

2010 MNGP ILT NRC Written Exam - KEY

Question # 1

The plant is operating in Mode 1 when a loss of #11 Recirc pump occurs. The following conditions are now present:

- All APRMs are adjusted for SINGLE LOOP operations
- APRM 2/4 ODA indicates Total Recirc flow is 44%

Which one on the following represents the APRM 4 STP Flow Biased SCRAM Setpoint?

- a. 77.64% RTP
- b. 83.64% RTP
- c. 88.64% RTP
- d. 90.58% RTP

ANSWER:

b.

REFERENCE:

ARP-5-A-22

BANK

HIGHER

K/A 295001A2.02

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QUESTION # 2.

The plant is in Mode 1 during a normal startup. Currently the startup is on hold due to significant errors found in the control rod withdrawal sequence. A Bus 11 LOCKOUT then occurs resulting in the following conditions:

- MCPR is 1.04
- Reactor power is 30%
- RPV pressure is 940 psig
- A loop Jet Pump flow indicates 3 Mlb/hr
- B loop Jet Pump flow indicates 12 Mlb/hr

Which one of the following actions, if any, is required?

- a. Raise MCPR ONLY.
- b. Lower reactor power to $\leq 25\%$ ONLY.
- c. Raise MCPR and insert all insertable control rods.
- d. No action required; all safety limits are currently met.

ANSWER:

c.

REFERENCE:

TS 2.0

NEW

HIGHER

K/A 295003 2.2.22

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QUESTION # 3.

The plant is operating at rated conditions. During a C-05 panel walkdown, the OATC notices that the red light for the in-service CRD pump is extinguished. Further investigation reveals the following:

- The local CRD pump breaker red light is also extinguished
- Both red light bulbs are functional and NOT burnt out

Based on the information above, which of the following is correct concerning this breaker?

- a. ALL electrical breaker trips remain functional for the in-service CRD pump.
- b. The breaker can ONLY be tripped by placing the local Control Switch in stop.
- c. The breaker can ONLY be tripped by placing the C-05 Control Switch in stop.
- d. The breaker can ONLY be tripped by depressing the local mechanical trip pushbutton.

ANSWER:

d.

REFERENCE:

B.09.06-05

NEW

HIGHER

K/A

295004K1.05

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QUESTION # 4.

The plant was operating at normal rated conditions. An RPV level transient causes a main turbine generator trip and reactor scram. Given the CURRENT conditions:

- Reactor pressure is 860 psig and slowly rising
- Main Turbine speed is 1780 rpm and slowly lowering
- C.4-A Part B has NOT yet been performed

Based on current plant conditions; what is the expected equipment status below?

	<u>MAIN TURBINE BYPASS VALVES</u>	<u>MAIN TURBINE AUX OIL PUMP</u>
a.	OPEN	ON
b.	OPEN	OFF
c.	CLOSED	ON
d.	CLOSED	OFF

ANSWER:

d.

REFERENCE:

B.05.09-02

C.3

NEW

HIGHER

295005K2.07

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QUESTION # 5.

Complete the following statement describing the IMMEDIATE reactor level response to a manual scram from rated conditions AND the reason?

Reactor level will...

- a. lower due to the Recirc pump runback.
- b. rise due to delay in Bypass Valves opening.
- c. lower due to collapsing voids in the core region.
- d. rise due to rapid closure of the Turbine Control Valves.

ANSWER:

c.

REFERENCE:

C.4-A Bases

BANK

FUNDAMENTAL

K/A 295006K3.01

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QUESTION # 6.

The plant was operating at rated conditions when an event occurred that required IMMEDIATE Control Room evacuation IAW C.4-C (SHUTDOWN OUTSIDE CONTROL ROOM).

For the above conditions; which of the following describes correct actions required to be taken prior to leaving the control room?

- a. Close the MSIVs and leave the Rx Mode Switch in RUN.
- b. Trip the Main Turbine and leave the Rx Mode Switch in RUN.
- c. Depress the manual scram pushbuttons and leave the Rx Mode Switch in RUN.
- d. Depress the manual scram pushbuttons and place the Rx Mode Switch in SHUTDOWN.

ANSWER:

c.

REFERENCE:

C.4-C

NEW

FUNDAMENTAL

K/A 295016A1.01

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QUESTION # 7.

The plant is operating at 30% with the Circulating Water System in the **Helper Cycle Mode**.

ONLY #11 Circ Water Pump AND #11 Cooling Tower Pump are in service when annunciator 6-C-09 (CIRC WTR PP P-100A TRIP) is received.

Which one of the following items is a valid cause of the annunciator?

- a. A trip of #11 Cooling Tower Pump.
- b. Circ Water Pump Pit level at 3 feet.
- c. Condenser Pit level at 2 feet 10 inches.
- d. Circ Water Pump Basin level at elevation 903'.

ANSWER:

c.

REFERENCE:

ARP 6-C-09

B.06.04-02

NEW

FUNDAMENTAL

K/A 295018A2.03

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QUESTION # 8.

The plant is operating at rated conditions when an Instrument Air leak occurs. C.4-F (RAPID POWER REDUCTION) has been entered and the following conditions exist:

- Reactor power is 85% and stable
- RPV water level is 34 inches and stable
- Instrument Air pressure is 68 psig and stabilizing from isolation efforts

Which one of the following actions, if any, must be taken if TWO control rods slowly begin drifting into the core?

- Insert a manual reactor scram.
- Individually select the drifting control rods and fully insert them into the core.
- Momentarily place the ROD SELECT POWER SWITCH in OFF and return it to ON.
- Adjust PCV-7939 (SCRAM PILOT AIR HEADER) to establish approximately 70 psig.

ANSWER:

a.

REFERENCE:

C.4-B.08.04.01.A

C.4-B.01.03.C

NEW

FUNDAMENTAL

K/A 295019 2.4.49

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QUESTION # 9.

The plant is in Mode 4 when a Loss of Shutdown Cooling occurred causing RPV pressure and temperature to RISE.

Using the readings below, calculate the differential temperature and determine which is the MAXIMUM allowed between the vessel flange and reactor vessel shell adjacent to flange for the given HEATUP?

	<u>Reactor Vessel Flange</u>	<u>Reactor Vessel Shell Adjacent to Flange</u>
a.	76°F	140°F
b.	77°F	150°F
c.	78°F	160°F
d.	79°F	170°F

ANSWER:

b.

REFERENCE:

B.01.01-05 pg4

NEW

HIGHER

K/A 295021A2.05

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QUESTION # 10.

The plant is in a refuel outage with the following conditions established:

- Reactor Cavity Flooded
- Fuel Pool to Cavity Gates Removed

If the reactor cavity bellows were to develop an unisolable leak, which of the following represents how low water level would get in the fuel pool?

(Assume emergency makeup is NOT available.)

- ONLY the upper tie plates of the fuel would become UNCOVERED.
- ONLY 1/3 of the fuel would become UNCOVERED.
- ONLY 2/3 of the fuel would become UNCOVERED.
- A complete draining of the spent fuel pool would occur.

ANSWER:

a.

REFERENCE:

B.02.01-05.H.7

BANK

FUNDAMENTAL

K/A 295023 2.4.31

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QUESTION # 11.

The plant was operating at rated conditions when an event occurred in the Drywell (DW) resulting in the following conditions:

- DW pressure is 12.2 psig and rising slowly
- DW temperature is 250°F and rising slowly
- Torus water level is -4 inches and rising slowly
- Torus water temperature is 112°F and rising slowly
- 4 RHR pumps are running at rated flow and A RHR is in the Torus Spray mode

At this point, the CRS directs that B RHR be placed in the Drywell Spray mode. Complete the following statement relating to the initiation of drywell sprays at this time?

