

**Final Submittal**  
(Blue Paper)

1. Senior Operator Written Examination

**FARLEY EXAM 2000-301**

**50-348, 50-364/2000-301**  
**MAY 8 - 18, 2000**

2000-301 Final SRO exam - answers

\*QNUM  
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 \*QCHANGE 11/15/99  
 \*ACHOICE 11/15/99  
 \*BCHOICE 11/15/99  
 \*CCHOICE 11/15/99  
 \*DCHOICE 11/15/99  
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 \*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

Farley SRO  
 Exam with  
 Answers.

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, 052201F09  
 \*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 5/8/00  
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\*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 2

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  
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 \*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 3

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 suction shifts 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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 \*DCHOICE 5/8/00  
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 \*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 4

Given the following plant conditions:

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

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

- \*A. 1-2A D/G will NOT auto start.
- \*B. All Unit 1 "A" Train safeguard systems will actuate.
- \*C. 1A MDAFW pump will NOT auto start.
- \*D. Unit 1 RCS temperature will be controlled with the atmospherics.

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

\*QNUM  
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 \*CCHOICE 1/20/99  
 \*DCHOICE 1/20/99  
 \*ANSCHANGE 1/20/99  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 1/20/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts  
 \*REFKEY  
 \*KA1 013G2.2.22  
 \*KA1RO 3.4  
 \*KA1SRO 4.1  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 5

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

- \*A. 3.3.1, Reactor Trip System (RTS) Instrumentation
- \*B. 3.3.2, Engineered Safety Feature Actuation System (ESFAS) Instrumentation
- \*C. 3.7.2, Main Steam Isolation Valves (MSIVs)
- \*D. 3.7.3, Main Feedwater Stop Valves and Main Feedwater Regulation Valves (FWRVs) and Associated Bypass Valves

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

\*QNUM  
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 \*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 6

Given the following conditions on Unit 1:

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

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

- \*A. Reactor power is increased to 75% with NO further rod motion.
- \*B. CB D, Group 2 is withdrawn to 169 steps by step counter indication.
- \*C. All DRPI indication is lost on rod F-8 in CB C, Group 2.
- \*D. All DRPI indication is lost on rod P-8 in CB D, Group 1.

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

\*QNUM  
 \*HNUM  
 \*QCHANGE 5/8/00  
 \*ACHOICE 5/8/00  
 \*BCHOICE 5/8/00  
 \*CCHOICE 5/8/00  
 \*DCHOICE 5/8/00  
 \*ANSCHANGE 5/8/00  
 \*QHISTORY BANK # O52520R12019, 10/02/97 Significantly modified  
 \*EXAM TYPE NRC  
 \*QDATE 5/8/00  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL B  
 \*AUTHOR M. G. Rollins  
 \*REFKEY  
 \*KA1 015A1.04 Ability to predict and/or monitor changes in parameters to prevent exceeding design limits associated with quadrant power tilt ratio.  
 \*KA1RO 3.5  
 \*KA1SRO 3.7  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 7

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 8

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  
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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 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 9

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 1/20/99  
\*ACHOICE 1/20/99  
\*BCHOICE 1/20/99  
\*CCHOICE 1/20/99  
\*DCHOICE 1/20/99  
\*ANSCHANGE 1/20/99  
\*QHISTORY NEW  
\*EXAM TYPE NRC  
\*QDATE 1/20/99  
\*FACILITY 348 Farley 1 & 2  
\*RTYP PWR-WEC-3  
\*EXLEVEL S  
\*AUTHOR GT Ohmstede  
\*REFKEY  
\*KA1 026A2.07  
\*KA1RO 3.6  
\*KA1SRO 3.9  
\*KA2  
\*KA2RO  
\*KA2SRO  
\*QVALUE 1.0  
\*QUESTION 10

Given the following conditions on Unit 1:

- 1A Containment Cooler is tagged out and still selected on the Containment Cooler A Train selector switch.
- The plant was at 95% power when a large-break LOCA occurred inside Containment.
- The crew has taken required response actions.
- Safety Injection and Containment Spray have actuated per design.
- RWST level has decreased to 4' 4", and Containment Spray has been aligned to the Containment sump.

Which one of the following statements is correct if 1A Containment Spray pump had to be secured at this time due to the containment sump suction strainer being clogged?

- \*A. Containment Pressure, Temperature and Iodine will exceed their design limits.
- \*B. Containment Pressure and Temperature will exceed design limits, Iodine will not exceed design limits.
- \*C. Containment Temperature and Iodine will exceed design limits, Pressure will not exceed design limits.
- \*D. Containment Pressure, Temperature and Iodine will not exceed their design limits.

\*ANSWER D  
\*COGNITIVE Comprehension.  
\*REFSPECIFIC OPS-52102C, pg.5, Containment spray and cooling system and O52531G page 5 and ITS 3.6.6 bases  
\*MODULE OPS-52102C  
\*OBJECTIVE O52102C01 and O52102C03  
\*ABASIS Incorrect, none will exceed their limits.  
\*BBASIS Incorrect, none will exceed their limits.  
\*CBASIS Incorrect, none will exceed their limits.  
\*DBASIS Correct, one CS pump and one fan will not let any of the parameters exceed their design limits.

\*QNUM  
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 \*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 11

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 Pushbuttttons  
 \*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  
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\*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 12

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  
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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 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 13

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 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 14

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 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 15

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 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 16

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 1/20/99  
\*ACHOICE 1/20/99  
\*BCHOICE 1/20/99  
\*CCHOICE 1/20/99  
\*DCHOICE 1/20/99  
\*ANSCHANGE 1/20/99  
\*QHISTORY NEW  
\*EXAM TYPE NRC  
\*QDATE 1/20/99  
\*FACILITY 348 Farley 1 & 2  
\*RTYP PWR-WEC-3  
\*EXLEVEL S  
\*AUTHOR Sonalysts  
\*REFKEY  
\*KA1 068A2.04  
\*KA1RO 3.3  
\*KA1SRO 3.3  
\*KA2  
\*KA2RO  
\*KA2SRO  
\*QVALUE 1.0  
\*QUESTION 17

Given the following conditions on Unit 1:

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

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

- \*A. NO action required; RCV-018 will close automatically after a 10-second time delay.
- \*B. Go to CLOSE on RCV-018 handswitch to provide full instrument air pressure for closing.
- \*C. Stop WMT #1 discharge pump and recheck WMT #1 flow indication.
- \*D. Manually override RCV-018 closed using the manual handwheel.

\*ANSWER C  
\*COGNITIVE Comprehension.  
\*REFSPECIFIC OPS-52106A, pg. 15, 16  
\*MODULE OPS-52106A  
\*OBJECTIVE O52106A11  
\*ABASIS Incorrect, there is no delay.  
\*BBASIS Incorrect, RCV-018 requires air to open, fails closed.  
\*CBASIS Correct, This is the only choice that would stop the release if RCV-18 does not go closed.  
\*DBASIS Incorrect, this valve does not have a manual handwheel.

