

DCCook  
NRC Written Retake Examination  
September 10, 2001

Question 1:           01002C0006 3  
Level:                RO/2  
K/A:                 016 K4.02  
Importance:         2.3/2.7  
Source:              Bank

Which ONE of the following RVLIS channels is usable when RCP #21 is the ONLY running pump during shutdown conditions?

- a. Train 'A' Upper Plenum
- b. Train 'B' Upper Plenum
- c. Train 'A' Narrow Range
- d. Train 'B' Narrow Range

Answer: B

ORIGINATION DATE: 3/27/00  
REVISION DATE:  
EXAM/QUIZZES:       RO2010CM;  
LESSON PLAN/OBJ:    RO-C-00200/#6;  
REFERENCES:         SOD-00200-002 Rev 1  
Revised

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Question 2: 01002C0106 2  
Level: RO/2  
K/A: 003K6.04  
Importance: 2.8/3.1  
Source: Modified

During containment isolation valve testing, valve CCM-452, Train-B CCW Return Header Isolation Valve, was inadvertently CLOSED with RCP #3 running.

Which ONE of the following RCP components suffered a loss of cooling water flow?

- a. thermal barrier heat exchangers
- b. bearing oil coolers
- c. reactor support coolers
- d. motor air coolers

Answer: B

ORIGINATION DATE: 10/9/92  
REVISION DATE:  
EXAM/QUIZZES: 99SEIR04; STA EXAM 5; RO20SRO3;  
LESSON PLAN/OBJ: RO-C-NS15/11(41); RO-C-NS2P/#53; RO-C-00201/#6;  
REFERENCES: SOD-01600-002 Rev 1  
MODIFIED/Revised

Question 3:           01002C0208 4  
Level:                RO/2  
K/A:                 010A3.02  
Importance:         3.6/3.5  
Source:              Bank

With pressurizer pressure control system in position #1 (channels 1 and 4), pressure transmitter NPP-151 failed LOW.

Which ONE of the following statements describes the RCS/Pressurizer system response? {ASSUME: NO operator action.}

- a. All pressurizer heaters turn ON.  
Two PORVs cycle to control pressure.
- b. Backup pressurizer heaters turn ON.  
One PORV cycles to control pressurizer pressure.
- c. Proportional pressurizer heaters are FULL ON.  
Spray valves cycle to control pressurizer pressure.
- d. All pressurizer heaters turn ON.  
Reactor trips on high pressurizer pressure condition.

Answer: A

ORIGINATION DATE: 6/1/99

REVISION DATE:

EXAM/QUIZZES:       RO16 NRC EXAMNRC(625); Q2404E; Q2404A; Q2404B; Q2404D;

LESSON PLAN/OBJ:   RO-C-NS03/8a; RQ-C-2441/#1a;

REFERENCES:         SOD-0202-002 Rev 1

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Question 4:           01002C0222 3  
Level:                RO/1  
K/A:                 APE 008AK2.02  
Importance:         2.7/2.7  
Source:              Bank

Unit 1 is in Cold Shutdown with pressurizer PORVs aligned for cold overpressure protection.

Which ONE of the following instrument failures (HIGH) would result in a valid acoustic monitor alarm and lowering RCS pressure?

- a. RVLIS pressure instrument NPS-110
- b. Wide range RCS pressure instrument PS-405A
- c. Pressurizer pressure instrument NPS-153
- d. Pressurizer Master Pressure controller output

Answer: B

ORIGINATION DATE: 5/17/00  
REVISION DATE:  
EXAM/QUIZZES:       RO1820; 95TSADV1; Q2301C; 99SEIR04; RO15 AUDIT EXAMNRC(215); STA  
EXAM 2;                RO2010CM; RO20SRO2;  
LESSON PLAN/OBJ:   RO-C-00202/#22;  
REFERENCES:         SOD-00202-001 Rev 1  
MODIFIED/Revised

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Question 5:           01008C0002 13  
Level:                RO/1  
K/A:                 006K1.03  
Importance:         4.2/4.3  
Source:              Bank

Which ONE of the following pumps/tanks does NOT share a common injection line with other systems to the Reactor Coolant System?

- a. Centrifugal Charging Pumps
- b. Safety Injection Pumps
- c. Residual Heat Removal Pumps
- d. Accumulators

Answer: A

ORIGINATION DATE: 4/28/99  
REVISION DATE: 5/17/99  
EXAM/QUIZZES: AE2403D; Q2403A; RQ2507B; RQ2507D;  
LESSON PLAN/OBJ: AE-C-2431/#3; RQ-C-2431/#7; RQ-C-2571/#7  
REFERENCES: Flow Diagram OP-1-5104C-6

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Question 6: 01008C0009 5  
Level: RO/1  
K/A: 013A4.02  
Importance: 4.5/4.7  
Source: Bank

Which ONE of the following Engineered Safety Features Actuation System signals can *NOT* be reset or blocked with the original actuation signal present?

- a. Safety Injection
- b. Steamline Isolation
- c. Containment Spray
- d. Containment Isolation (Phase A)

Answer: B

ORIGINATION DATE: 6/1/92  
REVISION DATE: 8/8/96  
EXAM/QUIZZES: RO14 NRC EXAM(380);  
LESSON PLAN/OBJ: RO-C-NS12; SD-DCC-HP111;  
REFERENCES: SOD-01100-002 Rev 1

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Question 7:           01009C0013 2  
Level:                RO/1  
K/A:                 026K2.01  
Importance:         3.4/3.6  
Source:              Bank

WHICH ONE of the following will result in the loss of power to BOTH Unit 1  
Containment Spray Pumps?

- a. Loss of Buses T11B and T11C
- b. Loss of Buses T11A and T11C
- c. Loss of Buses T11B and T11D
- d. Loss of Buses T11A and T11D

Answer: D

ORIGINATION DATE: 2/23/00  
REVISION DATE:  
EXAM/QUIZZES:       R911716; 99SEIR03; RO2004C;  
LESSON PLAN/OBJ:   RO-C-00900/#13; RO-C-00900  
REFERENCES:         SOD-08201-001 Rev 1

Question 8: 01010C0010 1  
Level: SRO/2  
K/A: 025K3.01  
Importance: 3.8/3.8  
Source: Bank

During testing of the ice bed temperature monitoring system, it was discovered that one-half of the 696' 2-1/4" elevation's RTDs were non-functioning and needed repair.

The following conditions exist on Unit 1:

- Thermal power is 99% and steady.
- Last recorded mean Ice Bed temperature was 21°F and slowly rising.
- Ice Condenser cooling system is OPERABLE.

Which ONE of the following actions is required to ensure containment integrity during an accident?

- a. Restore Ice Bed temperature monitoring system to OPERABLE status within 30 days or be in Cold Shutdown condition within 36 hours.
- b. Verify ALL Ice Condenser Doors are closed and commence a unit shutdown to be in Cold Shutdown conditions within 36 hours.
- c. Restore Ice Bed temperature to less than 15°F within 48 hours or be in Hot Standby within the next 6 hours.
- d. Verify ALL Ice Condenser Doors are not impaired by ice, frost or debris and monitor ice bed temperature every 12 hours while attempting to restore temperature to normal range.

Answer: B

REFERENCE PROVIDED: YES

ORIGINATION DATE: 2/22/00

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-NS14/#10;

REFERENCES: Tech Spec 3.6.5.2 and 3.6.5.4

MODIFIED/Revised



Question 9: 01011C0006 6  
Level: RO/2  
K/A: 012A1.01  
Importance: 2.9/3.4  
Source: Bank

The following plant conditions exist:

- Reactor power 100%
- Rod control in manual
- All other controls in automatic

Which ONE of the following will cause the OverTemperature Delta-T trip setpoint to decrease?

- a. Auctioneered high Tavg fails low
- b. Power reduction to 50% with normal pressure and temperature
- c. RCS Wide Range pressure channel fails low
- d. N42 power range lower detector fails low

Answer: D

REFERENCE PROVIDED: YES

ORIGINATION DATE: 11/16/94

REVISION DATE:

EXAM/QUIZZES: RO1822MU1; RO16 NRC EXAM(636)

LESSON PLAN/OBJ: RO-C-NS11/#6;

REFERENCES: Tech Spec Table 2.2-1

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Question 10: 01011C0019 1  
Level: RO/2  
K/A: 012K6.10  
Importance: 3.3/3.5  
Source: Bank

Unit 1 was operating at 51% power when a reactor trip occurred due to the loss of the #12 RCP. The following plant conditions exist:

- Tavg is at 520°F and lowering
- Feedwater isolation did NOT actuate
- Load Rejection Controller was controlling the Steam Dump valves.

Which ONE of the following permissive circuits failed, resulting in the aforementioned plant conditions?

- a. P-4
- b. P-7
- c. P-8
- d. P-10

Answer: A

ORIGINATION DATE: 6/24/92  
REVISION DATE:  
EXAM/QUIZZES: RO1822MU1; RO13 NRC EXAMNRC(369)  
LESSON PLAN/OBJ: RO-C-NS11/19, 8;  
REFERENCES: Tech Spec Table 3.3-1

Question 11: 01011C00XX 17  
Level: RO/2  
K/A: 001K1.05  
Importance: 4.5/4.4  
Source: Modified

The following plant conditions exist:

- Turbine Power is 12% and slowly rising.
- Power Range Channel N-41 has been removed from service
- Tav<sub>g</sub> is 3°F below programmed Tref.
- Rod Control is in AUTO.

Which ONE of the following Rod Withdrawal Stops is preventing any outward motion of the control rods to restore Tav<sub>g</sub>?

- a. C-1, Intermediate Range High Flux
- b. C-2, Power Range High Flux
- c. C-4, OverTemperature Delta-T
- d. C-5, Turbine Low Power

Answer: D

ORIGINATION DATE: 7/6/92  
REVISION DATE:  
EXAM/QUIZZES: RO1822MU2  
LESSON PLAN/OBJ: RO-C-NS11; RO16 AUDIT EXAMNRC(378)  
REFERENCES: SOD-01200-001 Rev 1  
MODIFIED

Question 12: 01012C0004 6  
Level: RO/1  
K/A: APE 003AK2.05  
Importance: 3.7/3.8  
Source: Bank

Unit 2 was operating at 20% power when a control rod dropped into the core. During recovery of the dropped rod, an URGENT FAILURE alarm was received.

Which ONE of the following is the reason for this alarm?

- a. Current signals to moveable and stationary grippers are lost at the same time.
- b. Current to the moveable and stationary grippers does not match the current command signal.
- c. Moveable and stationary grippers attempt to energize at the same time.
- d. Output voltage to the moveable and stationary grippers has excessive ripple.

Answer: B

ORIGINATION DATE: 12/30/98  
REVISION DATE:  
EXAM/QUIZZES: RO14 NRC EXAMNRC(248) ; 99SEIR12;  
LESSON PLAN/OBJ: RO-C-NS04/#4; RQ-C-2322/#2;  
REFERENCES: OHP 4022.012.005 Att B Rev 6

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Question 13: 01013C0006 1  
Level: RO/2  
K/A: APE 033AA1.02  
Importance: 3.0/3.1  
Source: Bank

During a reactor startup and at the point of adding heat, Intermediate Range NI-35 had failed to respond properly, and was placed in Level Trip Bypass then removed from service. During the removal process, the operator inadvertently pulled the Control Power fuses.

Which ONE of the following statements describes the NI system response?

- a. SR High Flux trip is unblocked causing a reactor trip signal.
- b. IR Rod Stop permissive is actuated.
- c. IR Trip Block annunciator is actuated.
- d. SR High Flux trip will remain blocked.