Drywell sprays...

- ARE initiated above 12 psig DW pressure to restore and maintain pressure suppression capability.
- CAN NOT be initiated below 12 psig DW pressure because RHR NPSH limits would be exceeded.
- CAN NOT be initiated below 12 psig DW pressure because de-inertion of the primary containment could occur.
- ARE initiated above 12 psig DW pressure to preclude chugging that could cause fatigue failure in the downcomers.

ANSWER:

d.

REFERENCE:

C.5.1-1200

C.5-1200

NEW

HIGHER

K/A

295024K1.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 12.

The plant was operating at rated conditions when a scram condition occurred and reactor power remained above 3.5%. The ATWS RPV pressure instruments sensed the following pressures:

- PT-2-3-178A: 1140 psig
- PT-2-3-178B: 1125 psig
- PT-2-3-178C: 1138 psig
- PT-2-3-178D: 1130 psig

Which of the following represents the ATWS system response for the above conditions?

- a. BOTH Recirc MG field breakers open **AND** BOTH ARI valves vent.
- b. BOTH Recirc MG field breakers open **BUT ONLY** 'A' ARI valve vents.
- c. ONLY the 11 Recirc MG field breaker opens **AND** BOTH ARI valves vent.
- d. NO ATWS system actuations occur because **NO** 'B' ATWS channel is tripped.

ANSWER:

b.

REFERENCE:

B.05.06-01

B.05.06-02

BANK

HIGHER

K/A 295025K2.04

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QUESTION # 13.

The plant was operating at rated conditions when a transient occurred resulting in the following conditions:

- Torus water level is -3 feet and steady
- Torus water temperature is 160°F and steady

Answer and complete the following statements for the conditions above:

- 1) Which reactor pressure is currently within the Heat Capacity limit?
- 2) Maintaining reactor pressure within this limit ensures a blowdown will NOT exceed the...
 - a. 1) 900 psig.
2) Torus design temperature.
 - b. 1) 1000 psig.
2) Torus design temperature.
 - c. 1) 900 psig.
2) Drywell design temperature.
 - d. 1) 1000 psig.
2) Drywell design temperature.

ANSWER:

a.

REFERENCE:

C.5.1-1200

PROVIDE:

BANK

HIGHER

K/A

Figure M – Heat Capacity Limit curve

295026K3.01

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QUESTION # 14.

The plant was operating at rated conditions when a steam line rupture resulted in the following conditions:

- Drywell temperature is 340°F and rising
- Attempts to spray the drywell have been unsuccessful
- The CRS has entered C.5-2002 (EMERGENCY DEPRESSURIZATION)

While performing your C.5-2002 actions, the following indications occurred (NOTE- ALL lights below are extinguished):



Which SINGLE condition below would be a valid reason for the indications shown above?

- The SRV bellows has RUPTURED.
- The SRV amber light is BURNT OUT.
- The SRV is mechanically STUCK CLOSED.
- The SRV solenoid valve is NOT ENERGIZED.

ANSWER:

d.

REFERENCE:

C.5.1-1200

NX-7831-143-1

NX-7831-143-2

NEW

HIGHER

295028A1.05

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QUESTION # 15.

The plant was operating at rated conditions when an SRV inadvertently lifted. The following conditions are now present:

- The SRV remains stuck open
- A leak developed at the bottom of the Torus
- Torus water level is lowering slowly
- The Torus-to-Drywell Vacuum Breakers are cycling

As torus water level continues to lower, which of the following levels will FIRST stop the vacuum breakers from cycling and equalize the airspace pressure between the torus and drywell?

- a. -3.0 feet
- b. -3.5 feet
- c. -4.0 feet
- d. -4.5 feet

ANSWER:

b.

REFERENCE:

C.5.1-1200

NEW

HIGHER

K/A

295030A2.04

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QUESTION # 16.

The Reactor is operating at rated conditions when multiple alarms are received. RPV water level is 34 inches and slowly lowering. The OATC recognizes the following indications on C-05 (See picture on the next page):

Which of the following C-05 actions must be taken **FIRST** for the given conditions?

- a. Depress the CV 6-12B RESET pushbutton.
- b. Place the CV 6-12A MAN/AUTO STATION in MANUAL.
- c. Place the CV 6-12B MAN/AUTO STATION in MANUAL.
- d. Place the Digital Feedwater Master Level Controller in MANUAL.

ANSWER:

b.

REFERENCE:

C.4-B.05.07.A

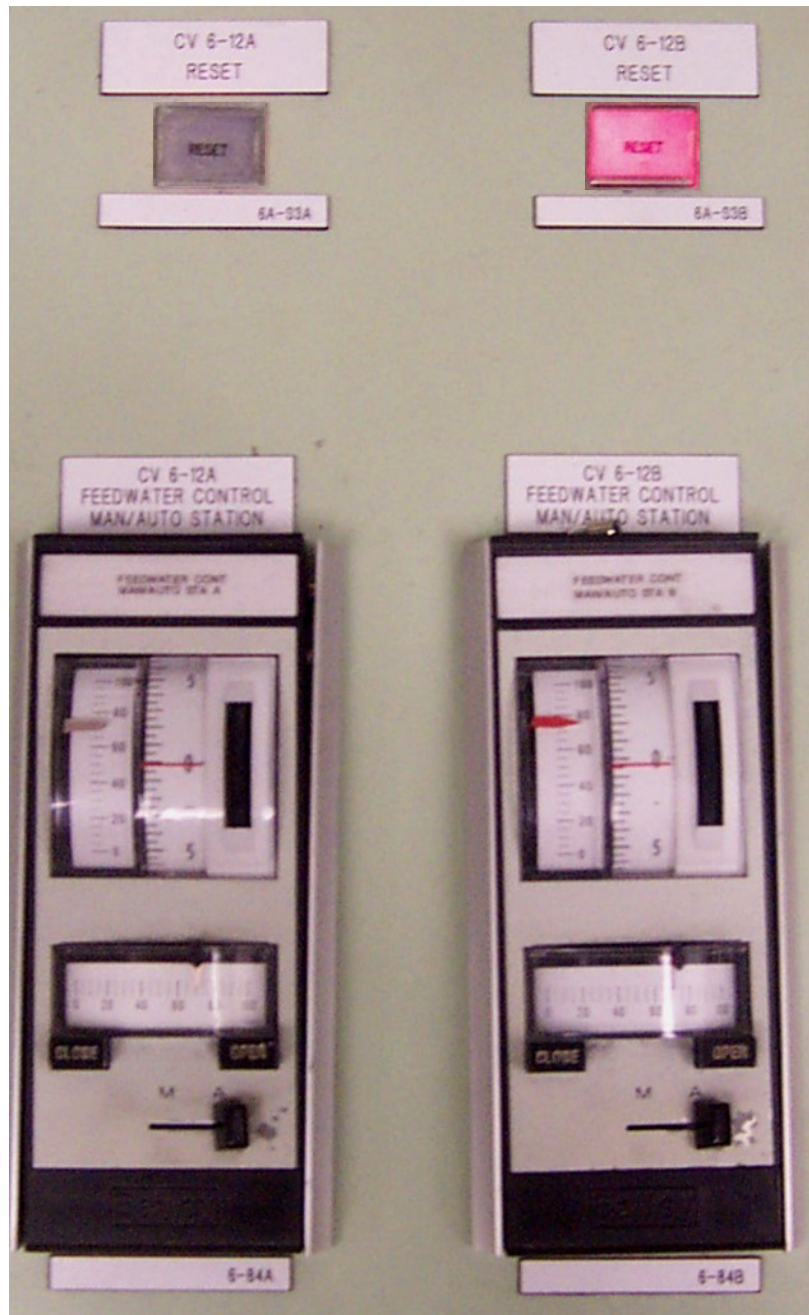
C.6-005-B-40

NEW

HIGHER

K/A 295031 2.4.4

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QUESTION # 17.

