should be capable of being powered from an ___(Y)___-site power source.

*A. (X) During the first 24 (Y) Off

*B. (X) After the first 24 (Y) Off

*C. (X) During the first 72 (Y) On

*D. (X) After the first 72 (Y) On

*ANSWER C
*COGNITIVE Memory.
*REFSPECIFIC OPS-52521E, pg. 3 and OPS-52202D page 31-32
*MODULE OPS-52521E & OPS-52202D
*OBJECTIVE O52521B02, O52521B05 & O52521C04
*ABASIS Incorrect, Should be w/I 72 hours and On-site power.
*BBASIS Incorrect, Should be w/I 72 hours and On-site power.
*CBASIS Correct, Should be w/I 72 hours and On-site power.
*DBASIS Incorrect, After the irst 72 hours may be powered from off-site.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99

*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 068AK2.01
*KA1RO 3.9
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Which one of the following states the layout of the Hot Shutdown Panels on Unit 2?

*A. HSP-A and HSP-B in one room; remaining HSPs in room at other end of hallway.

*B. HSP-B and HSP-E in one room; remaining HSPs in room at other end of hallway.

*C. HSP-C and HSP-F in one room; remaining HSPs in room at other end of hallway.

*D. HSP-D and HSP-G in one room; remaining HSPs in room at other end of hallway.

*ANSWER C
*COGNITIVE Memory.
*REFSPECIFIC OPS-52202D, pg. 7 AND FIGURE 9
*MODULE OPS-52202D
*OBJECTIVE O52202D05
*ABASIS Incorrect, per reference.
*BBASIS Incorrect, per reference.
*CBASIS Correct, per FIGURE 9, HSP-C and F are in the same room with the reat at the other end of the hallway.
*DBASIS Incorrect, per reference.

*QNUM
*HNUM
*QCHANGE 01/20/00
*ACHOICE 01/20/00
*BCHOICE 01/20/00
*CCHOICE 01/20/00
*DCHOICE 01/20/00
*ANSCHANGE
*QHISTORY New
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 068 K6.10
*KA1RO 2.5
*KA1SRO 2.9
*KA2
*KA2RO
*KA2SRO

*QVALUE 1.0
*QUESTION
Which of the following is correct concerning the sample requirements for an effluent release with R-18 inoperable?

*A. At least two independent samples are analyzed for each Batch release prior to discharging the Waste Monitor Tank.

*B. At least one independent sample is analyzed for each Batch release prior to discharging the Waste Monitor Tank <u>and</u> a grab sample taken hourly while the release is in progress.

*C. No release can be made until R-18 is returned to service.

*D. A grab sample taken and analyzed after the release is initiated <u>and</u> once per hour while the release is in progress.

*ANSWER A
*COGNITIVE Memory
*REFSPECIFIC OPS-52106D page 90 ODCM page 2-1, 2-3, 2-4, 2-7, 2-9 and Liquid and Solid waste
*MODULE OPS-052106A
*OBJECTIVE 052106A11
*ABASIS Correct – per ODCM and Page 90 of 052106D
*BBASIS Incorrect – No grab sample is required per Table 2-3 and sample requirements per action 28 call for 2 independent samples
*CBASIS Incorrect – release is permitted
*DBASIS Incorrect - No grab sample is required per Table 2-3 and sample requirements per action 28 call for 2 independent samples

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Significantly Modified from Bank #O52533M01009
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 069AG2.4.8
*KA1RO 3.0
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- The plant was operating steady-state at 100% power.
- A plant trip, safety injection, and Phase B containment isolation have occurred due to a large-break LOCA in containment.
- The shift crew performed applicable steps of EEP-0.0 and transitioned to EEP-1.0, “Loss of Reactor or Secondary Coolant.”
- FRP-Z.1, “Response to High Containment Pressure,” was entered in response to an ORANGE path on Containment CSF’s.
- The actions of FRP-Z.1 were completed, and the crew returned to EEP-1.0.
- The Containment CSF has just gone RED.

Which one of the following actions is required to be taken in response to the RED condition Containment CSF?

*A. Remain in EEP-1.0 and monitor the remaining CSFs.

*B. Transition to ECP-1.1, “Loss of Emergency Coolant Recirculation.”

*C. Re-enter FRP-Z.1 at step 1 and perform the actions of the FRP guideline.

*D. Transition to ESP-0.0, “Rediagnosis,” based on operator’s judgement.

| | |
|---|---|
| *ANSWER | A |
| *COGNITIVE | Comprehension. |
| *REFSPECIFIC | SOP-0.8, pg. 8. |
| *MODULE | OPS-52533M. |
| *OBJECTIVE | 052533M01 |
| *ABASIS | Correct, per reference. |
| *BBASIS | Incorrect, ECP-1.1 used vice FRP-Z.1 if already in ECP-1.1. |
| *CBASIS | Incorrect, FRP-Z.1 has been completed. |
| *DBASIS | Incorrect, only go to ESP-0.0 if no Red path showing. |

| | |
|---|---|
| *QNUM | |
| *HNUM | |
| *QCHANGE | 10/26/99 |
| *ACHOICE | 10/26/99 |
| *BCHOICE | 10/26/99 |
| *CCHOICE | 10/26/99 |
| *DCHOICE | 10/26/99 |
| *ANSCHANGE | 10/26/99 |
| *QHISTORY | NEW |
| *EXAM TYPE | NRC |
| *QDATE | 10/26/99 |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | B |
| *AUTHOR | GT Ohmstede |
| *REFKEY | |
| *KA1 | 071 A3.03 |
| *KA1RO | 3.6 |
| *KA1SRO | 3.8 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |

*QUESTION
Given the following:

- There is a Waste Gas release in progress.
- R-21, R-22, and R-29B indicators are upscaling
- R-14 is in High Alarm.

Which one of the following states the valve position indications expected to be found on the Waste Gas Panel?

*A. RCV-014 green light on, white light on, red light off, and the pneumatic control signal at mid position.

*B. RCV-014 green light on, white light off, red light off, and the pneumatic control signal at mid position.

*C. RCV-014 green light off, white light on, red light on, and the pneumatic control signal at minimum position.

*D. RCV-014 green light off, white light off, red light on, and the pneumatic control signal at minimum position.

| | |
|---|---|
| *ANSWER | A. |
| *COGNITIVE | Comprehension |
| *REFSPECIFIC | Waste Gas OPS-052106B - page 7. |
| *MODULE | OPS-052106B |
| *OBJECTIVE | 052106B02 & 052106D08 |
| *ABASIS | Correct, per reference material |
| *BBASIS | Incorrect, white light will be on for RCV-014 being shut in this condition. |
| *CBASIS | Incorrect, green light will be on, red light will be off and controller will be at original position for RCV-014 being shut in this condition. |
| *DBASIS | Incorrect, controller will be at original position for RCV-014 being shut in this condition and the green light would be on. |

| | |
|---|---|
| *QNUM | |
| *HNUM | |
| *QCHANGE | 5/8/00 |
| *ACHOICE | 5/8/00 |
| *BCHOICE | 5/8/00 |
| *CCHOICE | 5/8/00 |
| *DCHOICE | 5/8/00 |
| *ANSCHANGE | 5/8/00 |
| *QHISTORY | New |
| *EXAM TYPE | NRC |
| *QDATE | 5/8/00 |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | B |
| *AUTHOR | Sonalysts, Inc. |
| *REFKEY | |
| *KA1 | 072K5.01 |
| *KA1RO | 2.7 |
| *KA1SRO | 3.0 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |
| *QUESTION | |

R-27A and B, the High Range Containment Radiation Monitors (HRRMs) use mineral-insulated (MI) cables to transmit the detector signal to the Control Room.

Which one of the following compares the radiation levels indicated in the Control Room by the HRRMs to the actual containment radiation levels during the abnormally high containment temperatures of a Main Steam Line Break (MSLB) and a design-basis LOCA (DB LOCA), due to the effect of the mineral insulation on the cable signal?

*A. A MSLB will result in elevated HRRM indications that are higher than expected for a MSLB.

*B. A MSLB will result in elevated HRRM indications, but lower than expected for a MSLB.

*C. A DB LOCA will result in elevated HRRM indications, but several orders of magnitude lower than expected for a DB LOCA.

*D. A DB LOCA will result in elevated HRRM indications that are several orders of magnitude higher than expected for a DB LOCA.

*ANSWER A.
*COGNITIVE Memory
*REFSPECIFIC OPS-52106D, pg 22
*MODULE OPS-52106D
*OBJECTIVE OPS-52106D16
*ABASIS Correct, Mineral insulation (MI) temperature induced erroneous signals during severe temperature transients will cause a potential error of +100 R/hr which is significant during a MSLB, but it is several orders of magnitude below the indications expected during a LOCA.
*BBASIS Incorrect, The +100 R/hr error signal is significantly higher than expected for MSLB but is several orders of magnitude below the indications expected during a LOCA.
*CBASIS Incorrect, The +100 R/hr error signal is insignificant during a LOCA because the expected radiation levels are several orders of magnitude larger.
*DBASIS Incorrect, The +100 R/hr error signal is insignificant during a LOCA because the expected radiation levels are several orders of magnitude larger.
*QNUM
*HNUM
*QCHANGE 04/12/96
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY Modified Bank O52106D16009, 04/12/96
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 073A1.01
*KA1RO 3.2
*KA1SRO 3.5
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

There is a LOCA on Unit 2 with a safety injection in progress. Radiation monitors R-11 and R-12 will NOT alarm if high airborne radioactivity occurs inside containment because both monitors will be isolated by a signal generated directly by _____.

*A. Containment Isolation phase A

*B. Containment Isolation phase B

*C. Containment Ventilation train A isolation

*D. Containment Ventilation train B isolation

*ANSWER A.
*COGNITIVE Memory
*REFSPECIFIC OPS-52201I, pg 57 and Fig 35; EEP-0 ATTACHMENT 2
*MODULE OPS-52201I, OPS52106D
*OBJECTIVE O52106D16
*ABASIS Correct, CTMT ATMOS TO R-11/12 Q1E14MOV3660,3657 &3658 is closed by a containment phase A isolation.
*BBASIS Incorrect, Containment phase B occurs at a higher pressure and does not affect the R-11/R-12 valves.
*CBASIS Incorrect, Containment ventilation isolation signal is generated by a MANUAL Phase A or B signal, any signal that generates an SI, HI-HI rad on RE-24A/B and does not affect the isolation valves for R-11/12.
*DBASIS Incorrect, Containment ventilation isolation signal is generated by a MANUAL Phase A or B signal, any signal that generates an SI, HI-HI rad on RE-24A/B and does not affect the isolation valves for R-11/12.

*QNUM
*HNUM
*QCHANGE 11/02/99
*ACHOICE 11/02/99
*BCHOICE 11/02/99
*CCHOICE 11/02/99
*DCHOICE 11/02/99
*ANSCHANGE 11/02/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 074 EK 1.04
*KA1RO 3.7
*KA1SRO 4.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
The following conditions exist on Unit 2:

- The SMM reads $43^0$ F in the CETC mode.
- The Hottest core exit T/C indicates $481^0$ F.
- The Hottest upper head T/C indicates $493^0$ F.
- The Highest indicating loop RTD indicates $473^0$ F.

What should the lowest reading pressure for the associated SMM channel read based on this information?

*A. 770 psig

*B. 826 psig

*C. 841 psig

*D. 916 psig

*ANSWER B
*COGNITIVE Analysis
*REFSPECIFIC ICCMS Lesson OPS-52202E page 7-9
*MODULE OPS-52202E
*OBJECTIVE 052202E24
*ABASIS Incorrect - wrong temp used
*BBASIS Correct – 481 +43 = 524 = 841 psia – 15 = 826 psig
*CBASIS Incorrect – not in psig
*DBASIS Incorrect - 493 + 43 =536 wrong temp used

*QNUM
*HNUM
*QCHANGE 03/0900
*ACHOICE 03/09/00
*BCHOICE 03/09/00
*CCHOICE 03/09/00
*DCHOICE 03/09/00
*ANSCHANGE 03/09/00
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 075A2.03 Ability to (a) predict the impacts of the safety features and relationship between condenser vacuum, turbine trip, and steam dump; and (b) based on those predictions, use procedures to correct, control, or mitigate the condition.
*KA1RO 2.5
*KA1SRO 2.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions:

- Unit 2 is at 25% and holding for repairs to 2B CW Pump.
- 2A CW pump has just tripped due to a lightening strike.
- Main condenser vacuum drops quickly from 1.0 psia to 2.7 psia and is slowly decreasing.
- Another SJAE has already been placed in service.

The operator should:

*A. Perform AOP-3.0, “Turbine Trip Below P-9 Setpoint” and control RCS temperature using the atmospherics.

*B. Perform EEP-0, “Reactor Trip or Safety Injection”and control RCS temperature using the steam dumps.

*C. Perform AOP-3.0, “Turbine Trip Below P-9 Setpoint” and control RCS temperature using

the steam dumps.

*D. Perform EEP-0, “Reactor Trip or Safety Injection”and control RCS temperature using the atmospherics.

*ANSWER A
*COGNITIVE Memory
*REFSPECIFIC OPS-52520H, AOP 8.0, Step 1, OPS-52201G Steam Dumps page 17-18 and figure 3 & 11
*MODULE OPS-52201G
*OBJECTIVE OPS52201G25
*ABASIS Correct, The main turbine will be tripped per AOP-8 step 1.2 and steam dumps are not available due to CW pump trips. The reactor will not trip at <35% power.
*BBASIS Incorrect, The reactor will not trip and steam dumps are not available.
*CBASIS Incorrect, steam dumps are not available.
*DBASIS Incorrect, The reactor will not trip
*QNUM
*HNUM
*QCHANGE 01/20/00
*ACHOICE 01/20/00
*BCHOICE 01/20/00
*CCHOICE 01/20/00
*DCHOICE 01/20/00
*ANSCHANGE 01/20/00
*QHISTORY Significantly Modified from 052520G01002
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR MG Rollins
*REFKEY
*KA1 076 A2.01
*KA1RO 3.5
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions:

- Unit 1 is operating at 88% reactor power when SW to the TB isolation valves Q1P16V514, V515, V516 and V517 go closed.
- Upon entry into AOP-7.0, the plant operator opens V515, V516 and V517, but Q1P16V514 will **NOT** reopen.
- Temperatures on all equipment in the Turbine Building are rising.

IAW AOP-7.0, which of the following best describes the next action the operator should take?

*A. Trip the reactor and refer to EEP-0.

*B. Commence ramping the Main Turbine as required to maintain generator hydrogen temperature below $48^0$ C.

*C. Commence ramping the Main Turbine to less than 35% Reactor power and remove the main generator from the grid.

*D. Check one train of service water aligned to the Turbine Building, then stop unnecessary Turbine Building components.

*ANSWER B
*COGNITIVE Memory
*REFSPECIFIC AOP-7.0 lesson OPS-52520G page 3 AOP-7.0 steps 1-2
*MODULE OPS-52520G
*OBJECTIVE 052520G01
*ABASIS Incorrect - one train is still aligned
*BBASIS Correct - step 2 check generator hydrogen temps less than 48$^{o}$ C, RNO to commence ramp
*CBASIS Incorrect – There is no procedural guidance to ramp and trip the main turbine.
*DBASIS Incorrect – There is one train aligned so you would not go to RNO column at step 5.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 076AG2.1.33
*KA1RO 3.4
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- The plant is operating steady state at 100% power.
- Chemistry has reported that the current values for RCS coolant are:
  0.8 MeV/disintegration for E-bar
  3E-4 μc/gm for Dose Equivalent I-131.

Which one of the following combinations states the current upper limits per ITS LCO 3.4.16 on reactor coolant gross specific activity (X) and Dose Equivalent I-131 (Y)?

*A. (X) 80 μCi/ml (Y) 0.03 μc/gm.

*B. (X) 125 μCi/ml (Y) 0.03 μc/gm.

*C. (X) 80 μCi/ml (Y) 0.3 μc/gm.

*D. (X) 125 µCi/ml (Y) 0.3 µc/gm.

