

Final Submittal

(Blue Paper)

1. Reactor Operator Written Examination

FARLEY EXAM 2000-301

50-348, 50-364/2000-301

MAY 8 - 18, 2000

2000-301 \ Final \ RO exam - answer key

*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 1

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 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
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 *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 2

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. The reactor will lose all automatic trip protection.
- *B. One bypass breaker and the opposite train trip breaker are shut. Automatic reactor trips are still available.
- *C. One bypass breaker is shut and its associated trip breaker is racked out. All reactor trips are still functional.
- *D. Both bypass breakers are shut. The reactor will automatically trip.

*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 will 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
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*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 3

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)

- *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
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 *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 4

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 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 004 K1.04
 *KA1RO 3.4
 *KA1SRO 3.8
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 5

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. Charging flow will decrease, and the seal injection flow will decrease due to the rising pressure on the charging header.
- *B. Charging flow will increase, and the seal injection flow will decrease due to the falling pressure on the charging header.
- *C. Charging flow will decrease, and the seal injection flow will increase due to the rising pressure on the charging line.
- *D. Charging flow will increase, the D/P across the seal injection filter will increase, and the seal injection flow will increase 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 5/8/00
 *ACHOICE 5/8/00
 *BCHOICE Modified
 *CCHOICE Modified
 *DCHOICE Modified
 *ANSCHANGE 5/8/00
 *QHISTORY BANK O52101F09031
 *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 6

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 between 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-112 failed high, if VCT level were to decrease to 5%, charging pumps would not 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
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 *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 7

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 Regenerative 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 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 8

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 atmospheric.

*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.

*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 9

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 11-1 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 the intended method by procedure to restore operation of the HHSI and accumulator isolation valves IAW ESP-1.1, SI TERMINATION?

- *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. Cycle the reactor trip breakers to reset P-4 and push the SI reset pushbutton for Train B again.

*ANSWER C.
*COGNITIVE memory
*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) and the reactor trip breakers do not have to be cycled.

*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 10

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

- *A. 1/4 NI's > 30% reactor power.
- *B. 2/4 NI's > 30% reactor power.
- *C. 1/4 NI's > 35% reactor power.
- *D. 2/4 NI's > 35% reactor power.

*ANSWER D.
 *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 not satisfied. Incorrect power
 *BBASIS Incorrect, The coincidence is not satisfied Incorrect power
 *CBASIS Incorrect, The coincidence is not satisfied Incorrect coincidence
 *DBASIS Correct, permissive comes in at 2/4 > 35%

*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 11

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

<u>Instrument:</u>	<u>N41</u>	<u>N42</u>	<u>N43</u>	<u>N44</u>
Upper:	.9900	1.010	.9900	.9800
Lower:	.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%); $100\% \text{ RTP} - (2*3\%) = 94\%$
 *BBASIS Incorrect, $1.07 - 1.02 = 5\%$; $3\% * 5\% = 15\%$; $100\% - 15\% = 85\%$
 *CBASIS Incorrect, $1.07 - 1.00 = 7\%$; $100\% \text{ RTP} - (7*3\%) = 79\%$

*DBASIS

Correct, QPTR lower: Average of lower excore detectors is 0.98. $1.07/0.98 = 1.0918$;
 $1.0918 - 1.00 = 9\%$; $9\% * 3\% = 27\%$; $100\% \text{ RTP} - 27\% = 73\% \text{ power limit}$.
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 12

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

	<u>Loop 1</u>	<u>Loop 2</u>	<u>Loop 3</u>
T-cold	534°F	536°F	535°F
T-hot	540°F	550°F	560°F

The following RCS and pressurizer pressures are indicated:

<u>PT-402</u>	1782 psig	<u>PT-455</u>	1747 psig
<u>PT-403</u>	1772 psig	<u>PT-457</u>	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"?

	<u>Channel A</u>	<u>Channel B</u>
*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 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 13

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 de-energized 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.

<u>CTMT CLG FAN</u>	<u>FAST</u>	<u>SLOW</u>
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 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 14

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 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:

- SGFP 2A high and low pressure stop valves indicate CLOSED.
- SGFP 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 from 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 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 16

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	13%	150 psig, rising
SG 1C	15%	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 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 17

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 one 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 11/22/99
 *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 18

Given the following conditions:

- Unit 2 is in Mode 3 with AFW surveillance testing in progress.
- The 2B 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 2C 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 2B MDAFW pump is already running. Total AFW flow to the S/G's will be approximately 400 gpm.
- *B. There will be a 2A MDAFW pump Auto Start signal generated but no 2B 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 2A and 2B 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 2A&2B MDAFW pumps will both receive an auto start signal. Flow will be approximately 800gpm.
 *BBASIS Incorrect, The 2A and 2B MDAFW pumps will both receive an auto start signal. Flow will be approximately 800gpm.