The plant was operating at rated conditions when a scram and ATWS condition occurred. The following conditions are present:

- Reactor power 20% and lowering
- The Main Condenser is unavailable
- RPV pressure is cycling on Lo-Lo Set
- Torus water temperature is 95°F and rising
- RPV water level is being maintained -149" to -126"
- Standby Liquid Control (SBLC) System 1 has been initiated

The CRS now directs the OATC to report when SBLC tank level reaches 1040 gallons.

Which of the following describes the reason for reporting this tank level?

- a. This will allow a normal RPV depressurization to begin.
- b. This will allow RPV water level to be restored to +9" to +48".
- c. This will allow SBLC injection from System 1 to be secured.
- d. This will allow the crew to exit C.5-2007 (FAILURE TO SCRAM).

ANSWER:

b.

REFERENCE:

C.5.1-2007

NEW

FUNDAMENTAL

K/A 295037K1.04

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QUESTION # 18.

The plant was operating at rated conditions when an event occurred that resulted in an offsite release and radiation levels reaching the following steady readings:

- Control Room Air Intake Monitors – 2.5 mrem/hr
- Refueling Floor Radiation Monitors – 60 mrem/hr
- RB Exhaust Plenum Radiation Monitors – 21 mrem/hr

Which of the given instrument radiation readings will cause CRV/EFT to initiate in the High Radiation Mode?

- a. 1 ONLY
- b. 2 ONLY
- c. 1 & 2 ONLY
- d. 1, 2 AND 3

ANSWER:

c.

REFERENCE:

B.08.13-01

NEW

FUNDAMENTAL

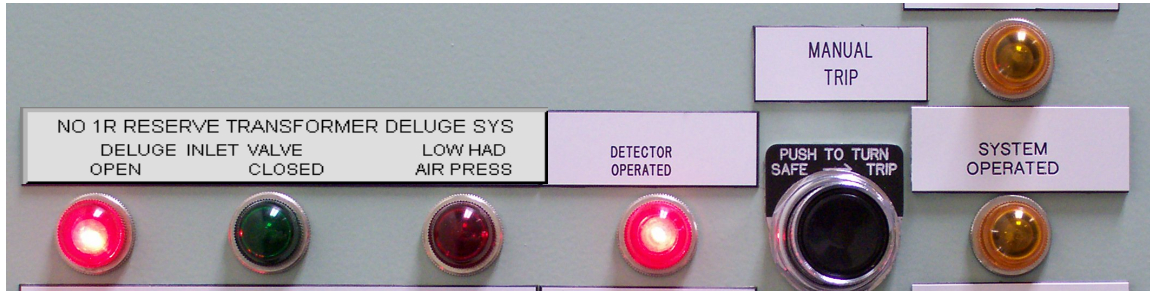
K/A 295038K2.07

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QUESTION # 19.

The plant is operating at rated conditions in a normal electric plant lineup. An event occurs that results in the following:

- Annunciator 20-A-08 (FIRE) is alarming
- Annunciator 8-C-04 (NO. 1R RES TRANS LOCKOUT) is alarming



The BOP operator rotates the arming collar and depresses the pushbutton shown above.

Which of the following, if any, is a valid reason for performing these actions?

- a. These actions MANUALLY INITIATE deluge spray on the 1R Transformer.
- b. These actions MANUALLY TRIP open all 4160 1R Transformer supply breakers.
- c. These actions MANUALLY TRIP open Subyard to 1R supply breakers 5N5 and 5N7.
- d. These actions are NOT required; the 1R Transformer Deluge IS currently spraying water.

ANSWER:

a.

REFERENCE:

C.4-B.08.05.A

ARP 20-A-08

NEW

HIGHER

K/A 600000K3.04

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 20.

The plant was operating at rated conditions when a Main Generator over voltage condition occurred resulting in a Generator Lockout and a Station Blackout (SBO).

Which of the following actions from C.4-A (REACTOR SCRAM) can be successfully performed by the OATC?

1. Insert SRM and IRM detectors
 2. Observe the negative reactor period for the scram conditions
 3. Close both discharge valves for the tripped recirculation pumps
- a. 1 ONLY.
 - b. 2 ONLY.
 - c. 2 and 3 ONLY.
 - d. 1, 2 and 3.

ANSWER:

b.

REFERENCE:

C.4-B.09.13.B

C.4-A

BANK

K/A

700000A1.04

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QUESTION # 21.

The plant was operating at rated conditions when a significant event occurred resulting in the following conditions:

- Torus water level is 13.3 ft and stable
- Drywell pressure is 52 psig and rising slowly
- The CRS chooses to vent primary containment using the DRYWELL VENT PATH.

Using the given conditions; complete the following sentence on the reason for using this method?

This method...

- WILL result in a filtered AND elevated release.
- WILL result in a scrubbed, BUT unfiltered release.
- WILL result in a scrubbed, filtered AND elevated release.
- SHOULD NOT be used; venting via the Torus is the preferred method.

ANSWER:

a.

REFERENCE:

C.5-3505

BANK

HIGHER

K/A

295010K3.01

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QUESTION # 22.

The plant was operating at rated conditions when a transient occurred with the following conditions present:

- Drywell pressure is 5.5 psig and rising
- Drywell temperature is 185°F and rising
- 1AR transformer is supplying 15 and 16 Busses
- You have been directed to “start all available drywell cooling.”

Which of the following describes the actions, if any; you must take to place all Drywell Fans in service?

- a. The ECCS Load Shed must be bypassed and all D/W fans must be restarted.
- b. ONLY the Essential Bus Transfer Load Shed must be bypassed and all D/W fans must be restarted.
- c. No actions required as Mode 5 “Scram Mode” is automatically initiated on high temperature in the control rod drive area.
- d. Three D/W cooling fans will automatically restart; the fourth control switch must be taken from the STBY to the ON position.

ANSWER:

a.

REFERENCE:

C.5-3503

C.4-H

BANK

HIGHER

K/A

295012A1.01

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QUESTION # 23.

The plant was operating at rated conditions when a DBA LOCA occurred causing a rapid rise in Torus water temperature.

For the conditions above, which of the following is the MAXIMUM amount of time allowed for the operator to place containment cooling in service?

- a. 10 minutes.
- b. 16 minutes.
- c. 30 minutes.
- d. 41 minutes.

ANSWER:

a.

REFERENCE:

OWI-03.07

NEW

FUNDAMENTAL

295013A1.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 24.

The plant was operating at rated conditions with HPCI isolated for scheduled maintenance. A Station Blackout (SBO) occurred that resulted in the following conditions:

- The MSIVs are CLOSED
- SRVs E, G and H are ALL OPEN
- Numerous control rods FAILED to insert
- RPV Pressure is holding steady at 1020 psig
- RCIC auto initiated but TRIPPED on overspeed

Which of the following ranges approximates actual thermal power for the above conditions?

- a. 10 – 17%
- b. 20 – 27%
- c. 30 – 37%
- d. 40 – 47%

ANSWER:

c.