*ANSWER D
*COGNITIVE Memory.
*REFSPECIFIC ITS 3.4.16 Condition A and SR 3.4.16.1.
*MODULE OPS-52106E
*OBJECTIVE O52302H08, O52521J01
*ABASIS Incorrect, both values are 100 times current values.
*BBASIS Incorrect, (Y) value is 100 times current value.
*CBASIS Incorrect, (X) value is 100 times current value.
*DBASIS Correct, (X) value is 100/E-bar and (Y) is always 0.3 uc/gm.
*QNUM
*HNUM
*QCHANGE 01/20/00
*ACHOICE 01/20/00
*BCHOICE 01/20/00
*CCHOICE 01/20/00
*DCHOICE 01/20/00
*ANSCHANGE 01/20/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 078 G2.4.11
*KA1RO 3.4
*KA1SRO 3.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions:

- Unit 2 is in mode 6
- RCS Hot Leg water level is 122’9”
- A Loss of All Instrument Air has occurred.
- AOP-6.0 directs the operator to enter AOP-12.0, “RESIDUAL HEAT REMOVAL SYSTEM MALFUNCTION,” in conjunction with this procedure.

What is the immediate concern and correct reason for entering AOP-12.0?

*A. To check the running RHR pump due to severe cavitation concerns

*B. To stop the running RHR pump to preclude uncovering the fuel

*C. To recover RCS level to greater than 123’3” to prevent boiling in the core

*D. To regain control of the cooldown rate due to the heat exchanger outlet valve failing open

*ANSWER A
*COGNITIVE Memory

*REFSPECIFIC 052520F AOP-6.0, Loss of Instrument Air and AOP-6.0 procedure
*MODULE OPS-052520F
*OBJECTIVE 052520F01
*ABASIS Correct – Caution on page 9 prior to Step 24
*BBASIS Incorrect – The RCS has no where to go so the fuel will not be uncovered
*CBASIS Incorrect – This may have to be done if there is cavitation but level recovery is not to prevent boiling but rather to stop cavitation and get an RHR pump running without cavitation concerns
*DBASIS Incorrect – While this may need to be done eventually, it is not an immediate concern

*QNUM
*HNUM
*QCHANGE 01/20/00
*ACHOICE 01/20/00
*BCHOICE 01/20/00
*CCHOICE 01/20/00
*DCHOICE 01/20/00
*ANSCHANGE 01/20/00
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 10/31/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR GT Ohmstede
*REFKEY
*KA1 079 K1.01
*KA1RO 3.0
*KA1SRO 3.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Which of the following describes the events which will occur if an Instrument Air header line break occurs in the Unit 1 100' Lower Equipment Room?

*A. At 45 psig and falling, Instrument Air to the Turbine Building Isolation Valve (V-903) will close and isolate the leak.

*B. At 70 psig and falling, Instrument Air Dryer Bypass Valve (V-902) will open to attempt to supply Instrument Air to the Auxiliary Building

*C. At 75 psig and falling, All Instrument Air Compressors will start in AUTO to attempt to supply Instrument Air to the Auxiliary Building.

*D. At 80 psig and falling, Service Air Header Isolation Valve (V-901) will close and isolate the leak.

*ANSWER B
*COGNITIVE Memory
*REFSPECIFIC Compressed Air lesson plan. 052108A page 6 – 12, figure 3
FNP-1-ARP- 1.10 Automatic action 1-5

*MODULE 052108A
*OBJECTIVE 052108A 05, 04, 19, 03
*ABASIS Incorrect - v903 will close at 45 psig but will not isolate the leak.
*BBASIS Correct - per page 6 and 11
*CBASIS Incorrect - the air compressors start as demanded by the sequencer
*DBASIS Incorrect - v901 will close but will not isolate the leak.

*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 086K6.04 Knowledge of the effect of a loss or malfunction on the Fire Protection System will have on the fire, smoke, and heat detectors.
*KA1RO 2.6
*KA1SRO 2.9
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
A fire alarm has been received in the Main Control Room. The Unit Operator observes the System 2A-100, Elev. 83' & 77' Aux RCA is in alarm.

Which one of the following describes the operability of the Fire Detection System if the local reflash unit has NOT been acknowledged?

*A. Only the system that is in alarm is inoperable.

*B. Only the zone that is in alarm within that system is inoperable.

*C. All systems on the Pyrotronics Fire Detection System Panel are inoperable.

*D. All systems common to the shared alarm window on the BOP Fire Annunciator Panel are inoperable.

*ANSWER D.
*COGNITIVE Memory
*REFSPECIFIC FNP-0-SOP-0.4, NOTE before step 4.6.1 and 052303P02 page 12.
*MODULE 052303P
*OBJECTIVE 052303P02
*ABASIS See note before step 4.6.1 of FNP-0-SOP-0.4, excerpt below.
*BBASIS See note before step 4.6.1 of FNP-0-SOP-0.4, excerpt below.
*CBASIS See note before step 4.6.1 of FNP-0-SOP-0.4, excerpt below. The local panel is the Pyrotronics Fire Panel.
*DBASIS See note before step 4.6.1 of FNP-0-SOP-0.4, excerpt below.
FNP-0-SOP-0.4, NOTE before step 4.6.1
NOTE: Only the system that is in alarm is inoperable as long as the associated local reflash unit has been acknowledged, however, <u>all</u> zones within <u>that system</u> are inoperable when <u>any</u> zone of that system is in alarm. <u>IF</u> a system is in

alarm and a local reflash unit is NOT acknowledged, THEN all systems common to a shared alarm window on the BOP Fire Annunciator Panel are inoperable.

*QNUM
*HNUM
*QCHANGE 5/10/99
*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.1.1
*KA1RO 3.7
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Select the choice that completes the following statement describing the performance requirements during surveillance test procedures (STPs).

Prior to the commencement of any STP, approval will be obtained from the ____(X)____. During the performance of the STP, the Unit Operator ____(Y)____.

*A. (X) Shift Supervisor
(Y) must remain in the control room during the performance of the STP

*B. (X) Shift Supervisor
(Y) may leave the Control Room to perform a section of the STP with the permission of the Shift Supervisor

*C. (X) Shift Foreman-Operating
(Y) may leave the Control Room to perform a section of the STP with the permission of the Shift Supervisor

*D. (X) Shift Foreman-Operating
(Y) must remain in the control room during the performance of the STP

*ANSWER B
*COGNITIVE Memory
*REFSPECIFIC FNP-0-AP-16, Section 3.1 and 8.1, See excerpts below.
*MODULE OPS-52303
*OBJECTIVE O52303H28
*ABASIS Incorrect, The Unit Operator’s work station is the control room and permission is required of the SS to leave.
*BBASIS Correct, The Shift Supervisor's approval will be obtained prior to the commencement of any surveillance testing.

Unit operator may be granted permission by the Shift Supervisor to leave the Control Room for operational matters, such as performance of STPs, clearance, verification, etc.

*CBASIS Incorrect, Shift Foreman-Operating reviews STP for completion and logs completion.

*DBASIS Incorrect, Shift Foreman-Operating reviews STP for completion and logs completion. SS must grant permission to UO to leave control room.

**FNP-0-AP-16**

3.1.9.4 The UO's work station is in the Control Room. However, he may be granted permission by the Shift Supervisor to leave the Control Room for operational matters, such as performance of STPs, clearance, verification, etc.

8.1 The Shift Supervisor's approval will be obtained prior to the commencement of any surveillance testing. space and initial each step as it is completed. The performer will affix his signature and date on the procedure upon completion of the test. All items will be written in black ink. If a step is not completed for any reason, the reason must be recorded on the procedure. All statements will be factual and readings will be as accurate as possible. When a test is performed and does not meet the specified acceptance criteria, the Shift Supervisor will be notified and corrective action will be initiated in accordance with FNP-0-AP-52.

The Shift Foreman Operating will review all operations surveillance tests for completeness and accuracy and shall so indicate by signing and dating the procedure in the appropriate space. In addition, he will insure that an entry is made on the control room surveillance test schedule to document the completion of the tests.

*QNUM
*HNUM
*QCHANGE 5/10/99
*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.1.22
*KA1RO 2.8
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Unit 2 conditions are as follows:

- The plant tripped 2 days ago.
- RCPs are operating.
- All control rods are inserted.
- Average reactor coolant temperature: 375°F
- Steam Generator pressures: 200 psig
- RCS is heating up at: 5°F/hr

Which one of the following describes the operating mode of the reactor in accordance with Technical Specifications?

*A. Startup

*B. Hot Standby

*C. Hot Shutdown

*D. Cold Shutdown

*ANSWER B.
*COGNITIVE Comprehension
*REFSPECIFIC Tech Specs Table 1.1-1, pg 1.1-7
*MODULE OPS-52302B
*OBJECTIVE O52302B12
*ABASIS Incorrect, Only reason that the conditions are not considered a startup is that reactivity < 0.99. Heatup is caused by decay heat and RCPs.
*BBASIS Incorrect, T.S. defines Hot Standby as keff $\leq$ 0.99, percent thermal power-N/A, and average reactor coolant temperature $\geq$ 350 deg. F
*CBASIS Correct, T.S Mode, 350 deg F > reactor coolant average temperature > 200 deg F.
*DBASIS Incorrect, T.S Mode, $\leq$ 200 deg F reactor coolant average temperature.
*QNUM
*HNUM
*QCHANGE 12/31/99
*ACHOICE 12/31/99
*BCHOICE 12/31/99
*CCHOICE 12/31/99
*DCHOICE 12/31/99
*ANSCHANGE 12/31/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 12/31/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.1.29 (Conduct and verify valve lineups)
*KA1RO 3.4
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
An operator is conducting the FIRST CHECK of a return to service system lineup. The Return to Service System Checklist requires a locked valve to be throttled 15 turns open (40% open). When the operator observes the valve he finds the following conditions:

- The valve locking device is unlocked.
- The valve is fully open.

Which one of the following is the action the operator is expected to take per AP-16?

*A. Note the “as found” position and initial in the columns provided on the System Checklist, then document the reason on a System Checklist Exceptions Sheet.

*B. Note the “as found” position of the valve on the System Checklist, then document the reason for the

discrepancy above the "Lineup" space of the System Checklist.

*C. Note and circle the "as found" position of the valve on the System Checklist, reposition the valve to the required position, write the "as found" and new positions on the System Checklist Exceptions Sheet, and initial the line entry.

*D. Note and circle the "as found" position of the valve on the System Checklist, reposition the valve to the required position, write the new position above the circled "as found" position, and initial above the "Lineup" space of the System Checklist.

*ANSWER A
*COGNITIVE Comprehension
*REFSPECIFIC AP-16, APPENDIX C, pg C1
*MODULE 052303H
*OBJECTIVE 052303H18
*ABASIS Correct – AP-16 app. C The first person to perform a return to service system lineup will normally not position any valves, switches, or devices, etc. He will personally check the status of the listed component per the various conditions as defined in Table 1. If the component is not in the desired condition he will note the actual condition in the column provided and initial. If the component is in the desired condition he need only initial. The Shift Foreman Operating (SFO) shall be promptly informed of any discrepancies.

<u>All discrepancies shall be resolved by filling out a System Checklist Exceptions Sheet and either leaving it as is or by having it properly repositioned</u>.

If the component was properly repositioned, the person who repositioned the valve will indicate this by circling both the "as found" and the lineup initials. He will then write the new position above the circled "as found" position and will signify his check of the component in its new position with his initials above the "Lineup" space.

*BBASIS Incorrect – need to initial and documented in the wrong place.
*CBASIS Incorrect – do not circle or reposition the valve.
*DBASIS Incorrect – do not circle or reposition the valve.

*QNUM
*HNUM
*QCHANGE 12/31/99
*ACHOICE 12/31/99
*BCHOICE 12/31/99
*CCHOICE 12/31/99
*DCHOICE 12/31/99
*ANSCHANGE 12/31/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 12/31/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.2.13
*KA1RO 3.6
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

The repair of a reactor post accident sampling valve requires a Tag Order to apply hold tags to isolate the valve. Some of the sampling system components involved in the tag order are under the cognizance of the Chemistry Department and some are under the cognizance of the Operations Department.

Which one of the following describes the Tag Order(s) that must be prepared and the responsibility for administration?

*A. One Tag Order, administered and approved by the Chemistry Foreman

*B. One Tag Order, administered and approved by the Shift Supervisor

*C. Two Tag Orders, one administered by the Chemistry Foreman and one administered by the Shift Supervisor, and both approved by the Chemistry Foreman

*D. Two Tag Orders, one administered by the Chemistry Foreman and one administered by the Shift Supervisor, and both approved by the Shift Supervisor

*ANSWER B.
*COGNITIVE Memory
*REFSPECIFIC pg 2 of AP-14 Step 3.9. pages 5,8 & 16 that describe the responsibilities of the Authorizing Signature and who that person is.
*MODULE 052303A
*OBJECTIVE 052303G10
*ABASIS Incorrect- The chm foreman does not authorize a TOO that the OPS group has some devices,some of which are under the cognizance of the Manager-OPS. OPS is responsible for this function.
*BBASIS Correct- When an activity requires the tagging of multiple devices, some of which are under the cognizance of the Manager-OPS and the remainder are under the cognizance of another manager, only one TOO will be prepared under the administration of the OPS group.
*CBASIS Incorrect- Only one TOO is to be prepared per step 3.9 of AP-14. Also same as 1 above.
*DBASIS Incorrect- Only one TOO is to be prepared per step 3.9 of AP-14.
*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR G.W. Laska
*REFKEY
*KA1 2.2.3
*KA1RO 3.1
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 1 is operating at 50% rated power and Unit 2 is operating at 15 % power getting ready to roll the main

turbine.

- Unit 1 impulse pressure 300 psig
- Unit 1 Steam Generator water level 58%

- Unit 2 impulse pressure 0 psig
- Unit 2 Steam Generator water level 55%

The Unit 1 Steam Generator water level is _____ and the Unit 2 Steam Generator water level is _____.

*A. as expected; lower than expected.

*B. as expected; as expected.

*C. lower than expected; lower than expected.

*D. lower than expected; as expected.

*ANSWER D
*COGNITIVE Comprehension
*REFSPECIFIC OPS-52201B page 4 and figure 3 and Steam Generator Replacement DCP.
*MODULE 52201B Steam Generator Water Level Control and 52108H.
*OBJECTIVE O52201B05
*ABASIS Incorrect, Unit 1 should be at 65%, Unit 2 at 54%.
*BBASIS Incorrect, Unit 1 should be at 65% .
*CBASIS Incorrect, Unit 1 is lower than expected, but Unit 2 is as expected.
*DBASIS Correct, Unit 1 is lower than expected, and Unit 2 is as expected.

*QNUM
*HNUM
*QCHANGE 5/10/99
*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.2.30
*KA1RO 3.5
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Spent fuel pool conditions:

- Initial boron concentration : 2010 ppm
- Inadvertent addition of 500 gpm of pure water to the spent fuel pool has just been initiated.
- Plant staff is unaware of the addition of water to the spent fuel pool.

Which one of the following is expected to prevent criticality of the fuel in the spent fuel pool due to boron dilution?

*A. There is no plant storage source of pure water that can be inadvertently aligned to provide the necessary 480,000 gallons of pure water to dilute the pool.

*B. The lowest elevation of the piping connected to the spent fuel pool is 140’ 6”, which will minimize dilution of the borated water surrounding the stored fuel bundles.

*C. The amount of water necessary to dilute the pool would cause the pool to overflow, which would be detected by plant personnel and result in termination of the event.

*D. An initial boron concentration greater than 2000 ppm would prevent dilution of the SFP above a $K_{eff}$ of 0.95 for 24 hours and would provide sufficient time for operators to discover and secure the inadvertent addition.