Answer: A

ORIGINATION DATE: 6/3/98

REVISION DATE:

EXAM/QUIZZES: RO1820; RO14 NRC EXAM(323); Q2302MU; Q2408A1;

LESSON PLAN/OBJ: RO-C-NS09/#6, 8, 9; RQ-C-2321/#3; RQ-C-2482/#2;

REFERENCES: SOD-01300-003 Rev 1

MODIFIED/Revised

Question 14: 01013C0011 31  
Level: RO/2  
K/A: APE 032AK3.01  
Importance: 3.2/3.6  
Source: Bank

During a reactor start-up with power at  $1.0E-7$  amps, the N31 source range detector develops a low internal resistance condition due to the high voltage electrode contacting the casing.

Which ONE of the following is the IMMEDIATE effect on continued plant operation?

- a. Source range high flux reactor trip
- b. Loss of high flux at shutdown indication
- c. Loss of N41 and N43 power range channels
- d. Source Range N31 has no response or effect

Answer: D

ORIGINATION DATE: 4/29/97  
REVISION DATE:  
EXAM/QUIZZES: RO1925;  
LESSON PLAN/OBJ: RO-C-01300/#11  
REFERENCES: Tech Spec Table 3.3-1

Question 15: NEW 26  
Level: RO/1  
K/A: G2.3.1  
Importance: 2.6/3.0  
Source: New

In order to meet Administrative Dose Limits and 10 CFR 20 requirements on limiting neutron dose, each individual is monitored during entry into a neutron exposure area.

Which ONE of the following processes is used to document personnel exposure to neutrons that will exceed 100 mrem in 30 days?

- a. Electronic Dosimeter accumulated dose and TLD reading
- b. Neutron dose rate survey, time in the area and TLD reading
- c. Neutron sensitive dosimeter in addition to TLD reading
- d. Additional TLDs placed about the Head and Chest

Answer: C

ORIGINATION DATE: 8/21/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 12 PMP-6010-RPP.101 Rev 2

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Question 16: 01013C5007 1  
Level: RO/2  
K/A: EPE E16G2.4.10  
Importance: 3.0/3.1  
Source: Bank

Following a spurious Containment Spray (CS) Signal, the operators acknowledge that the PPC display for ERS-1400, Lower Containment Radiation Monitor, has changed to MAGENTA.

To restore this channel to operable status, the operators MUST:

- a. press the reset pushbutton above the RMS CT and restart the pump.
- b. press the RMS Valve Isolation reset pushbutton, then reopen the containment isolation valves and restart the pump.
- c. press the CVI (Containment Vent Isolation) reset pushbuttons and reopen the isolation valves.
- d. notify RP and restart the containment purge on their authorization.

Answer: B

ORIGINATION DATE: 6/17/98  
REVISION DATE:  
EXAM/QUIZZES: RQ2507E; RQ2507A; RQ2507C;  
LESSON PLAN/OBJ: RO-C-AS21/#1; RQ-C-2572/#7  
REFERENCES: 02-OHP 4021.211 Drop 49 Rev 6; 12-THP-6010-RPC-810 Rev 2; Drawing OP-98343 & OP-98817-18  
Revised



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Question 17:       01013C5008 7  
Level:             RO/1  
K/A:                APE 061AA2.04  
Importance:       3.1/3.5  
Source:             Bank

Which ONE of the following Eberline control terminal status lights would indicate an RMS channel was placed in LOCAL control?

- a. Red - High alarm
  
- b. White - Maintenance
  
- c. Yellow - Alert alarm
  
- d. Yellow - Trend

Answer: B

ORIGINATION DATE: 4/20/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-01350/#8; RQ-C-2572/#8

REFERENCES:       01-OHP 4024.211 Drop 48 Rev 6; 12-THP-6010.RPI.803 Rev 10a  
Revised

Question 18:       01013C5010 3  
Level:             SRO/2  
K/A:               G2.3.11  
Importance:       2.7/3.2  
Source:            Bank

Following an audible alarm from the Eberline RMS system, operators determine that RFS-1010, Liquid Release Sample Flow monitor, failed HIGH. A planned liquid waste release:

- a. cannot be performed until the flow switch is restored to OPERABLE.
- b. cannot be performed until the radiation channel (RRS 1001) is verified OPERABLE.
- c. can be performed provided at least two independent samples are analyzed and at least two qualified persons independently verify the discharge valve lineup.
- d. can be performed for up 30 days provided the flow rate is estimated at least once per 4 hours during the actual release.

Answer: C  
REFERENCE PROVIDED: YES

ORIGINATION DATE: 6/17/98  
REVISION DATE:    12/20/00  
EXAM/QUIZZES:    RQ2507B; RQ2507C; RQ2507D;  
LESSON PLAN/OBJ: RO-C-AS21/#1; RQ-C-2572/#10  
REFERENCES:       PMP-6010.OSD.001 Att 3 Rev 16; 12-OPH 4021.006.004 Att 3 Rev 24b  
Revised

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Question 19: 01016C0002 1  
Level: RO/1  
K/A: 008K1.02  
Importance: 3.3/3.4  
Source: Bank

Which ONE of the following is a load on the miscellaneous header cooled by the Component Cooling Water System?

- a. Containment penetrations coolers
- b. Diesel generator coolers
- c. CTS pump mechanical seal heat exchanger
- d. RHR heat exchanger

Answer: A

ORIGINATION DATE: 9/11/98  
REVISION DATE:  
EXAM/QUIZZES: R911716; AE2306C;  
LESSON PLAN/OBJ: RO-C-AS01/#2; AE-C-2362/#2;  
REFERENCES: SOD-01600-001 Rev 1

Question 20: 01019C0006 27  
Level: RO/3  
K/A: 076A3.02  
Importance: 2.9/3.2  
Source: Bank

Unit 2 is in Mode 3 ready to begin a reactor startup. Both Units have their respective West ESW pump running. The Unit 2 RCP bus tie breaker to Bus T21A OPENED on a breaker fault and the emergency diesel is supplying the bus.

Which ONE of the following automatic actions would NOT occur?

- a. Normal ESW supply to the Unit 2 AB DG receives an open signal
- b. Alternate ESW supply to the Unit 2 CD DG receives an open signal
- c. Unit 1 East ESW pump starts
- d. Unit 2 West ESW pump starts

Answer: B

ORIGINATION DATE: 12/2/98  
REVISION DATE:  
EXAM/QUIZZES: Q1803B; Q1803D; Q1803A;  
LESSON PLAN/OBJ: RO-C-01900/#6; RQ-C-1832/#1;  
REFERENCES: SOD-01900-001 Rev 1  
Revised

Question 21: 01019C0015 2  
Level: RO/2  
K/A: EPE E15EA1.2  
Importance: 2.7/2.9  
Source: Bank

The following plant conditions exist:

- Small Break LOCA is in progress
- Reactor has tripped due to SI actuation
- Lower containment pressure is 4 psig
- East containment spray has tripped after automatically starting
- RWST level is 33.9%
- Containment sump level is 45%

The following valves are CLOSED:

- WMO 713, Containment Spray Heat Exchanger 1E ESW outlet valve.;
- ICM 305, Containment Recirculation Sump Valve.;
- IMO 202, Spray Additive Tank Outlet Valve.;

Which ONE of the following is the reason for WMO 713 being closed? {ASSUME: All required operator actions were completed.}

- a. The Containment Recirculation Sump Valve (ICM 305) is closed.
- b. There is low level in the Containment Recirculation Sump.
- c. The Containment Spray Pump is not running.
- d. RWST has not yet reached the low-low level setpoint of 9.1%.

Answer: A

ORIGINATION DATE: 12/2/98  
REVISION DATE:  
EXAM/QUIZZES: Q2007C;  
LESSON PLAN/OBJ: RQ-C-2075/#1;  
REFERENCES: SOD-01900-001 Rev 1

Question 22:       01023C0011 1  
Level:             SRO/1  
K/A:               G2.2.25  
Importance:       2.5/3.7  
Source:            Bank

The basis for the Technical Specification limit that "the quantity of radioactivity contained in each gas storage tank shall be limited to 43,800 curies of equivalent Xe-133" is to ensure that:

- a. the dose rate at 6 ft from the tank does not exceed the 10CFR20 limit of 100 mrem/hr to the whole body.
- b. in the event of an uncontrolled release of the tank's contents, the thyroid dose to an individual at the site boundary for 6 hours will not exceed 100 mrem.
- c. in the event of an uncontrolled release of the tank's contents, the dose to an individual at the nearest site boundary will not exceed 0.5 rem.
- d. the dose rate at 6 ft from the tank does not exceed the limits of 10CFR20, Appendix B, Table 2 Column 1.

Answer: C

ORIGINATION DATE: 5/17/00  
REVISION DATE:  
EXAM/QUIZZES:       RO2009; RO20SRO2;  
LESSON PLAN/OBJ:    RO-C-02300/#11;  
REFERENCES:         Tech Spec 3.11.2.2 basis  
Revised

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Question 23: 01028C0005 1  
Level: RO/1  
K/A: 103A3.01  
Importance: 3.9/4.0  
Source: Bank

Which ONE of the following automatic actions will occur as a result of a Containment Isolation Phase B actuation?

- a. Hot Sleeve supply fan will trip
- b. Pressurizer enclosure fans will trip
- c. Air recirculation/hydrogen skimmer fans will trip after two minutes
- d. Reactor cavity supply fans will start

Answer: B

ORIGINATION DATE: 6/10/98  
REVISION DATE: 7/31/98  
EXAM/QUIZZES: R911816; R921717; RO1818; 95TSADV3; RO19C1; Q2304C; Q2304A; Q2304E;  
Q2304MU; 2409Q1;  
LESSON PLAN/OBJ: RO-C-AS08/#5c; RQ-S-2334/#5c;  
REFERENCES: OHP 4023.SUPP.004 Rev 1a; Drawing OP-98397-26  
Revised

Question 24: 01028C0007 1  
Level: RO/2  
K/A: EPE E14EK2.2  
Importance: 3.4/3.8  
Source: Bank

The following conditions exist:

- Containment Recirc. Fan 1 suction valve's (VMO-101) control switch is tagged CLOSE.
- Containment Recirc. Fan 2 suction valve's (VMO-102) control switch is in NORMAL position.
- Both Containment Recirc. Fans' control switches are in AUTO.

Which ONE of the following describes the automatic response after two minutes following the receipt of a containment pressure HIGH signal?

- a. Both fans will start and both valves will fully open.
- b. Only fan HV-CEQ-2 will start but only valve VMO-102 will fully open.
- c. Both fans will start but only valve VMO-102 will fully open.
- d. Only fan HV-CEQ-2 will start but both valves will fully open.

Answer: C

ORIGINATION DATE: 2/21/00  
REVISION DATE:  
EXAM/QUIZZES: STA EXAM 4;  
LESSON PLAN/OBJ: RO-C-02800/#7;  
REFERENCES: SD-02800 Rev 1



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Question 25:       01028C0009 1  
Level:             RO/1  
K/A:               103A4.04  
Importance:       3.5/3.5  
Source:            Bank

Which ONE of the following equipment/system does NOT need to be realigned following a Phase A containment isolation signal reset?

- a. Control air to containment
- b. Containment upper ventilation fans
- c. RCP seal return
- d. Cooling water to reactor supports

Answer: B

ORIGINATION DATE: 6/10/98

REVISION DATE:

EXAM/QUIZZES:     RO1818; RO15 AUDIT EXAM NRC(20);

LESSON PLAN/OBJ: RO-C-AS08; RO-C-NS13(24);

REFERENCES:       OHP 4023-E.0 Rev 16b; OHP 4023-SUPP.003 Rev 1a

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Question 26: 01028C0017 1  
Level: RO/1  
K/A: 022A4.01  
Importance: 3.6/3.6  
Source: Bank

The operator notes a white lamp indication above the fan control switches for the following fans:

- Pressure Relief Exhaust
- Instrument Room Ventilation
- Hot Sleeve Ventilation
- Upper Containment Ventilation
- Lower Containment Pressurizer Enclosure
- Lower Containment Reactivity Cavity Supply

Which ONE of the following signals has been actuated?