REFERENCE:

B.01.01-06

B.03.03-02

NEW

HIGHER

K/A 295015A2.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 25.

The plant was operating at rated conditions when an event occurred that is resulting in a radioactive release.

Which of the following Emergency Action Levels is the LOWEST that will require entry into C.5-1400 (RADIOACTIVITY RELEASE CONTROL)?

- a. NOTICE OF UNUSUAL EVENT
- b. ALERT
- c. SITE AREA EMERGENCY
- d. GENERAL EMERGENCY

ANSWER:

b.

REFERENCE:

C.5.1-1400

BANK

FUNDAMENTAL

K/A

295017 2.4.1

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 26.

The reactor was operating at rated conditions when an event occurred. Torus level is reported by the BOP operator to be +3.9 feet.

Complete the following statement concerning the current torus water level?

At this torus water level...

- a. HPCI operation is not allowed.
- b. SBGT cannot be used to vent noncondensibles from the torus airspace.
- c. SRV operation could cause SRV tail pipe damage resulting in containment failure.
- d. Vacuum Breakers will not function to relieve noncondensibles from the torus to the drywell.

ANSWER:

c.

REFERENCE:

C.5.1-1200

BANK

FUNDAMENTAL

K/A 295029K1.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 27.

The plant is currently shutdown with A RHR in the Shutdown Cooling Mode. A plant transient occurs causing the following annunciators:

- 3-A-49 (SBGT ANNUNCIATOR)
- 3-B-55 (REACTOR BLD EXH PLENUM HI RAD)
- 5-A-01 (REAC BLDG VENT & F P RAD CH A-HI/LO)

Based ONLY on the conditions above; which one of the following valves will receive an automatic CLOSE signal?

- a. MO-2397 (RWCU INLET INBOARD).
- b. MO-2014 (RHR DIV 1 LPCI INJECTION INBOARD).
- c. AO-2541A (DRYWELL FLOOR DRAIN ISOLATION).
- d. CV-3311 (TORUS TO CTMT RAD MON OUTBOARD).

ANSWER:

d.

REFERENCE:

B.05.06-02

C.4-B.04.01.B

BANK

HIGHER

K/A 295034K2.06

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 28.

The plant was operating at rated conditions when a LOCA occurred resulting in the following conditions:

- B RHR is in the Torus cooling Mode
- Torus water temperature is 145°F and rising
- A RHR pumps are maintaining adequate core cooling in LPCI injection Mode
- Both Core Spray pumps are running with their inboard injection valves throttled closed

Subsequently, a Loss of ALL Offsite Power occurred, 11 EDG failed to start and reactor water level is -130 inches and stable.

To ensure adequate core cooling AND continue to mitigate the Torus temperature rise; which combination of pumps must be kept in service by the crew?

- a. 1 RHR Pump, 1 RHRSW Pump and 1 Core Spray Pump.
- b. 2 RHR Pumps, 1 RHRSW pump, and 1 Core Spray Pump.
- c. 1 RHR Pumps, 2 RHRSW pumps, and 1 Core Spray Pump.
- d. 1 RHR Pump, 2 RHRSW pumps, and NO Core Spray Pump.

ANSWER:

a.

REFERENCE:

C.5.1-1000

B.03.04-05

BANK

FUNDAMENTAL

K/A 203000K3.04

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QUESTION # 29.

The 11 RHR Pump is operating in a Normal Shutdown Cooling Mode. Given the following:

- 11 RHRSW Pump flow is 2000 gpm
- 11 RHR Pump flow is 3800 gpm
- RHR HX dP is 50 psid

Which of the following actions would be appropriate in order to raise the cooldown rate?

Throttle...

- a. CLOSED RHR-4-1 (11 RHR HX INLET).
- b. OPEN MO-2002 (11 RHR HX BYPASS).
- c. OPEN RHR-5-1 (11 RHR HX DISCHARGE).
- d. OPEN CV-1728 (11 RHR HX RHRSW OUTLET).

ANSWER:

d.

REFERENCE:

B.03.04-05 pg 21

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HIGHER

K/A 205000K4.05

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QUESTION # 30.

The plant is operating at rated conditions with HPCI in service for testing. At the completion of testing the operator lowers turbine speed to 2000 rpm and allows it to continue operating.

Which one of the following operational implications is specifically addressed in the HPCI Operating procedures for controlling the HPCI turbine at this speed?

- a. Resonance induced vibration could occur causing damage to the turbine.
- b. Water hammer in the turbine exhaust line could occur causing damage to the exhaust line check valve.
- c. Condensate buildup in the steam inlet piping could occur causing impingement damage to the turbine blades.
- d. Cutting (Wire-Drawing) of the steam supply valve seat could occur from operating too close to the closed position.

ANSWER:

b.

REFERENCE:

B.03.02-05

BANK

FUNDAMENTAL

K/A 206000K5.05

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QUESTION # 31.

The plant was operating at rated conditions when a Loss of Offsite power and LOCA occurred at **0800**. Given the following:

- At **0801** Drywell pressure is 2 psig and slowly rising
- At **0802** Essential Bus and EDG status are shown pictorially on the next page

If NO operator actions are taken, what will be the status of the Core Spray pumps at **0803**?

- BOTH Core Spray pumps will be running.
- ONLY 11 Core Spray pump will be running.
- ONLY 12 Core Spray pump will be running.
- NEITHER Core Spray pump will be running.

ANSWER:

c.

REFERENCE:

B.03.01-01

B.03.01-05

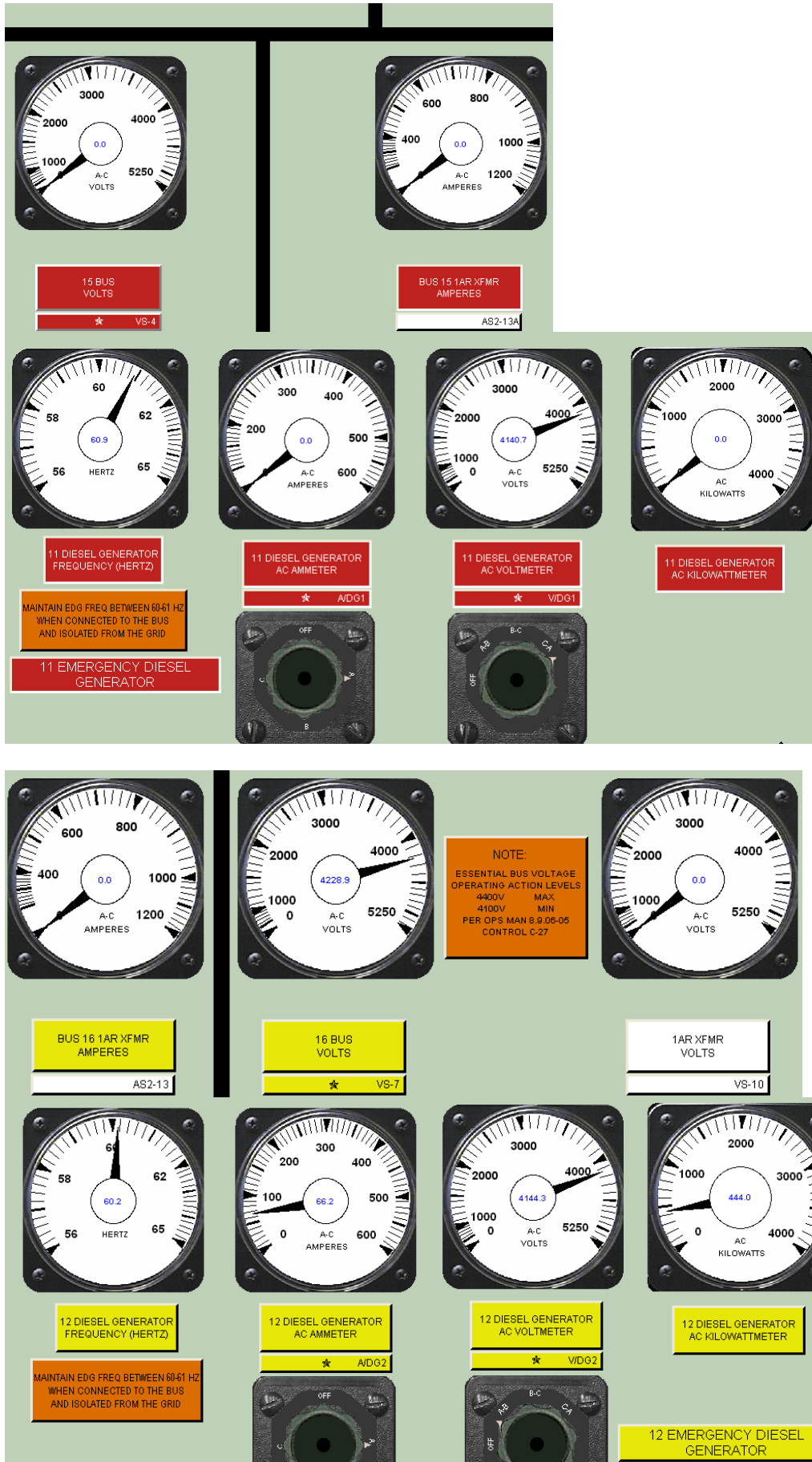
B.03.04-02

NEW

HIGHER

K/A 209001K6.02

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QUESTION # 32.

The plant was operating at rated conditions when an ATWS event occurred requiring the OATC to initiate SBLC.

When manually initiating the SBLC system, which of the following must be used to verify Standby Liquid Control injection flow into the reactor?

1. SBLC Tank Level LOWERING
 2. SBLC Squib A or B Ready Lights LIT
 3. SBLC pump running light ON for the selected system
 4. SBLC Pump discharge pressure slightly ABOVE RPV Pressure
 5. 5-B-31 (LOSS OF CONTINUITY TO SQUIB VALVE) is in ALARM
-
- a. 1, 2 and 3
 - b. 1, 2 and 4
 - c. 1, 3 and 4
 - d. 3, 4 and 5

ANSWER:

c.

REFERENCE:

B.03.05-05.G.1

BANK

FUNDAMENTAL

K/A 211000A1.06

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QUESTION # 33.

The plant is operating at 40% power with both Main Turbine Bypass valves CLOSED.

If a Main Generator LOCKOUT occurred under these conditions, predict the impact on the RPS System, if any, and why?

- a. NO effect on RPS based on current conditions.
- b. A FULL scram will occur from RPV high pressure.
- c. A FULL scram will occur from the nuclear instrumentation.
- d. A FULL scram will occur from the main turbine control valve fast closure.

ANSWER:

d.

REFERENCE:

B.05.06-02

NEW

HIGHER

K/A 212000A2.15

NOTE: Only part (a) of the K/A matched IAW NUREG 1021 ES-401 D.2.a. Writing this question to also match the second portion would result in an SRO ONLY question.

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 34.

A Reactor startup is in progress with all IRMs on Range 5 and responding as expected. Numerous Panel C-05 annunciators/indications have just been received including the following:

- 5-A-21 (IRM A HI-HI/INOP)
- 5-A-3 (ROD WITHDRAWAL BLOCK)
- 5-B-3 (REACTOR NEUTRON MONITOR SCRAM TRIP)
- ROD OUT PERMIT indicating light on Panel C-05 is OFF
- IRM HIGH HIGH or INOP indicating light on Panel C-05 is ON

Which one of the following will cause ALL of these annunciators/indications?

- IRM 12 detector is NOT fully inserted.
- IRM 12 reached 110 on the 0-125 scale.
- IRM 12 Mode Switch on C-36 is taken to the STANDBY position.
- IRM 12 Reset Switch on C-36 is momentarily taken from OPERATE to TRIP and released.

ANSWER:

c.

REFERENCE:

ARP 5-A-21

ARP 5-A-3

ARP 5-B-3

BANK

HIGHER

K/A 215003A3.02

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 35.

A plant startup is in progress with the Mode Switch in STARTUP. Given the following:

- SRM indicators are on-scale with detectors partially withdrawn
- IRMs are mid-scale all on Ranges 4 or 5.

An event occurs that results in the receipt of 5-A-3 (ROD WITHDRAWAL BLOCK) and the following C-05 indication:



Which one of the following will cause the above conditions?

- An SRM fails fully downscale.
- An SRM reading lowers to 90 cps.
- An SRM reading rises to 600,000 cps.
- An SRM is fully withdrawn from the core.

ANSWER:

c.

REFERENCE:

ARP 5-A-3

NEW

HIGHER

K/A

215004A4.06

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 36.

The plant is in Mode 1 with SPDS displaying 1700 MWt on the C-05 Right Monitor. Given the following:

- APRM 3 is bypassed for maintenance
- During the maintenance, an LPRM assigned to APRM 3 fails fully UPSCALE

How will this failure affect the thermal power displayed on SPDS, if at all, and why?

- NO affect because APRM 3 is currently BYPASSED.
- NO affect because this is a calculated power that does NOT USE LPRM inputs.
- SPDS will indicate HIGHER than 1700 MWt because of the upscale LPRM reading.
- SPDS will indicate LOWER than 1700 MWt because the failed LPRM input is automatically removed.

ANSWER:

b.

REFERENCE:

C.2-01

NEW

HIGHER

K/A

215005K1.07

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 37.

The plant is operating at rated conditions with the following LPRMs BYPASSED:

LPRM 20-13A	LPRM 44-29B	LPRM 12-13D
LPRM 36-29A	LPRM 20-29C	LPRM 12-21D
LPRM 12-37B	LPRM 36-13C	LPRM 28-37D
LPRM 28-21B	LPRM 36-45C	

The LPRM assignments for APRM 3 and LPRM assignments for the APRM 3 OPRM Cells are shown pictorially with the core map on the following page.

With the given conditions, which of the following describe the operability for APRM Neutron Flux-High and OPRM Upscale Functions?

- a. OPRM Upscale function is OPERABLE
APRM Neutron Flux-High Function is OPERABLE
- b. OPRM Upscale function is OPERABLE
APRM Neutron Flux-High Function is INOPERABLE
- c. OPRM Upscale function is INOPERABLE.
APRM Neutron Flux-High Function is OPERABLE
- d. OPRM Upscale function is INOPERABLE.
APRM Neutron Flux-High Function is INOPERABLE

ANSWER:

b.