*ANSWER C.
*COGNITIVE Memory
*REFSPECIFIC OPS-40305B/52108D, pg 42
*MODULE OPS-40305B/52108D
*OBJECTIVE O52108D22 & O52108D39
*ABASIS Incorrect, Tests concept that 480,000 gallon is not based on tank sizes of water stored on site.
*BBASIS Incorrect, Misconception of the purpose of the protection provided by piping penetration elevations, OPS-40305B/52108D, pg 8.
*CBASIS Correct, Pool boron concentration is required to be greater than or equal to 2000 ppm. This concentration requires such a large volume of water to cause dilution to spent fuel pool keff greater than 0.95 that the pool would overflow, which would be detected and terminated by plant personnel prior to exceeding a keff of 0.95.
*DBASIS Incorrect, The safety analysis does not establish a time limit for dilution; furthermore, 500 gpm must continue for only 16 hrs to sufficiently dilute the pool to greater than a keff of 0.95.
*QNUM
*HNUM
*QCHANGE 12/31/99
*ACHOICE 12/31/99
*BCHOICE 12/31/99
*CCHOICE 12/31/99
*DCHOICE 12/31/99
*ANSCHANGE 12/31/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 12/31/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.3.1
*KA1RO 2.6
*KA1SRO 3.0
*KA2
*KA2RO

*KA2SRO
*QVALUE 1.0
*QUESTION

An operator must make an entry into a High Radiation area. The operator's radiation exposure history is as follows:

- Age: 51 years old
- Lifetime TEDE: 39 Rem
- TEDE for the year: 0.2 Rem
- TODE for the year: 3.0 Rem
- No dose extensions have been approved.

Which one of the following states the additional TEDE and TODE that the operator is limited to for the year per FNP Administrative Guidelines?

| | Additional Annual TEDE Allowed | Additional Annual TODE Allowed |
|---|---|---|
| *A. | 1.8 Rem | 17 Rem |
| *B. | 1.8 Rem | 1.5 Rem |
| *C. | 0.25 Rem | 17 Rem |
| *D. | 0.25 Rem | 1.5 Rem |

*ANSWER A
*COGNITIVE Analysis
*REFSPECIFIC HP Manual, pg 6 - 8 and G-00402/40102 page 15-17
*MODULE G-00402/40102
*OBJECTIVE G40102A-03
*ABASIS Correct, 10CFR20 limits are 5 Rem/yr for TEDE and 50 Rem/yr for TODE. Farley Admin limit TEDE is 2.0 Rem and TODE is 20 Rem
*BBASIS Incorrect, Distractors TEDE 0.25 Rem and TODE 1.5 Rem based on concurrently badged worker limits, TEDE of 0.45 Rem and TODE of 4.5 Rem.
*CBASIS Incorrect, Distractors TEDE 0.25 Rem and TODE 1.5 Rem based on concurrently badged worker limits, TEDE of 0.45 Rem and TODE of 4.5 Rem.
*DBASIS Incorrect, Distractors TEDE 0.25 Rem and TODE 1.5 Rem based on concurrently badged worker limits, TEDE of 0.45 Rem and TODE of 4.5 Rem.

*QNUM
*HNUM
*QCHANGE 12/31/99
*ACHOICE 12/31/99
*BCHOICE 12/31/99
*CCHOICE 12/31/99
*DCHOICE 12/31/99
*ANSCHANGE 12/31/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 12/31/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B

*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.3.10
*KA1RO 2.9
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Which one of the following describes the general practice prescribed by the Health Physics Manual, FNP-0-M-001, that should FIRST be used to minimize the intake of radioactive material by personnel entering Airborne Radioactivity Areas?

*A. Reduction in working times

*B. Increased radiological surveillances

*C. Use of respiratory protective equipment

*D. Reduce airborne levels using engineering controls

*ANSWER D.
*COGNITIVE Memory
*REFSPECIFIC HP Manual pg 4 and G-004/401 Rad worker training page 55
*MODULE G-004/401 Rad worker training
*OBJECTIVE G40103B-02
*ABASIS Incorrect, When impracticable to apply process or other engineering controls, other precautionary measures may be used, e.g. increased radiological surveillances, reduction in working times, or use of respiratory protective equipment.
*BBASIS Incorrect, When impracticable to apply process or other engineering controls, other precautionary measures may be used, e.g. increased radiological surveillances, reduction in working times, or use of respiratory protective equipment.
*CBASIS Incorrect, When impracticable to apply process or other engineering controls, other precautionary measures may be used, e.g. increased radiological surveillances, reduction in working times, or use of respiratory protective equipment.
*DBASIS Correct, As a general practice, the plant staff will use process or other engineering controls to limit the concentrations of radioactive materials in air below the limits defined in 10CFR20.1204.
*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 10/31/98
*QHISTORY Modified Bank # G40102A03004, 10/31/98
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.3.4 Knowledge of radiation exposure limits and contamination control including permissible levels in excess of those authorized.
*KA1RO 2.5
*KA1SRO 3.1
*KA2

*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions:

- An operator is a fully documented Radiation Worker.
- His TEDE quarterly dose is 1.0 Rem.
- His TEDE annual exposure is 1.5 Rem.
- The dose rate from a small valve is 12 Rem/hr at 6 inches away.
- He is working at a distance of 4 feet from the valve.

Which one of the following times describes the MAXIMUM TIME you may work at your present location BEFORE you exceed FNP administrative limits for total dose equivalent exposure (TEDE)?

*A. 2 hours 40 minutes

*B. 5 hours 30 minutes

*C. 18 hours 40 minutes

*D. 21 hours 30 minutes

*ANSWER A
*COGNITIVE Analysis
*REFSPECIFIC OPS 304/310, pg 12
*MODULE OPS 304/310
*OBJECTIVE 031001A09, G40102B07, G40102A03
*ABASIS Correct, The FNP administrative limit is 2 Rem/yr. 2Rem – 1.5 Rem = 0.5 Rem allowed
12 R/hr * $(0.5\ ft)^2 / (4ft)^2$ = 0.1875 Rem/hr
0.5 Rem / 0.1875 Rem/hr = 2.66 hrs
*BBASIS Incorrect, The FNP administrative limit is 2 Rem/yr. 2Rem – 1.0 Rem = 1.0 Rem allowed
12 R/hr * $(0.5\ ft)^2 / (4ft)^2$ = 0.1875 Rem/hr
1.0 Rem / 0.1875 Rem/hr = 5.33 hrs
*CBASIS Incorrect, The 10CFR20 limit is 5 Rem/yr. 5Rem – 1.5 Rem = 3.5 Rem allowed
12 R/hr * $(0.5\ ft)^2 / (4ft)^2$ = 0.1875 Rem/hr
3.5 Rem / 0.1875 Rem/hr = 18.66 hrs
*DBASIS Incorrect, The 10CFR20 limit is 5 Rem/yr. 5Rem – 1.0 Rem = 4.0 Rem allowed
12 R/hr * $(0.5\ ft)^2 / (4ft)^2$ = 0.1875 Rem/hr
4.0 Rem / 0.1875 Rem/hr = 21.33 hrs
*QNUM
*HNUM
*QCHANGE 5/10/99
*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.

*REFKEY
*KA1 2.4.17 Knowledge of EOP terms and definitions
*KA1RO 3.1
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Which one of the following terms is used in Emergency Response Procedures when directing an operator to operate appropriate components to control a specific parameter to a procedure requirement by using a continuing action?

*A. Adjust

*B. Establish

*C. Implement

*D. Maintain

*ANSWER D.
*COGNITIVE Memory
*REFSPECIFIC FNP-0-SOP-0.8, ATTACHMENT 1, GLOSSARY OF TERMS AND ACTION VERBS
*MODULE O52301B
*OBJECTIVE O52301B12
*ABASIS Incorrect, Definition of ADJUST: "To change a specified feature so that a specified parameter meets specified value."
*BBASIS Incorrect, Definition of ESTABLISH: "To make arrangements for a stated condition. "
*CBASIS Incorrect, Definition of IMPLEMENT: "To begin and maintain a prescribed course of action. "
*DBASIS Correct, Definition of MAINTAIN: "To operate appropriate components to control a specific parameter to a procedure requirement. This implies a continuing action. "

*QNUM
*HNUM
*QCHANGE 5/10/99
*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.4.39
*KA1RO 3.3
*KA1SRO 3.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0

*QUESTION

During a General Emergency an operator is directed to obtain meteorological data from the Main Control Room indicators. The operator observes the following:

- Wind direction indicated on Main Control Room recorder: $060^0$
- 200' elevation temperature: $65^0$ F
- 35' elevation temperature: $70^0$ F

**Which one of the following combinations states the downwind direction and differential temperature?**

| | **Downwind Direction** | **Differential Temperature** |
|---|---|---|
| *A. | $060^0$ | $+ 5^0$ |
| *B. | $060^0$ | $- 5^0$ |
| *C. | $240^0$ | $+ 5^0$ |
| *D. | $240^0$ | $- 5^0$ |

*ANSWER D.
*COGNITIVE Comprehension
*REFSPECIFIC FNP-0-EIP-9.2, page 1
*MODULE OPS-53002
*OBJECTIVE O53002J07
*ABASIS Incorrect, Misconception of wind direction indicated in control room and misconception of differential temperature determination.
*BBASIS Incorrect, Misconception of wind direction indicated in control room.
*CBASIS Incorrect, Misconception of differential temperature calculation.
*DBASIS Correct, Downwind direction is indicated wind direction + 180 degrees. The control room indication is the direction from which the wind is blowing. Differential temperature is the 200' elevation minus the 35' elevation temperature.

SRO ONLY QUESTIONS:
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 005AG2.1.12
*KA1RO 2.9
*KA1SRO 4.0
*KA2
*KA2RO

*KA2SRO
*QVALUE 1.0
*QUESTION

Which one of the following conditions below per ITS for REACTIVITY CONTROL SYSTEMS has a REQUIRED ACTION that would clear the LCO solely by restoring the offending rod(s) to within required limits within one hour?

*A. Shutdown Bank A is inserted below insertion limits.

*B. Shutdown Bank B rod G-7 is NOT within alignment limits.

*C. Control Bank C is inserted below insertion limits.

*D. Control Bank D rods H-2 and F-6 are NOT within alignment limits.

*ANSWER B
*COGNITIVE Comprehension.
*REFSPECIFIC ITS LCO 3.1.4
*MODULE OPS-52201E, Rod Control System
*OBJECTIVE O52201E29
*ABASIS Incorrect – per ITS 3.1.5, requires verifying SDM OR Initiate boration w/i 1 hour AND Restore w/i 2 Hrs
*BBASIS Correct per ITS 3.1.4, B.1.
*CBASIS Incorrect – per ITS 3.1.6, requires verifying SDM OR Initiate boration w/i 1 hour AND Restore w/i 2 Hrs
*DBASIS Incorrect – per LCO 3.1.4, Verify SDM OR Initiate Boration to restore AND be in M-3 in 6 hrs.

Alternate question:

Given the following conditions on Unit 1:

- The plant is operating steady-state at 100% power.
- SR 3.1.4.2 (rod freedom of movement) is being performed on shutdown bank B.
- All shutdown and control bank group step counters indicate 228 steps unless otherwise stated.

Which one of the following indicates an infraction of an ITS LCO?

A. Shutdown bank A group step counters indicate 225 steps.

B. Shutdown bank B group step counters indicate 212 steps.

C. Control bank C rods D-4 and M-12 individual rod positions indicate 216 steps.

D. Control bank D rod H-2 individual rod position indicates 210 steps.

ANSWER D

ABASIS Incorrect—within insertion limits for shutdown banks
BBASIS Incorrect—LCO 3.1.5 is N/A during performance of SR 3.1.4..2
CBASIS Incorrect—within alignment limits for control rods
DBASIS Correct—outside of 12 step alignment limit per LCO 3.1.4

*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY Bank #052201H25030 Significantly Modified
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR MG ROLLINS
*REFKEY
*KA1 008AA2.06
*KA1RO 3.3
*KA1SRO 3.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant is in Mode 3, conducting a controlled cooldown.

- Annunciator HD2, “PRZR PRESS SI PORV BLOCK P-11,” is NOT actuated.

Which one of the following describes the response of the pressurizer PORVs if pressurizer pressure channel PT-444 fails HIGH?

*A. PORV-444B will open UNTIL annunciator HD2 is actuated.

*B. PORV-445A will open UNTIL RCS pressure drops below 2000 psig.

*C. PORV-444B will NOT close IF RCS pressure drops below 2000 psig.

*D. PORV-445A will NOT open from the MCB IF annunciator HD2 is actuated.

| | |
|---|---|
| *ANSWER | A |
| *COGNITIVE | Comprehension. |
| *REFSPECIFIC | OPS-52201H, Appendix 1 |
| *MODULE | 052201H |
| *OBJECTIVE | 052201H25 |
| *ABASIS | Correct; PORV-444B will open until P-11 is energized, actuating HD2 at the setpoint at or below 2000#. |
| *BBASIS | Incorrect; PORV-445A doesn’t open. |
| *CBASIS | Incorrect; PORV-444B will close when P-11 is energized. |
| *DBASIS | Incorrect; PORV-445A will open manually from MCB. |
| *QNUM | |
| *HNUM | |
| *QCHANGE | 1/20/99 |
| *ACHOICE | 1/20/99 |
| *BCHOICE | 1/20/99 |
| *CCHOICE | 1/20/99 |
| *DCHOICE | 1/20/99 |
| *ANSCHANGE | 1/20/99 |
| *QHISTORY | NEW |
| *EXAM TYPE | NRC |
| *QDATE | 1/20/99 |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | S |
| *AUTHOR | Sonalysts |
| *REFKEY | |
| *KA1 | 013G2.2.22 |
| *KA1RO | 3.4 |
| *KA1SRO | 4.1 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |
| *QUESTION | |

It is determined that the bi-stable for the “B” Train P-4 permissive is INOPERABLE with the plant operating at 100% power. As a result of the loss of the “B” Train P-4 function, which one of the following LCOs has the action requirements for this failure?

*A. 3.3.1, Reactor Trip System (RTS) Instrumentation

*B. 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation

*C. 3.7.2, Main Steam Isolation Valves (MSIVs)

*D. 3.7.3, Main Feedwater Stop Valves and Main Feedwater Regulation Valves (FWRVs) and Associated Bypass Valves

*ANSWER B
*COGNITIVE Comprehension.
*REFSPECIFIC ITS Table 3.3.2-1
*MODULE O52201I Rx protection system and ITS table 3.3.2-1
*OBJECTIVE O52201I39
*ABASIS Incorrect, per Table 3.3.1-1, which includes only permissives affecting reactor trip (P-6, 7, 8, 9, 10 & 13).
*BBASIS Correct, per Table 3.3.2-1; even though P-4 is called the Reactor Trip permissive, it is used only in the ESFAS systems and is therefore included in Table 3.3.2-1 with other ESFAS-related permissives (P-11, 12, & 14).
*CBASIS Incorrect, per LCO; the requirements for the actuation portion of these systems is included in LCO 3.3.2.
*DBASIS Incorrect, per LCO; the requirements for the actuation portion of these systems is included in LCO 3.3.2.

*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 025AA2.05
*KA1RO 3.1
*KA1SRO 3.5
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Select the combination below that completes the following blanks for the Unit 1 RHR system.

> To ensure adequate NPSH for RHR pump 1A if a loss of control air to HCV-603A occurs with the A RHR loop in recirculation, HCV-603A has a mechanical stop to limit flow to a maximum of __(X)__ gpm. To prevent RHR pump 1B damage, a minimum of __(Y)__ gpm pump flow must be verified if the 1B pump is used for filling the refueling cavity from the RWST.

*A. (X) 3750 (Y) 500

*B. (X) 3750 (Y) 750

*C. (X) 4200 (Y) 500

*D. (X) 4200 (Y) 750

*ANSWER C
*COGNITIVE Memory.
*REFSPECIFIC OPS-52101K, pg. 10-13
*MODULE OPS-52101K
*OBJECTIVE OPS-52101K10 and K17
*ABASIS Incorrect, 3750 is max for FCV-605 setpoint adjustment.
*BBASIS Incorrect, both wrong.
*CBASIS Correct, per reference.
*DBASIS Incorrect, 750 is flow when miniflow opens.
*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 026A2.07
*KA1RO 3.6
*KA1SRO 3.9
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant was at 95% power when a large-break LOCA occurred inside Containment.
- The crew has taken required response actions.
- Safety Injection and Containment Spray have actuated per design.
- RWST level has decreased to the Lo-Lo level alarm setpoint.

Which one of the following is an undesirable result that would occur if the containment spray recirculation sump isolation valves MOV-8826A and 8826B could NOT be opened at this point in time, and containment spray was required to continue from the RWST?