\*QNUM  
\*HNUM  
\*QCHANGE 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 18

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 B  
 \*AUTHOR Sonalysts, Inc.  
 \*REFKEY  
 \*KA1 072K5.01  
 \*KA1RO 2.7  
 \*KA1SRO 3.0  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 19

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) <sup>or</sup> a design-basis LOCA (DB LOCA), due to the effect of the mineral insulation on the cable signal?

*↳ need to change if used again.*

- \*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 20

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 11/20/99  
 \*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 21

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 22

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 11/04/99  
\*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 23

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 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 24

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 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 25

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

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

The operating crew observes that the following valves have isolated.

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

Which one of the following pressure signals caused the isolations?

- \*A. Penetration room is at least 3.0 inches H<sub>2</sub>O greater than atmospheric pressure.
- \*B. Penetration room is at least 3.0 inches H<sub>2</sub>O greater than containment pressure.
- \*C. Penetration room is at least 1.5 inches H<sub>2</sub>O less than atmospheric pressure.
- \*D. Penetration room is at least 1.5 inches H<sub>2</sub>O 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  $\Delta P$  HI:  $3.0 \pm 0.25$  inches H<sub>2</sub>O will cause the valve isolations that are given in the conditions above. For the given conditions, CTMT TO PENE RM  $\Delta P$  HI-LO alarm is caused by high penetration room pressure resulting from an unknown pipe break.
- \*BBASIS Incorrect, CTMT TO PENE RM  $\Delta P$  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  $\Delta P$  LOW setpoint is  $-1.5 + 0.5$  inches H<sub>2</sub>O.
- \*DBASIS Incorrect, CTMT TO PENE RM  $\Delta P$  LO setpoint is  $-1.5 \pm 0.25$  inches H<sub>2</sub>O.

**FNP-1-ARP-1.2**

<p>SETPOINT:</p> <ol style="list-style-type: none"> <li>1. HI: <math>3.0 + 0.5</math> PSIG - 0</li> <li>2. LO: <math>-1.5 \pm 0.25</math> PSIG</li> </ol> <p>ORIGIN:</p> <ol style="list-style-type: none"> <li>1. Diff. Pressure Switch (N1C14PDSH3317-N)</li> <li>2. Diff. Pressure Switch (N1C14PDSL3317-N)</li> </ol>	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">LOCATION</td> <td style="text-align: center;"><u>BK5</u></td> </tr> <tr> <td style="text-align: center;">G5</td> <td style="text-align: center;">CTMT TO PENE RM <math>\Delta P</math> HI-LO</td> </tr> </table>	LOCATION	<u>BK5</u>	G5	CTMT TO PENE RM $\Delta P$ HI-LO
LOCATION	<u>BK5</u>				
G5	CTMT TO PENE RM $\Delta P$ HI-LO				

<p>SETPOINT:</p> <ol style="list-style-type: none"> <li>1. Variable Current/Time</li> <li>2. HI: <math>3.0 \pm 0.25</math> inches H<sub>2</sub>O</li> <li>3. LO: <math>-1.5 + 0.5</math> inches H<sub>2</sub>O - 0</li> </ol> <p>ORIGIN:</p> <ol style="list-style-type: none"> <li>1. Overload Aux. Relay, 49X</li> <li>2. Diff. Pressure Switch (Q1E15PDSH3367A-A)</li> <li>3. Diff. Pressure Switch (Q1E15PDSL3367A-A)</li> </ol>	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">LOCATION</td> <td style="text-align: center;"><u>BK1</u></td> </tr> <tr> <td style="text-align: center;">K1</td> <td style="text-align: center;">PENE RM TO ATMOS A TRN <math>\Delta P</math> HI-LO</td> </tr> </table>	LOCATION	<u>BK1</u>	K1	PENE RM TO ATMOS A TRN $\Delta P$ HI-LO
LOCATION	<u>BK1</u>				
K1	PENE RM TO ATMOS A TRN $\Delta P$ HI-LO				

<p>SETPOINT:</p> <ol style="list-style-type: none"> <li>1. Variable Current/Time</li> <li>2. HI: <math>3.0 \pm 0.25</math> inches H<sub>2</sub>O</li> <li>3. LO: <math>-1.5 + 0.5</math> inches H<sub>2</sub>O - 0</li> </ol> <p>ORIGIN:</p> <ol style="list-style-type: none"> <li>1. Overload Aux. Relay, 49X</li> <li>2. Diff. Pressure Switch (Q1E15PDSH3367B-B)</li> <li>3. Diff. Pressure Switch (Q1E15PDSL3367B-B)</li> </ol>	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">LOCATION</td> <td style="text-align: center;"><u>BK2</u></td> </tr> <tr> <td style="text-align: center;">K2</td> <td style="text-align: center;">PENE RM TO ATMOS B TRN <math>\Delta P</math> HI-LO</td> </tr> </table>	LOCATION	<u>BK2</u>	K2	PENE RM TO ATMOS B TRN $\Delta P$ HI-LO
LOCATION	<u>BK2</u>				
K2	PENE RM TO ATMOS B TRN $\Delta P$ HI-LO				

\*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 26

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 1/20/99  
\*ACHOICE 1/20/99  
\*BCHOICE 1/20/99  
\*CCHOICE 1/20/99  
\*DCHOICE 1/20/99  
\*ANSCHANGE 1/20/99  
\*QHISTORY NEW  
\*EXAM TYPE NRC  
\*QDATE 1/20/99  
\*FACILITY 348 Farley 1 & 2  
\*RTYP PWR-WEC-3  
\*EXLEVEL S  
\*AUTHOR Sonalysts  
\*REFKEY  
\*KA1 034A4.01  
\*KA1RO 3.3  
\*KA1SRO 3.7  
\*KA2  
\*KA2RO  
\*KA2SRO  
\*QVALUE 1.0  
\*QUESTION 27

Given the following conditions on Unit 1:

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

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

- \*A. R-2, Containment Area Radiation Monitor.
- \*B. R-5, Spent Fuel Pool Area Radiation Monitor.
- \*C. R-12, Containment Atmosphere Radioactive Gas Monitor.
- \*D. R-25A, Spent Fuel Pool Atmosphere Radioactive Gas Monitor.

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

\*QNUM  
 \*HNUM  
 \*QCHANGE 1/20/99  
 \*ACHOICE 1/20/99  
 \*BCHOICE 1/20/99  
 \*CCHOICE 1/20/99  
 \*DCHOICE 1/20/99  
 \*ANSCHANGE 1/20/99  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 1/20/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts  
 \*REFKEY  
 \*KA1 035G2.2.24  
 \*KA1RO 2.6  
 \*KA1SRO 3.8  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 28

Given the following conditions on Unit 1:

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

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

- \*A. Steam pressure channels.
- \*B. SG water level channels.
- \*C. Main steam safety valves.
- \*D. SG atmospheric relief valves.

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

Question does not specify what STP/ETP is being done, only that the Equipment is OOS for 8 hours.