- *CBASIS Incorrect, The 2A and 2B MDAFW pumps will both receive an auto start signal but the TDAFW pump will not start. Flow will be approximately 800gpm.
- *DBASIS Correct, The 2A and 2B MDAFW pumps will both receive an auto start signal. Flow will be approximately 800gpm considering atmospheric pressure in M-3 is keeping SG Pressure at approx. 1005 psig.

*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 S.Fulmer
 *REFKEY
 *KA1 061G2.1.27 Knowledge of system purpose or function
 *KA1RO 2.8
 *KA1SRO 2.9
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 19

Unit 1 plant conditions:

- A complete Loss of Off-Site Power (LOSP) from 100% power is in progress.
- All Emergency Diesel Generators have started per design.

Which one of the following describes the operational considerations regarding cooldown to ensure the cooldown function of the CST is maintained?

- *A. Unless an accident condition exists (i.e., LOCA, SGTR, Steam Break), RCS cooldown should not occur until a RCP is started.
- *B. RCS cooldown must commence immediately if off-site power cannot be restored.
- *C. CST level should be monitored and a cooldown commenced based on CST level and time after shutdown.
- *D. RCS cooldown would not be anticipated for an LOSP event.

*ANSWER C.
 *COGNITIVE memory
 *REFSPECIFIC OPS52102H, pg 2,5 &6 ; OPS52104C, pg 27 (ITS) and ESP-0.2.
 *MODULE OPS52102H
 *OBJECTIVE OPS52102H04, 05 And 052302K03
 *ABASIS Incorrect, during an LOSP there would be no RCP's and Bases does not mention having a RCP available Also ESP-0.2 would be in effect and a cooldown would commence based on CST level.
 *BBASIS Incorrect, 9 hours is allowed for this event per bases.
 *CBASIS Correct, CST level should be monitored and cooldown commenced per ESP-0.2 .
 *DBASIS Incorrect, page 27 of TS Bases says the design bases is for 9 hours of steam discharge with a concurrent LOSP.

*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 20

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 and 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 and 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 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 21

Given the following:

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

Which one of the following states the actions that are required by this event?

- *A. The release will automatically terminate upon receipt of an R-14 alarm, the operator should verify the automatic action has occurred, and EIP-9.0 should be implemented.
- *B. The release should be manually terminated in the control room upon receipt of an R-14 alarm, and a determination should be made as to the validity of the alarm.
- *C. The release will automatically terminate upon receipt of an R-22 alarm, the operator should verify the automatic action has occurred, and EIP-9.0 should be implemented.
- *D. The release should be manually terminated in the control room upon receipt of an R-22 alarm, and a determination should be made as to the validity of the alarm.

*ANSWER A.
 *COGNITIVE Comprehension
 *REFSPECIFIC Waste Gas OPS-052106B - page 7.
 *MODULE OPS-052106B
 *OBJECTIVE 052106B02 & 052106D08
 *ABASIS Correct, per reference material
 *BBASIS Incorrect, there is no handswitch for RCV-14 on the MCB.
 *CBASIS Incorrect, R-22 does not have any automatic functions.
 *DBASIS Incorrect, there is no handswitch for RCV-14 on the MCB.

*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 22

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 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 23

Which one of the following compares the radiation levels indicated in the Control Room by R-27A and B, the High Range Containment Radiation Monitors (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 actual for a MSLB.
- *B. A MSLB will result in elevated HRRM indications, but lower than actual for a MSLB.
- *C. A DB LOCA will result in elevated HRRM indications, but several orders of magnitude lower than actual for a DB LOCA.
- *D. A DB LOCA will result in elevated HRRM indications that are several orders of magnitude higher than actual for a DB LOCA.

*ANSWER A.
 *COGNITIVE Comprehension
 *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 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 24

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 one of the following describes the **minimum** conditions that 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.
- *B. 725 psig on PT-403.
- *C. 402.5 psig on PT-402.
- *D. 402.5 psig on PT-402 and 403.

*ANSWER A.
*COGNITIVE Comprehension
*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 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 25

Given the following:

- Unit 1 is in Mode 1, 100% power, steady state.
- The electrical plant is in a normal full power line-up.

Which one of the following is the power supply to Q1E21MOV8808A, 1A Accumulator Discharge Isolation?

- *A. 4160V 1F → 600V LCC 1D → 600V MCC 1U.
- *B. 4160V 1G → 600V LCC 1E → 600V MCC 1V.
- *C. 4160V 1F → 600V LCC 1E → 600V MCC 1U.
- *D. 4160V 1G → 600V LCC 1D → 600V MCC 1V.