*A. Increased solubility of elemental iodine in the recirculation sump water.

*B. Decreased recirculation flow through the low-head injection (RHR) pumps.

*C. Increased hydrogen production due to corrosion of zinc-containing materials in containment.

*D. Deceased flow rates through the spray nozzles when the spray pump suction is from the RWST instead of the recirculation sump.

*ANSWER C
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52102C, pg. 4, Containment spray and cooling system
*MODULE OPS-52102C
*OBJECTIVE O52102C01 and O52102C05
*ABASIS Incorrect, desirable effect if it happens.
*BBASIS Incorrect, recirc flow through RHR pumps increases.
*CBASIS Correct, per reference.
*DBASIS Incorrect, suction pressure from sump less than from RWST.
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY Bank #052520I03008
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR MG ROLLINS
*REFKEY
*KA1 026AA2.02
*KA1RO 2.9
*KA1SRO 3.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant is at 100% steady-state power with normal system alignments.
- “B” CCW pump is out of service for maintenance.
- “C” CCW pump is running through the “C” CCW HX, supplying the Miscellaneous header.
- A system leak causes level in the on-service CCW train surge tank to drop to the Lo-Lo level alarm; all automatic actions occur.
- Level in the surge tank continues to fall.

Which one of the following components could be the source of the leak?

*A. Hydrogen recombiner.

*B. Recycle evaporator package.

*C. Letdown heat exchanger tube leak.

*D. “C” CCW heat exchanger relief valve.

*ANSWER D
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52520I, pg. 8-10, AOP-9.0 Loss of CCW
*MODULE OPS-52520I
*OBJECTIVE O52520I03
*ABASIS Incorrect; isolates on Lo-Lo level alarm.
*BBASIS Incorrect; isolates on Lo-Lo level alarm.
*CBASIS Incorrect; higher pressure than CCW.
*DBASIS Correct; outleakage continues after alarm.
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR GT Ohmstede
*REFKEY
*KA1 028AG2.1.33
*KA1RO 3.4
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- The plant is operating steady-state at 100% power.
- Pressurizer level control is in Auto with the PRZR level control selector switch in the I/III position.
- Pressurizer level detector LT-461 has just failed LOW.
- Pressurizer level on indicators LI-459 and LI-460 is at program level.

Which one of the following response actions to this failure is specified by procedure and/or ITS to be completed IMMEDIATELY?

*A. Shift the PRZR level control selector switch to the III/II position.

*B. Check RCP Seal Injection flows and <u>IF</u> required, <u>THEN</u> adjust flow.

*C. Secure charging flow and place excess letdown on service.

*D. Enter the Condition referenced in ITS 3.3.1 for the failed instrument.

*ANSWER D

*COGNITIVE Memory.
*REFSPECIFIC ITS LCO 3.3.1
*MODULE OPS-52201H Pressurizer pressure and level control.
*OBJECTIVE O52201H26
*ABASIS Incorrect – ARP supplementary action
*BBASIS Incorrect – ARP supplementary action
*CBASIS Incorrect – ARP supplementary action
*DBASIS Correct per LCO 3.3.1

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 034A4.01
*KA1RO 3.3
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant is in Mode 6 with core off-load refueling operations in progress.
- As a spent fuel assembly is being removed from the reactor, the cladding on several fuel rods is inadvertently cracked allowing fission gas to escape.
- The escaping fission gas is NOT immediately detected by the fuel handlers.
- When this fuel assembly is in the fuel transfer tube, gas bubbles are noted rising from both ends of the transfer tube.

Which one of the following radiation monitors would be expected to FIRST double in reading to indicate that an assembly with ruptured fuel rods was being handled?

*A. R-2, Containment Area Radiation Monitor.

*B. R-5, Spent Fuel Pool Area Radiation Monitor.

*C. R-12, Containment Atmosphere Radioactive Gas Monitor.

*D. R-25A, Spent Fuel Pool Atmosphere Radioactive Gas Monitor.

*ANSWER D
*COGNITIVE Analysis.
*REFSPECIFIC OPS-52521H, Refueling Accident, pg. 7, 8, 9
*MODULE OPS-52521H
*OBJECTIVE O52521K04, O52106D04, O52521H03
*ABASIS Incorrect, R-2 would respond only if level drops to where remaining assemblies in vessel affect R-2.
*BBASIS Incorrect, R-5 will not be affected unless level in SFP drops to where stored assemblies affect R-5.
*CBASIS Incorrect, R-12 is a low sensitivity monitor. Also due to a large containment volume and assembly should be transferred to SFP per AOP-30.
*DBASIS Correct, assembly should be transferred to SFP, which would be isolated from containment. Rad monitor R-25A has sufficient sensitivity to detect leaking gas from fuel rods.
.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 035G2.2.24
*KA1RO 2.6
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- The plant is operating steady-state at 100% power.
- Surveillance testing is required on the 1A steam generator.
- Only one 1A steam generator channel or valve will be tested at a time.
- Each surveillance will place the associated channel or valve out of service for at least eight hours.

Which one of the following 1A steam generator functions will require the Unit 1 power level to be reduced before completion of the test?

*A. Steam pressure channels.

*B. SG water level channels.

*C. Main steam safety valves.

*D. SG atmospheric relief valves.

*ANSWER C
*COGNITIVE Memory.
*REFSPECIFIC Farley ITS LCO 3.7.1
*MODULE Main and Reheat Steam OPS-52104A
*OBJECTIVE O52104A25
*ABASIS Incorrect, one channel can be inoperable and tripped indefinitely.
*BBASIS Incorrect, one channel can be inoperable and tripped indefinitely.
*CBASIS Correct, power must be reduced for even one MSSV inoperable for extended period (>4 hrs)
*DBASIS Incorrect, power would only have to be reduced if plant shutdown required after 7 days.

Question does not specify what STP/ETP is being done, only that the Equipment is OOS for 8 hours.
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 037AG2.4.4
*KA1RO 4.0
*KA1SRO 4.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

AOP-2.0, “Steam Generator Tube Leakage,” directs certain actions if increased tube leakage is “confirmed by one typical rad monitor pair trending up.” Which one of the following could NOT be considered a “typical rad monitor pair” as defined by AOP-2.0?

*A. R-15A (Steam Jet Air Ejector Exhaust) and R-19 (SGBD Sample Monitor).

*B. R-23B (SGBD to Dilution) and R-15C (Turbine Bldg. Ventilation High Range).

*C. R-70C (1C SG Tube Leak Det.) and R-23A (SGBD Hx Outlet).

*D. R-60D (TDAFWP Exh Monitor) and R-15B (Turbine Bldg. Ventilation Mid Range).

*ANSWER D
*COGNITIVE Memory.
*REFSPECIFIC AOP-2.0, pg. 5
*MODULE OPS-52520B, AOP-2.0 SG Tube leakage, page19.
*OBJECTIVE OPS-52520B01
*ABASIS Incorrect, per reference.

*BBASIS Incorrect, per reference.
*CBASIS Incorrect, per reference.
*DBASIS Correct, R-60D is not part of a “typical pair.”
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY Bank #052532A05011 Modified
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR MG ROLLINS
*REFKEY
*KA1 055EG2.4.7
*KA1RO 3.1
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- A loss of all AC power has occurred.
- The shift crew has NOT been able to restore power to an emergency 4160V bus.
- The crew is performing steps 7 and 8 of ECP-0.0, “Loss of All AC Power,” to defeat autostart of safeguards equipment and isolate RCP seals.
- An SI signal has just been received due to low RCS pressure, which is at 1835 psig and slowly falling.

Which one of the following responses should be taken for the SI signal?

*A. The SI signal should NOT be reset because the signal is required and a valid signal should NOT be blocked.

*B. The SI signal should NOT be reset because the signal will NOT seal in with all emergency AC buses de-energized.

*C. The SI signal must be reset because ESF components CANNOT be manually loaded with an SI signal present.

*D. The SI signal must be reset to prevent automatic loading of ESF equipment if power is restored before equipment autostart is defeated.

*ANSWER D
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52532A, pg. 17/18
*MODULE OPS-52532A
*OBJECTIVE 052532A05

*ABASIS Incorrect; OPS-52532A, pg. 17/18 says that the SI signal is reset so that SI equipment will not automatically actuateupon AC power restoration.
*BBASIS Incorrect; same as above and untrue.
*CBASIS Incorrect; manual loading can be performed after autostart defeated.
*DBASIS Correct; per reference.
*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Significantly Modified from Bank #052103F03026
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 064A2.16
*KA1RO 3.3
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 2:

- The plant is stable at 100% power.
- The 2B diesel has just been paralleled to the 2G 4160V bus in preparation for a 24-hour load run.
- The load on 2B diesel is currently about 50 KW.
- At this point Breaker DG-15, 4160V Bus 2G supply from Startup Transformer 2B, is inadvertently opened; NO additional operator action is taken.
- 2G bus frequency drops to 56 Hz and 2G bus voltage drops to 3825 volts as the diesel picks up the entire load on the bus.

What should happen, if anything, to the 2B diesel generator output breaker, DG-08, as a result of the frequency drop on 2G bus?

*A. Breaker DG08 will trip due to the 2G bus underfrequency.

*B. Breaker DG08 will trip due to the 2G bus undervoltage.

*C. Breaker DG08 will remain closed because neither 2G normal supply breaker is closed.

*D. Breaker DG08 will remain closed because 2G bus frequency and voltage are above the bus trip setpoints.

*ANSWER C
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52103F, pg. 16.

*MODULE OPS-52103F
*OBJECTIVE O52103F11
*ABASIS Incorrect, a normal supply breaker must be closed; neither is.
*BBASIS Incorrect, UV does NOT trip DG.
*CBASIS Correct, per reference.
*DBASIS Incorrect, UF trip setpoint is 57 Hz (95%).
*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 068A2.04
*KA1RO 3.3
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- The plant is operating at 100% power.
- Waste Monitor Tank (WMT) #1 is being discharged to the river.
- R-18, Waste Processing System Liquid Effluent Monitor, has just gone into alarm and is slowly increasing.
- The Radside System Operator notes that annunciator 14, “WATER DISCHARGE LINE HI-RAD,” is alarming.
- The Radside System Operator also notes that WMT #1 flow indication remains steady at 35 gpm.

Which one of the following actions, if any, should the Radside System Operator take to stop the accidental liquid radwaste release from WMT #1?

*A. NO action required; RCV-018 will close automatically after a 10-second time delay.

*B. Go to CLOSE on RCV-018 handswitch to provide full instrument air pressure for closing.

*C. Stop WMT #1 discharge pump and recheck WMT #1 flow indication.

*D. Manually override RCV-018 closed using the manual handwheel.

*ANSWER C
*COGNITIVE Comprehension.

*REFSPECIFIC OPS-52106A, pg. 15, 16
*MODULE OPS-52106A
*OBJECTIVE O52106A11
*ABASIS Incorrect, there is no delay.
*BBASIS Incorrect, RCV-018 requires air to open, fails closed.
*CBASIS Correct, This is the only choice that would stop the release if RCV-18 does not go closed.
*DBASIS Incorrect, this valve does not have a manual handwheel.
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 068AA2.04
*KA1RO 3.7
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions on Unit 1:

- Unit 1 has been operating at 100% power for 310 days.
- Unit 2 was just started up and synched to the grid after a refueling shutdown.
- Toxic gas has made the Control Room inaccessible.
- AOP-28.0, “Control Room Inaccessibility,” has been implemented.
- Both reactors and main turbines have been tripped.
- Control has been shifted to the Hot Shutdown Panels (HSPs).
- On Unit 1 HSP-A, the Loop A Wide-Range temperature meters are inoperable.

Which one of the following is a method Unit 1 can use to ensure RCS T-AVG is maintained near 545-550°F per AOP-28.0?

*A. Modulate SG Atmospheric Reliefs approximately the same percent open as Unit 2 SG Atmospheric Reliefs.

*B. Modulate SG Atmospheric reliefs to maintain SG pressures at 1005 psig, +/- 50psig.

*C. Modulate charging flow to maintain pressurizer level at program for 547°F.

*D. Modulate MDAFW flows to maintain SG levels at program for 0% power.

*ANSWER B
*COGNITIVE Analysis.

*REFSPECIFIC OPS-52202D, pg. T-1/2 AOP – 28.1 step 16, AOP-28.0 step 15
*MODULE OPS-52202D
*OBJECTIVE O52521B02
*ABASIS Incorrect; Unit 2 has much less decay heat.
*BBASIS Correct; T-AVG will be approximately T-SAT at low power per AOP-28.1 step 16
*CBASIS Incorrect; pressurizer level effect will be hidden by charging flow.
*DBASIS Incorrect, SG level effect will be hidden by AFW flow.
*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Significantly modified from Bank # 052102D18002
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 103A2.03
*KA1RO 3.5
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Which one of the following will cause the reactor cavity hydrogen dilution fans to automatically start?

*A. “P” signal (Containment Phase B), No time delay.

*B. “T” signal (Containment Phase A), 5 minute time delay.

*C. ESF sequencer, 5 minute time delay.

*D. LOSP sequencer, No time delay.

*ANSWER C
*COGNITIVE Memory.
*REFSPECIFIC OPS-52102D, pg. 14 and figure 7
*MODULE OPS-52102D Post LOCA atmospheric control
*OBJECTIVE 052102D18
*ABASIS Incorrect, per reference.
*BBASIS Incorrect, per reference.
*CBASIS Correct, SI signal to ESF sequencer with a 5 minute time delay.
*DBASIS Incorrect, per reference.

*QNUM
*HNUM

*QCHANGE 5/10/99
*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.1.13
*KA1RO 2.0
*KA1SRO 2.9
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Maintenance activities require workers to access the main RCA through door 2484, on Unit 2, instead of through the routine access hallway adjacent to the Health Physics Office.

Who must authorize this access?

*A. Only the Shift Supervisor

*B. Only the Health Physics Supervisor

*C. Technical Manager and Shift Supervisor

*D. Technical Manager and Health Physics Supervisor

*ANSWER C.
*COGNITIVE Memory
*REFSPECIFIC FNP-0-AP-42, Step 9.3
*MODULE G00403/40103
*OBJECTIVE G40103D-01
*ABASIS Incorrect, Under special circumstances access to the main RCA can be gained through door 2484, on Unit 2, with the approval of the Shift Supervisor and the Technical Manager. The Shift Supervisor must authorize access to the main RCA from any other point.
*BBASIS Incorrect, Under special circumstances access to the main RCA can be gained through door 2484, on Unit 2, with the approval of the Shift Supervisor and the Technical Manager.
*CBASIS Correct, Under special circumstances access to the main RCA can be gained through door 2484, on Unit 2, with the approval of the Shift Supervisor and the Technical Manager.
*DBASIS Incorrect, Technical Manager approval required and HP Supervisor is commonly affiliated with authorizing activities concerning the RCA, although not required in this situation.

<u>FNP-0-AP-42</u>

9.3 Entry into any RCA requires a Radiation Work Permit and issued personnel dosimetry. Routine access to the main RCA will be through the hallway adjacent to the Health Physics Office. Optional access to the main RCA can be gained through doors 505 and 2505 (Auxiliary Bldg. roof access to the spent fuel areas). Under special circumstances access to the main RCA can be gained through door 2484, on Unit 2, with the approval of the Shift Supervisor and the Technical Manager. The Shift Supervisor must authorize access to the main RCA from any other point. (RESP. 1521). This authorization can be for extended periods of time.

*QNUM

*HNUM
*QCHANGE 5/10/99
*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.1.34
*KA1RO 2.3
*KA1SRO 2.9
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 1 is in a Refueling Outage with fuel being loaded into the core.