REFERENCE:

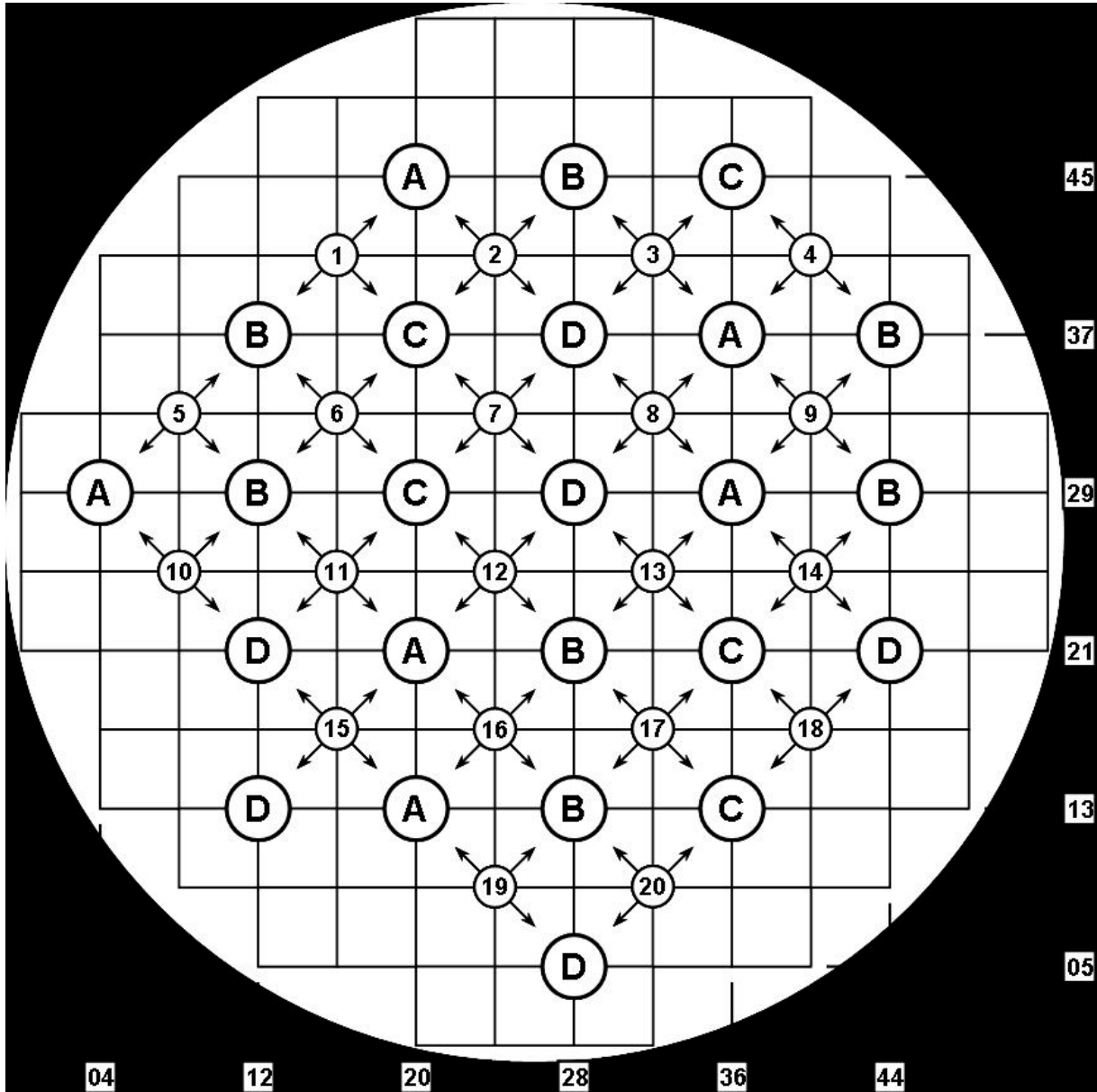
B.05.01.02-05

HIGHER

BANK

K/A 215005 2.2.37

2010 MNGP ILT NRC Written Exam - KEY



2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 38.

The reactor was operating at rated conditions with RCIC in a normal lineup. The CRS has directed you to transfer the suction path for RCIC.

Which of the following describes how the suction sources are transferred?

- a. **OPEN** MO-2100 and MO-2101 (RCIC TORUS SUCTION INBD/OTBD) and then verify MO-2102 (RCIC CST SUCTION) **CLOSES automatically**.
- b. **OPEN** MO-2100 and MO-2101 (RCIC TORUS SUCTION INBD/OTBD) and then **manually CLOSE** MO-2102 (RCIC CST SUCTION) at Panel C-04.
- c. **CLOSE** MO-2100 and MO-2101 (RCIC TORUS SUCTION INBD/OTBD) and then verify MO-2102 (RCIC CST SUCTION) **OPENS automatically**.
- d. **CLOSE** MO-2100 and MO-2101, (RCIC TORUS SUCTION INBD/OTBD) and then **manually OPEN** MO-2102 (RCIC CST SUCTION) at Panel C-04.

ANSWER:

a.

REFERENCE:

B.02.03-05.G.1

BANK

FUNDAMENTAL

K/A 217000K1.03

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 39.

The plant is operating at rated conditions when the following valid annunciators are received

- 8-A-4 (Y10/Y70 INSTR AC LOSS OF VOLTAGE)
- 8-A-24 (DIV 1 INVERTER Y-71 TROUBLE)

Which one of the following pieces of plant equipment will be affected by the conditions above?

- a. TI-4072B (SPOTMOS Division II)
- b. CV-19A/B (CRD Flow Control Valves)
- c. FIC-13-91 (RCIC Pump Flow Controller)
- d. FIC-23-108 (HPCI Pump Flow Controller)

ANSWER:

c.

REFERENCE:

B.02.03-05

BANK

FUNDAMENTAL

K/A 217000K2.03

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 40.

The plant was operating at rated conditions when a steam line rupture occurred in the drywell and the following conditions are now present:

- Drywell Sprays are unavailable
- Drywell temperature is 290°F and rising
- A complete loss of 125 VDC Bus A has occurred
- C.5-2002 (Emergency Depressurization) has been entered
- As the BOP, the CRS directs you to open all three ADS valves

Given the conditions above, which of the following SRVs must you use to perform the Emergency Depressurization from C-03?

- a. SRVs A, C and D.
- b. SRV D and two NON-ADS valves.
- c. SRV A & C and one NON-ADS valve.
- d. ONLY NON-ADS valves will be available.

ANSWER:

a.

REFERENCE:

B.03.03-05

B.03.03-06

NEW

HIGHER

K/A 218000K2.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 41.

With the reactor operating at rated conditions, annunciator 3-A-17 (AUTO BLOWDOWN VLV BELLOWS LEAKING) alarms and the following indication is observed:



Which of the following describes the ability of SRV A to depressurize the RPV vessel?

SRV A...

- a. will operate automatically in the ADS mode.
- b. will operate automatically in the LL-SET mode.
- c. will operate for its safety function but at a lower reactor pressure.
- d. **CANNOT** be opened manually from C-03 to depressurize the RPV vessel.

ANSWER:

a.

REFERENCE:

B.03.03-02

NEW

HIGHER

K/A

218000K3.02

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 42.

A plant startup is in progress with the following conditions:

- RPV pressure at 150 psig and stable
- RCIC is in service for operability testing
- 'A' RHR is in the Torus Cooling Mode

An instrument malfunction causes an inadvertent PCIS Group 1 Isolation on high temperature.

With the above conditions, which one of the following statements is correct?

- a. The RCIC turbine will TRIP.
- b. CV-2790 (RECIRC SX LINE INBD) will CLOSE.
- c. A SCRAM will occur when the MSIVs reach >10% closed.
- d. MO-2006 (RHR DIV 1 DISCH TO TORUS OTBD) will CLOSE.

ANSWER:

b.

REFERENCE:

B.05.06-01

NEW

HIGHER

K/A

223002K3.14

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 43.

Which of the following PCIS Group Isolations have MANUAL INITIATION capability through the use of pushbutton(s) in the Control Room?