*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 11/20/99
 *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 26

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-052101F figure 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 13 and 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.

*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 27

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 somewhat less than setpoint because of the time spent greater than 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 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.
 *EXAM TYPE NRC
 *QDATE
 *FACILITY 348 Farley 1 & 2
 *RTYP PWR-WEC-3
 *EXLEVEL R
 *AUTHOR BANK
 *REFKEY
 *KA1 011K4.07
 *KA1RO 2.9
 *KA1SRO 3.2
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 28

At normal operating conditions, in relation to PRZR level transmitter LT-462, LT-460 should be reading:

- *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 memory.
 *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 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 29

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 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 30

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 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 31

A steam line 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 minimum 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 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 32

Unit 1 is operating at 90% rated power when the following alarms are received.

- BG5 CTMT TO PENE RM Δ P HI-LO
- BK1 PENE RM TO ATMOS A TRN Δ P HI-LO
- BK2 PENE RM TO ATMOS B TRN Δ P 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 H₂O greater than atmospheric pressure.
- *B. Penetration room is at least 3.0 inches H₂O greater than containment pressure.
- *C. Penetration room is at least 1.5 inches H₂O less than atmospheric pressure.
- *D. Penetration room is at least 1.5 inches H₂O 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 H₂O 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 H₂O.
- *DBASIS Incorrect, CTMT TO PENE RM ΔP LO setpoint is -1.5 ± 0.25 inches H₂O.

FNP-1-ARP-1.2

		LOCATION <u>BG5</u>		
SETPOINT:	<ol style="list-style-type: none"> 1. HI: $3.0 + 0.5$ PSIG - 0 2. LO: -1.5 ± 0.25 PSIG 	<table border="0" style="width: 100%; height: 100%;"> <tr> <td style="border: 1px solid black; width: 10%; text-align: center; vertical-align: middle;">G5</td> <td style="padding: 10px;">CTMT TO PENE RM ΔP HI-LO</td> </tr> </table>	G5	CTMT TO PENE RM ΔP HI-LO
G5	CTMT TO PENE RM ΔP HI-LO			
ORIGIN:	<ol style="list-style-type: none"> 1. Diff. Pressure Switch (N1C14PDSH3317-N) 2. Diff. Pressure Switch (N1C14PDSL3317-N) 			

		LOCATION <u>BK1</u>		
SETPOINT:	<ol style="list-style-type: none"> 1. Variable Current/Time 2. HI: 3.0 ± 0.25 inches H₂O 3. LO: $-1.5 + 0.5$ inches H₂O - 0 	<table border="0" style="width: 100%; height: 100%;"> <tr> <td style="border: 1px solid black; width: 10%; text-align: center; vertical-align: middle;">K1</td> <td style="padding: 10px;">PENE RM TO ATMOS A TRN ΔP HI-LO</td> </tr> </table>	K1	PENE RM TO ATMOS A TRN ΔP HI-LO
K1	PENE RM TO ATMOS A TRN ΔP HI-LO			
ORIGIN:	<ol style="list-style-type: none"> 1. Overload Aux. Relay, 49X 2. Diff. Pressure Switch (Q1E15PDSH3367A-A) 3. Diff. Pressure Switch (Q1E15PDSL3367A-A) 			

		LOCATION <u>BK2</u>		
SETPOINT:	<ol style="list-style-type: none"> 1. Variable Current/Time 2. HI: 3.0 ± 0.25 inches H₂O 3. LO: $-1.5 + 0.5$ inches H₂O - 0 	<table border="0" style="width: 100%; height: 100%;"> <tr> <td style="border: 1px solid black; width: 10%; text-align: center; vertical-align: middle;">K2</td> <td style="padding: 10px;">PENE RM TO ATMOS B TRN ΔP HI-LO</td> </tr> </table>	K2	PENE RM TO ATMOS B TRN ΔP HI-LO
K2	PENE RM TO ATMOS B TRN ΔP HI-LO			
ORIGIN:	<ol style="list-style-type: none"> 1. Overload Aux. Relay, 49X 2. Diff. Pressure Switch (Q1E15PDSH3367B-B) 3. Diff. Pressure Switch (Q1E15PDSL3367B-B) 			

*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 33

A refueling outage is in progress on Unit 2. Plant conditions are as follows:

- The entire reactor core was offloaded to the spent fuel pool (SFP) followed by installation of the Weir Gate. The SFP level at this time was 153' 8".
- SFP temperature is 105°F and steady.
- 15 days later while taking logs in the SFP, the systems operator reports that the level is 153' 4" and stable.
- Make-up to the SFP is required.