Which one of the following describes the MINIMUM temperature and the MINIMUM borated water volume that must be met to maintain an operable boric acid storage tank per the Technical Requirements Manual?

| | **Solution Temperature** | **Borated Water Volume** |
|---|---|---|
| *A. | 35 deg F | 2,000 gal. |
| *B. | 35 deg F | 11,336 gal. |
| *C. | 65 deg F | 2,000 gal. |
| *D. | 65 deg F | 11,336 gal. |

*ANSWER C.
*COGNITIVE Memory
*REFSPECIFIC Technical Requirements Manual, TRS 13.1.6.4 and 13.1.6.6
*MODULE OPS-52101G, pg 18-21
*OBJECTIVE O52302E05
*ABASIS Incorrect, Mode 5 and 6. TRS 13.1.6.6 Verify the contained borated water volume in the boric acid storage tank is ≥ 2,000 gal., TRS 13.1.6.1 Verify RWST solution temperature is ≥ 35 deg F
*BBASIS Incorrect, Mode 5 and 6, TRS 13.1.6.1 Verify RWST solution temperature is ≥ 35 deg F.
Mode 1,2,3&4, TRS 13.1.7.4 Verify the contained borated water volume in the boric acid storage tank is ≥ 11,336 gal
*CBASIS Correct, Plant is in Mode 6. The following TRSs apply. TRS 13.1.6.4 Verify boric acid storage tank solution temperature is ≥ 65 deg F, TRS 13.1.6.6 Verify the contained borated water volume in the boric acid storage tank is ≥ 2,000 gal
*DBASIS Incorrect, Mode 5 and 6, TRS 13.1.6.4 Verify boric acid storage tank solution temperature is ≥ 65 deg F.
Mode 1,2,3&4, TRS 13.1.7.4 Verify the contained borated water volume in the boric acid storage tank is ≥ 11,336 gal
*QNUM
*HNUM
*QCHANGE 5/10/99

*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.2.6
*KA1RO 2.3
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

When performing procedure changes, every FNP procedure or manual, except for Severe Accident Management Guidelines (SAMGs), must be evaluated per the requirements of _____.

*A. 10 CFR 50.59, license amendment safety evaluation

*B. 10 CFR 50.54(p), safeguards contingency plan evaluation

*C. 10 CFR 50.54(q), evaluation for impact on emergency plan effectiveness

*D. FNP-0-AP-98, safeguards evaluation for licensing-document change request

*ANSWER A.
*COGNITIVE Memory
*REFSPECIFIC Farley: OPS-52303, AP-1, Section 7.0, page 8
*MODULE OPS-52303, Administrative Procedures
*OBJECTIVE O52303A01
*ABASIS Correct, The procedure/FNP manual (with the exception of SAMGs) will be screened for 10 CFR 50.59 applicability per FNP-0-AP-88.
*BBASIS Incorrect, In addition to the 10 CFR 50.59, Security Procedures (SPs) and Contingency Implementing Procedures (CIPs) require a 10 CFR 50.54(p) evaluation per FNP-0-AP-98.
Incorrect, Emergency Implementing Procedures (EIPs) require a 10 CFR 50.54(q) evaluation per FNP-0-AP-98.
*DBASIS Incorrect, In addition to the 10 CFR 50.59, Security Procedures (SPs) and Contingency Implementing Procedures (CIPs) require a 10 CFR 50.54(p) evaluation per FNP-0-AP-98, Licensing-Document Change Request.
FNP-0-AP-1
7.1 <u>The procedure/FNP manual (with the exception of SAMGs) will be screened for 10 CFR 50.59 applicability per FNP-0-AP-88.</u>
The SAMGs do not require a 10 CFR 50.59 safety evaluation due to the fact the SAMGs are based on accidents which exceed the design and license basis of the plant. (Reference NEL 97-0018, dated 1/16/97.)
In addition to the 10 CFR 50.59, Security Procedures (SPs) and Contingency Implementing Procedures (CIPs) require a 10 CFR 50.54(p) evaluation per FNP-0-AP-98.
In addition to the 10 CFR 50.59, Emergency Implementing Procedures (EIPs) require a 10 CFR 50.54(q) evaluation per FNP-0-AP-98.

*QNUM
*HNUM
*QCHANGE 5/10/99

*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.4.20
*KA1RO 3.3
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Which one of the following is information that would be provided in an Emergency Response Procedure by using a NOTE?

*A. To prevent an electrical shock hazard to personnel

*B. To reduce the severity of the accident event that is in progress

*C. To identify a continuing action step in a specific emergency response procedure

*D. To prevent the running of an ECCS pump with insufficient minimum recirculation flow

*ANSWER C.
*COGNITIVE Comprehension
*REFSPECIFIC FNP-0-SOP-0.8
*MODULE
*OBJECTIVE
*ABASIS Incorrect, Information needed to prevent personnel injury requires a caution.
*BBASIS Incorrect, Information needed mitigate the accident requires a caution.
*CBASIS Correct, Information other than that needed to prevent personnel injury, mitigate the accident, prevent loss of life or prevent damage to equipment, is placed in a note.
*DBASIS Incorrect, Information needed to prevent damage to equipment requires a caution.

FNP-0-SOP-0.8, Step 3.2

The ERPs have been written to provide concise directed action steps for the user. For this reason, there are many cases where information in addition to action steps is provided to assist the user in proper performance of a step. If the information is needed to prevent personnel injury, mitigate the accident, prevent loss of life or prevent damage to equipment, it is placed in a caution statement. Other information is placed in a note.

Notes or caution statements are placed just prior to the step to which they apply. If a note or caution step applies to a sequence of steps, it is placed just prior to the first step in the sequence. Any note or caution statement which applies to an entire procedure is placed prior to the first operator action step.

Since notes and caution statements provide information needed to support proper performance of the operator action steps, each note or caution statement must be read and understood prior to performing the applicable steps. When the user is directed to a specific ERP step, he must always read and understand any notes or caution statements applicable to that step.

*QNUM

*HNUM
*QCHANGE 5/10/99
*ACHOICE 5/10/99
*BCHOICE 5/10/99
*CCHOICE 5/10/99
*DCHOICE 5/10/99
*ANSCHANGE 5/10/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/10/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 2.4.30
*KA1RO 2.2
*KA1SRO 3.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 1 is operating at 85% power following a recent startup from a scheduled outage, when the following conditions are reported to the Shift Supervisor.

- Engineering has identified that the seals for several containment penetrations do not meet design or the license basis requirements for fire barrier protection or containment requirements.
- Engineering has determined that the plant is operating with containment and the associated ECCS (high pressure injection systems) in an unanalyzed condition.

Which one of the following describes the report that the Shift Supervisor must ensure is completed?

*A. One hour report to the NRC Resident Inspector and the On-Call Emergency Director

*B. Four hour report to the NRC Resident Inspector and the On-Call Emergency Director

*C. One hour report to the NRC Operation Center and the Emergency Support Manager

*D. Four hour report to the NRC Operation Center and the Emergency Support Manager

*ANSWER C.
*COGNITIVE Memory
*REFSPECIFIC EIP 8.0, Page 4-8 sections 7.0, 7.3 and 10.1
*MODULE O53002
*OBJECTIVE O53002I03
*ABASIS Incorrect, One hour report correct, but tests report of event to incorrect NRC contact and plant staff.
*BBASIS Incorrect, Four hour report required if plant is in a shutdown condition when the discrepancy is discovered, and tests report of event to incorrect NRC contact and plant staff.
*CBASIS Correct, If not reported as a declaration of an emergency class per FNP-0-EIP-9.0, the NRC Operation Center and the Emergency Support Manager shall be notified by the Shift Supervisor or the Emergency Director within one hour. A one hour report is required for any event or condition during operation that results in the condition of the nuclear power plant, including its principal safety barriers being seriously degraded; or results in the nuclear power plant being: [(10CFR50.72(b)(1)(ii)]
in an un-analyzed condition that significantly compromises plant safety, [(10CFR50.72(b)(1)(ii)(A)]. **or**
in a condition that is outside the design basis of the plant, [(10CFR50.72(b)(1)(ii)(B)].
*DBASIS Incorrect, Four hour report required if plant is in a shutdown condition when the discrepancy is discovered.

Excerpts from EIP 8.0
7.0 One-Hour Reports [10CFR 50.72(b)(1)].

If not reported as a declaration of an emergency class per FNP-0-EIP-9.0, the NRC Operation Center and the Emergency Support Manager shall be notified by the Shift Supervisor or the Emergency Director within one hour of the occurrence of any of the following: (Figure 1 will be used.)

7.3 Any event or condition during operation that results in the condition of the nuclear power plant, including its principal safety barriers being seriously degraded; or results in the nuclear power plant being: [(10CFR50.72(b)(1)(ii)].

7.3.1 In an un-analyzed condition that significantly compromises plant safety, [(10CFR50.72(b)(1)(ii)(A)]. **or**

7.3.2 In a condition that is outside the design basis of the plant, [(10CFR50.72(b)(1)(ii)(B)]. **or**

7.3.3 In a condition not covered by the plant's operating and emergency procedures [(10CFR50.72(b)(1)(ii)(C)].

| | |
|---|---|
| *QNUM | |
| *HNUM | |
| *QCHANGE | 5/10/99 |
| *ACHOICE | 5/10/99 |
| *BCHOICE | 5/10/99 |
| *CCHOICE | 5/10/99 |
| *DCHOICE | 5/10/99 |
| *ANSCHANGE | 5/10/99 |
| *QHISTORY | Significantly modified from 053002J033 |
| *EXAM TYPE | NRC |
| *QDATE | 5/10/99 |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | S |
| *AUTHOR | Sonalysts, Inc. |
| *REFKEY | |
| *KA1 | 2.4.40 |
| *KA1RO | 2.3 |
| *KA1SRO | 4.0 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |

*QUESTION

The on-call ED is en route to the plant because a Site Area Emergency has been declared. Plant conditions just changed, requiring an upgrade to a General Emergency. The Unit 2 Shift Supervisor should:

*A. Declare the General Emergency and make a follow-up notification with Protective Action Recommendations.

*B. Wait for the on-call ED to declare the General Emergency and make a follow-up notification without Protective Action Recommendations.

*C. Declare the General Emergency and make an initial notification with Protective Action Recommendations.

*D. Wait for the on-call ED to declare the General Emergency and make an initial notification without Protective Action Recommendations.

*ANSWER C.
*COGNITIVE Memory
*REFSPECIFIC FNP-0-EIP-9, page 5 Guideline 1and Emergency Plan lesson, OPS-53002,
*MODULE OPS-53002
*OBJECTIVE O53002J09
*ABASIS Incorrect, the message will be an initial per page 5.
*BBASIS Incorrect, Do not wait and the message will be an initial per page 5.
*CBASIS Correct,
*DBASIS Incorrect, Do not wait.

Following a pipe rupture of the Chemical and Volume Control System, six personnel are injured.

Which one of the following states who the Shift Supervisor is required to consult with to determine which casualties will be transported to a medical or radiological emergency treatment center, in accordance with FNP-0-EIP-11, Handling of Injured Personnel?

*A. Fairview Clinic and/or Southeast Alabama Medical Center

*B. Fairview Clinic and/or University of Alabama Medical Center

*C. Radiation Casualty Treatment Facility and/or Southeast Alabama Medical Center

*D. Radiation Casualty Treatment Facility and/or University of Alabama Medical Center

*ANSWER A.
*COGNITIVE Memory
*REFSPECIFIC FNP-0-EIP-11, Guideline 1, Step 7 and Emergency Plan lesson
*MODULE OPS-53002
*OBJECTIVE O53002L02
*ABASIS Correct, Per FNP-0-EIP-11, Guideline 1, Step 7 provided below.
"In the event of mass casualties or radiation overexposure per step 6 (of EIP-11) above, consult with Southeast Alabama Medical Center (SAMC) and/or the on-call company doctor (Fairview Clinic), to determine which casualties will be transported to SAMC, University of Alabama Medical Center, Radiation Casualty Treatment Facility (RCTF) or Oak Ridge associated Universities (ORAU) Radiation Emergency Assistance Center/Training Site (REACTS)."
*BBASIS Incorrect, University of Alabama Medical Center is one of the options to which injured personnel may be transported.
*CBASIS Incorrect, Radiation Casualty Treatment Facility is one of the options to which injured personnel may be transported.
*DBASIS Incorrect, Both facilities are options to which injured personnel may be transported.

*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 W/E04EG2.1.32
*KA1RO 3.4
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant was operating steady-state at 100% power when a small-break LOCA caused a plant trip and SI actuation.
- SI and Phase A Containment Isolation have actuated per design.
- The crew has implemented EEP-0 and EEP-1, “Loss of Reactor or Secondary Coolant.”
- An interfacing system LOCA (ISLOCA) outside containment is indicated, so the crew has transitioned to ECP-1.2, “LOCA Outside Containment.”

Which one of the following possible ISLOCA flowpaths that are isolated or verified isolated during ECP-1.2 has a prerequisite that before it is isolated, another possible ISLOCA flowpath must be verified OPEN?

*A. RCP seal injection

*B. RCP seal water return

*C. RHR hot leg injection

*D. 1A RHR pump loop suction

*ANSWER A
*COGNITIVE Comprehension.
*REFSPECIFIC ECP-1.2, pg. 3, 4; SOP-1.1 Precaution 3.8.
*MODULE OPS-52532E ISLOCA lesson plan.
*OBJECTIVE O52532E04
*ABASIS Correct; CCW to RCP thermal barriers is a possible ISLOCA flowpath that must be verified open before the RCP seal injection flowpath is isolated by ECP-1.2; step 3.9 verifies CCW supplied to RCP thermal barrier. this action satisfies Precaution 3.8 of SOP-1.1.

*BBASIS Incorrect; just verified closed per ECP 1.2 step 1.4.
*CBASIS Incorrect; just verified closed per ECP 1.2 step 1.2.
*DBASIS Incorrect; just verified closed per ECP 1.2 step 1.1.
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 W/E05EG2.4.22
*KA1RO 3.0
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Which one of the following is a consequence of failure to maintain the Heat Sink safety functions or the Core Cooling safety functions?

*A. Without the Core Cooling safety function, the reactor can NOT be maintained subcritical.

*B. Without the Heat Sink safety function, a positive subcooling margin will NOT be maintained.

*C. Without the Core Cooling safety function, it is NOT possible to satisfy the Heat Sink safety function.

*D. Without the Heat Sink safety function, it is NOT possible to satisfy the Core Cooling safety function.

*ANSWER B
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52533F, pg. 8
*MODULE OPS-52533F
*OBJECTIVE O52533F17
*ABASIS Incorrect, hotter core keeps reactor more subcritical.
*BBASIS Correct, if Bleed and Feed cooling must be used, SCM will be lost, allowing bubble to shift to Rx vessel; closer to core uncovery. Also because RCS is being kept cool which keeps saturation pressure low.
*CBASIS Incorrect, a LOCA with no injection could cause loss of core cooling even with heat sink available.
*DBASIS Incorrect, still have bleed and feed available for core cooling.
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99
*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99

*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 W/E09EA2.1
*KA1RO 3.1
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant was operating steady-state at 100% power.
- A Loss of Off-Site Power and plant trip occurred.
- Offsite-power CANNOT be restored.
- No other plant accident has been diagnosed.
- A natural circulation RCS cooldown has been commenced.
- CRDM cooling fan A is inoperable; CRDM cooling fan B is running.
- Sporadic indication exists of a small steam bubble in the reactor vessel head.

Which one of the following procedures CANNOT be used for these conditions?

*A. FRP-I.3, Response to Voids in Reactor Vessel.

*B. ESP-0.2, Natural Circulation Cooldown to Prevent Reactor Vessel Head Steam Voiding.

*C. ESP-0.3, Natural Circulation Cooldown with Allowance for Reactor Vessel Head Steam Voiding (with RVLIS).

*D. ESP-0.4, Natural Circulation Cooldown with Allowance for Reactor Vessel Head Steam Voiding (without RVLIS).

*ANSWER A
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52531C/L/D, pg. 3/4 ESP-0.2/0.3/0.4 lesson plan, also I.3 Caution statement
*MODULE OPS-52531C/L/D, pg. 3/4
*OBJECTIVE O52531C01,L01, D01
*ABASIS Correct per I.3 Caution statement prior to step 1 and Lesson plan page 4.
*BBASIS Incorrect, ESP-0.2 is enetred to get to the NC cooldown and can then transistion to ESP-0.3/0.4
*CBASIS Incorrect ESP-0.3 can be entered with the above conditions depending upon RVLIS.
*DBASIS Incorrect, ESP-0.4 can be entered with the above conditions depending upon RVLIS
*QNUM
*HNUM
*QCHANGE 02/24/00
*ACHOICE 02/24/00
*BCHOICE 02/24/00
*CCHOICE 02/24/00
*DCHOICE 02/24/00

*ANSCHANGE 02/24/00
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 02/24/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR GT Ohmstede
*REFKEY
*KA1 W/E11EG2.1.7
*KA1RO 3.7
*KA1SRO 4.4
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Given the following conditions:

- Unit 1 was at 100% power.
- A plant trip and SI have occurred due to a LOCA at 0000.
- The LOCA has NOT been isolated.
- RWST level is at 11 feet and is decreasing slowly.
- EEP-1.0, “Loss of Reactor or Secondary Coolant” is in progress and it is 0130.