- a. Group 3 ONLY.
- b. Group 4 ONLY.
- c. Groups 1 and 4 ONLY.
- d. Groups 1, 3 and 4.

ANSWER:

b.

REFERENCE:

B.03.02-03

NEW

FUNDAMENTAL

K/A 223002K4.03

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 44.

Which one of the following describes a design feature of the Low-Low Set (LLS) System that MINIMIZES the possibility of a NON-LLS SRV from lifting at its safety setpoint?

- a. LLS SRVs have a larger seat bore than NON-LLS SRVs.
- b. LLS SRVs provide about 80 psig of blowdown after opening.
- c. LLS SRVs open at lower pressure than the SRVs safety setpoint.
- d. LLS SRVs have a 10 second re-opening time delay following their closure.

ANSWER:

c.

REFERENCE:

B.03.03-01

NEW

FUNDAMENTAL

K/A 239002K4.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 45.

The plant was operating at rated conditions when a complete loss of feedwater resulted in a reactor scram and auto initiation of HPCI and RCIC. During the recovery the following occurred:

- RCIC tripped when RPV water level reached +48 inches
- HPCI continued to inject until the BOP operator manually tripped the system
- RPV water level is stable at +120 inches

The CRS then orders manual pressure control with SRVs. The BOP operator places the handswitch for SRV F to OPEN and RPV pressure begins to lower but the amber light fails to illuminate.

Which of the following must be performed next and why?

- Place the SRV F handswitch to CLOSE and then back to OPEN to reseal and reopen the pilot stage disc.
- Monitor RPV pressure and SRV F tailpipe temperature because the amber light may NOT respond with the given conditions.
- Place the SRV F handswitch to CLOSE and then place the SRV B handswitch to OPEN because SRV B has the lowest number of lifetime cycles.
- Leave the SRV F handswitch in OPEN and continue to place SRV handswitches in OPEN using the preferred sequence to evenly distribute heat load to the torus.

ANSWER:

b.

REFERENCE:

B.01.01-06

B.03.03-05.H.1

B.03.03-05.H.1 Bases

BANK

HIGHER

K/A 239002K5.04

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 46.

The plant is stable, operating at rated conditions with RPV water level at +35 inches. The Digital Feedwater Level Control System (DFLC) is in AUTO with 3-element control.

If the 'B' Main Feedwater Flow Instrument input to DFCL instantaneously fails FULLY DOWNSCALE; what is the expected response of the DFCL System?

DFLC...

- a. shifts to MANUAL control due to a loss of the Main Feedwater Flow Instrument.
- b. RAISES the master controller output due to a Steam Flow to Feed Flow mismatch.
- c. LOWERS the master controller output due to a Steam Flow to Feed Flow mismatch.
- d. shifts to SINGLE-ELEMENT control due to a loss of the Main Feedwater Flow Instrument.

ANSWER:

d.

REFERENCE:

B.05.07-02

BANK

FUNDAMENTAL

K/A 259002K6.04

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 47.

Complete the following statement concerning **MANUAL** operation of SBT.

Manually placing SBT in service during periods of high airborne activity in the Steam Jet Air Ejector (SJAE) Room will...

- a. REDUCE Turbine Building dose rates.
- b. RAISE the activity released offsite from the Reactor Building exhaust plenum.
- c. REDUCE the activity released offsite from the Reactor Building exhaust plenum.
- d. RAISE air flow into the SJAE room from V-EF-11 (COND DEMIN EXHAUST FAN).

ANSWER:

b.

REFERENCE:

B.4.2-05.A.4

BANK

HIGHER

K/A

261000A1.03

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 48.

The plant is operating at 74% power in a normal electric plant line up. An overcurrent condition results in the receipt of 8-B-9 (NO. 2R XFMR LOCKOUT) and the alarm condition has been confirmed.

For the above conditions; which of the following is a valid reason for the operator to execute C.4-A (REACTOR SCRAM)?

- a. Both Recirc pumps trip.
- b. Both Circ Water pumps trip.
- c. One Reactor Feed pump loses power.
- d. All Drywell Cooling Fans are load shed.

ANSWER:

b.

REFERENCE:

ARP 8-B-2

B.09.06-01

BANK

HIGHER

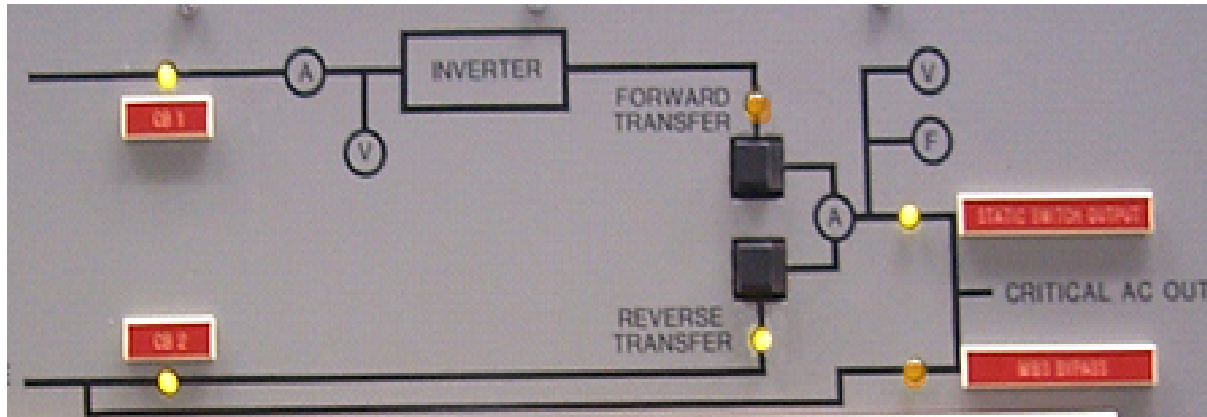
K/A

262001A2.10

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 49.

The plant is operating at rated conditions. While in the EFT Building you notice the following indications for Y71 (DIV 1 UPS INVERTER).



Based on the indications above; which of the following is correct?

- a. A complete loss of Y10 & Y70 has occurred.
- b. Y71 is supplying loads in its normal operating mode.
- c. Y71 has transferred its loads to the alternate source.
- d. Y71 reverse transferred its loads from the alternate source back to the inverter.

ANSWER:

c.

REFERENCE:

B.09.13-05

NEW

HIGHER

K/A 262002A3.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 50.

The plant is operating at rated conditions when a DC supply breaker trip results in the receipt of 20-B-09 (DIVISION II 125/250 DC TROUBLE).

Which one of the following systems must be monitored in the control room to confirm the given power loss?

- a. HPCI
- b. RCIC
- c. RWCU
- d. Turbine Lube Oil

ANSWER:

a.

REFERENCE:

ARP 20-B-09

C.4-B.09.09A

NEW

FUNDAMENTAL

K/A 263000A4.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 51.

The plant was operating at rated conditions with 11 EDG synchronized to the grid to support post maintenance testing. A Loss of All Offsite Power occurred causing 11 EDG to trip on overspeed. The following local operator actions have been taken:

- The overspeed trip device has been RESET
- 11 EDG Speed Droop knob has been set to ZERO

If the Turbine Building Operator now simultaneously depresses BOTH Engine Stop pushbuttons, which of the following is true concerning 11 EDG?