- a. Reactor Trip
- b. Safety Injection
- c. Containment Isolation Phase A
- d. Load Conservation

Answer: D

ORIGINATION DATE: 6/10/98  
REVISION DATE: 7/31/98  
EXAM/QUIZZES: RO16 NRC EXAM RETAKE(738); RO1818; 95TSADV3; RO1914; Q2304A; Q2304B;  
LESSON PLAN/OBJ: RO-C-AS08/7(20), RO-C-AS10(69), RO-C-PG14(42); RQ-S-2334/#5b;  
REFERENCES: SOD-08201-001 Rev 1

Question 27: 01028C01A02 6  
Level: RO/2  
K/A: APE 067AA2.14  
Importance: 3.2/4.3  
Source: Bank

Which ONE of the following lists the Unit-1 Control Room Ventilation system damper alignment for operation during a fire located in the Control Room Cable Vault?

- |    | <u>1-HV-ACR-DA-1(1A)<br/>CR AC INTAKE</u> | <u>1-HV-ACR-DA-2<br/>CR OUTSIDE AIR INTAKE</u> | <u>1-HV-ACR-DA-2A<br/>CR OUTSIDE AIR INTAKE</u> | <u>1-HV-ACR-DA-3<br/>CR PRZ RECIRC</u> |
|----|---|--|---|--|
| a. | OPEN                                      | PARTIAL OPEN                                   | CLOSED  | OPEN                                   |
| b. | CLOSED                                    | CLOSED   | PARTIAL OPEN                                    | OPEN                                   |
| c. | OPEN                                      | CLOSED   | PARTIAL OPEN                                    | CLOSED                                 |
| d. | CLOSED                                    | PARTIAL OPEN                                   | CLOSED  | CLOSED                                 |

Answer: D

ORIGINATION DATE: 2/23/00  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ: RO-C-02801A/#2;  
REFERENCES: SOD-02801A-001 Rev 1  
Revised

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Question 28:       01028C01A12 2  
Level:             SRO/1  
K/A:               G2.1.33  
Importance:       3.4/4.0  
Source:            Bank

To verify the Control Room Ventilation System remains OPERABLE, the control room temperature must be below what MAXIMUM limit per Technical Specifications?

- a. 85°F
- b. 95°F
- c. 120°F
- d. 130°F

Answer: B

ORIGINATION DATE: 2/23/00  
REVISION DATE:  
EXAM/QUIZZES:       RO2003;  
LESSON PLAN/OBJ:   RO-C-02801A/#12;  
REFERENCES:         Tech Spec 3.7.5.1  
Revised

Question 29: 01028C01B05 1  
Level: RO/1  
K/A: G2.1.28  
Importance: 3.2/3.3  
Source: Bank

What support function does the Fire Protection System provide to the Auxiliary Building Ventilation Sub-Systems?

- a. Deluge for Supply and Exhaust Fans
- b. Deluge for Charcoal Filters
- c. Makeup for Chilled Water
- d. Makeup for humidifiers

Answer: B

ORIGINATION DATE: 2/22/00  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ: RO-C-02801B/#5;  
REFERENCES: SD-02801B Rev 1

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Question 30:       01032C0001 1  
Level:             RO/2  
K/A:               064K4.11  
Importance:       3.5/4.0  
Source:            Bank

A loss of offsite power has occurred. The diesel generators have started, the output breakers are shut, and all the required loads have sequenced on. A safety injection signal is subsequently received.

The diesel generators will:

- a. Continue to run and subsequent load shedding will not occur.
- b. Continue to run and subsequent load shedding will occur.
- c. Trip and subsequent load shedding will not take place.
- d. Trip and subsequent load shedding will take place.

Answer: A

ORIGINATION DATE: 3/9/00  
REVISION DATE:  
EXAM/QUIZZES:     RO2006; RO20SRO1;  
LESSON PLAN/OBJ:  RO-C-03200/#1;  
REFERENCES:       SD-03200 Rev 0; Drawing OP-98035 & 98405  
Revised

Question 31: 01032C0018 1  
Level: RO/2  
K/A: 064K6.07  
Importance: 2.7/2.9  
Source: Bank

Diesel Generator 1CD is running and loaded following an emergency start signal. Which ONE of the following describes the response of 1CD Diesel Generator following a complete depressurization of the Diesel Generator's 100 psig control air sub-system?

- a. The Throttle Control cylinder will extend causing the fuel racks to close.
- b. No effect because control air system is no longer needed.
- c. The Slow Start cylinder will extend driving the fuel racks to a minimum position.
- d. The Intake Air After-Cooler ESW (3-way) valves will fail to the bypass position.

Answer: A

ORIGINATION DATE: 02/15/00  
REVISION DATE:  
EXAM/QUIZZES: RO2004C;  
LESSON PLAN/OBJ: RO-C-03200/#18;  
REFERENCES: SD-03201 Rev 0

Question 32: 01051C0010 4  
Level: RO/1  
K/A: 035A4.06  
Importance: 4.5/4.6  
Source: Bank

Unit 2 is operating at full power. A High alarm is received on R-19, Blowdown Radiation monitor.

Which ONE of the following describes the automatic response of the Blowdown system to this alarm?

- a. Blowdown discharge isolation (DRV 350) trips closed, Blowdown Sample Isolation valves (DCR 301 - 304) trip closed.
- b. Blowdown discharge isolation (DRV 350) trips closed, Blowdown Sample Isolation valves (DCR 301 - 304) remain open.
- c. Blowdown treatment pump trips, Blowdown Sample isolation valves (DCR 301 - 304) trip closed.
- d. Blowdown treatment pump trips, Blowdown Sample Isolation valves (DCR 301 - 304) remain open.

Answer: A

ORIGINATION DATE:2/24/00  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ: RO-C-PG01/#10;  
REFERENCES: 12-OHP 4021.013.006 Rev 4a



Question 33: 01052C0013 3  
Level: RO/2  
K/A: APE 057AA2.19  
Importance: 4.0/4.3  
Source: Bank

Given the following Unit 2 conditions:

- Reactor and turbine/generator output both stable at 70% prior to trip.
- Rod control in Manual.
- Steam dump control in  $T_{avg}$  mode.
- UPC-101 Bypass header pressure failed low.
- MPC-254 Turbine impulse pressure channel II failed low.
- No actions have been taken yet in response to the failures.

Which ONE of the following Steam Dump system responses will occur on a turbine trip with the loss of CRID-3?

- a. All nine steam dump valves trip open.
- b. Six valves (groups 1 & 2) throttle to maintain  $T_{avg}$  at 547°F.
- c. Three valves (group 1) cycle open and closed as  $T_{avg}$  goes above and below 541°F.
- d. All nine steam dump valves are blocked closed.

Answer: B

ORIGINATION DATE: 8/29/95  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ: RQ-C-1851/#1;RO-C-PG12/#13  
REFERENCES: OHP 4021.082.008 Table 3 Rev 12

Question 34: 01055C0011 1  
Level: RO/2  
K/A: APE 054AA1.01  
Importance: 4.5/4.4  
Source: Bank

The following plant conditions exist:

- Unit 1 is at 7% power on the steam dump to the condenser.
- Turbine rolling up to 1800 rpm.
- All operating condensate booster pumps trip.

Which ONE of the following describes the system response? {ASSUME: NO operator action is taken.}

- MFP-Immediate trip;  
AFW PUMPS-Start on MFW pump trip;  
TURBINE TRIP-On Reactor trip
- MFP-Immediate trip;  
AFW PUMPS-Start on SG low low level;  
TURBINE TRIP-On MFW pump trip
- MFP-Trip after 5 sec. delay;  
AFW PUMPS-Start on MFW pump trip;  
TURBINE TRIP-On MFW pump trip
- MFP-Trip after 5 sec. delay;  
AFW PUMPS-Start on SG low low level;  
TURBINE TRIP-On Reactor trip

Answer: ~~C~~ corrected answer is D

ORIGINATION DATE: 8/20/98  
REVISION DATE:  
EXAM/QUIZZES: R911316; R9113M1; STA10MU; RO1823;  
LESSON PLAN/OBJ: RO-C-PG10/#;  
REFERENCES: SD-05500 Rev 1

Question 35: 01057C0008 9  
Level: RO/1  
K/A: 075K1.08  
Importance: 3.2/3.2  
Source: Bank

Emergency Intake Shutoff valves (WMO-17, WMO-27) from each Unit's discharge vault to the forebay are designed to supply emergency flow to which ONE of the following, if the intakes from the lake are collapsed?

- a. Circulating water pumps so condenser vacuum will be maintained for continued turbine-generator operation.
- b. Essential service water pumps for emergency cooling of its vital loads.
- c. Emergency core cooling pumps to provide for Safety Injection into the reactor coolant system if required.
- d. Diesel driven fire pumps to provide backup for containment and control room cooling.

Answer: B

ORIGINATION DATE: 10/1/98

REVISION DATE:

EXAM/QUIZZES: AE2305D; AE2305E;

LESSON PLAN/OBJ: AE-C-PG07/#5; AE-C-9213/#7; AE-C-5701/#5; AE-C-2350/#2;

REFERENCES: SOD-05700-001 Rev 1

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Question 36: 01064C0110 2  
Level: RO/2  
K/A: 078K3.02  
Importance: 3.4/3.6  
Source: Bank

Which ONE of the following systems is available after a loss of control air?

- a. CVCS Letdown
- b. Seal Injection
- c. Normal blender makeup
- d. Spent fuel pit cooling

Answer: B

ORIGINATION DATE: 4/27/99  
REVISION DATE: 5/12/99  
EXAM/QUIZZES: Q2203C; Q2403D;  
LESSON PLAN/OBJ: RQ-C-2232/#1; RQ-C-2432/#4;  
REFERENCES: OHP 4022.064.002 Rev 4

**NOTE: ORIGINALLY QUESTION No. 37**

Question 37: 01064C01XX 4  
Level: RO/2  
K/A: 079A2.01  
Importance: 2.9/3.2  
Source: Bank

The MUP operator reports a large air leak on the Plant Air Header south of PRV-11 (Unit 1 Ring Header Isolation valve) AND North of PRV-21 (Unit 2 Ring Header Isolation valve). The Unit-1 PAC is running with the Unit-2 PAC in standby.

Which ONE of the following situations will occur? {ASSUME: NO operator action is taken and no other system/component failures have occurred.}

- a. The Unit 2 PAC starts and even though the ring header isolation valves close, both units control air headers continue to be supplied by the PACs.
- b. The ring header isolation valves will close, and both units CACs start and supply their respective units' control air headers.
- c. The ring header isolation valves will close, but will not isolate the unit control air systems from the leak and both reactors must be manually tripped.
- d. The Unit 1 ring header isolation valves close isolating the leak so that the Unit 1 PAC can continue to supply Unit 1 control air. The Unit 2 PAC starts to supply Unit 2 control air.

Answer: B

ORIGINATION DATE: 4/29/99  
REVISION DATE: 2/8/00  
EXAM/QUIZZES: AE2403D; Q2403E; R2324V-A1B; R2324D-A5B;  
LESSON PLAN/OBJ: UO-C-AS12/#3 & 11; RQ-C-2432/#4;  
REFERENCES: 01-OHP 4022.064.001 Rev 5

**NOTE: ORIGINALLY QUESTION No. 36**

Question 38: 01082C0103 1  
Level: RO/1  
K/A: 062G2.1.27  
Importance: 2.8/2.9  
Source: Bank

The design function of the 120V AC distribution panels (AFW, AFWX, ELSC, and ELSCX) is to supply:

- a. Balance of plant loads in the event of a design basis earthquake.
- b. Engineered safety system loads in the event of a large break LOCA.
- c. Engineered safety system and balance of plant loads in the event of a steam generator tube rupture.
- d. Engineered safety system and balance of plant loads in the event of an Appendix R fire.