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

- *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 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 34

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 11/14/99
 *ACHOICE 11/14/99
 *BCHOICE 11/14/99
 *CCHOICE 11/14/99
 *DCHOICE 11/14/99
 *ANSCHANGE 11/14/99
 *QHISTORY Similar to O52104A08004 significantly modified.
 *EXAM TYPE NRC
 *QDATE
 *FACILITY 348 Farley 1 & 2
 *RTYP PWR-WEC-3
 *EXLEVEL R
 *AUTHOR BANK with modifications.
 *REFKEY
 *KA1 039K4.08
 *KA1RO 3.3
 *KA1SRO 3.4
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 35

When an air-operated main steam line bypass valve is open, the solenoid vent valve for the MSIV must be _____, and the solenoid vent valve for the bypass valve must be _____.

- *A. Energized, Energized
- *B. Deenergized, Energized
- *C. Energized, Deenergized
- *D. Deenergized, Deenergized

*ANSWER A
 *COGNITIVE Comprehensive.
 *REFSPECIFIC Farley:
 *MODULE O52104A Main and Reheat Steam.
 *OBJECTIVE O52104A08
 *ABASIS Correct, The MSIV must be closed to open the bypass valve and the solenoid for the MSIV must be energized to close the MSIV. But the solenoid for the bypass must be energized to open the bypass valve.
 *BBASIS Incorrect, The solenoid for the MSIV must be energized.
 *CBASIS Incorrect, Both solenoids must be energized to have the MSIV closed and the Bypass Valve open
 *DBASIS Incorrect, Both solenoids must be 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 062A1.01
 *KA1RO 3.4
 *KA1SRO 3.8
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 36

Given the following:

- Both units are operating at full power.
- All Emergency DGs 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 LO SP which is Unit 1.
 *DBASIS Incorrect, 1C DG goes to the unit without the SI on a Dual unit LO SP which is Unit 1.

*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 37

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 38

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 11/14/99
*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 39

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 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 40

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 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 41

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 lightning strike.
- Main condenser vacuum drops quickly from 1.0 psia to 2.7 psia and is slowly decreasing.
- Another SJAЕ 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 Comprehension
 *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**
***DBASIS**

Incorrect, steam dumps are not available.
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 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 42

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 43

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 Comprehension
 *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, all zones within that system are inoperable when any zone of that system is in alarm. IF 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 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 44

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 11/23/99
 *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 45

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 Comprehension
 *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 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 46
 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 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 #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 47

After a LOCA inside containment, EEP-1.0, "Loss of Reactor or Secondary Coolant," directs that the hydrogen recombiners should be placed in service:

- *A. If containment hydrogen concentration is greater than 4% to control hydrogen.
- *B. Only if containment hydrogen concentration is less than 4% to preclude a fire in containment.
- *C. If containment hydrogen concentration is greater than 8% to control hydrogen.
- *D. Only if containment hydrogen concentration is less than 8% to preclude a fire in containment.

*ANSWER B
*COGNITIVE Memory.
*REFSPECIFIC OPS-52102D, pg. 2 and EEP-1 page 7 Caution
*MODULE OPS-52102D
*OBJECTIVE 052102D02
*ABASIS Incorrect, per reference.
*BBASIS Correct, Fire or explosion may occur if the post LOCA hydrogen recombiners are placed in service when containment Hydrogen concentration is > 4%.
*CBASIS Incorrect, per reference.
*DBASIS Incorrect, per reference.

*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 041 K4.11
 *KA1RO 2.8
 *KA1SRO 3.1
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 48

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 not 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 not 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 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 49

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°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 Comprehension
 *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° 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 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 50

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 Comprehension
 *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 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 G.Laska
*REFKEY
*KA1 103K3.03
*KA1RO 3.7
*KA1SRO 4.1
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION 51

Which one of the following is the **minimum** condition required to satisfy Refueling Integrity?

- *A. All containment manual and automatic isolation valves must be closed.
- *B. All penetrations must be capable of withstanding 5.4 psig.
- *C. All containment air lock doors must be closed with interlocks installed.
- *D. All penetrations must provide an air-to-air barrier.

*ANSWER D
*COGNITIVE Memory.
*REFSPECIFIC Outage Operations OPS-52511A-D,
*MODULE O52511A-D, STP-18.4, Pages 3 & 4
*OBJECTIVE O52511B01.
*ABASIS Incorrect, Do not need ALL valves closed
*BBASIS Incorrect, only need air to air
*CBASIS Incorrect, this is for containment closure
*DBASIS Correct, only need air to air barrier.