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 29

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 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 30

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 1/20/99  
 \*ACHOICE 1/20/99  
 \*BCHOICE 1/20/99  
 \*CCHOICE 1/20/99  
 \*DCHOICE 1/20/99  
 \*ANSCHANGE 1/20/99  
 \*QHISTORY Significantly Modified from Bank #052103F03026  
 \*EXAM TYPE NRC  
 \*QDATE 1/20/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S – (Not SRO only but is on SRO exam only)  
 \*AUTHOR Sonalysts  
 \*REFKEY  
 \*KA1 064A2.16  
 \*KA1RO 3.3  
 \*KA1SRO 3.7  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 31

Given the following conditions on Unit 2:

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

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

- \*A. Breaker DG08 will trip due to the 2G bus underfrequency.
- \*B. Breaker DG08 will trip due to the 2G bus undervoltage.
- \*C. Breaker DG08 will remain closed because neither 2G normal supply breaker is closed.
- \*D. Breaker DG08 will remain closed because 2G bus frequency and voltage are above the bus trip setpoints.

\*ANSWER C  
 \*COGNITIVE Comprehension.  
 \*REFSPECIFIC OPS-52103F, pg. 16.  
 \*MODULE OPS-52103F  
 \*OBJECTIVE O52103F11  
 \*ABASIS Incorrect, a normal supply breaker must be closed; neither is.  
 \*BBASIS Incorrect, UV does NOT trip DG.  
 \*CBASIS Correct, per reference.  
 \*DBASIS Incorrect, UF trip setpoint is 57 Hz (95%).

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 32

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 33

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 SJAE has already been placed in service.

The operator should:

- \*A. Perform AOP-3.0, "Turbine Trip Below P-9 Setpoint" and control RCS temperature using the atmospheric.
- \*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 atmospheric.

\*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 Incorrect, steam dumps are not available.  
\*DBASIS Incorrect, The reactor will not trip

\*QNUM  
 \*HNUM  
 \*QCHANGE 01/20/00  
 \*ACHOICE 01/20/00  
 \*BCHOICE 01/20/00  
 \*CCHOICE 01/20/00  
 \*DCHOICE 01/20/00  
 \*ANSCHANGE 01/20/00  
 \*QHISTORY 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 34

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 35

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 1/20/99  
 \*ACHOICE 1/20/99  
 \*BCHOICE 1/20/99  
 \*CCHOICE 1/20/99  
 \*DCHOICE 1/20/99  
 \*ANSCHANGE 1/20/99  
 \*QHISTORY New  
 \*EXAM TYPE NRC  
 \*QDATE 1/20/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR G.Laska  
 \*REFKEY  
 \*KA1 103A2.03  
 \*KA1RO 3.5  
 \*KA1SRO 3.8  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 36

During Surveillance Testing, the “A” Train SSPS was found to be Inoperable. While troubleshooting is in progress, I&C has tagged the output relay Mode Selector Switch in the TEST position. Which one of the following is the correct mitigation strategy LAW EEP-0 if the unit had a reactor trip and safety injection at this time?

- \*A. Both Trains of Phase “A” components would actuate , no other actions are required.
- \*B. Only “B” Train Phase “A” components would actuate, the operator would have to initiate “A” Train components with the Phase “A” handswitch.
- \*C. Neither Train Phase “A” components would actuate, the operator would have to initiate Both Train components with the Phase “A” handswitch.
- \*D. Only “B” Train Phase “A” components would actuate, the operator would have to align “A” Train components manually.

\*ANSWER D  
 \*COGNITIVE Comprehension.  
 \*REFSPECIFIC OPS-52101I, pg. 21-22 and figure 13  
 \*MODULE OPS-52101I  
 \*OBJECTIVE O52101I32  
 \*ABASIS Incorrect, B Train will actuate.  
 \*BBASIS Incorrect, Handswitch will notwork.  
 \*CBASIS Incorrect, B Train will actuate and Handswitch will not work  
 \*DBASIS Correct, B Train will actuate, the handswitch will not work and the operator will have to manually align components.

\*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 37

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 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 38

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 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 39

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 40

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 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 41

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<sub>g</sub> remains constant at 547°F.
- The CB D rods K-6, K-10, F-6 and F-10 indicate 0 steps; all other rod position indicators are unchanged.
- Annunciators FE3 (ROD AT BOTTOM) and FE4 (TWO OR MORE RODS AT BOTTOM) are NOT actuated.

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

- \*A. The four DRPI rod position indicators have failed because annunciators FE3 and FE4 have NOT actuated.
- \*B. The four CB D rods are on the bottom and the reactor should be tripped for a dropped-rod accident.
- \*C. The CB D group 2 step counter has failed because it should read zero when all rods in this group are fully inserted.
- \*D. The four DRPI rod position indicators have failed because dropping more than one control rod will cause an automatic reactor trip on negative rate.

\*ANSWER B  
\*COGNITIVE Analysis.  
\*REFSPECIFIC AOP-19, pg. 3.  
\*MODULE OPS-52520S and O52201F  
\*OBJECTIVE 052520S01

- \*ABASIS** Incorrect, FE3 and FE4 should not be actuated per figure 7 of O52201F and page 9.
- \*BBASIS** Correct, reactor is tripped for any rod dropped to bottom.
- \*CBASIS** Incorrect, step counter reading is independent of DRPIper OPS-52201E page 22 and figure 10.
- \*DBASIS** Incorrect, trip only occurs if negative rate seen by PR channels and this is still low in the IR.

\*QNUM  
\*HNUM  
\*QCHANGE  
\*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 42

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts  
 \*REFKEY  
 \*KA1 005AG2.1.12  
 \*KA1RO 2.9  
 \*KA1SRO 4.0  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 43

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

- \*A. Shutdown Bank A is inserted below insertion limits.
- \*B. Shutdown Bank B rod G-7 is NOT within alignment limits.
- \*C. Control Bank C is inserted below insertion limits.
- \*D. Control Bank D rods H-2 and F-6 are NOT within alignment limits.

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

\*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 44

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts  
 \*REFKEY  
 \*KA1 W/E04EG2.1.32  
 \*KA1RO 3.4  
 \*KA1SRO 3.8  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 45

Given the following conditions on Unit 1:

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

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

- \*A. RCP seal injection.
- \*B. RCP seal water return.
- \*C. RHR hot leg injection.
- \*D. 1A RHR pump loop suction.

\*ANSWER A  
 \*COGNITIVE Comprehension.  
 \*REFSPECIFIC ECP-1.2, pg. 3, 4; SOP-1.1 Precaution 3.8.  
 \*MODULE OPS-52532E ISLOCA lesson plan.  
 \*OBJECTIVE O52532E04  
 \*ABASIS Correct; CCW to RCP thermal barriers is a possible ISLOCA flowpath that must be verified open before the RCP seal injection flowpath is isolated by ECP-1.2; step 3.9 verifies CCW supplied to RCP thermal barrier. this action satisfies Precaution 3.8 of SOP-1.1.  
 \*BBASIS Incorrect; just verified closed per ECP 1.2 step 1.4.  
 \*CBASIS Incorrect; just verified closed per ECP 1.2 step 1.2.  
 \*DBASIS Incorrect; just verified closed per ECP 1.2 step 1.1.