Answer: D

ORIGINATION DATE: 01/05/00  
REVISION DATE:  
EXAM/QUIZZES: RO2001;  
LESSON PLAN/OBJ: RO-C-08201/#3;  
REFERENCES: SD-08201 Rev 1

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Question 39:       01082C0105 1  
Level:             RO/1  
K/A:               062K2.01  
Importance:       3.5/4.0  
Source:            Bank

Which ONE of the following provides control power for the safety-related 4kV breakers?

- a. 600V AC distribution circuitry
- b. 250V DC distribution circuitry
- c. 120V AC potential transformers
- d. 125V DC station auxiliaries

Answer: B

ORIGINATION DATE: 01/06/00  
REVISION DATE:  
EXAM/QUIZZES:     RO2004C;  
LESSON PLAN/OBJ: RO-C-08201/#5;  
REFERENCES:        SOD-08204-001 Rev 1

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Question 40:       01082C0114 1  
Level:             SRO/2  
K/A:               G2.2.22  
Importance:       3.4/4.1  
Source:            Bank

With Unit 1 operating at 100% power, which ONE of the following conditions would require entry into a Technical Specification LCO?

- a. Diesel Generator 1AB has one fuel transfer pump out of service for maintenance.
- b. 600V bus crosstie breaker 11AC is closed for post maintenance testing.
- c. 600V bus crosstie breaker 11BCMC is closed for Transformer maintenance.
- d. 600V bus 11-CMC is de-energized for breaker cleaning.

Answer: B

ORIGINATION DATE: 01/07/00  
REVISION DATE:  
EXAM/QUIZZES:     RO2001;  
LESSON PLAN/OBJ: RO-C-08201/#14;  
REFERENCES:       Tech Spec 3.8.2.1  
Revised



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Question 41:       01082C0408 1  
Level:             RO/1  
K/A:               APE 058AK1.01  
Importance:       2.8/3.1  
Source:            Bank

Which ONE of the following conditions would result in a "Battery Charger 2AB2 Abnormal" (Annunciator 219 Drops 20) alarm in the Control Room?

- a. Input circuit breaker open
- b. Output circuit breaker open
- c. Blown rectifier fuse
- d. Low charger output voltage

Answer: C

ORIGINATION DATE: 2/9/00  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ: RO-C-08204-K08;  
REFERENCES:       SD-08204; OHP 4024 119/219

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Question 42:           01ADMC0904 40  
Level:                 RO/1  
K/A:                  G2.2.13  
Importance:         3.6/3.8  
Source:               Bank

Which ONE of the following is a responsibility of a clearance acceptor?

- a. Ensuring all site personnel comply with the requirements of this procedure.
- b. The authorization and implementation of Emergency Clearances.
- c. Verifying the adequacy of the clearance to ensure work can be performed safely.
- d. Verification that JOA instructions do not circumvent the 50.59 process.

Answer: C

ORIGINATION DATE: 10/28/99  
REVISION DATE:  
EXAM/QUIZZES:       SR2407M1; SR2407M3;  
LESSON PLAN/OBJ:   SR-C-SR06/#3;  
REFERENCES:         PMP 2110-CPS-001 Rev 4

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Question 43:       01AOPC512 1  
Level:             RO/1  
K/A:               APE 026AA2.06  
Importance:       2.8/3.1  
Source:            Bank

In accordance with procedure 01-OHP 4022.016.001, Malfunction of CCW System, the Reactor Coolant Pump(s) must be tripped following a complete loss of Component Cooling Water flow to minimize damage.

What is the MAXIMUM time allowed before you MUST trip the running RCP?

- a. 30 seconds
- b. 60 seconds
- c. 2 minutes
- d. 4 minutes

Answer: C

ORIGINATION DATE: 7/6/92  
REVISION DATE:  
EXAM/QUIZZES:     RO16 AUDIT EXAM;  
LESSON PLAN/OBJ:  RO-C-AS01/#22; RO-C-AOP5/#12;  
REFERENCES:       01-OHP 4022.016.001 Rev 2  
Revised

Question 44:       01AOPC707 1  
Level:             RO/1  
K/A:               G2.4.11  
Importance:       3.4/3.6  
Source:            Bank

In accordance with OHP 4022.012.003, Uncontrolled Withdrawal of an RCCA, a continuous rod withdrawal event at 99% power with rod control in automatic will require the operators to trip the reactor when:

- a. reactor power rises to 102%.
- b. emergency boration efforts do not restore  $T_{avg}$  to  $T_{ref}$ .
- c. turbine load reduction does not generate a rods-in signal.
- d. rod motion continues even after placing rod control in manual.

Answer: D

ORIGINATION DATE: 6/11/92  
REVISION DATE:  
EXAM/QUIZZES:     RO-C-NS04(61); RO15 AUDIT EXAM; RO21AOP3; RO21AOP3;  
LESSON PLAN/OBJ:  RO-C-AOP-7/#7A;  
REFERENCES:        02-OHP 4022.012.003 Rev 3

Question 45: 01EC0C105 1  
Level: RO/1  
K/A: APE 022AK3.02  
Importance: 3.5/3.8  
Source: Bank

Unit 2 has entered 02-OHP 4025.001.001, Emergency Remote Shutdown, procedure. While re-establishing RCP seal flow using the CVCS crosstie, the procedure cautions the operator to slowly initiate seal injection flow.

Which ONE of the following is the reason for this action?

- a. To prevent any crosstie valve (reach rod) damage during operation.
- b. To minimize the level control transient on the opposite unit.
- c. To prevent thermal barrier heat exchanger failure.
- d. To minimize thermal shock effect.

Answer: D

ORIGINATION DATE: 11/24/98

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-EC01/#5; RQ-C-2360/#1e;

REFERENCES: 12-OHP 4023-ECA.0.0 PSBD Rev 2; 02-OHP 4025.001.001 Rev 3  
Revised

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Question 46:       01EOPC0309 1  
Level:             RO/2  
K/A:               APE 056AK1.01  
Importance:       3.7/4.2  
Source:            Bank

Unit 2 was operating at 100% power when a reactor trip occurred due to a loss of offsite power. The operators completed the actions of ES-0.1, "Reactor Trip Response", and have transitioned to ES-0.2, "Natural Circulation Cooldown", where they are initiating a natural circulation cooldown.

At the onset of the natural circulation cooldown, which ONE of the following processes will remove the MOST heat from the Reactor Vessel HEAD?

- a. The 25°F/hr natural circulation cooldown of the RCS.
- b. All CRDM fans running.
- c. Heat losses to ambient.
- d. Upper head bypass flow.

Answer: B

ORIGINATION DATE: 11/9/00  
REVISION DATE:  
EXAM/QUIZZES:     RO20EOP2;  
LESSON PLAN/OBJ:  RO-C-EOP03/#9;  
REFERENCES:       12-OHP 4023 ES-0.3 PSBD Rev 2

Question 47: 01EOPC0406 1  
Level: RO/1  
K/A: EPE 029EK1.01  
Importance: 2.8/3.1  
Source: Bank

During an ATWS event, the fuel cladding fission product barrier is severely challenged. Which ONE of the following conditions is the mechanism which causes the fuel/cladding challenge?

- a. High RCS pressure caused by high temperature.
- b. Fuel overheating from DNBR limits being exceeded.
- c. Overpower of the fuel/fuel rod.
- d. Excessive radial flux distribution.

Answer: B

ORIGINATION DATE: 11/9/00

REVISION DATE:

EXAM/QUIZZES: RO20EOP2; RO21EOP3;

LESSON PLAN/OBJ: RO-C-EOP04/#6;

REFERENCES: 12-OHP 4023.FR-S.1 PSBD Rev 0; Westinghouse ERG Background Document FR-S.1

Question 48: 01EOPC0414 3  
Level: RO/1  
K/A: EPE 029EA1.13  
Importance: 4.1/3.9  
Source: Bank

An Immediate Action of OHP 4023.FR-S.1, Response to Nuclear Power Generation/ATWS is to Manually Actuate AMSAC.

The reason for performing this step is to:

- a. ensure that the feed pumps are tripped.
- b. prevent overspeed of the main turbine.
- c. prevent a loss of heat sink.
- d. minimize positive reactivity addition.

Answer: C

ORIGINATION DATE: 11/9/00  
REVISION DATE:  
EXAM/QUIZZES: RO20EOP3; RO21EOP2; RO20ECOMP;  
LESSON PLAN/OBJ: RO-C-EOP04/#14;  
REFERENCES: 12-OHP 4023.FR-S.1 PSBD Rev 2



Question 49: 01EOPC0420 1  
Level: RO/2  
K/A: APE 024AK3.02  
Importance: 4.2/4.4  
Source: Bank

The Unit 2 crew is performing 02-OHP 4023.FR-S.1, Response to Nuclear Power Generation/ATWS, and valve 2-QMO-420 (Emergency Boration to CCP Suction Valve) will NOT open. In addition, valves IMO-910 and 911, RWST Suction to the CCPs, are NOT available and closed.

Which ONE of the following means of negative reactivity addition is the NEXT priority in accordance with procedure?

- a. Open Alternate Boration valve, 2-CS-294, and place BAT pump in RUN (fast speed).
- b. Turn on ALL Pressurizer Heaters and allow the RCS to heatup.
- c. Manually align charging to the normal boration flowpath.
- d. Manually initiate Safety Injection.

Answer: C

ORIGINATION DATE: 11/9/00  
REVISION DATE:  
EXAM/QUIZZES: RO20EOP3; RO21EOP2;  
LESSON PLAN/OBJ: RO-C-EOP04/#20;  
REFERENCES: 01-OHP 4023.FR-S.1 Rev 9  
Revised

Question 50: 01EOPC0602 1  
Level: RO/1  
K/A: 003A2.02  
Importance: 3.7/3.9  
Source: Modified

Which ONE of the following conditions would require a NORMAL shutdown to Mode 3 followed by a RCP trip in accordance with OHP 4022.002.001, Malfunction of a Reactor Coolant Pump, procedure?

- a. #1 seal leakoff temperature is 190°F and rising.
- b. RCP Thermal Barrier DP Low alarm is LIT with no indication available.
- c. #2 Seal Standpipe Level High alarm is LIT with 2 gpm leakage to RCDT.
- d. Seal leakoff flow indicates greater than 6 gpm.

Answer: C

ORIGINATION DATE: 11/9/00  
REVISION DATE:  
EXAM/QUIZZES: RO20EOPZ; RO21EOPM;  
LESSON PLAN/OBJ: RO-C-EOP06/#2;  
REFERENCES: OHP.4022.002.001 Rev  
MODIFIED

Question 51:       01EOPC0803 1  
Level:             RO/2  
K/A:               APE 037AA2.12  
Importance:       3.3/4.1  
Source:            Bank

A SG tube leak is in progress. Plant conditions just before the leak were steady state with no evolutions in progress. Some time later, the following conditions exist:

- CVCS charging flow rate (QFI-200) = 90 gpm
- CVCS letdown flow(QFI-301)       = 70 gpm
- Total RCS seal injection           = 32 gpm
- Total RCP seal leakoff flow       = 12 gpm
- RCS temperature at no load  $T_{ave}$  and steady
- PZR Press and Level are stable

Based on the above indications, what is the approximate RCS SG leak rate?

- a. 1 gpm
- b. 8 gpm
- c. 20 gpm
- d. 28 gpm

Answer: B

ORIGINATION DATE: 12/01/00  
REVISION DATE:     02/27/01  
EXAM/QUIZZES:     RO20EOP4; RO20ECOMP;RO21EOP4;  
LESSON PLAN/OBJ:  RO-C-EOP08/#3;  
REFERENCES:        01-OHP 4022.002.021 Rev 4; 01-OHP 4030-STP-016 Rev 14a

Question 52: 01EOPC0904 1  
Level: RO/1  
K/A: EPE 011EK3.12  
Importance: 4.4/4.6  
Source: Modified

Unit 2 is shutdown following a Loss of Offsite Power with a LOCA event. The operators are performing actions in 02-OHP 4023.E-1, Loss of Reactor or Secondary Coolant.