*QNUM
 *HNUM
 *QCHANGE
 *ACHOICE 2/25/00
 *BCHOICE 2/25/00
 *CCHOICE 2/25/00
 *DCHOICE 2/25/00
 *ANSCHANGE 2/25/00
 *QHISTORY Bank
 *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 52

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 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 #052101D13007, Significantly Modified
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 015AG2.1.32
*KA1RO 3.4
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION 53

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

- *A. Ensures sufficient flow of reactor coolant through the No. 1 seal to provide seal cooling.
- *B. Minimizes the possibility of No. 1 seal damage due to the seal runner contacting the seal ring.
- *C. Reduces pressure on No. #2 RCP seal, which is NOT designed to operate continuously under full RCS operating pressure.
- *D. Allows opening the RCP seal bypass valve (HV-8142) to ensure cooling for the lower radial bearing.

*ANSWER B
*COGNITIVE Memory.
*REFSPECIFIC OPS-52101D, pg. 6/7.
*MODULE OPS-52101D.
*OBJECTIVE 052101D13 (a)
*ABASIS Incorrect, per reference.
*BBASIS Correct, per reference.
*CBASIS Incorrect, per reference.
*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 B
 *AUTHOR Sonalysts, Inc.
 *REFKEY
 *KA1 024 AK1.04
 *KA1RO 2.8
 *KA1SRO 3.6
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 54

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?

- | | <u>Solution Temperature</u> | <u>Borated Water Volume</u> |
|-----|-----------------------------|-----------------------------|
| *A. | 35°F | 2,000 gal. |
| *B. | 35°F | 11,336 gal. |
| *C. | 65°F | 2,000 gal. |
| *D. | 65°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 \geq 2,000 gal., TRS 13.1.6.1 Verify RWST solution temperature is \geq 35 deg F
 *BBASIS Incorrect, Mode 5 and 6, TRS 13.1.6.1 Verify RWST solution temperature is \geq 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 \geq 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 \geq 65 deg F, TRS 13.1.6.6 Verify the contained borated water volume in the boric acid storage tank is \geq 2,000 gal
 *DBASIS Incorrect, Mode 5 and 6, TRS 13.1.6.4 Verify boric acid storage tank solution temperature is \geq 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 \geq 11,336 gal

*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 #052520I03007, minor modifications
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR Sonalysts
*REFKEY
*KA1 026AA1.02
*KA1RO 3.2
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION 55

Given the following conditions on Unit 1:

- The plant is at 100% steady-state power.
- 1A CCW pump is supplying the CCW Miscellaneous Header via the 1A CCW heat exchanger.
- 1B CCW pump is out of service due to a cracked casing.
- A leak in the miscellaneous header causes level in the on-service CCW train surge tank to drop to the Lo-Lo level alarm; all automatic actions occur per design.
- CCW surge tank level is continuing to decrease.
- 1A CCW pump discharge pressure and motor amps have begun fluctuating.

Which one of the following describes the correct operator response?

- *A. Promptly cross-connect A train and B train to allow continued plant operations while trying to isolate the leak.
- *B. Promptly transfer the miscellaneous header to the opposite train to allow continued operations while trying to isolate the leak.
- *C. Trip the reactor and RCPs; then, if the leak has been isolated, transfer the miscellaneous header to the opposite train.
- *D. Trip the reactor and RCPs; then promptly transfer the miscellaneous header to the opposite train to allow restarting one RCP for plant cooldown.

*ANSWER C
*COGNITIVE Comprehension
*REFSPECIFIC AOP-9.0, pg. 3, 11.
*MODULE OPS-52520I.
*OBJECTIVE 052520I03 & 052520I05
*ABASIS Incorrect, per reference.
*BBASIS Incorrect, per reference.

*CBASIS Correct, per reference. Miscellaneous header loads should not be shifted to other header until proven that they are not causing the loss of CCW.

*DBASIS Incorrect, per reference.

*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 56

Given the following:

- Unit 2 is at 75% power.
- Tavg is 565°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 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 57

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 in operation for 10 hours and containment pressure is 18 psig.
- *D. When CS has been in operation for 16 hours and containment pressure is 10 psig.

*ANSWER B
 *COGNITIVE Memory.
 *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 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 58

Given the following for Unit 1:

- A Loss of All AC Power has occurred.
- The crew has entered ECP-0.0, "LOSS OF ALL AC POWER".
- Power cannot be immediately restored.

What , if anything, should be done to increase battery capacity?

- *A. Nothing, the Auxiliary Building batteries are designed for this condition.
- *B. Have EM add sulfuric acid, this will increase the specific gravity and increase capacity.
- *C. Provide temporary ventilation to cool the battery, this will increase capacity.
- *D. De-energize non-essential DC loads, this will lower the discharge rate and increase capacity.