\*QNUM  
\*HNUM  
\*QCHANGE 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 46

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 12/30/99  
\*ACHOICE 12/30/99  
\*BCHOICE 12/30/99  
\*CCHOICE 12/30/99  
\*DCHOICE 12/30/99  
\*ANSCHANGE 12/30/99  
\*QHISTORY NEW  
\*EXAM TYPE NRC  
\*QDATE 12/30/99  
\*FACILITY 348 Farley 1 & 2  
\*RTYP PWR-WEC-3  
\*EXLEVEL S  
\*AUTHOR Sonalysts  
\*REFKEY  
\*KA1 W/E09EA2.1  
\*KA1RO 3.1  
\*KA1SRO 3.8  
\*KA2  
\*KA2RO  
\*KA2SRO  
\*QVALUE 1.0  
\*QUESTION 47

Given the following conditions on Unit 1:

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

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

- \*A. FRP-I.3, Response to Voids in Reactor Vessel.
- \*B. ESP-0.2, Natural Circulation Cooldown to Prevent Reactor Vessel Head Steam Voiding.
- \*C. ESP-0.3, Natural Circulation Cooldown with Allowance for Reactor Vessel Head Steam Voiding (with RVLIS) if RVLIS is considered Operable.
- \*D. ESP-0.4, Natural Circulation Cooldown with Allowance for Reactor Vessel Head Steam Voiding (without RVLIS) if RVLIS is considered Inoperable.

\*ANSWER A  
\*COGNITIVE Comprehension.  
\*REFSPECIFIC OPS-52531C/L/D, pg. 3/4 ESP-0.2/0.3/0.4 lesson plan, also I.3 Caution statement  
\*MODULE OPS-52531C/L/D, pg. 3/4

**\*OBJECTIVE** O52531C01,L01, D01  
**\*ABASIS** Correct per I.3 Caution statement prior to step 1 and Lesson plan page 4.  
**\*BBASIS** Incorrect, ESP-0.2 is entered to get to the NC cooldown and can then transition to ESP-0.3/0.4  
**\*CBASIS** Incorrect ESP-0.3 can be entered with the above conditions depending upon RVLIS.  
**\*DBASIS** Incorrect, ESP-0.4 can be entered with the above conditions depending upon RVLIS

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 48

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 49

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY Bank #052520I03008  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR MG ROLLINS  
 \*REFKEY  
 \*KA1 026AA2.02  
 \*KA1RO 2.9  
 \*KA1SRO 3.6  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 50

Given the following conditions on Unit 1:

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

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

- \*A. Hydrogen recombiner.
- \*B. Recycle evaporator package.
- \*C. Letdown heat exchanger tube leak.
- \*D. "C" CCW heat exchanger relief valve.

\*ANSWER D  
 \*COGNITIVE Comprehension.  
 \*REFSPECIFIC OPS-52520I, pg. 8-10, AOP-9.0 Loss of CCW  
 \*MODULE OPS-52520I  
 \*OBJECTIVE O52520I03  
 \*ABASIS Incorrect; isolates on Lo-Lo level alarm.  
 \*BBASIS Incorrect; isolates on Lo-Lo level alarm.  
 \*CBASIS Incorrect; higher pressure than CCW.  
 \*DBASIS Correct; outleakage continues after alarm.

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 51

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 52

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 53

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY Bank #052532A05011 Modified  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR MG ROLLINS  
 \*REFKEY  
 \*KA1 055EG2.4.7  
 \*KA1RO 3.1  
 \*KA1SRO 3.8  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 54

Given the following conditions on Unit 1:

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

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

- \*A. The SI signal should NOT be reset because the SI signal is required and a valid signal should NOT be blocked.
- \*B. The SI signal should NOT be reset because the SI signal did NOT seal in with all emergency AC buses de-energized.
- \*C. The SI signal must be reset because ESF components CANNOT be manually controlled with an SI signal present.
- \*D. The SI signal must be reset to prevent automatic loading of ESF equipment if power is restored before equipment autostart is defeated.

\*ANSWER D  
 \*COGNITIVE Comprehension.  
 \*REFSPECIFIC OPS-52532A, pg. 17/18  
 \*MODULE OPS-52532A  
 \*OBJECTIVE 052532A05  
 \*ABASIS Incorrect; OPS-52532A, pg. 17/18 says that the SI signal is reset so that SI equipment will not automatically actuate upon AC power restoration.  
 \*BBASIS Incorrect; same as above and untrue.  
 \*CBASIS Incorrect; manual loading can be performed after autostart defeated.

\*DBASIS

Correct; per reference.

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 55

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 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 56

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 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 57

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.

LAW 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 58

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 59

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 60

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts  
 \*REFKEY  
 \*KA1 068AA2.04  
 \*KA1RO 3.7  
 \*KA1SRO 4.0  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 61

Given the following conditions on Unit 1:

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

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

- \*A. Modulate SG Atmospheric Reliefs approximately the same percent open as Unit 2 SG Atmospheric Reliefs.
- \*B. Modulate SG Atmospheric reliefs to maintain SG pressures at 1005 psig, +/- 50 psig.
- \*C. Control Pressurizer Heaters to maintain Pressurizer pressure at 2235psig, +/- 15 psig.
- \*D. Control MDAFW flows to maintain SG levels at 60-62%.

\*ANSWER B  
 \*COGNITIVE Analysis.  
 \*REFSPECIFIC OPS-52202D, pg. T-1/2 AOP – 28.1 step 16, AOP-28.0 step 15  
 \*MODULE OPS-52202D  
 \*OBJECTIVE O52521B02  
 \*ABASIS Incorrect; Unit 2 has much less decay heat.  
 \*BBASIS Correct; T-AVG will be approximately T-SAT at low power per AOP-28.1 step 16  
 \*CBASIS Incorrect; pressurizer level effect will be hidden by charging flow.  
 \*DBASIS Incorrect, SG level effect will be hidden by AFW flow.

\*QNUM  
 \*HNUM  
 \*QCHANGE 1/20/99  
 \*ACHOICE 1/20/99  
 \*BCHOICE 1/20/99  
 \*CCHOICE 1/20/99  
 \*DCHOICE 1/20/99  
 \*ANSCHANGE 1/20/99  
 \*QHISTORY 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 62

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 63

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 64

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 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 65

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY Bank #052201H25030 Significantly Modified  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR MG ROLLINS  
 \*REFKEY  
 \*KA1 008AA2.06  
 \*KA1RO 3.3  
 \*KA1SRO 3.6  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 66

Given the following conditions on Unit 1:

- The plant is in Mode 3, conducting a controlled cooldown.
- Pressurizer pressure control is in AUTO with the setpoint at 2000 psig.
- PT-444 has just failed HIGH.

Which one of the following describes the response of the pressurizer PORVs, and their operability status IAW Improved Technical Specifications?

- \*A. PORV-444B will open UNTIL RCS pressure drops below 2000 psig, and is still OPERABLE.
- \*B. PORV-444B will open UNTIL RCS pressure drops below 2000 psig, and is not OPERABLE.
- \*C. PORV-444B will NOT close IF RCS pressure drops below 2000 psig, and is still OPERABLE.
- \*D. PORV-444B will NOT close IF RCS pressure drops below 2000 psig, and is not OPERABLE.