Which ONE of the following statements is the basis for placing both NESW pump control switches in PULL-TO-LOCK prior to resetting the SI signal?

- a. Prevent an overload condition on either Emergency Diesel Generator.
- b. Prevent an overcooling condition of the Glycol Chiller Unit.
- c. Minimize an inadvertent RCP Fire Protection header spray actuation.
- d. Minimize a loss of Plant Air system capability during recovery.

Answer: A

ORIGINATION DATE: 12/01/00  
REVISION DATE:  
EXAM/QUIZZES: RO20EOP6; RO21EOP5;  
LESSON PLAN/OBJ: RO-C-EOP09/#4;  
REFERENCES: 12-OHP 4023-E.1 PSBD Rev 0

Question 53: 01EOPC0908 4  
 Level: SRO/2  
 K/A: EPE 011G2.1.7  
 Importance: 3.7/4.4  
 Source: Bank

Unit 2 experienced a LOCA and the crew is performing 02-OHP 4023.E-1, Loss of Reactor or Secondary Coolant, procedure. The peak containment pressure was 8 psig. After twenty minutes of completing procedural actions, the following pertinent plant conditions exist:

- RCS temperature 436°F and stable
- RCS pressure 450 psig and stable
- CNMT pressure 4.5 psig and decreasing
- S/Gs pressures all decreasing slowly
- S/Gs levels all 80% to 90% wide range
- Secondary radiation normal
- AF flow (Total) 700 gpm
- RWST level 61%

Which ONE of the following represents the required ECCS equipment that MUST remain in operation during an evaluation of plant status? {ASSUME: All systems responded as expected.}

	EDGs RUNNING	RHR pumps RUNNING	CTS pumps RUNNING	SI pumps RUNNING
a.	YES	YES	NO	YES
b.	NO	YES	YES	NO
c.	YES	NO	YES	YES
d.	NO	NO	YES	YES

Answer: D

ORIGINATION DATE: 2/26/01  
 REVISION DATE:  
 EXAM/QUIZZES: RO20ECOMP; RO21EOP5;  
 LESSON PLAN/OBJ: RO-C-EOP09/#08  
 REFERENCES: 02-OHP 4023-E.1 Rev 10  
 Revised

Question 54: 01EOPC09XX 5  
Level: SRO/2  
K/A: G2.4.16  
Importance: 3.0/4.0  
Source: Modified

The control room operators are responding to a red path on the Heat Sink CSFST. They have implemented FR-H.1, Response to Loss of Secondary Heat Sink, when they identify a red path on the Integrity CSFST. The operators should:

- a. Transfer to FR-P.1, Response to Imminent Pressurized Thermal Shock Condition, because the integrity CSF has a higher priority than the heat sink CSF.
- b. Implement FR-H.1 or FR-P.1, according to which one has its associated CSFST red path criteria exceeded by the larger margin.
- c. Continue with FR-H.1 because the heat sink CSF has a higher priority than the integrity CSF.
- d. Continue with FR-H.1 until transition to other procedures is allowed while concurrently addressing all red path conditions that exist.

Answer: C

ORIGINATION DATE: 9/30/98  
REVISION DATE: 2/22/00  
EXAM/QUIZZES: R1700B1; S1700B1; S/R 1700B6; 1800B4; AT001; Q2404B; R2324B-B3R; STA EXAM 6;  
LESSON PLAN/OBJ: RQ-S-FH01/SRO.5; RQ-S-E101/SRO.3; RQ-S-E101/STA.6; RQ-R-1907/#3.; RQ-C-2350/#1& 9; RQ-C-2443/#2;  
REFERENCES: OHI 4023 Rev 10; 01-OHP 4023.F-0.3 and F-0.4 Rev 4  
MODIFIED/Revised

Question 55:       01EOPC09XX 6  
Level:             SRO/2  
K/A:               EPE E16EK2.1  
Importance:       3.0/3.3  
Source:            Bank

A large-break LOCA has occurred in Unit 2 with multiple failures of ECCS components. Procedure 02-OHP 4023.E-1, Loss of Reactor or Secondary Coolant, has just been entered.

The following conditions exist:

- Containment area high-range radiation monitor (VRA-1310) reads  $1.3 \times 10^5$  R/hr
- Containment area high-range radiation monitor (VRA-1410) reads  $9.9 \times 10^4$  R/hr
- Containment pressure is 2.6 psig and slowly lowering
- Containment Flood Level status lights are LIT

Based on these indications, the crew is required to:

- a. use "adverse containment" values for operator actions in E-1.
- b. transition to FR-Z.1, Response to High Containment Pressure.
- c. transition to FR-Z.2, Response to Containment Flooding.
- d. transition to FR-Z.3, Response to High Containment Radiation Level.

Answer: A

REFERENCE PROVIDED: YES

ORIGINATION DATE: 9/30/98  
REVISION DATE: 2/16/00  
EXAM/QUIZZES: S1700B3; R1700B3; S/R 1700B5; 1800B1; 1800B3; AT001; Q2305D; Q2305B;  
Q2305MU; Q2305E; Q2404C; Q2406E; Q2406B; R2324A-B2R; R2324D-B5R;  
STA EXAM 6;  
LESSON PLAN/OBJ: RQ-R-2001/#6; RQ-C-2350/#6; RQ-C-2443/#2; RQ-C-246E/#1;  
REFERENCES: OHI-4023 Rev 10; 02-OHP 4023.F-0.5 Rev 5

**NOTE: ORIGINALLY QUESTION No. 71**

Question 56: 01EOPC1004 1  
Level: RO/2  
K/A: EPE 074EA1.12  
Importance: 4.1/4.4  
Source: Bank

A LOCA has occurred on Unit 2 and the following conditions exist:

- ALL RCPs are STOPPED
- RVLIS indication is NOT available.

Which ONE of the following parameters would indicate Inadequate Core Cooling conditions?

- a. Cold Leg Temperature 547°F,  
RCS Pressure 1500 psig,  
No ECCS injection is available
- b. CETC Temperature 550°F,  
RCS Pressure 1000 psig,  
ECCS injection is available
- c. Cold Leg Temperature 340°F,  
RCS pressure 100 psig,  
ECCS injection is available
- d. CETC Temperature 550°F,  
RCS pressure 700 psig,  
No ECCS injection is available

Answer: D

ORIGINATION DATE: 02/09/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RO-C-EOP10/#4

REFERENCES: RO-C-EOP10 Study Guide pg 14; 02-OHP 4023.F-0.2 Rev 4

**NOTE: ORIGINALLY QUESTION No. 55**



Question 57: 01EOPC1009 1  
Level: RO/2  
K/A: EPE E06EK1.2  
Importance: 3.5/4.1  
Source: Bank

Given the following plant conditions on Unit 2 following a LOCA:

- All Reactor Coolant Pumps are running
- NO Charging or Safety Injection pumps are running

Which ONE of the following conditions would require transition to 02-OHP 4023.FR-C.2, Response to Degraded Core Cooling? {ASSUME: All CETC remain below 1200°F.}

- a. Core Exit Thermocouples (CETC) read 725°F
- b. RCS Subcooling based upon CETCs reads 40°F
- c. RVLIS Wide Range indicates 40%
- d. RVLIS Narrow Range indicates 50%

Answer: C  
REFERENCE PROVIDED: YES

ORIGINATION DATE: 02/09/01  
REVISION DATE:  
EXAM/QUIZZES: RO20FRT1;  
LESSON PLAN/OBJ: RO- C-EOP10/#9  
REFERENCES: RO-C-EOP10 Study Guide pg 25-26; 02-OHP 4023.F-0.2 Rev 4

**NOTE: ORIGINALLY QUESTION No. 56**

Question 58: 01EOPC10XX 3  
Level: RO/2  
K/A: EPE 007EA1.06  
Importance: 4.4/4.5  
Source: Bank

Two minutes ago the reactor tripped from 100% power. Transition to ES-0.1, Reactor Trip Response, has just been performed. The RO subsequently reported that five rod bottom lights are not illuminated and they indicate between 15 and 35 steps.

In addition:

- All reactor trip and bypass breakers are open,
- WR meters (N-21 and N-23) read off-scale low,
- WR startup rate is -0.4 dpm.
- RCS  $T_{avg}$  is 552°F and decreasing.
- AFW system is providing acceptable flow.

In response to this situation, you will:

- a. Return to E-0, Step 1.
- b. Emergency borate approximately 750 ppm.
- c. Immediately transition to FR-S.1.
- d. Borate 2500 gals to meet the xenon-free, cold-shutdown boron concentration.

Answer: B

ORIGINATION DATE: 10/6/98  
REVISION DATE: 10/15/99  
EXAM/QUIZZES: Q2406V;  
LESSON PLAN/OBJ: RQ-R-2001/#7; RQ-C-2443/#1; RQ-C-2462/#2;  
REFERENCES: 01-OHP.4023.ES-0.1 Rev 14a  
Revised

**NOTE: ORIGINALLY QUESTION No. 57**

Question 59:           01EOPC10XX 16  
Level:                 RO/2  
K/A:                  061G2.4.48  
Importance:         3.5/3.8  
Source:               Bank

The plant is responding to a reactor trip, the cause of which is unknown. Thirty minutes after the trip:

- RCS Tavg is 547°F and stable
- All SG levels are 40%NR and stable
- AFW Flow is 60,000 lbm/hr to each SG

During the next two hours, operator action will be taken to reduce AFW flow rate requirements to maintain SG levels constant. This is caused by:

- a. Xenon concentration building into the core.
- b. Increase in plant thermal efficiency and low steaming rates.
- c. Decrease in decay heat generation rate.
- d. Reduced steaming rate due to lower condenser vacuum.

Answer: C

ORIGINATION DATE: 10/6/98  
REVISION DATE:  
EXAM/QUIZZES:       Q2404D; 2409Q1;  
LESSON PLAN/OBJ:   RQ-R2001/#7; RQ-C-2443/#1;  
REFERENCES:         Westinghouse Thermal-Hydraulic Principles and Applications to the Pressurized  
Water Reactor II, Figure FND-OPS-9, pp 14-17T

Revised

**NOTE: ORIGINALLY QUESTION No. 58**

Question 60: 01EOPC1206 1  
Level: SRO/2  
K/A: EPE E08EA1.2  
Importance: 3.6/3.9  
Source: Bank

Which ONE of the following trends addresses all of the required conditions for a Pressurized Thermal Shock (PTS) event? {ASSUME: A pre-existing flaw had been identified.}

- a. Cooldown from 580°F to current RCS temperature of 310°F in last 30 minutes, RCS pressure 1700 psig
- b. Cooldown from 280°F to current RCS temperature of 250°F in last 30 minutes, RCS pressure 600 psig
- c. Cooldown from 375°F to current RCS temperature of 275°F in last 60 minutes, RCS pressure 200 psig
- d. Cooldown from 480°F to current RCS temperature of 250°F in last 60 minutes, RCS pressure 1200 psig

Answer: D

REFERENCE PROVIDED: YES

ORIGINATION DATE: 02/15/01

REVISION DATE:

EXAM/QUIZZES: RO20FRT2;

LESSON PLAN/OBJ: RO-C-EOP12/06

REFERENCES: RO-C-EOP12 Study Guide pg. 13; 01-OHP 4023.F-0.4 Rev 4

Revised

**NOTE: ORIGINALLY QUESTION No. 59**

Question 61: 01EOPC12XX 5  
Level: SRO/2  
K/A: APE 040AK1.01  
Importance: 4.1/4.4  
Source: Modified

Unit 1 is shutdown following a Main Steam Line Break on SG #13 and the following conditions exist:

- SG #13 has been isolated
- SG #13 level is less than 1% WR
- RCS temperature is rising

The crew has transitioned to 01-OHP 4023.ES-1.1, SI Termination. Which ONE of the following actions MUST be taken to prevent over pressurizing the RCS?