*ANSWER D
 *COGNITIVE Memory
 *REFSPECIFIC ECP-0.0 Loss of All AC and EMP-1340.09
 *MODULE OPS-052532A page 21 and 22, OPS-31102
 *OBJECTIVE 052532A17
 *ABASIS Incorrect – per reference
 *BBASIS Incorrect – EM would not add sulfuric acid during a high discharge on the battery.
 *CBASIS Incorrect – as batteries cool down they become less efficient.
 *DBASIS Correct - per step 14.1 and attachment 3

*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 59

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 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 11/03/99
 *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 60

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.

*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 Bank
 *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 61

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 11/01/99
*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 62

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.
- *B. SGBD could isolate.
- *C. Fire protection to containment would be lost.
- *D. 139' Rad side Aux. Building air temperatures could rise.

*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 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 63

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 first 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 64

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 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 #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 65

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. Proceed to Step 10 of EEP-1.0 to "Check containment spray system".
- *C. Re-enter FRP-Z.1 at step 1 and perform the actions of the FRP guideline.
- *D. Transition to ESP-0.0, "Rediagnosis".

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

*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 66

The following conditions exist on Unit 2:

- The SMM reads 43°F in the CETC mode.
- The Hottest Core Exit T/C indicates 481°F.
- The Hottest Upper Head T/C indicates 493°F.
- The Highest indicating loop RTD indicates 473°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 - $481 + 43 = 524 = 841 \text{ psia} - 15 = 826 \text{ psig}$
*CBASIS Incorrect - not in psig
*DBASIS Incorrect - $493 + 43 = 536$ wrong temp used

*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 NRC
*REFKEY
*KA1 076AG2.1.33
*KA1RO 3.4
*KA1SRO 4.0
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION 67

Improved Technical Specification LCO 3.4.16 for RCS Specific Activity is applicable in which of the following modes?

- *A. Modes 1 and 2 only.
- *B. Modes 1, 2 and 3 and Mode 4 greater than 300°F.
- *C. Modes 1, 2, 3 and 4 only.
- *D. Modes 1 and 2 and Mode 3 greater than 500°F.

*ANSWER D
*COGNITIVE Memory.
*REFSPECIFIC ITS 3.4.16 1.
*MODULE OPS-52106E
*OBJECTIVE O52302H08
*ABASIS Incorrect, per ITS 3.4.16.
*BBASIS Incorrect, per ITS 3.4.16.
*CBASIS Incorrect, per ITS 3.4.16.
*DBASIS Correct, per ITS 3.4.16.

*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 003 AA2.01
*KA1RO 3.7
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION 68

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; Tav_g 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 DRPI per 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 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 69

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 11/04/99
 *ACHOICE 11/04/99
 *BCHOICE 11/04/99
 *CCHOICE 11/04/99
 *DCHOICE 11/04/99
 *ANSCHANGE 11/04/99
 *QHISTORY Bank
 *EXAM TYPE NRC
 *QDATE 11/04/99
 *FACILITY 348 Farley 1 & 2
 *RTYP PWR-WEC-3
 *EXLEVEL R
 *AUTHOR G. W. Laska
 *REFKEY
 *KA1 008 AK1.01
 *KA1RO 3.2
 *KA1SRO 3.7
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 70

Unit 1 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?
 (Assume the PRT remains intact.)

- *A. Safety tailpiece temperature would increase to greater than 600°F and then slowly decrease.
- *B. Safety tailpiece temperature would increase to greater than 600°F and then slowly increase.
- *C. Safety tailpiece temperature would increase to between 200°F and 300°F and then slowly decrease.
- *D. Safety tailpiece temperature would increase to between 200°F and 300°F and then slowly increase.

*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 11/18/99
*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 G.Laska
*REFKEY
*KA1 009 EK2.03
*KA1RO 3.0
*KA1SRO 3.3
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
QUESTION 71

A small break LOCA has occurred on Unit 1. Which one of the following parameter relationships indicates that 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 constant.
- *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

*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 011 EA1.03
 *KA1RO 4.0
 *KA1SRO 4.0
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 72

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 A TRN HHSI FLOW indicating 400 gpm, Subcooling 17°F in the CETC mode.
- B. Containment pressure 8 psig, FI-943 A TRN HHSI FLOW indicating 400 gpm, Subcooling 50°F in the CETC mode.
- C. Containment pressure 18 psig, FI-943 A TRN HHSI FLOW indicating 0 gpm, Subcooling 17°F in the CETC mode.
- D. Containment pressure 28 psig, FI-943 A TRN HHSI FLOW indicating 0 gpm, Subcooling 50°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° F in CETC mode, RCP's are not secured.
 *BBASIS Incorrect, With Containment pressure > 4 psig and >45° 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 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 73

Which one of the following actuation signals will normally result in an 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 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 74

Given the following on Unit 1:

- A Large Break LOCA has occurred.
- All ECCS equipment has started as expected.
- 1A RHR Pump has just tripped on overload.