\*ANSWER A  
 \*COGNITIVE Comprehension.  
 \*REFSPECIFIC OPS-52201H, Appendix 1  
 \*MODULE 052201H  
 \*OBJECTIVE 052201H25  
 \*ABASIS Correct; PORV-444B will open until P-11 is energized, at or below 2000# and is still operable.  
 \*BBASIS Incorrect; PORV-444B will open until P-11 is energized, at or below 2000# and IS Operable.  
 \*CBASIS Incorrect; PORV-444B will close when P-11 is energized.  
 \*DBASIS Incorrect; PORV-444B will close when P-11 is energized.

\*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 67

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 02/24/00  
 \*ACHOICE 02/24/00  
 \*BCHOICE 02/24/00  
 \*CCHOICE 02/24/00  
 \*DCHOICE 02/24/00  
 \*ANSCHANGE 02/24/00  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 02/24/00  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR GT Ohmstede  
 \*REFKEY  
 \*KA1 W/E11EG2.1.7  
 \*KA1RO 3.7  
 \*KA1SRO 4.4  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 68

Given the following conditions:

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

The operating team should transition to:

- \*A. ESP-1.3, "Transfer to Cold Leg Recirculation", and then to ESP-1.4, "Transfer to Simultaneous Cold and Hot Leg Recirculation" at 0730.
- \*B. ESP-1.2, "Post LOCA Cooldown and Depressurization", ESP-1.3 "Transfer to Cold Leg Recirculation", and then to ESP-1.4, "Transfer to Simultaneous Cold and Hot Leg Recirculation" at 0900.
- \*C. ECP-1.1 "Loss of Emergency Coolant Recirculation", ESP-1.3 "Transfer to Cold Leg Recirculation", and then to ESP-1.4, "Transfer to Simultaneous Cold and Hot Leg Recirculation" at 0730.
- \*D. ESP-1.3 "Transfer to Cold Leg Recirculation", then ESP-1.4, "Transfer to Simultaneous Cold and Hot Leg Recirculation" at 0900, and then to ESP-1.5, "Transfer from Hot Leg to Cold Leg Recirculation" at 2200.

\*ANSWER A  
 \*COGNITIVE analysis  
 \*REFSPECIFIC Farley: EEP-1 step 22 and T.A.N. 200000218A  
 \*MODULE OPS-52532D  
 \*OBJECTIVE 052531G11,052530B16  
 \*ABASIS Correct, per foldout page and per step 22 of EEP-1.  
 \*BBASIS Incorrect, <12.5 feet so foldout page applies and time is incorrect for ESP-1.4.  
 \*CBASIS Incorrect, <12.5 feet so foldout page applies and time is correct for ESP-1.4.

\*DBASIS

Incorrect, TCN changed recirc criteria and deleted ESP-1.5. Times are incorrect due to starting at 0130.

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 69

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts  
 \*REFKEY  
 \*KA1 025AA2.05  
 \*KA1RO 3.1  
 \*KA1SRO 3.5  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 70

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

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

- \*A. (X) 3750 (Y) 500
- \*B. (X) 3750 (Y) 750
- \*C. (X) 4200 (Y) 500
- \*D. (X) 4200 (Y) 750

\*ANSWER C  
 \*COGNITIVE Memory.  
 \*REFSPECIFIC OPS-52101K, pg. 10-13  
 \*MODULE OPS-52101K  
 \*OBJECTIVE OPS-52101K10 and K17  
 \*ABASIS Incorrect, 3750 is max for FCV-605 setpoint adjustment.  
 \*BBASIS Incorrect, both wrong.  
 \*CBASIS Correct, per reference.  
 \*DBASIS Incorrect, 750 is flow when miniflow opens.

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 71

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 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 72

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts  
 \*REFKEY  
 \*KA1 037AG2.4.4  
 \*KA1RO 4.0  
 \*KA1SRO 4.3  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 73

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

- \*A. R-15A (Steam Jet Air Ejector Exhaust) and R-19 (SGBD Sample Monitor).
- \*B. R-23B (SGBD to Dilution) and R-15C (Turbine Bldg. Ventilation High Range).
- \*C. R-70C (1C SG Tube Leak Det.) and R-23A (SGBD Hx Outlet).
- \*D. R-60D (TDAFWP Exh Monitor) and R-15B (Turbine Bldg. Ventilation Mid Range).

\*ANSWER D  
 \*COGNITIVE Memory.  
 \*REFSPECIFIC AOP-2.0, pg. 5  
 \*MODULE OPS-52520B, AOP-2.0 SG Tube leakage, page19.  
 \*OBJECTIVE OPS-52520B01  
 \*ABASIS Incorrect, per reference.  
 \*BBASIS Incorrect, per reference.  
 \*CBASIS Incorrect, per reference.  
 \*DBASIS Correct, R-60D is not part of a "typical pair."

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 74

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 75

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 12/30/99  
\*ACHOICE 12/30/99  
\*BCHOICE 12/30/99  
\*CCHOICE 12/30/99  
\*DCHOICE 12/30/99  
\*ANSCHANGE 12/30/99  
\*QHISTORY NEW  
\*EXAM TYPE NRC  
\*QDATE 12/30/99  
\*FACILITY 348 Farley 1 & 2  
\*RTYP PWR-WEC-3  
\*EXLEVEL S  
\*AUTHOR GT Ohmstede  
\*REFKEY  
\*KA1 W/E05 EG2.4.22  
\*KA1RO 3.0  
\*KA1SRO 4.0  
\*KA2  
\*KA2RO  
\*KA2SRO  
\*QVALUE 1.0  
\*QUESTION 76

Given the following on Unit 2:

- A pressurizer safety valve is stuck open and the crew was performing the actions of EEP-1, Loss of Reactor or Secondary Coolant.
- FRP-C.2, Response to Degraded Core Cooling, is now in progress.
- CETC temperatures at 850°F and rising.
- At the step in FRP-C.2 to verify AFW flow, AFW flow is less than 395 gpm and SG water levels are 0% on all narrow range level indicators.

Which one of the following is the correct procedural flowpath for the above conditions?

- \*A. Complete FRP-C.2, Response to Degraded Core Cooling, then return to EEP-1, Loss of Reactor or Secondary Coolant.
- \*B. Finish FRP-C.2, Response to Degraded Core Cooling, then go to FRP-H.1, Response To Secondary Heat Sink.
- \*C. Stop FRP-C.2, Response to Degraded Core Cooling, Immediately go to FRP-H.1, Response To Secondary Heat Sink.
- \*D. Stop FRP-C.2, Response to Degraded Core Cooling, Immediately go to FRP-C.1, Response to Inadequate Core Cooling.

\*ANSWER C  
\*COGNITIVE Analysis  
\*REFSPECIFIC OPS-52301B, SOP-0.8 page 8  
\*MODULE OPS-52301B  
\*OBJECTIVE O52301B16, 17

- \*ABASIS** Incorrect, C.2 has to be completed unless a higher priority CSF comes up, then you go to the next higher priority CSF.
- \*BBASIS** Incorrect, Do not complete the ORANGE path on FRP C.2 because a higher priority exists..
- \*CBASIS** Correct, stop the FRP Orange path in progress to go to the higher priority Red path.
- \*DBASIS** Incorrect, You do not go to C.1. This is a RED path and conditions do not exist for a RED path.