The operating team should transition to:

*A. ESP-1.3, “Transfer to Cold Leg Recirculation”, and then to ESP-1.4, “Transfer to Simultaneous Cold and Hot Leg Recirculation” at 0730.

*B. ESP-1.2, “Post LOCA Cooldown and Depressurization”, ESP-1.3“Transfer to Cold Leg Recirculation”, and then to ESP-1.4, “Transfer to Simultaneous Cold and Hot Leg Recirculation” at 0900.

*C. ECP-1.1 “Loss of Emergency Coolant Recirculation”, ESP-1.3“Transfer to Cold Leg Recirculation”, and then to ESP-1.4 , “Transfer to Simultaneous Cold and Hot Leg Recirculation” at 0730.

*D. ESP-1.3 “Transfer to Cold Leg Recirculation”, then ESP-1.4, “Transfer to Simultaneous Cold and Hot Leg Recirculation” at 0900, and then to ESP-1.5, “Transfer from Hot Leg to Cold Leg Recirculation” at 2200.

*ANSWER A
*COGNITIVE analysis
*REFSPECIFIC Farley: EEP-1 step 22 and T.A.N. 200000218A
*MODULE OPS-52532D
*OBJECTIVE 052531G11,O52530B16
*ABASIS Correct,per foldout page and per step 22 of EEP-1.
*BBASIS Incorrect, <12.5 feet so foldout page applies and time is incorrect for ESP-1.4.
*CBASIS Incorrect, <12.5 feet so foldout page applies and time is correct for ESP-1.4.
*DBASIS Incorrect, TCN changed recirc criteria and deleted ESP-1.5. Times are incorrect due to starting at 0130.
*QNUM
*HNUM
*QCHANGE 12/30/99
*ACHOICE 12/30/99
*BCHOICE 12/30/99

*CCHOICE 12/30/99
*DCHOICE 12/30/99
*ANSCHANGE 12/30/99
*QHISTORY Modified from Bank # 052106D7017
*EXAM TYPE NRC
*QDATE 12/30/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL S
*AUTHOR Sonalysts
*REFKEY
*KA1 W/E16EA2.2
*KA1RO 3.0
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

The radiation monitoring system is designed to provide continuous surveillance of radioactivity levels in the facility process and effluent streams, and plant environs to assist in compliance with the facility license and applicable regulations and guidelines.

Given the following conditions on Unit 2:

- The plant is stable at 100% power.
- RCS chemistry values are normal for mid-cycle full power operations.
- Containment mini-purge is in operation.
- A small RCS leak (approximately 1000 cc/minute) has just occurred.

Which one of the following radiation monitors should be the first to respond to the RCS leak and upscale into an alarm to aid the operator in preventing an inadvertent release of excessive radioactivity to the environment?

*A. R-24A, containment purge exhaust flow gas monitor.

*B. R-10, penetration room air particulate monitor.

*C. R-11, containment air particulate monitor.

*D. R-12, containment atmosphere gas monitor.

RO ONLY QUESTIONS:

*ANSWER C
*COGNITIVE Memory.
*REFSPECIFIC OPS-52106D, pg. 6, 7, 8, 14
*MODULE OPS-52106D
*OBJECTIVE O52106D07
*ABASIS Incorrect, per reference.
*BBASIS Incorrect, per reference.
*CBASIS Correct, per reference. Upon receiving the alarm, the operators should stop the minipurge to stop the inadvertent release before the limits of the facility license are exceeded.
*DBASIS Incorrect, per reference.

*QNUM

*HNUM
*QCHANGE 04/27/92
*ACHOICE 04/27/92
*BCHOICE 04/27/92
*CCHOICE 04/27/92
*DCHOICE 04/27/92
*ANSCHANGE 04/27/92
*QHISTORY 04/27/92 NRC EXAM Question.
*EXAM TYPE NRC
*QDATE 04/27/92
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR NRC
*REFKEY
*KA1 001 K6.03
*KA1RO 3.7
*KA1SRO 4.2
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- EC4 "SSPS A TRN TRBL" annunciator actuated.
- ED4 "SSPS B TRN TRBL" annunciator actuated.

Which one of the following describes the cause of these alarms, and the effect that simultaneous actuation of these annunciators has on the plant?

*A. Both bypass breakers are shut, and the reactor has lost all automatic trip protection

*B. One bypass breaker and the opposite train trip breaker are shut, and automatic reactor trips are still available.

*C. One bypass breaker is shut and its associated trip breaker is racked out, and all reactor trips are still functional.

*D. Both bypass breakers are shut, and the reactor trips due to energizing the shunt trips in all four breakers.

*ANSWER D
*COGNITIVE Comprehensive
*REFSPECIFIC OPS-52202I Reactor Protection pages 22-24 and 71. Figures 10 & 14.
*MODULE O52201I
*OBJECTIVE O52201I10 and I17
*ABASIS Incorrect – The Rx does have auto trip protection and will trip.
*BBASIS Incorrect- This condition will not cause a General Warning.
*CBASIS Incorrect- This condition will not cause a General Warning.
*DBASIS Correct – If both Bypass Breakers are shut a General Warning wil be produced on both trains and a Rx trip will occur. Not only will the STC cause a trip, the UV coils will also.

*QNUM
*HNUM

*QCHANGE 11/05/99
*ACHOICE 11/05/99
*BCHOICE 11/05/99
*CCHOICE 11/05/99
*DCHOICE 11/05/99
*ANSCHANGE 11/05/99
*QHISTORY Bank
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR BANK
*REFKEY
*KA1 003K5.04
*KA1RO 3.2
*KA1SRO 3.5
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Unit 2 is at 60% power when the 2B RCP trips resulting in a reactor trip. When the plant conditions are **STABLE** after the trip, the 2B steam generator **STEAM FLOW** and **PRESSURE** will indicate as follows: (with respect to the other two steam generators)

(select one of the following.)

***A.** Steam Flow will be **HIGHER**; pressure will be **LOWER**.

*B. Steam Flow will be **LOWER**; pressure will be **HIGHER**.

*C. Steam Flow will be **HIGHER**; pressure will be approximately the **SAME**.

*D. Steam Flow will be **LOWER**; pressure will be approximately the **SAME**.

*ANSWER D
*COGNITIVE Comprehension.
*REFSPECIFIC Farley:
*MODULE O52520D AOP-4.0 Loss of Reactor Coolant Flow pages 1-3.
*OBJECTIVE O52520D05
*ABASIS Incorrect, Steam Flow will be lower due to the loss of forced flow., and pressure should be the same with no steaming and with the MSIV's open. Remember, this is when the plant becomes stable as compared to the other 2 S/G's.
*BBASIS Incorrect, Steam Flow will be lower, but the pressure should not rise.
*CBASIS Incorrect, Steam Flow will be lower.
*DBASIS Correct Steam Flow will be lower, and pressure will remain the same.

*QNUM
*HNUM
*QCHANGE 11/05/99
*ACHOICE 11/05/99
*BCHOICE 11/05/99
*CCHOICE 11/05/99
*DCHOICE 11/05/99
*ANSCHANGE 11/05/99

*QHISTORY **NEW**
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR G. Laska
*REFKEY
*KA1 004G2.1.32
*KA1RO 3.4
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

In accordance with SOP-2.1 (Chemical and Volume Control System Plant Startup and Operation) Precaution and Limitations, **WHEN** operating at a minimum charging flow rate, **THEN** verify the letdown flow is being cooled below 380°F. If not the operator should:

*A. Raise CCW flow to the letdown heat exchanger.

*B. Increase charging and letdown flow by opening an additional letdown orifice flow path.

*C. Divert letdown flow to the VCT bypassing the demineralizers.

*D. Increase charging flow by manually opening FCV-122 and reduce letdown flow by raising the set point on PCV-145.

*ANSWER B
*COGNITIVE Analysis
*REFSPECIFIC Farley:
*MODULE O52101F Chemical and Volume Control. SOP-2.1 page 4, step 3.3
*OBJECTIVE O52101F17
*ABASIS Incorrect- This would have minimal effect on cooling the letdown temperature. Charging flow cools letdown in the Regenitive heat exchanger.
*BBASIS Correct- This is the correct way to cool the letdown listed in the SOP.
*CBASIS Incorrect- This would protect the demineralizers but would not cool down the letdown water.
*DBASIS Incorrect- This would cool down letdown, but it would also fill the RCS or the pressurizer, which is the reason for being at the low flow condition.

*QNUM
*HNUM
*QCHANGE 11/14/99
*ACHOICE 11/14/99
*BCHOICE 11/14/99
*CCHOICE 11/14/99
*DCHOICE 11/14/99
*ANSCHANGE 11/14/99
*QHISTORY BANK 052101F4013
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3

*EXLEVEL R
*AUTHOR BANK
*REFKEY
*KA1 004K1.04
*KA1RO 3.4
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- The plant is stable at 90% power.
- Charging, Letdown and Pressurizer Level Control systems are in automatic.

The selected pressurizer level channel (LT-459) fails low and the "RCP SEAL INJ FLOW LO" (DD1) alarm annunciates a short time after the LT-459 failure. Which of the following explains how these events are related?

**Assume no operator action is taken in response to the LT-459 failure**.

*A. Due to the isolation of letdown, charging flow fell, and the seal injection header was robbed due to the rising pressure on the charging header.

*B. As charging flow was rising, flow to the seal injection header was robbed due to the falling pressure on the charging header.

*C. Due to the loss of pressurizer heaters, charging flow fell; flow to the seal injection header was robbed due to the rising pressure on the charging line.

*D. As charging flow was rising, the D/P across the seal injection filter was rising, and the seal injection header was robbed due to the rising D/P.

*ANSWER B
*COGNITIVE Comprehensive.
*REFSPECIFIC Farley:
*MODULE O52101F CVCS.
*OBJECTIVE O52101F14.
*ABASIS Incorrect,
*BBASIS Correct,
*CBASIS Incorrect,
*DBASIS Incorrect

*QNUM
*HNUM
*QCHANGE 11/14/99
*ACHOICE 11/14/99
*BCHOICE 11/14/99
*CCHOICE 11/14/99
*DCHOICE 11/14/99
*ANSCHANGE 11/14/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2

*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR G. W. Laska
*REFKEY
*KA1 006K2.04
*KA1RO 3.6
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Which one of the following is the power supply to Q1E21MOV8808A,
1A Accumulator discharge isolation?

*A. 4160V F → 600V LCC D → 600V MCC U.

*B. 4160V G → 600V LCC E → 600V MCC V.

*C. 4160V F → 600V LCC E → 600V MCC U.

*D. 4160V G → 600V LCC D → 600V MCC V.

*ANSWER A
*COGNITIVE Memory
*REFSPECIFIC Farley:
*MODULE O52103B Intermediate and low voltage AC distribution.
*OBJECTIVE O52520E01
*ABASIS Correct, per figure 2 of Unit 1 Electrical Distribution diagram and SOP- 36.3A
*BBASIS Incorrect, 8808A is powered from an **A Train source** - MCC U
*CBASIS Incorrect, 4160v F does not go to LCC E and LCC E does not go to MCC U
*DBASIS Incorrect- 4160v G does not go to LCC D and LCC D does not go to MCC V

*QNUM
*HNUM
*QCHANGE 11/23/99
*ACHOICE 11/23/99
*BCHOICE 11/23/99
*CCHOICE 11/23/99
*DCHOICE 11/23/99
*ANSCHANGE 11/23/99
*QHISTORY Used on North Anna Exam 1996.
*EXAM TYPE NRC
*QDATE 01/1996
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Bank
*REFKEY
*KA1 007A1.02
*KA1RO 2.7
*KA1SRO 2.9
*KA2
*KA2RO

*KA2SRO
*QVALUE 1.0
*QUESTION

Unit 1 is at 100 % and the OATC is filling the PRT using SOP 1.2. The OATC becomes distracted.

Overfilling the PRT will:

*A. Increase the hydrogen concentration in the PRT, possibly creating an explosive mixture.

*B. Decrease PRT pressure due to the addition of relatively cold water.

*C. Cause PRT level to exceed maximum Technical Specification level.

*D. Increase PRT pressure, possibly challenging the rupture disc.

*ANSWER D
*COGNITIVE Comprehesion
*REFSPECIFIC Farley:
*MODULE OPS-52101E Pressurizer lesson page 10-11
*OBJECTIVE OPS-52101E14,16
*ABASIS Incorrect, The water coming in from the RMW system will not have a high concentration of hydrogen, and a nitrogen atmosphere exists in the PRT.
*BBASIS Incorrect, With a nitrogen cover gas already in the PRT adding water to the tank will cause pressure to rise.
*CBASIS Incorrect, There is no maximum Technical Specification level associated with the PRT.
*DBASIS Correct, As water is added to the PRT and level rises pressure will increase and if level gets high enough the pressure could increase to a level that could burst the rupture disk.

*QNUM
*HNUM
*QCHANGE 11/04/99
*ACHOICE 11/04/99
*BCHOICE 11/04/99
*CCHOICE 11/04/99
*DCHOICE 11/04/99
*ANSCHANGE 11/04/99
*QHISTORY Modified from old audit Exam.
*EXAM TYPE NRC
*QDATE 11/04/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR G. W. Laska
*REFKEY
*KA1 008AK1.01
*KA1RO 3.2
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Unit one is stable at 100% power when a pressurizer safety valve opened and failed to reseat causing the unit to trip. Which one of the following indications would the operator expect to see as a result of this

problem?

*A. Safety tailpiece temperature would **increase** to greater than 600°F and then slowly **decrease** as RCS pressure decreases.

*B. Safety tailpiece temperature would **increase** to greater than 600°F and then slowly **increase** as PRT pressure increases.

*C. Safety tailpiece temperature would **increase** to between 200°F and 300°F and then slowly **decrease** as flow out of the safety decreases.

*D. Safety tailpiece temperature would **increase** to between 200°F and 300°F and then slowly **increase** as PRT pressure increases.

| | |
|---|---|
| *ANSWER | D |
| *COGNITIVE | Analysis |
| *REFSPECIFIC | Farley: |
| *MODULE | OPS-52101E Pressurizer lesson page 10-12 |
| *OBJECTIVE | O52101E14 and 17 |
| *ABASIS | Incorrect, This would be the correct temperate for pressure at 2240 psig. Since the pressure the steam is going to is 3 psig, the temperature will be 212-225 per the steam tables. |
| *BBASIS | Incorrect, same as above |
| *CBASIS | Incorrect, After the safety has relieved to the PRT the pressure will start increasing toward 100 psig. Per the steam tables , as the pressure rises toward 100 psig, the temperature will also rise until the rupture disc relieves, then the pressure will drop and stable out. |
| *DBASIS | Correct, as the pressure rises toward 100 psig, the temperature will also rise. |

| | |
|---|---|
| *QNUM | |
| *HNUM | |
| *QCHANGE | 11/14/99 |
| *ACHOICE | 11/14/99 |
| *BCHOICE | 11/14/99 |
| *CCHOICE | 11/14/99 |
| *DCHOICE | 11/14/99 |
| *ANSCHANGE | 11/14/99 |
| *QHISTORY | 02/05/93 Modified stem from bank question. |
| *EXAM TYPE | NRC |
| *QDATE | |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | R |
| *AUTHOR | BANK (Modified.) |
| *REFKEY | |
| *KA1 | 011K5.12 |
| *KA1RO | 2.7 |
| *KA1SRO | 3.3 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |
| *QUESTION | |

At normal operating conditions, in relation to PRZR level transmitter LT-462, LT-460 should be reading:
(Circle the correct response.)