Assuming all conditions remain as stated, which one of the following describes the type of failure(s) that may occur during the Recirculation Phase and still remain within the design bases for ECCS?

- *A. One passive failure only may occur.
- *B. One passive failure or one active failure may occur.
- *C. One passive failure and one active failure may occur.
- *D. No additional failures may occur.

*ANSWER D
*COGNITIVE Memory
*REFSPECIFIC Farley:
*MODULE O52102B, ECCS page 4
*OBJECTIVE O52102B06
*ABASIS Incorrect, this would give two failures.
*BBASIS Incorrect, this would give two failures.
*CBASIS Incorrect, this would give three failures.
*DBASIS Correct, only one Active or passive failure during the recirculation phase is allowed

*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 75

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 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 76

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 IAW AOP-12.0?

- *A. Raise RCS level.
- *B. Vent the RHR train.
- *C. Secure affected RHR pump.
- *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, Securing the pump is done only if reducing RHR flow does not work.
*DBASIS Correct. Reducing RHR flow is what the procedure directs the operator to do.

*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 77

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?
(Assume no operator action)

- *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 Incorrect This is indicative of an overcompensated IR channel.
 *DBASIS Incorrect, SRs will not energize automatically.

*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 037 AA1.11
 *KA1RO 3.4
 *KA1SRO 3.3
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 78

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 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 #052530D03004
 *EXAM TYPE NRC
 *QDATE 1/20/99
 *FACILITY 348 Farley 1 & 2
 *RTYP PWR-WEC-3
 *EXLEVEL B
 *AUTHOR Sonalysts
 *REFKEY
 *KA1 038 EK3.06
 *KA1RO 4.2
 *KA1SRO 4.5
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 79

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 Bank #052520M04003
*EXAM TYPE NRC
*QDATE 1/20/99
*FACILITY 348 Farley 1 & 2
*RTYP PWR-WEC-3
*EXLEVEL B
*AUTHOR NRC
*REFKEY
*KA1 054AK3.04
*KA1RO 4.4
*KA1SRO 4.6
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION 80

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 if the 1A SGFP trips under these conditions?

- *A. Trip the main turbine, then trip the reactor.
- *B. Trip the reactor, then trip the main turbine.
- *C. Trip the main turbine, then shut down the reactor.
- *D. Shut down the reactor, then shut down the main turbine.

*ANSWER B
*COGNITIVE Comprehension
*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, with no SGFP's running the correct action is to trip the Rx, go to EEP-0 and trip the turbine.
*CBASIS Incorrect, with no SGFP's running the correct action is to trip the Rx, go to EEP-0 and trip the turbine.
*DBASIS Incorrect, reactor should be tripped first.

*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 81

Given the following conditions on Unit 1:

- A small break LOCA has occurred and the plant has had a 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 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
 *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 82

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 Comprehension.
 *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 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 83

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 SGBD Flow Control Valve, 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 GT Ohmstede
 *REFKEY
 *KA1 061AA1.01
 *KA1RO 3.6
 *KA1SRO 3.6
 *KA2
 *KA2RO
 *KA2SRO
 *QVALUE 1.0
 *QUESTION 84

The Outside systems operator reports that the Low Level RadWaste Building's (LLRWB) magenta flashing lights are actuated. Concerning the LLRWB Area Monitors R-66A through F, which one of the following is correct concerning this condition and actions that have or need to occur?

- *A. One channel reached the alert setpoint, and ventilation needs to be manually secured immediately.
- *B. Two channels have reached the alert setpoint and ventilation secured automatically.
- *C. Two channels have reached the high setpoint, and ventilation needs to be manually secured immediately.
- *D. One channel reached the high setpoint and ventilation secured automatically.

*ANSWER D
 *COGNITIVE Memory.
 *REFSPECIFIC OPS-52106D, pg. 6 and table 1 page T-1d.
 *MODULE OPS-52106D
 *OBJECTIVE O52106D08
 *ABASIS Incorrect, only one channel is needed to cause the indications but not at the alert level and ventilation will secure automatically
 *BBASIS Incorrect, two channels are needed to cause the indications but not at the alert level and ventilation will secure automatically but magenta lights are not actuated at this level.
 *CBASIS Incorrect, ventilation will secure automatically.
 *DBASIS Correct,

*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 85

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 Memory
 *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 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 86

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. Do not trip the reactor, perform operator actions of AOP-5, "Loss of Electrical Train A or B" because the turbine is already tripped.