\*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 77

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 GT Ohmstede  
 \*REFKEY  
 \*KA1 061AA1.01  
 \*KA1RO 3.6  
 \*KA1SRO 3.6  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 78

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, ventiation will secure automatically.  
 \*DBASIS Correct,

\*QNUM  
 \*HNUM  
 \*QCHANGE 04/11/00  
 \*ACHOICE 04/11/00  
 \*BCHOICE 04/11/00  
 \*CCHOICE 04/11/00  
 \*DCHOICE 04/11/00  
 \*ANSCHANGE 04/11/00  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 04/11/00  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR G. Laska  
 \*REFKEY  
 \*KA1 W/E16EA2.2  
 \*KA1RO 3.0  
 \*KA1SRO 3.3  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 79

Given the following:

- Unit 1 is operating at 100%.
- A Generic problem is reported that makes R-27A and R-27B inoperable.

Which one of the following is the correct action to be taken in accordance with Improved Technical Specifications?

- A. Restore the Required channel to operable status within 30 days.
- B. Initiate LCO 3.0.3 immediately and be in Mode 5 within 37 hours.
- C. Restore one channel to operable status within 7 days.
- D. Initiate actions in accordance with specification 5.6.8.

\*ANSWER C  
 \*COGNITIVE Analysis.  
 \*REFSPECIFIC OPS-52106D, pages 28-30.  
 \*MODULE OPS-52106D  
 \*OBJECTIVE O52106D13  
 \*ABASIS Incorrect, per ITS 3.3.3 This is for condition A with one or more functions with one required channel inoperable.  
 \*BBASIS Incorrect, per ITS 3.3.3 This technical specification does not require you to go to the Motherhood for both Post Accident Channels being out.  
 \*CBASIS Correct, per ITS 3.3.3 Condition C (one or more functions with two required channels inoperable) requires one channel be returned to operable status within 7 days.  
 \*DBASIS Incorrect, per ITS 3.3.3 This is the required action if the channel is not returned to operable status in 7 days.

\*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 80

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 12/30/99  
 \*ACHOICE 12/30/99  
 \*BCHOICE 12/30/99  
 \*CCHOICE 12/30/99  
 \*DCHOICE 12/30/99  
 \*ANSCHANGE 12/30/99  
 \*QHISTORY NEW  
 \*EXAM TYPE NRC  
 \*QDATE 12/30/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR GT Ohmstede  
 \*REFKEY  
 \*KA1 028AG2.1.33  
 \*KA1RO 3.4  
 \*KA1SRO 4.0  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 81

Given the following conditions on Unit 1:

- The plant is operating steady-state at 100% power.
- Pressurizer level control is in Auto with the PRZR level control selector switch in the I/III position.
- Pressurizer level detector LT-461 has just failed HIGH.

Which one of the following is the correct response action to be taken?

- \*A. Place FCV-122 in manual to establish charging flow, and Implement ITS 3.3.1, Reactor Trip Instrumentation.
- \*B. Acknowledge High Pressurizer level alarm, and Implement ITS 3.4.9, Pressurizer.
- \*C. Place FCV-122 in manual to reduce charging flow, and Implement ITS 3.4.9, Pressurizer.
- \*D. Acknowledge High Pressurizer level alarm, and Implement ITS 3.3.1, Reactor Trip Instrumentation.

\*ANSWER D  
 \*COGNITIVE Memory.  
 \*REFSPECIFIC ITS LCO 3.3.1  
 \*MODULE OPS-52201H Pressurizer pressure and level control and ARP-1.8 HB1 PRESSURIZER LVL HI  
 \*OBJECTIVE O52201H26  
 \*ABASIS Incorrect – With the PRZR level control selector switch in the I/III position, FCV-122 will not be affected by a 461 failure,  
 \*BBASIS Incorrect – wrong ITS for an instrument failure.  
 \*CBASIS Incorrect – same as A above and ITS incorrect.  
 \*DBASIS Correct per LCO 3.3.1 and knowledge that with an instrument failure LCO 3.4.9 would not be entered.

\*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 82

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 83

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 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 84

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

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

- \*A. (X) Shift Supervisor  
(Y) must remain in the control room during the performance of the STP
- \*B. (X) Shift Supervisor  
(Y) may leave the Control Room to perform a section of the STP with the permission of the Shift Supervisor
- \*C. (X) Shift Foreman-Operating  
(Y) may leave the Control Room to perform a section of the STP with the permission of the Shift Supervisor
- \*D. (X) Shift Foreman-Operating  
(Y) must remain in the control room during the performance of the STP

\*ANSWER B  
\*COGNITIVE Memory  
\*REFSPECIFIC FNP-0-AP-16, Section 3.1 and 8.1, See excerpts below.  
\*MODULE OPS-52303  
\*OBJECTIVE O52303H28  
\*ABASIS Incorrect, The Unit Operator's work station is the control room and permission is required of the SS to leave.  
\*BBASIS Correct, The Shift Supervisor's approval will be obtained prior to the commencement of any surveillance testing. Unit operator may be granted permission by the Shift Supervisor to leave the Control Room for operational matters, such as performance of STPs, clearance, verification, etc.  
\*CBASIS Incorrect, Shift Foreman-Operating reviews STP for completion and logs completion.

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

**FNP-0-AP-16**

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

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

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

\*QNUM  
 \*HNUM  
 \*QCHANGE 5/10/99  
 \*ACHOICE 5/10/99  
 \*BCHOICE 5/10/99  
 \*CCHOICE 5/10/99  
 \*DCHOICE 5/10/99  
 \*ANSCHANGE 5/10/99  
 \*QHISTORY New  
 \*EXAM TYPE NRC  
 \*QDATE 5/10/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts, Inc.  
 \*REFKEY  
 \*KA1 2.1.13  
 \*KA1RO 2.0  
 \*KA1SRO 2.9  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 85

Maintenance activities require workers to access the main RCA through door 2484, on Unit 2, instead of through the routine access hallway adjacent to the Health Physics Office.

Who must authorize this access?

- \*A. Only the Shift Supervisor.
- \*B. Only the Health Physics Supervisor.
- \*C. Technical Manager and Shift Supervisor.
- \*D. Technical Manager and Health Physics Supervisor.

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

FNP-0-AP-42

9.3 Entry into any RCA requires a Radiation Work Permit and issued personnel dosimetry. Routine access to the main RCA will be through the hallway adjacent to the Health Physics Office. Optional access to the main RCA can be gained through doors 505 and 2505 (Auxiliary Bldg. roof access to the spent fuel areas). Under special circumstances access to the main RCA can

be gained through door 2484, on Unit 2, with the approval of the Shift Supervisor and the Technical Manager. The Shift Supervisor must authorize access to the main RCA from any other point. (RESP. 1521). This authorization can be for extended periods of time.