- a. Stop both SI and RHR pumps then verify RCS subcooling is maintained less than 40°F until RCS temperature is stabilized.
- b. Establish maximum Letdown flow to minimize RCS inventory recovery until the heatup is stabilized.
- c. Stop the #13 RCP, and maintain pressure control by using the PRZ heaters and normal spray.
- d. Control non-faulted SG atmospheric steam dump and feed flow to stabilize RCS temperature.

Answer: D

ORIGINATION DATE: 2/24/99  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ: RQ-C-2443/#1  
REFERENCES: OHP 4023.ES-1.1 Rev 11

**NOTE: ORIGINALLY QUESTION No. 60**

Question 62: 01EPPCXX 21  
Level: RO/2  
K/A: APE 068G2.4.35  
Importance: 3.3/3.5  
Source: Bank

A Unit #2 control room cable vault fire has made control room evacuation imminent. Controls and indications are not functioning sufficiently to enable completion of verification of any of the control room actions of Steps 15 through 23 in 2-OHP 4025.001.001, EMERGENCY REMOTE SHUTDOWN.

Which ONE of the following actions are the HIGHEST priority for local assignment?

- a. Local Reactor Trip (LTI-1-1) and RCS Isolation (LTI-5).
- b. Local Turbine Trip (LTI-1-2) and Main Steam Isolation (LTI-2).
- c. Local Turbine Trip (LTI-1-2) and RCS Isolation (LTI-5).
- d. Local Reactor Trip (LTI-1-1) and Local Turbine Trip (LTI-1-2).

Answer: D

ORIGINATION DATE: 10/7/93  
REVISION DATE:  
EXAM/QUIZZES: B20E(S)  
LESSON PLANS/OBJ: RQ-R-1502/#1;  
REFERENCES: 2-OHP-4025.001.001 Rev.3  
Revised

**NOTE: ORIGINALLY QUESTION No. 61**

Question 63: 01NOPS0503 1  
Level: RO/2  
K/A: G2.1.25  
Importance: 2.8/3.1  
Source: Modified

Following a Unit 1 RCS heatup to 280°F, RHR was removed from service and the "Cold Overpress Block" switches were placed in the "Normal" position.

Which ONE of the following pressures (psig) is the MAXIMUM allowable during the subsequent heatup to MODE 3 conditions? {ASSUME: Mode 3 entry has NOT been authorized.}

- a. 1450
- b. 1550
- c. 1650
- d. 1750

Answer: ~~C~~ corrected answer is B  
REFERENCE PROVIDED: YES

ORIGINATION DATE: 2/15/99  
REVISION DATE: 2/22/00  
EXAM/QUIZZES: Q2401D; Q2401A; R2324B-A3B;  
LESSON PLAN/OBJ: RQ-C-2412/#1;  
REFERENCES: 01-OHP 4021.001.001 Rev 28; OHI 6100 Att #1 Rev 4  
MODIFIED

**NOTE: ORIGINALLY QUESTION No. 62**

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September 10, 2001

Question 64:       01PRAC103 2  
Level:             RO/1  
K/A:               G2.2.17  
Importance:       2.3/3.5  
Source:            Bank

Which ONE of the following components is a Vital Secondary Equipment with respect to On-Line Risk Management?

- a. Diesel Driven Fire Pump
- b. Service Water Screen Wash Pump
- c. Emergency Diesel Generator Fuel Oil Transfer Pump
- d. Critical Control Room Power Inverter

Answer: B

ORIGINATION DATE: 8/30/00  
REVISION DATE:  
EXAM/QUIZZES:     RO21ADM;  
LESSON PLAN/OBJ: RO-C-PRA1/#3 Rev 1;  
REFERENCES:       PMP-2291.OLR.001 Rev 1

**NOTE: ORIGINALLY QUESTION No. 63**



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Question 65:       01TS0C117 2  
Level:             SRO/2  
K/A:               G2.1.4  
Importance:       2.3/3.4  
Source:            Bank

With the number of fire brigade members one less than that required by procedure, restore the fire brigade to full membership within \_\_\_\_\_ hour(s).

- a. one
- b. two
- c. four
- d. eight

Answer: B

ORIGINATION DATE: 8/17/94  
REVISION DATE:    2/3/00  
EXAM/QUIZZES:    RO1821;  
LESSON PLAN/OBJ: RO-C-TS01/#17;  
REFERENCES:       Tech Spec 6.2.2.e: ATR 1-FP-8 Rev 5  
Revised

**NOTE: ORIGINALLY QUESTION No. 64**

Question 66:       01TS0C1XX 2  
Level:             RO/2  
K/A:               APE 076AA2.07  
Importance:       2.4/2.7  
Source:            Bank

Following a planned RCS crud burst on Unit 2, the operators have maximized letdown flow through the mixed bed demineralizer.

Which ONE of the following conditions would indicate a need to switch mixed bed demineralizer resin in use for continued cleanup of the RCS?

- a. Chemistry reports that the demineralizer Decontamination Factor (DF) value has risen significantly since the last sample.
- b. Rising radiation levels or High alarm actuation on associated RMS system monitor.
- c. Chemistry reports that the RCS pH value has risen significantly since the last sample.
- d. Lowering RCS temperature with no operator action to change rod position or add makeup to the RCS.

Answer: B

ORIGINATION DATE: 6/1/92

REVISION DATE:

EXAM/QUIZZES:     RO14 NRC EXAM(426); Q2503E;

LESSON PLAN/OBJ:  RO-C-TS01; RO-C-NS2A(28);

REFERENCES:       01-OHP 4021.004.001 Rev 5; 12-OHP 4024.139 Drop 45 Rev 9

Revised

**NOTE: ORIGINALLY QUESTION No. 65**

Question 67: 01TS0C1XX 17  
Level: RO/2  
K/A: 025K6.01  
Importance: 3.4/3.6  
Source: Bank

The Unit-2 Ice Condenser Inlet Doors Open annunciator (Panel 222 Drop 84) alarm circuit failed at 10:00 AM while operating at 95% power.

Which ONE of the following actions MUST be satisfied to continue operations at power?

- a. Monitor the ice bed temperature less than or equal to 27°F by 2:00 pm and every 4 hours thereafter for a maximum of 14 days.
- b. Monitor the ice bed temperature less than or equal to 20°F by 4:00 pm and every 6 hours thereafter for a maximum of 30 days.
- c. Verify the doors are closed before 4:00 pm by visual inspection and maintain ice bed temperature less than 27°F for a maximum of 7 days.
- d. No action is required since the Ice Condenser Doors remain OPERABLE.

Answer: A

REFERENCE PROVIDED: YES

ORIGINATION DATE: 1/30/93  
REVISION DATE: 2/3/00  
EXAM/QUIZZES: RO16 NRC EXAM RETAKE(739);  
LESSON PLAN/OBJ: RO-C-TS01(61); RO-C-NS14/10(21);  
REFERENCES: Tech Spec 3.6.5.3; OHP-4030-STP-030 Rev 35  
Revised

**NOTE: ORIGINALLY QUESTION No. 66**

Question 68:       02AOPS1117 2  
Level:             RO/2  
K/A:               APE 033G2.4.4  
Importance:       4.0/4.3  
Source:            Bank

A Unit 1 reactor startup was in progress with power at  $1 \times 10^{-8}$  amps when Intermediate Range Channel I (N35) level indication started to spuriously spike low. I&E was notified and they subsequently determined that N35 should be declared inoperable.

Which ONE of the following statements describes the impact on the reactor startup?

- a. The Unit must immediately be shutdown to Hot Standby.
- b. No impact since power is currently above P-6.
- c. The reactor must be manually tripped and go to E-O.
- d. Reactor power must NOT be increased above 5%.

Answer: D

ORIGINATION DATE: 6/3/98  
REVISION DATE:     1/14/00  
EXAM/QUIZZES:     R911916; Q2302D; Q2302E; Q2302MU; Q2408B; Q2408D;  
LESSON PLAN/OBJ:  RO-C-NS09/#10; RQ-C-2321/#4; RQ-C-2482/#5;  
REFERENCES:        Tech Spec Table 3.3-1  
Revised

**NOTE: ORIGINALLY QUESTION No. 67**

Question 69: 02EPPC0307 5  
Level: SRO/2  
K/A: G2.4.44  
Importance: 2.1/4.0  
Source: Modified

The Shift Manager has declared a General Emergency. The wind is blowing from 320° and NO release is in progress.

Which ONE of the following Evacuation Area(s) must be included in the Protective Action Recommendation?

- a. 1 and 3
- b. 1 only
- c. 1, 2 and 3
- d. 1 and 2

Answer: A  
REFERENCE PROVIDED: YES

ORIGINATION DATE: 6/6/01  
REVISION DATE:  
EXAM/QUIZZES: RQ2603E;  
LESSON PLAN/OBJ: RQ-C-2630/#1;  
REFERENCES: PMP 2080-EPP-100 Att 1 Rev 0  
MODIFIED/Revised

**NOTE: ORIGINALLY QUESTION No. 68**

Question 70: 12AOPS1002 1  
Level: RO/2  
K/A: APE 051AA2.02  
Importance: 3.9/4.1  
Source: Modified

The following conditions exist on Unit 1:

- Turbine load is 500 MWe with power escalation in progress
- Two Circ Water pumps are running
- Condenser Vacuum is 24.0 inches Hg
- Annunciator Panel 118 Drop 36, Exhaust Hood Temp High, alarm is LIT
- Annunciator Panel 118 Drop 37, Exhaust Hood Spray Operating, alarm is LIT

Which ONE of these following operator actions would be taken FIRST in regard to continued plant operation?

- a. Start an additional Hotwell and Condensate Booster pump
- b. Increase circulating water flow
- c. Reduce turbine loading
- d. Fully OPEN valve 1-SMO-400, STM to Startup SJAE

Answer: B

ORIGINATION DATE: 7/6/92  
REVISION DATE:  
EXAM/QUIZZES: RO16 AUDIT EXAMNRC(585);  
LESSON PLAN/OBJ: RO-C-PG4A;  
REFERENCES: 01-OHP 4022.001.006 Rev 26  
Revised

**NOTE: ORIGINALLY QUESTION No. 69**

Question 71: 12EOPC0818 14  
Level: RO/2  
K/A: EPE 038EA2.07  
Importance: 4.4/4.8  
Source: Bank

Procedure ECA 3.1, SGTR with Loss of Reactor Coolant - Subcooled Recovery Desired, is being implemented. The ECCS flow reduction steps are in progress. The crew is deciding whether the BIT can be isolated and normal charging flow established. The following conditions exist:

- RVLIS Pressure: 985 psig;
- PRZ Level: 50%;
- Containment Pressure: 1.5 psig;
- Both SI Pumps: Stopped;
- CCP Status: One running.

Which one of the following temperatures is the HIGHEST value that will meet MINIMUM subcooling requirements under these circumstances?

- a. 544°F
- b. 524°F
- c. 504°F
- d. 484°F

Answer: C

ORIGINATION DATE: 9/7/95  
REVISION DATE:  
EXAM/QUIZZES: Q1906D; Q1906E; Q19INST;  
LESSON PLAN/OBJ: RQ-R-1906/#7; RO-C-EOP08/#18;  
REFERENCES: OHP 4023.ECA-3.1 Rev 4b

**NOTE: ORIGINALLY QUESTION No. 70**

Question 72: 12EOPC1307 1  
Level: RO/2  
K/A: EPE E14EK3.2  
Importance: 3.1/3.7  
Source: Modified

During implementation of OHP 4023.FR-Z.1, Response to High Containment Pressure, the operators are directed to check for ECA-1.1, Loss of Emergency Coolant Recirculation, actions NOT in effect.

The reason for this verification is that in procedure ECA-1.1 the:

- a. isolation of non-essential penetrations was already checked.
- b. reduced operation of containment spray pumps takes precedence.
- c. initiation of RHR spray was performed prior to 50 minutes following the event.
- d. available SG for RCS cooldown may be FAULTED.