*ANSWER C
 *COGNITIVE Comprehension
 *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 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 87

Given the following on Unit 1:

- VCT level is 5% and lowering.
- An unisolable leak in the Instrument Air system has occurred.
- IA pressure is 20 psig and falling.
- Annunciator BK1 "PENE RM TO ATMOS A TRN ΔP HI-LO" has come into alarm.
- Annunciator BK2 "PENE RM TO ATMOS B TRN ΔP HI-LO" has come into alarm.

As VCT level continues to decrease, which one of the following will occur?

- *A. Auto make-up will start and align.
- *B. Charging pump suctions will shift to the RWST.
- *C. LCV-115A will divert to the RHT.
- *D. The running charging pump will begin 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 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 88

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 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 89

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 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 90

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 Memory
 *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 Correct, T.S. defines Hot Standby as $keff \leq 0.99$, percent thermal power-N/A, and average reactor coolant temperature ≥ 350 deg. F
 *CBASIS Incorrect, T.S Mode, 350 deg F > reactor coolant average temperature > 200 deg F.
 *DBASIS Incorrect, T.S Mode, ≤ 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 91

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.

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.

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 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 92

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 Memory
 *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 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 93

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 and Shift Supervisor.
- *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 and the Shift Supervisor.
- *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 5/10/99
 *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 94

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 Comprehension
 *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 95

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?

	<u>Additional Annual TEDE Allowed</u>	<u>Additional Annual TODE Allowed</u>
*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 memory
 *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 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 NRC
*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 96

A room is marked on a survey map as having 300 Rem/Hr. Which one of the following signs would you expect to see at the entrance to this room?

- *A. An Exclusion Area sign.
- *B. A High Radiation Area sign.
- *C. A Grave Danger, Very High Radiation Area sign.
- *D. A Radiation Area sign.

*ANSWER A
*COGNITIVE Memory
*REFSPECIFIC OPS G-004/401
*MODULE OPS G-004/401
*OBJECTIVE G40103D-01
*ABASIS Correct, > 1 REM/HR
*BBASIS Incorrect, > 100 Mrem/Hr
*CBASIS Incorrect, > 500 RAD/Hr
*DBASIS Incorrect, > 5 Mrem/Hr

*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 97

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 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 98

The shift crew is executing emergency procedure EEP-0, FRP-S.1, or ECP-0.0 with the Unit Operator at the Service water Intake Structure. Which one of the following is required and is sufficient concerning the immediate operator actions to be performed?

- *A. In order by the OATC and must be verified by the Unit Operator upon return.
- *B. In order by the OATC only.
- *C. In any order by the OATC and the opposite unit's Unit Operator.
- *D. In any order by the OATC only.

*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 can be performed by the OATC only if the UO is unavailable. SOP-0.8 states the IA of OATC, In order.
 *BBASIS Correct, OATC in order is correct per SOP-0.8.
 *CBASIS Incorrect, in any order is not correct.
 *DBASIS Incorrect, must be in order.

*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 G. Laska
*REFKEY
*KA1 2.4.17 Knowledge of EOP terms and definitions
*KA1RO 3.1
*KA1SRO 3.8
*KA2
*KA2RO
*KA2SRO
*QVALUE 1.0
*QUESTION 99

Which one of the following describes the correct usage of placekeeping aides while in the Emergency Response Procedures?

- *A. Check off lines must be initialed when a step or page is completed.
- *B. Check off lines are intended to be a tool used to keep track of progress.
- *C. Check off lines can not be marked with post-it notes or flags to keep track of progress.
- *D. Check off lines are to be treated as signoffs similar to those found in STP's and UOP's when a step or page is completed.

*ANSWER B.
*COGNITIVE Memory
*REFSPECIFIC FNP-0-SOP-0.8, page 7 step 3.15
*MODULE O52301B
*OBJECTIVE
*ABASIS Incorrect, they do not have to be initialed when complete, but can be.
*BBASIS Correct, per reference.
*CBASIS Incorrect, you can use post-its and flags.
*DBASIS Incorrect, they are not to be treated as STP's or UOP's.

*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 100

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°
- 200' elevation temperature: 65°F
- 35' elevation temperature: 70°F

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

	<u>Downwind Direction</u>	<u>Differential Temperature</u>
*A.	060°	+ 5°
*B.	060°	- 5°
*C.	240°	+ 5°
*D.	240°	- 5°
*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.	