\*QNUM  
 \*HNUM  
 \*QCHANGE 5/10/99  
 \*ACHOICE 5/10/99  
 \*BCHOICE 5/10/99  
 \*CCHOICE 5/10/99  
 \*DCHOICE 5/10/99  
 \*ANSCHANGE 5/10/99  
 \*QHISTORY New  
 \*EXAM TYPE NRC  
 \*QDATE 5/10/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL B  
 \*AUTHOR Sonalysts, Inc.  
 \*REFKEY  
 \*KA1 2.1.22  
 \*KA1RO 2.8  
 \*KA1SRO 3.3  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 86

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  $k_{eff} \leq 0.99$ , percent thermal power-N/A, and average reactor coolant temperature  $\geq 350$  deg. F  
 \*CBASIS Incorrect, T.S Mode, 350 deg F > reactor coolant average temperature > 200 deg F.  
 \*DBASIS Incorrect, T.S Mode,  $\leq 200$  deg F reactor coolant average temperature.

\*QNUM  
 \*HNUM  
 \*QCHANGE 12/31/99  
 \*ACHOICE 12/31/99  
 \*BCHOICE 12/31/99  
 \*CCHOICE 12/31/99  
 \*DCHOICE 12/31/99  
 \*ANSCHANGE 12/31/99  
 \*QHISTORY New  
 \*EXAM TYPE NRC  
 \*QDATE 12/31/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL B  
 \*AUTHOR Sonalysts, Inc.  
 \*REFKEY  
 \*KA1 2.1.29 (Conduct and verify valve lineups)  
 \*KA1RO 3.4  
 \*KA1SRO 3.3  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 87

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 5/10/99  
 \*ACHOICE 5/10/99  
 \*BCHOICE 5/10/99  
 \*CCHOICE 5/10/99  
 \*DCHOICE 5/10/99  
 \*ANSCHANGE 5/10/99  
 \*QHISTORY New  
 \*EXAM TYPE NRC  
 \*QDATE 5/10/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR GT Ohmstede  
 \*REFKEY  
 \*KA1 2.1.34 Ability to maintain Primary and secondary chemistry within allowable limits.  
 \*KA1RO 2.3  
 \*KA1SRO 2.9  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 88

Given the following for Unit 2:

- A Heat-up is in progress following a refueling outage.
- RCS temperature is 249°F.
- Dissolved oxygen exceeds T.S. transient limit (greater than 1.0 ppm).

Which one of the following is the correct chemical for controlling dissolved oxygen in the RCS and what is the required action to be taken IAW Technical Requirement 13.4.1, Chemistry?

- \*A. Hydrazine, heat-up may continue but plant start-up is prohibited until oxygen is below the transient limit.
- \*B. Hydrogen, heat-up may continue as long as dissolved oxygen is within limits in 24 hours.
- \*C. Hydrazine, restore dissolved oxygen to within limits or be in Mode 5 in 36 hours.
- \*D. Hydrogen, restore dissolved oxygen to within limits and remain in Mode 4 with temperature less than 250°F.

\*ANSWER D.  
 \*COGNITIVE Memory  
 \*REFSPECIFIC Technical Requirements Manual, TR 13.4.1, OPS-31202, page 7 and OPS 52101F, page 6  
 \*MODULE OPS-52101F and OPS-31202  
 \*OBJECTIVE O52101F03 and O52101F29  
 \*ABASIS Incorrect, Hydrazine is only used when < 190° F and no actions apply for DO when less than or equal to 250° F.  
 \*BBASIS Incorrect, Hydrogen is correct. As long as temperature remains less than or equal to 250° F, no action is required  
 \*CBASIS Incorrect, Hydrazine is only used when < 190° F and no actions apply for DO when less than or equal to 250° F.  
 \*DBASIS Correct, Hydrogen is correct and remaining at the same temperature or decreasing temperature would be correct. Don't go above 250° F.

\*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 89

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 5/10/99  
 \*ACHOICE 5/10/99  
 \*BCHOICE 5/10/99  
 \*CCHOICE 5/10/99  
 \*DCHOICE 5/10/99  
 \*ANSCHANGE 5/10/99  
 \*QHISTORY New  
 \*EXAM TYPE NRC  
 \*QDATE 5/10/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR GT Ohmstede  
 \*REFKEY  
 \*KA1 2.2.6  
 \*KA1RO 2.3  
 \*KA1SRO 3.3  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 90

Which of the following procedures undergoing a revision does **NOT** require a 10 CFR 50.59 safety evaluation?

- \*A. Severe Accident Management Guidelines (SAMGs).
- \*B. Emergency Implementing Procedures (EIPs).
- \*C. Security Procedures (SPs).
- \*D. Contingency Implementing Procedures (CIPs).

\*ANSWER A.  
 \*COGNITIVE Memory  
 \*REFSPECIFIC Farley: OPS-52303, AP-1, Section 7.0, page 8  
 \*MODULE OPS-52303, Administrative Procedures  
 \*OBJECTIVE O52303A01  
 \*ABASIS Correct, SAMGs will not be screened for 10 CFR 50.59 applicability.  
 \*BBASIS Incorrect, In addition to the 10 CFR 50.59, Security Procedures (SPs) and Contingency Implementing Procedures (CIPs) require a 10 CFR 50.54(p) evaluation per FNP-0-AP-98.  
 \*CBASIS Incorrect, see below.  
 \*DBASIS Incorrect, In addition to the 10 CFR 50.59, Security Procedures (SPs) and Contingency Implementing Procedures (CIPs) require a 10 CFR 50.54(p) evaluation per FNP-0-AP-98, Licensing-Document Change Request.

FNP-0-AP-1

- 7.1 The procedure/FNP manual (with the exception of SAMGs) will be screened for 10 CFR 50.59 applicability per FNP-0-AP-88.
- 7.1.1 The SAMGs do not require a 10 CFR 50.59 safety evaluation due to the fact the SAMGs are based on accidents which exceed the design and license basis of the plant. (Reference NEL 97-0018, dated 1/16/97.)
  - 7.1.2 In addition to the 10 CFR 50.59, Security Procedures (SPs) and Contingency Implementing Procedures (CIPs) require a 10 CFR 50.54(p) evaluation per FNP-0-AP-98.
  - 7.1.3 In addition to the 10 CFR 50.59, Emergency Implementing Procedures (EIPs) require a 10 CFR 50.54(q) evaluation per FNP-0-AP-98.

\*QNUM  
 \*HNUM  
 \*QCHANGE 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 91

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 92

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 93

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 94

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 95

Which one of the following describes the general practice prescribed by the Health Physics Manual, FNP-0-M-001, that should **FIRST** be used to minimize the intake of radioactive material by personnel entering Airborne Radioactivity Areas?

- \*A. Reduction in working times.
- \*B. Increased radiological surveillances.
- \*C. Use of respiratory protective equipment.
- \*D. Reduce airborne levels using engineering controls.