Answer: B

ORIGINATION DATE: 12/1/99

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ: RQ-R-2001/#7; RO-C-NS13; RQ-C-2476/#3;

REFERENCES: 02 OHP 4021.FR-Z.1 Rev 5; 12-OHP 4023.FR-Z.1 PSBD Rev 0

MODIFIED/Revised



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Question 73: 12EPPC0303 2  
Level: SRO/1  
K/A: G2.4.29  
Importance: 2.6/4.0  
Source: Modified

Following the declaration of an Emergency Plan accident classified as an ALERT, the SEC must FAX a plant update to the Berrien County sheriff's office every \_\_\_\_ minutes until relieved by the EOF.

- a. 5
- b. 10
- c. 15
- d. 20

Answer: C

ORIGINATION DATE: 11/20/98

REVISION DATE:

EXAM/QUIZZES: S1700B1; 1507G; S1700B6; 1800B4; QEPP; Q2002E; Q2002C; Q2002NV; Q2306A;  
AE2306E; QR2306B; QS2306B; QR2306MU;

LESSON PLAN/OBJ: RQ-R-2002/#10; RQ-C-2364/#3, 8; ST-C-EP04/#5; RO21EOP1;

REFERENCES: PMP 2080.EPP.107 Rev 15a

MODIFIED/Revised

Question 74:       12EPPC0702 1  
Level:             SRO/2  
K/A:               APE 060G2.3.11  
Importance:       2.7/3.2  
Source:            Bank

A gaseous release from the auxiliary building is indicated on the same channel of both unit vent monitors.

Which ONE of the following describes the flow rate that should be input into the Dose Assessment Program in order to predict the resulting radiological exposure?

- a. Sample flow of the highest reading vent monitor.
- b. Vent flow of the highest reading vent monitor.
- c. Sum of the sample flow rates through the vent monitors.
- d. Sum of the vent flow rates being monitored.

Answer: D

ORIGINATION DATE: 11/7/00  
REVISION DATE:  
EXAM/QUIZZES:     RO20EP1; RO21EOP1;  
LESSON PLAN/OBJ:  ST-C-EP07/#2;  
REFERENCES:        PMP 2080.EPP.108 Rev 3

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Question 75: AS18 3  
Level: RO/1  
K/A: 086K5.04  
Importance: 2.9/3.5  
Source: Bank

Which ONE of the following areas can NOT be entered for normal or maintenance activities without isolating the CO2 to that area?

- a. Diesel Generator Rooms
- b. 4KV Switchgear Rooms
- c. Auxiliary Cable Vault
- d. Reactor Cable Tunnel

Answer: C

ORIGINATION DATE: 5/3/99  
REVISION DATE:  
EXAM/QUIZZES: UO9922COMP; UO992224C; UO992CMU  
LESSON PLAN/OBJ: UO-C-AS18/#1  
REFERENCES: SD-12-COAUX-100 Rev 0; PMI 2270 Rev 26a  
MODIFIED/Revised

Question 76: NEW 1  
Level: RO/2  
K/A: APE 005AA2.03  
Importance: 3.5/4.4  
Source: New

During Unit 1 power ascension, the crew entered 01-OHP 4022.012.005, Dropped or Misaligned Rod, procedure and the following conditions exist:

- Reactor Power is 71% and Stable
- Rod Control is in MANUAL
- Control Rod B6 (CBD) is located at 184 steps
- Control Bank D rod group is located at 206 steps

The RO has been directed to insert Control Bank D rods to 184 steps. Which ONE of the following operator actions is required upon confirmation that a Control Rod C5 (CBA) rod bottom light ON indication is valid following the start of rod insertion?

- a. Perform an Incore Flux Mapping and Reduce power to less than 50%.
- b. Manually trip the reactor and enter 01-OHP 4023.E-0 actions.
- c. Verify Shutdown Margin requirements of Tech Spec 3.1.1.1 is satisfied.
- d. Verify all rod position indicators for Control Bank A are OPERABLE.

Answer: B

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 01-OHP 4022.012.005 Rev 9  
Revised

Question 77: NEW 2  
Level: SRO/2  
K/A: APE 015AA2.08  
Importance: 3.4/3.5  
Source: New

Unit 2 Reactor Startup is in progress and the following conditions exist:

- Reactor Power is 2E-10 amps and rising.
- Annunciator Panel 207 Drop 62, RCP 3 Bearing Temp High, is alarming
- Annunciator Panel 207 Drop 63, RCP 3 BRG Seal Water Temp High, is alarming
- RCP No. 3 Lower Bearing water temperature is 228°F and rising.
- RCP No. 3 Motor Bearing temperature is 174°F and stable.
- RCP No. 3 Seal Leakoff temperature is 175°F and stable.
- RCP No. 3 Seal Injection Flow is 10 gpm.

Which ONE of the following operator actions MUST be taken based upon these conditions?

- a. Initiate reactor shutdown per 02-OHP 4021.001.003, Power Reduction and trip the No. 3 RCP.
- b. Contact Operations Manager to determine if continued RCP operation is allowed.
- c. Trip the No. 3 RCP and close the No. 1 seal leakoff valve.
- d. Manually trip the reactor, Enter 02-OHP 4023.E-0 actions, then trip the No. 3 RCP.

Answer: D

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 02-OHP 4022.002.001 Rev 9  
Revised

Question 78: NEW 3  
Level: SRO/2  
K/A: EPE 055EK1.01  
Importance: 3.3/3.7  
Source: New

Unit 1 has entered 01-OHP 4023.ECA-0.0, Loss of ALL AC Power, procedure and the following conditions exist:

- Unit 2 CD Diesel Generator is supplying its vital loads.
- Unit 2 AB Diesel Generator is supplying its vital loads.
- Unit 1 CD Diesel Generator failed to start due to a broken injector linkage.
- Unit 1 AB Diesel Generator is Out of Service for repairs.

Which ONE of the following DC loads would NOT be shed within one hour to extend battery availability?

- a. Feed pump emergency bearing oil pump
- b. Fire pump backup bearing oil pump
- c. Main turbine backup bearing oil pump
- d. Main turbine emergency bearing oil pump

Answer: B

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 01-OHP 4023.ECA-0.0 Rev 11a  
Revised

Question 79:       NEW 4  
Level:             SRO/2  
K/A:               EPE E02EK1.3  
Importance:       3.5/3.8  
Source:            New

Unit 2 has entered 02-OHP 4023.ES-1.1, SI Termination, procedure following a SBLOCA event. The following conditions exist:

- SI signal is RESET
- Containment Isolation Phase A is RESET
- East Charging pump is running and aligned for normal charging (130 gpm)
- West Charging pump is Red Tagged Out of Service
- RCS Pressure is 1750 psig and stable
- Pressurizer level is 27% and slowly rising
- Containment Pressure is 1.3 psig and lowering

Following a fault on Bus T21D, which ONE of the following procedure transitions would be required?

- a. 4023.ECA-1.1, Loss of Emergency Coolant Recirculation
- b. 4023.E-0, Reactor Trip or Safety Injection
- c. 4023.ES-1.2, Post LOCA Cooldown and Depressurization
- d. 4023.SUPP.002, Restoration of Reserve Power to 4KV Buses

Answer: C

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES:       02-OHP 4023.ES-1.1 Rev 11  
Revised

Question 80: NEW 5  
Level: SRO/2  
K/A: EPE E07EA1.1  
Importance: 3.6/3.6  
Source: New

Unit 1 has entered 01-OHP 4023.ECA-3.2, SGTR with Loss of Reactor Coolant - Saturated Recovery Desired, procedure following an event and the following conditions exist:

- RCS Tave is 552°F and lowering
- SG No. 2 is isolated with level at 65%NR and slowly rising
- RCS cooldown is in progress using Condenser Steam Dumps (1.6E+6 pph flow)
- RWST level is 55% and lowering
- Pressurizer level is 30% and slowly rising

Which ONE of the following conditions will occur FIRST with NO operator action as the RCS is cooled down to Cold Shutdown conditions? {ASSUME: Cooldown in effect ONLY}

- a. Overfill of the Pressurizer (level HIGH)
- b. Voiding in the Reactor Head
- c. Cold leg recirculation switchover
- d. Steamline Isolation

Answer: D

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 01-OHP 4023.ECA-3.2 Rev 4



Question 81: NEW 6  
Level: SRO/2  
K/A: APE 026G2.4.49  
Importance: 4.0/4.0  
Source: New

Unit 2 is in Cold Shutdown condition and the following conditions exist:

- RCS Temperature is 210°F and stable
- East RHR pump is NOT running
- West RHR pump is running
- East CCW pump is running
- West CCW pump is Red Tagged out-of-service
- Annunciator Panel 220 Drop 86, 4KV BUS T21D CB T21D1 TRIP, is alarming
- Annunciator Panel 220 Drop 51, DG2CD DIFFERENTIAL OPERATED, is alarming

Which ONE of the following operator actions MUST be performed?

- a. Minimize Charging and Letdown flow to control Pressurizer level at 45%.
- b. Stop the West RHR pump and CLOSE the West Heat Exchanger's CCW outlet valve.
- c. Maximize Auxiliary Spray to the Pressurizer to provide RCS cooling.
- d. Split the East and West CCW trains, and isolate the Miscellaneous header.

Answer: B

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 02-OHP 4022.017.001 Rev 12a

Question 82: NEW 7  
Level: SRO/2  
K/A: APE 036AK2.02  
Importance: 3.4/3.9  
Source: New

As the Unit 1 Supervisor, which ONE of the following radiation monitors in HIGH alarm would be an entry condition for 12-OHP 4022.018.004, Irradiated Fuel Handling Accident in Containment Building - Control Room Actions?

- a. R-7, Lower CNTMT Instrument Area Radiation
- b. R-5, AUX BLDG 650 Elevation SFP Area Radiation Control
- c. ERS-7401, Control Room Radiation
- d. VRS-1500, Unit Vent Effluent

Answer: D

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 12-OHP 4022.018.004 Rev 1

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Question 83:       NEW 8  
Level:             SRO/2  
K/A:               014K3.02  
Importance:       2.5/2.8  
Source:            New

Which ONE of the following Plant Process Computer program failures will cause annunciator Panel 211 Drop 50, PPC Program Failure, to alarm?

- a. Plant and Instrumentation Drawings
- b. Feedwater Inlet Temperatures
- c. Rod Insertion Limit
- d. Tilting Factors

Answer: C or D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES:       02-OHP 4024.211 Drop 50 Rev 6, CS-2; PPC program Printout

Question 84: NEW 9  
Level: SRO/2  
K/A: 013A1.10  
Importance: 3.4/3.7  
Source: New

Unit 1 has a LOCA event in progress and the following conditions exist just after the reactor trip:

- Steam Flow (Total) is 6.1E+6 PPH
- Containment Pressure is 2.2 psig (Peak Value) and lowering
- Containment Radiation is 100 mRem and stable
- Steam Header Pressure is 580 psig and slowly lowering
- RCS Tave is 539°F and lowering

Which ONE of the following trip setpoints has been satisfied and will cause a Steam Line Isolation signal to be generated?

- a. High Steam Flow coincident with Low-Low Tave
- b. Containment Pressure High-High
- c. Steam Line Pressure Low
- d. Containment Radioactivity High

Answer: A

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: Tech Spec Table 3.3-4 (U1)

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Question 85:       NEW 10  
Level:             SRO/2  
K/A:              APE 059G2.1.23  
Importance:       3.9/4.0  
Source:            New

Attachment No. 3 of 12-OHP 4021.006.004, Transferring Distillate From Monitor Tanks, was implemented for a Monitor Tank No. 2 release to the Circulating Water system. The release is in progress.

Which ONE of the following monitors with a valid alarm will result in an automatic TERMINATION of the release?