*A. Higher because it is calibrated to read correctly at hotter PRZR temperatures.

*B. Higher because it is calibrated to read correctly at colder PRZR temperatures.

*C. Lower because it is calibrated to read correctly at hotter PRZR temperatures.

*D. Lower because it is calibrated to read correctly at colder PRZR temperatures.

*ANSWER A
*COGNITIVE Comprehensive.
*REFSPECIFIC Farley:
*MODULE O52201H Pressurizer pressure and level control page 14
*OBJECTIVE O52201H24, H13
*ABASIS Correct- LT-460 should be reading higher because it is calibrated to read correctly at hotter temperatures.
*BBASIS Incorrect- LT-460 should be reading higher but not because it was calibrated at colder temperatures.
*CBASIS Incorrect- LT-460 should be reading higher.
*DBASIS Incorrect- LT-460 should be reading higher. This is not true because this applies to LT- 462 in relation to LT-460.

*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 013A4.02
*KA1RO 4.3
*KA1SRO 4.4
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
During an electrical transient, a spurious SI actuation occurred on both trains on Unit 1. The following conditions exist:

- The SI actuating signal has been cleared.
- Three minutes have elapsed since the SI was actuated.
- The operator has depressed the SI reset pushbuttons on the MCB.
- MLB 1, 1-1 and 1-11 are no longer lit.

So far, the operator has discovered that the following valves will not respond to MCB switch manipulations.

- HHSI TO RCS CL ISO, Q1E21MOV8803B.
- 1B ACCUM DISCH ISO, Q1E21MOV8808B.

Which one of the following operator actions is required to restore operation of the HHSI and accumulator isolation valves IAW ESP-1.1?

*A. Push the SI reset pushbuttons for Train A and B again to reset the unlatched slave relays.

*B. Walk down the SSPS Train A and B output cabinets and manually reset each unlatched slave relay.

*C. Reset Train B relays by turning the S821 reset handswitch inside SSPS Test Cabinet for Train B.

*D. Reset Train A relays by turning the S821 reset handswitch inside SSPS Test Cabinets for Train A.

*ANSWER C.
*COGNITIVE Analysis
*REFSPECIFIC OPS52201I, pg 69 and 70 and ESP-1.1 step 1 RNO
*MODULE OPS52201I
*OBJECTIVE 052201I09(d) and 52531E01
*ABASIS Incorrect, Depressing the SI reset pushbuttons again will not reset the slave relays because the reset slave relays for SSPS having already reset as indicated by Monitor Light Boxes 1-1 and 1-11 being extinguished.
BBASIS Incorrect, Walk down the SSPS Train A output cabinet would have to be performed to diagnose which relay(s) have not reset. At FNP we have decided to Turn the S821 reset handswitch to reset all the slave relays.
*CBASIS Correct, Westinghouse IG96004 documents that SSPS may fail to reset when the SI reset pushbuttons are depressed due to a time race between slave relays which may prevent some slave relays from unlatching. This condition will result in an inability to operate certain ESF components and may only be detected when an attempt is made to operate the component. During events or testing, in lieu of walking down the cabinets to identify the unlatched relays the operator is to reset the slave relays by turning the S821 RESET handswitch located in the SSPS test cabinet for the affected train(s) to the clockwise position.
*DBASIS Incorrect, The operator is only required to operate the S821 RESET handswitch located in the SSPS test cabinet for the affected train(s).
*QNUM
*HNUM
*QCHANGE 10/12/99
*ACHOICE 10/12/99
*BCHOICE 10/12/99
*CCHOICE 10/12/99
*DCHOICE 10/12/99
*ANSCHANGE 10/12/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 10/12/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Laska G.W.
*REFKEY
*KA1 015 K4.07
*KA1RO 3.7
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Concerning the Bypass and Permissive Panel, which of the following is correct?

*A. P-7 Low Power Rx. Trip Block Permissive will be lit with 2/4 NI's >10% reactor power.

*B. P-8 Single Loop Loss of Flow Permissive will be lit with 1/4 NI's > 30% reactor power.

*C. P-9 Turbine Trip Permissive will be lit with 2/4 NI's > 35% reactor power.

*D. P-10 PR Power Escalation Permissive will be lit with 1/4 NI's >10% reactor power.

*ANSWER B.
*COGNITIVE Memory
*REFSPECIFIC Excore Nuclear Instrumentation, OPS-52201D, pages T-5 –T5b.
*MODULE 052201I RPS and OPS-52201D Excore Nuclear Instrumentation
*OBJECTIVE 10 (O52520R06) and 052201I14
*ABASIS Incorrect, The coincidence is satisfied, but the permissive is not lit above the set point.
*BBASIS Correct, This is the correct coincidence and the permissive light will be lit. Lit < stpt 2/4 >stpt to clear (30%)
*CBASIS Incorrect, P-9 is lit less than the set point. 2/4 > 35% light will be out.
This is above the set point.
*DBASIS Incorrect, P-10 will be lit if 2/4 NI's are > 10%.

*QNUM
*HNUM
*QCHANGE 11/05/99
*ACHOICE 11/05/99
*BCHOICE 11/05/99
*CCHOICE 11/05/99
*DCHOICE 11/05/99
*ANSCHANGE 11/05/99
*QHISTORY Question used on old Audit Exam, similar to O52520L09012.
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Bank
*REFKEY
*KA1 0025 AG2.4.4
*KA1RO 4.0
*KA1SRO 4.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

The plant is in Mode 6 when erratic RHR pump parameters are indicated. The RHR loop suction valves have been verified open. Which of the following actions should be done first to eliminate cavitation prior to securing the affected RHR pump(s)?

*A. Raise RCS level

*B. Vent the RHR train.

*C. Raise RCS level and reduce RHR flow

*D. Reduce RHR flow

*ANSWER D
*COGNITIVE Memory
*REFSPECIFIC Farley: AOP -12.0 Residual Heat Removal System Malfunction.
*MODULE O52520L
*OBJECTIVE O52520L09
*ABASIS Incorrect, Raising RCS level is performed only if reducing the flow does not work, and this is after securing the pump.
*BBASIS Incorrect, Venting the RHR train would only be done after securing the RHR pumps.
*CBASIS Incorrect, Raising RCS level is performed only if reducing the flow does not work, and this is after securing the pump.
*DBASIS Correct. Reducing RHR flow is what the procedure directs the operator to do.

*QNUM
*HNUM
*QCHANGE 11/22/99
*ACHOICE 11/22/99
*BCHOICE 11/22/99
*CCHOICE 11/22/99
*DCHOICE 11/22/99
*ANSCHANGE 11/22/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR G. Laska
*REFKEY
*KA1 035A4.06
*KA1RO 4.5
*KA1SRO 4.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

A steam generator tube rupture has occurred. Which of the following includes **only** components that the operator can operate from the Main Control Board to satisfy the isolation requirements of EEP-3.0?

*A. Main steam isolation valves, TDAFW pump steam admission valves, MDAFW pump FCV's , steam generator blowdown valves.

*B. TDAFW pump FCV's, TDAFW pump steam admission valves, steam generator blowdown valves, MDAFW pump isolation MOV's.

*C. Main steam isolation valves, TDAFW pump FCV's, steam generator blowdown valves, MDAFW pump FCV's

*D. TDAFW pump FCV's, main steam isolation valves, MDAFW pump isolation MOV's, TDAFW pump steam admission valves.

*ANSWER C
*COGNITIVE Memory

*REFSPECIFIC Farley: Ops- 52530D
*MODULE EEP-3 SGTR lesson plan, pages 35-38 and EEP-3 steps 3.3 thru 4
*OBJECTIVE O52530D06
*ABASIS Incorrect, The TDAFW pump steam admission valves must be closed from the HOT SHUTDOWN PANELS.
*BBASIS Incorrect, The TDAFW pump steam admission valves must be closed from the HOT SHUTDOWN PANELS. The MDAFW pump isolation MOV's are operated from the BOP Panel.
*CBASIS Correct, All of these components satisfy the isolation requirements and can be operated from the MCB.
*DBASIS Incorrect, The TDAFW pump steam admission valves must be closed from the HOT SHUTDOWN PANELS. The MDAFW pump isolation MOV's are operated from the BOP Panel.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY Significantly Modified from Bank #052520B01007
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Sonalysts
*REFKEY
*KA1 037AA1.11
*KA1RO 3.4
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following plant conditions on Unit 1:

- The plant was stable at 100% power with normal control systems in Auto.
- The total SG tube leak rate has been steady for several weeks at about 3 gpd.
- A sudden increase in 1B SG tube leak rate has been indicated by increased readings on R-15 (Steam Jet Air Ejector Exhaust) and R-70B (SG Tube Leak Detector).
- AOP-2.0, "Steam Generator Tube Leakage," has been implemented.

Per AOP-2.0, which one of the following conditions requires the shift crew to trip the reactor and actuate Safety Injection?

*A. VCT level decreases from 29% to 24% with the Reactor Makeup System in Auto operation.

*B. An 80 gpd increase in the 1B SG tube leak rate occurring within the last 45 minutes is confirmed.

*C. Annunciator HB2, PRZR LVL DEV LO, actuates with FCV-122 in Auto and two letdown orifice valves open.

*D. Pressurizer level decreases from 55% to 51% with charging flow at 195 gpm and one letdown orifice (45 gpm) in service.

*ANSWER D
*COGNITIVE Memory.
*REFSPECIFIC OPS-52520B, pg. 15, 16.
*MODULE OPS-52520B.
*OBJECTIVE 052520B01
*ABASIS Incorrect, VCT level determiner is 20%.
*BBASIS Incorrect, requires SD within 1 hour.
*CBASIS Incorrect, trip only required if can't maintain przr level on program with increased charging and reduced letdown.
*DBASIS Correct, per reference. AOP-2.0 NOTE says that the intent of step 2 is to ensure an SI is actuated for a tube leak greater than the capability of the make-up of 120 gpm. Letdown and chg are being controlled by the Operator.

*QNUM
*HNUM
*QCHANGE 11/14/99
*ACHOICE 11/14/99
*BCHOICE 11/14/99
*CCHOICE 11/14/99
*DCHOICE 11/14/99
*ANSCHANGE 11/14/99
*QHISTORY **NEW**
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR G.W. Laska
*REFKEY
*KA1 041K4.11
*KA1RO 2.8
*KA1SRO 3.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- Power is Stable at 100%.
- Turbine First Stage Impulse Pressure Transmitter, PT-446 has failed low.
- If a 50% load rejection occurs, what is the effect on the operation of the Steam Dumps?

*A. The steam dumps will <u>not</u> arm, but an open signal will be developed.

*B. The steam dumps will arm and operate to maintain median Tavg at 547°F.

*C. The steam dumps will <u>not</u> arm, and no output signal will be developed.

*D. The steam dumps will arm and operate to maintain median Tavg at 551°F.

*ANSWER D
*COGNITIVE Analysis
*REFSPECIFIC Farley:
*MODULE O52201G Steam Dumps.

*OBJECTIVE O52201G10.
*ABASIS Incorrect, The steam dumps would arm on a Loss of load signal. And an open signal would be developed.
*BBASIS Incorrect, The steam dumps would arm, and the dumps would operate but temperature would be maintained at 551°F due to the 4° dead band.
*CBASIS Incorrect, The steam dumps would arm, and a signal would be developed.
*DBASIS Correct, The steam dumps would arm, and maintain Tave at 551°F. Due to the Loss of load controller and the 4° dead band

*QNUM
*HNUM
*QCHANGE 05/08/00
*ACHOICE 05/08/00
*BCHOICE 05/08/00
*CCHOICE 05/08/00
*DCHOICE 05/08/00
*ANSCHANGE 05/08/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 10/13/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR sonalysts,Inc.
*REFKEY
*KA1 059K3.02 Knowledge of effect that a loss or malfunction of MFW will have on AFW
*KA1RO 3.6
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION 15

Unit 2 is operating at 75% power when (at time zero) a transient in the MFW system results in the following:

- SGFW Pump 2A high and low pressure stop valves indicate CLOSED.
- SGFW Pump 2B high pressure stop valve indicates CLOSED and the low pressure stop valve indicates OPEN.

Three (3) minutes into the transient SG levels are as follows:

- SG 2A level: 24% and lowering
- SG 2B level: 27% and lowering
- SG 2C level: 29% and lowering

Which one of the following describes the expected response of the AFW system if no operator action is taken?

*A. TDAFW Pump and MDAFW Pumps A and B start at time zero.

*B. MDAFW Pumps A and B start at time zero; TDAFW Pump will start when level reaches 25% in SG 2B or 2C.

*C. TDAFW Pump and MDAFW Pumps A and B start 3 minutes into the transient.

*D. MDAFW Pumps A and B start 3 minutes into the transient; TDAFW Pump will start when level reaches

25% in SG 2B or 2C.

*ANSWER D
*COGNITIVE Analysis
*REFSPECIFIC Auxiliary Feedwater - OPS-40201D/52102H page 13-15
*MODULE OPS-40201D/52102H
*OBJECTIVE O52102H13
*ABASIS Incorrect, see below
*BBASIS Incorrect, see below
*CBASIS Incorrect, see below
*DBASIS Correct- Because both stop valves for both SGFPs are not closed, a loss of feed signal is not generated at the initiation of the transient; therefore MDAFW pumps will not start immediately.
The TDAFW Pump does not receive a start signal fom the SGFP's stop valve logic. MDAFW pumps start on 25% level in 1/3 SG's and the TDAFW pump starts when level in the SG B/C gets to 25% on 2/3, so they all start at time 3 minutes in to the event.

*QNUM
*HNUM
*QCHANGE 10/13/99
*ACHOICE 10/13/99
*BCHOICE 10/13/99
*CCHOICE 10/13/99
*DCHOICE 10/13/99
*ANSCHANGE 10/13/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 10/13/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Laska,G. W.
*REFKEY
*KA1 059K3.02
*KA1RO 3.6
*KA1SRO 3.7
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Plant conditions are as follows:

- Unit 1has tripped from 100% power due to a loss of both Steam Generator Feed Pumps.
- All Steam Generator levels are below Narrow Range Level.

Which ONE of the following statements is TRUE in regards to the Auxiliary Feed System?

*A. The MDAFW pumps can be stopped after the AUTO/DEFEAT switches are placed in DEFEAT.

*B. FCV's 3228A/B/&C, the TDAFW flow control valves, will close if steam generator narrow range level reaches 78.5%.

*C. The Steam Generator sample valves may be opened after opening both MDAFW pump supply breakers.

*D. The TDAFW pump can be stopped if one level in any single Steam Generator rises above the LO-LO level set point.

*ANSWER C
*COGNITIVE Comprehension
*REFSPECIFIC Auxiliary Feedwater - OPS-40201D/52102H
*MODULE OPS-40201D/52102H
*OBJECTIVE 14 (052102H14), 15,16,17
*ABASIS Incorrect, Steam generator levels are less than the Lo-Lo Steam Generator levels that will auto start the MDAFWP.
*BBASIS Incorrect, This is the correct set point for High S/G level isolation, but it does not close these valves.
*CBASIS Correct, By opening both MDAFW pump Breakers the S/G sample valves can be reopened.
*DBASIS Incorrect, In order to stop the TDAFW pump, Two levels in any one S/G must be greater than the LO-LO level set point.

*QNUM
*HNUM
*QCHANGE 11/22/99
*ACHOICE 11/22/99
*BCHOICE 11/22/99
*CCHOICE 11/22/99
*DCHOICE 11/22/99
*ANSCHANGE 11/22/99
*QHISTORY Significantly Modified from bank 052102H3013
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Bank
*REFKEY
*KA1 061A3.01
*KA1RO 4.2
*KA1SRO 4.2
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions:

- Unit 1 is in Mode 3 with AFW surveillance testing in progress.
- The 1B MDAFW pump is running on miniflow with the flow control valves to all 3 S/G's adjusted fully closed.
- The remaining AFW system components are in a normal Mode 3 lineup.

**If the operator allows level in 1C S/G to fall to 24%, which of the following describes the response of the AFW system?**

*A. There will be no MDAFW pump Auto Start signal generated because the 1B MDAFW pump is already running. Total AFW flow to the S/G's will be approximately 400 gpm.