\*ANSWER D.  
 \*COGNITIVE Memory  
 \*REFSPECIFIC HP Manual pg 4 and G-004/401 Rad worker training page 55  
 \*MODULE G-004/401 Rad worker training  
 \*OBJECTIVE G40103B-02  
 \*ABASIS Incorrect, When impracticable to apply process or other engineering controls, other precautionary measures may be used, e.g. increased radiological surveillances, reduction in working times, or use of respiratory protective equipment.  
 \*BBASIS Incorrect, When impracticable to apply process or other engineering controls, other precautionary measures may be used, e.g. increased radiological surveillances, reduction in working times, or use of respiratory protective equipment.  
 \*CBASIS Incorrect, When impracticable to apply process or other engineering controls, other precautionary measures may be used, e.g. increased radiological surveillances, reduction in working times, or use of respiratory protective equipment.  
 \*DBASIS Correct, As a general practice, the plant staff will use process or other engineering controls to limit the concentrations of radioactive materials in air below the limits defined in 10CFR20.1204.

\*QNUM  
\*HNUM  
\*QCHANGE 5/10/99  
\*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 96

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 S  
 \*AUTHOR Sonalysts, Inc.  
 \*REFKEY  
 \*KA1 2.4.20  
 \*KA1RO 3.3  
 \*KA1SRO 4.0  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 97

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

- \*A. Guidance to prevent an electrical shock hazard to personnel.
- \*B. Guidance to direct procedural flowpath if a Safety Injection actuates while in an event specific procedure.
- \*C. Guidance to identify a continuing action step in a specific emergency response procedure.
- \*D. Guidance to prevent the running of an ECCS pump with insufficient minimum recirculation flow.

\*ANSWER C.  
 \*COGNITIVE memory  
 \*REFSPECIFIC FNP-0-SOP-0.8

\*MODULE  
 \*OBJECTIVE

\*ABASIS Incorrect, Information needed to prevent personnel injury requires a caution.

\*BBASIS Incorrect, Information needed mitigate the accident requires a caution.

\*CBASIS Correct, Information other than that needed to prevent personnel injury, mitigate the accident, prevent loss of life or prevent damage to equipment, is placed in a note.

\*DBASIS Incorrect, Information needed to prevent damage to equipment requires a caution.

FNP-0-SOP-0.8, Step 3.2

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

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

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

\*QNUM  
 \*HNUM  
 \*QCHANGE 5/10/99  
 \*ACHOICE 5/10/99  
 \*BCHOICE 5/10/99  
 \*CCHOICE 5/10/99  
 \*DCHOICE 5/10/99  
 \*ANSCHANGE 5/10/99  
 \*QHISTORY New  
 \*EXAM TYPE NRC  
 \*QDATE 5/10/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR Sonalysts, Inc.  
 \*REFKEY  
 \*KA1 2.4.30  
 \*KA1RO 2.2  
 \*KA1SRO 3.6  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 98

Unit 1 is operating at 85% power following a recent startup from a scheduled outage, when the following conditions are reported to the Shift Supervisor:

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

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

- \*A. One hour report to the NRC Resident Inspector and the On-Call Emergency Director.
- \*B. Four hour report to the NRC Resident Inspector and the On-Call Emergency Director.
- \*C. One hour report to the NRC Operation Center and the Emergency Support Manager.
- \*D. Four hour report to the NRC Operation Center and the Emergency Support Manager.

\*ANSWER C.  
 \*COGNITIVE Memory  
 \*REFSPECIFIC EIP 8.0, Page 4-8 sections 7.0, 7.3 and 10.1  
 \*MODULE O53002  
 \*OBJECTIVE O53002I03  
 \*ABASIS Incorrect, One hour report correct, but tests report of event to incorrect NRC contact and plant staff.  
 \*BBASIS Incorrect, Four hour report required if plant is in a shutdown condition when the discrepancy is discovered, and tests report of event to incorrect NRC contact and plant staff.  
 \*CBASIS Correct, If not reported as a declaration of an emergency class per FNP-0-EIP-9.0, the NRC Operation Center and the Emergency Support Manager shall be notified by the Shift Supervisor or the Emergency Director within one hour. A one hour report is required for any event or condition during operation that results in the condition of the

nuclear power plant, including its principal safety barriers being seriously degraded; or results in the nuclear power plant being: [(10CFR50.72(b)(1)(ii)]

in an un-analyzed condition that significantly compromises plant safety, [(10CFR50.72(b)(1)(ii)(A)]. **or**  
in a condition that is outside the design basis of the plant, [(10CFR50.72(b)(1)(ii)(B)].

\*DBASIS Incorrect, Four hour report required if plant is in a shutdown condition when the discrepancy is discovered.

Excerpts from EIP 8.0

7.0 One-Hour Reports [10CFR 50.72(b)(1)].

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

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

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

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

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

\*QNUM  
 \*HNUM  
 \*QCHANGE 5/10/99  
 \*ACHOICE 5/10/99  
 \*BCHOICE 5/10/99  
 \*CCHOICE 5/10/99  
 \*DCHOICE 5/10/99  
 \*ANSCHANGE 5/10/99  
 \*QHISTORY 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 99

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.

\*QNUM  
 \*HNUM  
 \*QCHANGE 5/10/99  
 \*ACHOICE 5/10/99  
 \*BCHOICE 5/10/99  
 \*CCHOICE 5/10/99  
 \*DCHOICE 5/10/99  
 \*ANSCHANGE 5/10/99  
 \*QHISTORY Significantly Modified 053002J10043  
 \*EXAM TYPE NRC  
 \*QDATE 5/10/99  
 \*FACILITY 348 Farley 1 & 2  
 \*RTYP PWR-WEC-3  
 \*EXLEVEL S  
 \*AUTHOR GT Ohmstede  
 \*REFKEY  
 \*KA1 2.4.40  
 \*KA1RO 2.3  
 \*KA1SRO 4.0  
 \*KA2  
 \*KA2RO  
 \*KA2SRO  
 \*QVALUE 1.0  
 \*QUESTION 100

The on-call ED is enroute to the plant because a Site Area Emergency had been declared. Plant conditions just changed, requiring an upgrade to a General Emergency. The Unit 2 Shift Supervisor should declare the General Emergency and at a **minimum**:

- \*A. Recommend partial evacuation for all general population within a 2- mile radius and 5 miles downwind, and no shelter recommendations.
- \*B. Make no protective action recommendations at this time, wait for the On-call ED to make protective action recommendations on a follow-up message.
- \*C. Recommend immediate evacuation for all general population within a 2- mile radius and 5 miles downwind, and immediate shelter for 10 miles downwind.
- \*D. Make a recommendation to discuss protective actions, wait for the On-call ED to make protective action recommendations based on this discussion on a follow-up message.

\*ANSWER C.  
 \*COGNITIVE Memory  
 \*REFSPECIFIC FNP-0-EIP-9, page 7-9 of Guideline 1 and Emergency Plan lesson, OPS-53002 page 16.  
 \*MODULE OPS-53002  
 \*OBJECTIVE O53002J09  
 \*ABASIS Incorrect, Partial evacuation is not allowed for a General Emergency.  
 \*BBASIS Incorrect, do not wait.  
 \*CBASIS Correct, At a minimum, the ED must recommend immediate evacuation for all general population within a 2- mile radius and 5 miles downwind, and immediate shelter for 10 miles downwind  
 \*DBASIS Incorrect, Do not wait.