- a. Channel Failure on RRA-1003, Local Area Monitor
- b. Channel Failure on RRS-1001, Effluent Header Sample Monitor
- c. Low Flow on RFS-1010, Sample Flow Monitor
- d. High Flow on RRR-1002, Sample Flow Monitor

Answer: B

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES:       12-OHP 4021.006.004, ATT 3 Rev 24d; 12-OHP 4024.139 Drop 47 Rev 9

Question 86: NEW 11  
Level: SRO/2  
K/A: 026A2.03  
Importance: 4.1/4.4  
Source: New

A Unit 1 LOCA event is in progress. Immediately following the verification of a reactor/turbine trip, the BOP reports the following conditions exist:

- Containment Pressure is 4.5 psig and rising
- East CTS pump is RUNNING with its discharge valves indicating open
- West CTS pump is NOT RUNNING
- Spray Additive Tank flow (IFI-200) indicates ZERO
- RWST Level is 95% and slowly lowering
- Main Steam Stop Valves are CLOSED
- CTS monitor lights on 1-SML-9A are LIT
- CTS monitor lights on 1-SML-9B are NOT LIT

Which ONE of the following MANUAL operator actions is required NEXT?  
{ASSUME: All required automatic signals have been activated.}

- a. Perform OHP 4023.SUP.004, Phase B Isolation Checklist.
- b. Depress Containment Isolation Phase A actuation pushbutton(s).
- c. Depress Containment Spray actuation pushbutton(s).
- d. Open the West CTS pump's discharge valves and start the pump.

Answer: D

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 01-OHP 4023.E-0 Rev 15a

Question 87: NEW 12  
Level: RO/1  
K/A: 061K2.02  
Importance: 3.7/3.7  
Source: New

The following conditions exist on Unit 1:

RCP Bus 1A is Red Tagged out-of-service  
Emergency Diesel 1CD is unavailable due to testing

Which ONE of the following energized sources would be aligned FIRST to allow start of the West MD AFW pump for feeding SGs?

- a. Emergency Diesel 1AB
- b. Emergency Feed Transformer (12EP1)
- c. RCP Bus 1B
- d. RCP Bus 1C

Answer: A

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: SOD-08201-001 Rev 1

Question 88: NEW 13  
Level: RO/2  
K/A: 071A3.03  
Importance: 3.6/3.8  
Source: New

A planned release of radioactive gas is in progress from Gas Decay Tank No. 3.

Which ONE of the following radiation monitoring channels in HIGH alarm will result in a automatic TERMINATION of the release in progress?

- a. VRS-1505, Low Range Noble Gas Monitor
- b. VRS-1509, High Range Noble Gas Monitor
- c. VRA-2501, Beta Particle Monitor
- d. VRA-2503, Iodine-131 Monitor

Answer: A

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 12-OHP 4024.139 Drop 17 & 34 Rev 9; 12-OHP 4021.023.002 Rev17a  
Revised



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Question 89:       NEW 14  
Level:             RO/2  
K/A:              072A3.01  
Importance:       2.9/3.1  
Source:            New

Which ONE of the following radiation monitoring channels will close valves VCR-101 to 107 and trip the HV-CIPS-1 fan on a HIGH alarm?

- a. VRA-1410, Lower Containment Area - High Range
- b. VRA-1310, Lower Containment Area - High Range
- c. VRS-1201, Upper Containment Area - Normal Range
- d. VRS-1101, Upper Containment Area - Normal Range

Answer: D

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES:       12-OHP 4021.013.006 Rev 4a  
Revised

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Question 90:       NEW 15  
Level:             RO/2  
K/A:               063K1.02  
Importance:       2.7/3.2  
Source:            New

Which ONE of the following conditions will cause the 1-CRID-2 Inverter to automatically switch to its alternate power supply?

- a. Output Voltage ZERO
- b. Circuit Breaker - CB2 CLOSED
- c. DC voltage HIGH
- d. Inverter Fan OFF

Answer: C

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES:       01-OHP 4024.120 Drop 30 Rev 10  
Revised

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Question 91:       NEW 16  
Level:             RO/2  
K/A:               072K5.02  
Importance:       2.5/3.2  
Source:            New

Radiography is in progress in the Auxiliary Building at the 633 Elevation. The local area radiation monitor ERA-7605 is reading 10 mRem/hr above background when the source is EXPOSED. The exposed source is located 50 feet from the monitor.

Which ONE of the following distances (in feet) from the source would cause a reading of 35 mRem above background?

- a. 25.5
- b. 27.0
- c. 28.5
- d. 30.0

Answer: B

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES:       12-OHP 4021.013.006 Rev 4a  
Revised

Question 92: NEW 17  
Level: RO/2  
K/A: 017K4.01  
Importance: 3.4/3.7  
Source: New

The RO is monitoring RCS Subcooling during a cooldown to Cold Shutdown when the INCORE T/C CHANNEL-1 VOLT FAILURE alarm is received.

Which ONE of the following list the total number of thermocouple detectors providing input to the Saturation Meter?

- a. Four (One per core quadrant)
- b. Eight (Two per core quadrant)
- c. Four (Two in quadrant-1 and Two in quadrant-4)
- d. Eight (Four in quadrant-1 and Four in quadrant-4)

Answer: A

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: Elementary Diagrams OP-2-98338-19 & OP-2-985722-5; 02-OHP 4024.207 Drop 48  
Revised

Question 93: NEW 18  
Level: SRO/2  
K/A: 028G2.4.47  
Importance: 3.4/3.7  
Source: New

Unit 1 is in Mode 5 with Containment Purge and Exhaust Isolation System Operability Test, OHP 4030.STP.14, in progress.

The following conditions exist:

- No core alterations in progress
- Spent Fuel Pit cooling is supplied from Unit 2
- West CCW pump is out of service
- West ESW pump is out of service

Which ONE of the following annunciator alarms would be unexpected and require operator action to correct following manual initiation of CVI signal?

- a. Panel 111 Drop 48, PPC-RMS U1 CT Alarm or Abnormal
- b. Panel 109 Drop 8, Letdown HX Outlet Temp High
- c. Panel 104 Drop 85, East CCW HX Discharge Temp Abnormal
- d. Panel 104 Drop 33, Containment Control Air Header Pressure Low

Answer: C

ORIGINATION DATE: 08/21/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 01-OHP 4024.104 Drop 85 Rev 12; 01-OHP 4030.STP.014 Rev 9

Question 94: NEW 19  
Level: RO/2  
K/A: 055K3.01  
Importance: 2.5/2.7  
Source: New

A Unit 2 power ascension is in progress and the following conditions exist:

- Reactor Power is 60% and rising
- Both Main Feedwater pumps are running
- Both Heater Drain pumps are running
- Annunciator SJAЕ COOLING WATER DP LOW alarm is LIT

Which ONE of the following plant effects would occur as power is raised to 100% with NO operator response to the alarm?

- a. No effect on condenser vacuum or plant efficiency
- b. Improved condenser vacuum and plant efficiency
- c. Improved condenser vacuum but reduced plant efficiency
- d. Worsened condenser vacuum and potential turbine trip

Answer: D

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: 02-OHP 4024.218 Drop 12 Rev 8; 02-OHP 4024.216 Drop 52 Rev 7

Revised

Question 95: NEW 20  
Level: SRO/2  
K/A: G2.2.23  
Importance: 2.6/3.8  
Source: New

A Technical Specification Limiting Condition for Operation (LCO) could not be followed as written and a Condition Report was written. The onshift STA evaluation determined that an OPERABILITY determination evaluation was required in accordance with PMP-7030.OPR.001, Operability Determination.

Which ONE of the following processes would PRIMARILY be used to document and track the status of the LCO review?

- a. Corrective Action Request Tracking Card
- b. Electronic Corrective Actions Process database
- c. Operability Determination Form (Data Sheet 1)
- d. Nuclear Document Management database

Answer: B

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: PMP-7030.OPR.001 Rev 4

Question 96: NEW 21  
Level: SRO/1  
K/A: G2.3.2  
Importance: 2.5/2.9  
Source: New

An ALARA review is in progress to support pre-job planning for repair on the East Containment Spray pump. Which ONE of the following conditions will require an ALARA Committee review prior to issuance of the RWP?

- a. High Radiation Area entry required
- b. Temporary shielding to reduce Hot Spots required
- c. Estimated 2.5 person-Rem TEDE
- d. Estimated 5.5 person-Rem TEDE

Answer: D

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: PMP-6010.ALA.001 Rev 11



Question 97:       NEW 22  
Level:               SRO/1  
K/A:                 G2.3.4  
Importance:        2.5/3.1  
Source:             New

Prior to entering the Auxiliary Building for a tour, you identify a limited access area as having the following readings:

- Surface Contamination Level of 80 dpm/100 cm squared ALPHA
- General Area Radiation Level of 1200 mRem
- Airborne Radioactivity Level of 7 DAC-hours

Which ONE of the following area postings should be displayed at the entrance to this area?

- a. Locked High Radiation and Contamination Area
- b. Very High Radiation and Airborne Area
- c. High Radiation and Contamination Area
- d. Very High Radiation, Contamination and Airborne Area

Answer: A

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES:       PMI-6010 Rev 11a

Question 98: NEW 23  
Level: RO/1  
K/A: 068K4.01  
Importance: 3.4/4.1  
Source: New

While touring the Auxiliary Building, an AEO notices a large pool of liquid around the Glycol Expansion Tank overflow. The SM was notified of the spill.

Which ONE of the following precautions/actions should be taken at a MINIMUM when handling the liquid?

- a. Don Chemical Gloves and Chemical Resistant Apron during cleanup.
- b. Don Eye Protection and Chemical Gloves during cleanup.
- c. Obtain general area radiation surveys prior to and during cleanup.
- d. Obtain Chemistry analysis of liquid prior to cleanup.

Answer: B

ORIGINATION DATE: 07/23/01

REVISION DATE:

EXAM/QUIZZES:

LESSON PLAN/OBJ:

REFERENCES: PMP-6090.PCP.100 Rev 2a; PMP-2160.CWM.002 Rev 5 (WSMF #9)  
Revised

Question 99: NEW 24  
Level: SRO/1  
K/A: 005G2.4.18  
Importance: 2.7/3.6  
Source: New

The operators are performing OHP-4023.ECA-2.1, Uncontrolled Depressurization of All Steam Generators. Step 6 asks the operator to check if RHR pumps should be stopped.

Which ONE of the following reasons is a basis for stopping all running RHR pumps, if RCS pressure is greater than 300 psig and stable?

- a. To minimize the thermal stresses on RCS piping during depressurization.
- b. To promote the continued plant cooldown and depressurization in progress.
- c. To limit additional injection of RWST water into the RCS following SG blowdown.
- d. To prevent potential damage due to heat up if CCW flow is not available.

Answer: D

ORIGINATION DATE: 07/23/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES: 12-OHP 4023.ECA-2.1 Background Document

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Question 100:       NEW 25  
Level:               RO/2  
K/A:                 APE 008AA2.19  
Importance:        3.4/3.6  
Source:             New

Unit 2 is heating up from Cold Shutdown conditions. The RO has placed ALL available PRZ heaters in service to raise pressure with the following conditions:

- PRZ Pressure control in MANUAL and set at 1.0%
- RHR system in service
- PRZ PORV NRV-152 set for overpressure protection
- PRZ PORV NRV-153 is out-of-service for maintenance
- Annunciator Panel 219 Drop 30, CRID 4 Inverter Abnormal, is LIT

Which ONE of the following pressures represents the MAXIMUM value that pressure will reach under these conditions? {ASSUME: NO operator action.}

- a. 430 psig
- b. 450 psig
- c. 1000 psig
- d. 2485 psig

Answer: B

ORIGINATION DATE: 7/31/01  
REVISION DATE:  
EXAM/QUIZZES:  
LESSON PLAN/OBJ:  
REFERENCES:        SOD-00202-001 Rev 1