*B. There will be a 1A MDAFW pump Auto Start signal generated but no 1B MDAFW pump Auto Start signal. Total AFW flow will be approximately 800 gpm.

*C. There will be a MDAFW pump and TDAFW pump Auto Start signal generated. Total AFW flow will be approximately 1500 gpm.

*D. There will be a 1A and 1B MDAFW pump Auto Start signal generated. Total AFW flow will be approximately 800 gpm.

| | |
|---|---|
| *ANSWER | D |
| *COGNITIVE | comprehension |
| *REFSPECIFIC | Farley: |
| *MODULE | O52102H Auxiliary Feedwater System, pages 6-9 |
| *OBJECTIVE | O52102H13 |
| *ABASIS | Incorrect, The 1A&1B MDAFW pumps will both receive an auto start signal. Flow will be approximately 800gpm. |
| *BBASIS | Incorrect, The1Aand1B MDAFW pumps will both receive an auto start signal. Flow will be approximately 800gpm. |
| *CBASIS | Incorrect, The 1A and 1B MDAFW pumps will both receive an auto start signal but the TDAFW pump will not start. Flow will be approximately 800gpm. |
| *DBASIS | Correct, The 1A and 1B MDAFW pumps will both receive an auto start signal. Flow will be approximately 800gpm considering atmospherics in M-3 is keeping SG Pressure at appr. 1005 psig. |
| *QNUM | |
| *HNUM | |
| *QCHANGE | 11/05/99 |
| *ACHOICE | 11/05/99 |
| *BCHOICE | 11/05/99 |
| *CCHOICE | 11/05/99 |
| *DCHOICE | 11/05/99 |
| *ANSCHANGE | 11/05/99 |
| *QHISTORY | NEW |
| *EXAM TYPE | NRC |
| *QDATE | 11/05/99 |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | R |
| *AUTHOR | G.W. Laska |
| *REFKEY | |
| *KA1 | 061K2.01 |
| *KA1RO | 3.2 |
| *KA1SRO | 3.3 |
| *KA2 | |
| *KA2RO | |
| *KA2SRO | |
| *QVALUE | 1.0 |

*QUESTION

The following conditions exist on Unit 1:

- A Loss of Off-site Power has occurred.
- The 1B Diesel Generator failed to start.
- The 1B Steam Generator is faulted in containment.
- All other automatic actions occurred as expected.

Which of the following statements describes how to isolate **MDAFW** flow to the 1B S/G?

*A. Close Q1N23MOV3764B, MDAFW to 1B Steam Generator, from the BOP.

*B. Close Q1N23HV3227B, MDAFW to 1B Steam Generator, locally by failing air to the actuator.

*C. Close Q1N23MOV3764D, MDAFW to 1B Steam Generator, from the BOP.

*D. Close Q1N23HV3227B, MDAFW to 1B Steam Generator, from the MCB by taking its handswitch to close.

*ANSWER C
*COGNITIVE Comprehensive.
*REFSPECIFIC Farley:
*MODULE O52102H Auxiliary Feedwater lesson plan
*OBJECTIVE O52102H03
*ABASIS Incorrect, B train has no power, therefore, this valve has no power. MCC V
*BBASIS Incorrect, This valve fails open on a loss of air per AOP-6.0.
*CBASIS Correct, This valve has power from A train, MCC U.
*DBASIS Incorrect, This would cause this valve to go open.

*QNUM
*HNUM
*QCHANGE 11/14/99
*ACHOICE 11/14/99
*BCHOICE 11/14/99
*CCHOICE 11/14/99
*DCHOICE 11/14/99
*ANSCHANGE 11/14/99
*QHISTORY Previous Audit Exam Question.
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR BANK
*REFKEY
*KA1 064G2.1.28
*KA1RO 3.2
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Which one of the following conditions could prevent an Emergency Diesel Generator from automatically starting under emergency start conditions?

*A. Mode selector switch in the Mode 2 position.

*B. Jacket water pressure at 0 psig.

*C. Auxiliary jacket water pump running in manual.

*D. Starting air pressure receiver at 180 psig.

*ANSWER C
*COGNITIVE Memory
*REFSPECIFIC Farley:
*MODULE O52102I, DG and auxiliaries page 25-27
*OBJECTIVE O52102I27
*ABASIS Incorrect, DG will still auto-start in Mode2
*BBASIS Incorrect, JW pressure is normally blocked on the start of a DG

*CBASIS Correct, This will make the JW pressure normal with a JW pressure normal LO LO Essential engine trip will be enabled.
*DBASIS Incorrect, This should be enough to start a DG 2 times based on a low pressure of 350 psig and 5 start rating for the Air reservoirs. 350/ 5 = 80 psig per start.

*QNUM
*HNUM
*QCHANGE 5/8/00
*ACHOICE 5/8/00
*BCHOICE 5/8/00
*CCHOICE 5/8/00
*DCHOICE 5/8/00
*ANSCHANGE 5/8/00
*QHISTORY New
*EXAM TYPE NRC
*QDATE 5/8/00
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Sonalysts, Inc.
*REFKEY
*KA1 072K3.01 (Knowledge of the effect that a loss or malfunction of the ARM system will have on the containment ventilation system.
*KA1RO 3.2
*KA1SRO 3.4
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION
Unit 2 plant conditions are as follows:

- Mini-purge system is running.
- R-24A, Containment Purge discharge radiation monitor failed downscale 10 minutes ago.
- I&C has been requested to investigate R-24A.
- A High-High radiation alarm has just been received on R-24B, Containment Purge discharge radiation monitor.

Which one of the following describes how a complete closure of all the mini-purge isolation valves will be accomplished?

*A. All the mini-purge isolation valves automatically close.

*B. All the mini-purge isolation valves must be manually closed.

*C. The mini-purge isolation valves located inside containment automatically close and the isolation valves in the penetration room must be manually closed from the Control Room.

*D. The mini-purge isolation valves located in the penetration room automatically close and the isolation valves inside containment must be manually closed from the Control Room.

*ANSWER C.
*COGNITIVE Analysis
*REFSPECIFIC OPS-52107A, pg 10, Fig 5 and 6
*MODULE OPS-52107A
*OBJECTIVE NONE
*ABASIS Incorrect, HI-HI radiation signal from both R-24A and R-24B will close all purge isolation valves (HV-2866C, 2867C, HV-2866D, 2867D, 3196, 3197, 3198B, and 3198C).
*BBASIS Incorrect, R-24B HI-HI will automatically close the mini-purge isolation valves inside containment (HV-2866D, 2867D).
*CBASIS Correct, R24A failure prevents closure of the mini-purge isolation valves in the penetration room (HV-2866C,

2867C) while the R-24B HI-HI will automatically close the mini-purge isolation valves inside containment (HV-2866D, 2867D).

*DBASIS Incorrect, R24B failure prevents closure of the mini-purge isolation valves inside containment (HV-2866D, 2867D).

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Sonalysts
*REFKEY
*KA1 103K3.03
*KA1RO 3.7
*KA1SRO 4.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

If the Containment Purge and Exhaust Isolation System is OPERABLE, which one of the following conditions constitutes a loss of containment integrity during Refueling Operations per LCO 3.9.3, Containment Penetrations?

*A. One door in each air lock open.

*B. Two doors in one air lock open.

*C. All the containment mini-purge isolation valves open.

*D. All the containment full purge isolation valves open.

*ANSWER B
*COGNITIVE Memory.
*REFSPECIFIC Outage Operations OPS-52511A-D, ITS LCO 3.9.3.
*MODULE O52511A-D, STP-18.4, Pages2&3
*OBJECTIVE O52511B01,06
*ABASIS Incorrect, One door open in each air lock is allowed.
*BBASIS Correct, Must have at least 1 door closed in each lock or Immediately take actions
*CBASIS Incorrect, This is allowed per 3.9.3 with an operable Containment Purge and Exhaust System.
*DBASIS Incorrect, same as above.

*QNUM
*HNUM
*QCHANGE 11/04/99
*ACHOICE 11/04/99
*BCHOICE 11/04/99
*CCHOICE 11/04/99
*DCHOICE 11/04/99

*ANSCHANGE 11/04/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR G. Laska
*REFKEY
*KA1 G 2.1.3
*KA1RO 3.0
*KA1SRO 3.4
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

In accordance with AP-16, which one of the following, as a minimum, must be performed for an OATC relief occurring during the shift when the relief is for a meal or rest room break?

*A. The relief operator will be informed of evolutions in progress, conduct a control board walkdown, and complete a shift relief check sheet.

*B. The relief operator will be informed of any special instructions in effect, conduct a log review, and complete a shift relief check sheet.

*C. The relief operator will obtain Shift Supervisor permission, be informed of overall plant status, and make a log entry.

*D. The relief operator will be informed of any evolutions in progress that could affect the plant, any special instructions in effect, and the overall status of the plant.

*ANSWER D
*COGNITIVE Memory
*REFSPECIFIC Farley:
*MODULE O52303H Administrative procedures. 3.1.10.5 page 20.
*OBJECTIVE O52303H23
*ABASIS Incorrect, The operator is not required to conduct a board walkdown or complete a shift relief check sheet.
*BBASIS Incorrect, The operator is not required to conduct a log review, or complete a shift relief check sheet.
*CBASIS Incorrect, The operator is not required to obtain the SS permission, or make a log entry.
*DBASIS Correct, In accordance with AP-16 conduct of operations this is what is required for OATC relief during the shift.

*QNUM
*HNUM
*QCHANGE 11/14/99
*ACHOICE 11/14/99
*BCHOICE 11/14/99
*CCHOICE 11/14/99
*DCHOICE 11/14/99
*ANSCHANGE 11/14/99
*QHISTORY NEW
*EXAM TYPE NRC
*QDATE 11/14/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3

*EXLEVEL R
*AUTHOR G. W. Laska
*REFKEY
*KA1 G 2.4.12
*KA1RO 3.4
*KA1SRO 3.9
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

If the shift crew is executing Emergency procedure EEP-0, FRP-S.1, or ECP-0.0, how will immediate operator actions be performed?

(circle the correct response.)

*A. In order by the OATC and Shift Supervisor.

*B. In order by the OATC and Unit Operator.

*C. In any order by the OATC and Shift Supervisor.

*D. In any order by the OATC and Unit Operator.

*ANSWER B
*COGNITIVE Memory
*REFSPECIFIC Farley:
*MODULE O52303H Administrative procedures AP-16. SOP-0.8, page 4 step 3.7.
*OBJECTIVE O52303H06.
*ABASIS Incorrect, In accordance with AP-16 Immediate operator actions of the above procedures should be performed by both the OATC and the Unit Operator. SOP-0.8 states the IA of OATC & UO and In order.
*BBASIS Correct, OATC and U.O. in order is correct per SOP-0.8.
*CBASIS Incorrect, SS and in any order is not correct.
*DBASIS Incorrect, must be in order.

*QNUM
*HNUM
*QCHANGE 1/20/99
*ACHOICE 1/20/99
*BCHOICE 1/20/99
*CCHOICE 1/20/99
*DCHOICE 1/20/99
*ANSCHANGE 1/20/99
*QHISTORY New
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Sonalysts
*REFKEY
*KA1 W/E04EK2.1
*KA1RO 3.5
*KA1SRO
*KA2
*KA2RO
*KA2SRO

*QVALUE 1.0
*QUESTION

Which one of the following ESF actuation signals will normally actuate to result in automatic isolation of the containment during a LOCA outside containment?

*A. Low Pressurizer Pressure.

*B. Low Steam Line Pressure.

*C. Containment Pressure High-1.

*D. High Energy Line Break.

*ANSWER A
*COGNITIVE Comprehension.
*REFSPECIFIC OPS-52532E, pg. 6.
*MODULE OPS-52532E ECP-1.2 LOCA Outside CONTAINMENT (ISLOCA)
*OBJECTIVE O52532E03
*ABASIS Correct, Low Pzr Pressure, which could be caused by a LOCA outside containment, actuates SI, which initiates Phase A Containment Isolation, which should isolate LOCA outside containment.
*BBASIS Incorrect, Low Steam Line Pressure would not be caused by LOCA outside containment.
*CBASIS Incorrect, Containment Pressure High-1 would not be caused by LOCA outside containment.
*DBASIS Incorrect, This does not give an ESF actuation.

*QNUM
*HNUM
*QCHANGE 11/05/99
*ACHOICE 11/05/99
*BCHOICE 11/05/99
*CCHOICE 11/05/99
*DCHOICE 11/05/99
*ANSCHANGE 11/05/99
*QHISTORY Bank 052533F10010
*EXAM TYPE NRC
*QDATE
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL R
*AUTHOR Bank
*REFKEY
*KA1 WE/E05EA2.1
*KA1RO 3.4
*KA1SRO 4.4
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Given the following conditions on Unit 1:

- A small break LOCA has occurred, resulting in actuation of a Low Pressurizer Pressure Safety Injection.
- The crew is exiting EEP-0, Reactor Trip or Safety Injection, having diagnosed that the RCS was **NOT** intact.

The following conditions exist:

- Average CETC temperature 837°F and rising (5th hottest reads 843°F).
- All SG narrow range levels 31%.
- AFW flow 100 gpm to each SG with only the 1A MDAFW pump running and FCV's full open
- Pressurizer level is off-scale low.
- Containment pressure 6.2 psig.
- SI flow is in progress.

Which one of the following procedures should be implemented?

*A. ESP-1.2, Post LOCA Cooldown and Depressurization.

*B. FRP-H.1, Response to Loss of Secondary Heat Sink.

*C. EEP-1.0, Loss of Reactor or Secondary Coolant.

*D. FRP -C.2, Response to Degraded Core Cooling,.

| | |
|---|---|
| *ANSWER | B |
| *COGNITIVE | Analysis |
| *REFSPECIFIC | Farley: |
| *MODULE | O52533F, FRP-H.1, Response to Loss of Secondary Heat sink, page 21 |
| *OBJECTIVE | O52533F10 |
| *ABASIS | Incorrect, This is the correct procedure after exit from EEP-1.0 if no red or orange paths exist. |
| *BBASIS | Correct, This is the correct procedure to enter with a Red path on H.1 |
| *CBASIS | Incorrect, This would be the correct path if there were no red or orange paths. |
| *DBASIS | Incorrect This is an orange path and a red path exists. |
| *QNUM | |
| *HNUM | |
| *QCHANGE | 05/06/96 |
| *ACHOICE | 05/06/96 |
| *BCHOICE | 05/06/96 |
| *CCHOICE | 05/06/96 |
| *DCHOICE | 05/06/96 |
| *ANSCHANGE | 11/14/99 |
| *QHISTORY | BANK |
| *EXAM TYPE | NRC |
| *QDATE | |
| *FACILITY | 348 Farley 1 & 2 |
| *RTYP | PWR-WEC-3 |
| *EXLEVEL | R |
| *AUTHOR | BANK |
| *REFKEY | |
| *KA1 | WE/11EK1.1 |
| *KA1RO | 3.7 |
| *KA1SRO | 4.0 |
| *KA2 | |

*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION

Which one of the following statements describes the design capacity of the ECCS accumulators?

*A. Two accumulators provide sufficient water to fill the volume outside of the core barrel below the nozzles and the bottom plenum of the reactor vessel up to the **Lower Core Plate**.

*B. Three accumulators provide sufficient water to fill the reactor vessel up to the level of the **Upper Support Plate.**

*C. Two accumulators provide sufficient water to fill the reactor vessel up to the level of the **Core Support Forging.**

*D. Three accumulators provide sufficient water to fill the volume outside of the core barrel below the nozzles and the bottom plenum of the reactor vessel up to the **Upper Core Forging.**

*ANSWER A
*COGNITIVE Memory
*REFSPECIFIC Farley:
*MODULE O52102B, ECCS , page 6
*OBJECTIVE O52102B09
*ABASIS Correct, Two provides sufficient water to fill the volume outside the core barrel below the nozzles and the bottom plenum up to the LOWER CORE PLATE
*BBASIS Incorrect, only requires 2 Accumulators and USP is incorrect.
*CBASIS Incorrect, CSF is incorrect.
*DBASIS Incorrect, only requires 2 Accumulators and UCF is incorrect