- a. 11 EDG will IMMEDIATELY restart AND continue to run.
- b. 11 EDG will ONLY restart and continue to run IF manually started from Panel C-08.
- c. 11 EDG will ONLY restart and continue to run AFTER the 15 minute shutdown sequence timer has timed out.
- d. 11 EDG will IMMEDIATELY restart BUT will shutdown when the 15 minute shutdown sequence timer has timed out.

ANSWER:

a.

REFERENCE:

B.09.08-05

B.09.08-01

NEW

HIGHER

K/A 264000 2.4.35

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 52.

The plant was operating at rated conditions when a total loss of Instrument Air (IA) occurred.

What effect will this have on the OUTBOARD MSIVs, and why?

- a. They will CLOSE because the air intensifiers will be lost.
- b. They will CLOSE because MSIV solenoid pilot air will be lost.
- c. They will REMAIN OPEN because nitrogen supplies the actuating air.
- d. They will REMAIN OPEN because air intensifiers maintain MSIV solenoid pilot air.

ANSWER:

b.

REFERENCE:

B.02.04-01

C.4-B.08.04.01.A

BANK

HIGHER

K/A

300000K1.05

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 53.

The plant was operating at rated conditions when a Loss of ALL Offsite Power occurred. The following conditions exist:

- Bus 16 has a LOCKOUT condition present
- ALL other plant equipment responded as expected

Based on the above conditions, what will be the status of the following ESW Pumps?

	<u>11 EDG-ESW</u>	<u>12 EDG-ESW</u>	<u>13 EFT-ESW</u>	<u>14 EFT-ESW</u>
a.	OFF	OFF	RUNNNG	RUNNING
b.	RUNNING	OFF	OFF	OFF
c.	RUNNING	OFF	RUNNING	OFF
d.	RUNNING	RUNNING	RUNNING	OFF

ANSWER:

c.

REFERENCE:

B.08.01.02-01

B.08.01.04-01

NEW

HIGHER

K/A 400000K2.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 54.

The Reactor is operating at rated conditions with 11 CRD Pump in service when 5-B-42 (CRD SUCTION FILTER HIGH DP) is received. The Reactor Building Operator reports that 11 CRD Pump suction pressure is 7" Hg vacuum and getting worse.

If no operator action is taken and conditions continue to degrade, what will be the FIRST equipment response?

- a. The CRD suction supply will auto transfer to the alternate source.
- b. The CRD suction filters will be auto bypassed.
- c. The CRD suction filters will auto transfer.
- d. The 11 CRD pump will auto trip.

ANSWER:

b.

REFERENCE:

B.01.03-02

BANK

FUNDAMENTAL

K/A 201001K5.03

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 55.

A plant startup is in progress with reactor power at 8%. The rod position indication for control rod 42-43 has failed and the decision has been made to remove its Probe Buffer Card.

In addition to 5-A-36 (RPIS INOPERATIVE), which of the following annunciators is also expected to be received when this card is removed?

- a. 5-A-35 (RWM ROD BLOCK).
- b. 5-A-11 (ROD OVERTRAVEL).
- c. 5-A-7 (24 VDC SYSTEM A&B TROUBLE).
- d. 5-A-19 (ROD SELECTOR BLOCK TIMER MALFUNCTION).

ANSWER:

a.

REFERENCE:

ARP 5-A-36

ARP 5-A-35

NEW

HIGHER

K/A 201006K6.03

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 56.

The plant has been in a maintenance outage. Plant conditions have been established to start No. 11 and No. 12 Recirc Pumps in preparation for reactor startup.

The Operator places hand switch 2A-S1A (No. 11 MG SET DRIVE MOTOR) to START and observes normal panel indication for start of the MG Set drive motor.

The Operator then places hand switch HS-2A-S7A (MO-2-53A PUMP DISCHARGE) to OPEN and holds it.

Shortly after, the following alarms are received.

- 4-C-1 (RECIRC A LOCKOUT)
- 4-C-21 (RECIRC A STARTUP SEQUENCE INCOMPLETE)
- 4-C-31 (RECIRC DRIVE MOTOR A TRIP)

Which of the following caused the trip of the No. 11 Recirc MG Set?

- a. Recirc MG Set lube oil pressure was 30 psig.
- b. Recirc MG Set lube oil temperature was 195°F.
- c. The pump D/P was only 7.2 psid after 18 seconds.
- d. The discharge valve was only 25% open after 20 seconds.

ANSWER:

c.

REFERENCE:

B.01.04-02

BANK – 2009 NRC Exam

FUNDAMENTAL

K/A 202001A1.12

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 57.

The plant was operating at rated conditions when # 11 Reactor Feed Pump began to experience high motor bearing temperatures. C.4-F (RAPID POWER REDUCTION) was entered and reactor power was lowered to 80% with Recirc pumps.

If the feed pump were to trip on motor overload, complete the following statement concerning the Recirc pumps?

The Recirc Pumps will...

- a. runback to approximately 20% speed.
- b. runback to approximately 30% speed.
- c. runback to approximately 50% speed.
- d. remain at the speed they were lowered to for C.4-F.

ANSWER:

c.

REFERENCE:

B.05.08-01

NEW

HIGHER

K/A 202002A2.07

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 58.

A plant startup is in progress with the RWCU system controlling RPV water level in the Dump Mode.

If the RWCU Filter Demineralizer inlet temperature reached 141°F what would be the expected final positions of the following valves?

	MO-2397 <u>(CLEANUP INLET INBOARD)</u>	MO-2398 <u>(CLEANUP INLET OUTBOARD)</u>	MO-2399 <u>(CLEANUP RETURN)</u>
a.	OPEN	OPEN	OPEN
b.	OPEN	OPEN	CLOSED
c.	CLOSED	CLOSED	OPEN
d.	CLOSED	CLOSED	CLOSED

ANSWER:

b.

REFERENCE:

B.02.02-01

NEW

FUNDAMENTAL

K/A 204000A3.04

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 59.

During operation of the Automatic Traversing In-Core Probe system (ATIP), a PCIS Group 2 isolation signal occurred.

What would be the expected ATIP system response to this condition?

The drive mechanism will automatically retract...

- a. in fast speed to the IN-SHIELD position and its respective ball valve will CLOSE.
- b. in slow speed to the IN-SHIELD position and its respective shear valve will FIRE.
- c. in fast speed to THE INDEXING MECHANISM and its respective ball valve will CLOSE.
- d. in slow speed to the IN-SHIELD position and its respective ball valve must be MANUALLY CLOSED.

ANSWER:

a.

REFERENCE:

B.05.03-02

BANK

FUNDAMENTAL

K/A 215001A4.03

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 60.

The plant was operating at normal rated conditions when a steam leak occurred in the Drywell. The reactor was scrammed and conditions are as follows:

- RPV water level is +20 inches and stable
- RPV pressure is 910 psig and stable on the EPR
- Both B RHR pumps AUTOMATICALLY started
- C.5-3502 (DRYWELL SPRAY) is being performed for high DW temperature
- The BOP operator has momentarily placed the CONTAINMENT SPRAY/COOLING LPCI INITIATION BYPASS switch to BYPASS
- B RHR system status is shown pictorially on the next page

If the panel operator attempts to OPEN the inboard and outboard Drywell Spray valves with the given conditions; which of the following would be correct and why?

- a. The valves will OPEN because the LPCI initiation has been properly bypassed.
- b. The valves will REMAIN CLOSED because Drywell pressure is less than 1.0 psig.
- c. The valves will REMAIN CLOSED because B RHR has been selected for LPCI injection.
- d. The valves will REMAIN CLOSED because the 2/3 core height interlock is NOT overridden.

ANSWER:

a.

REFERENCE:

B.03.04-01

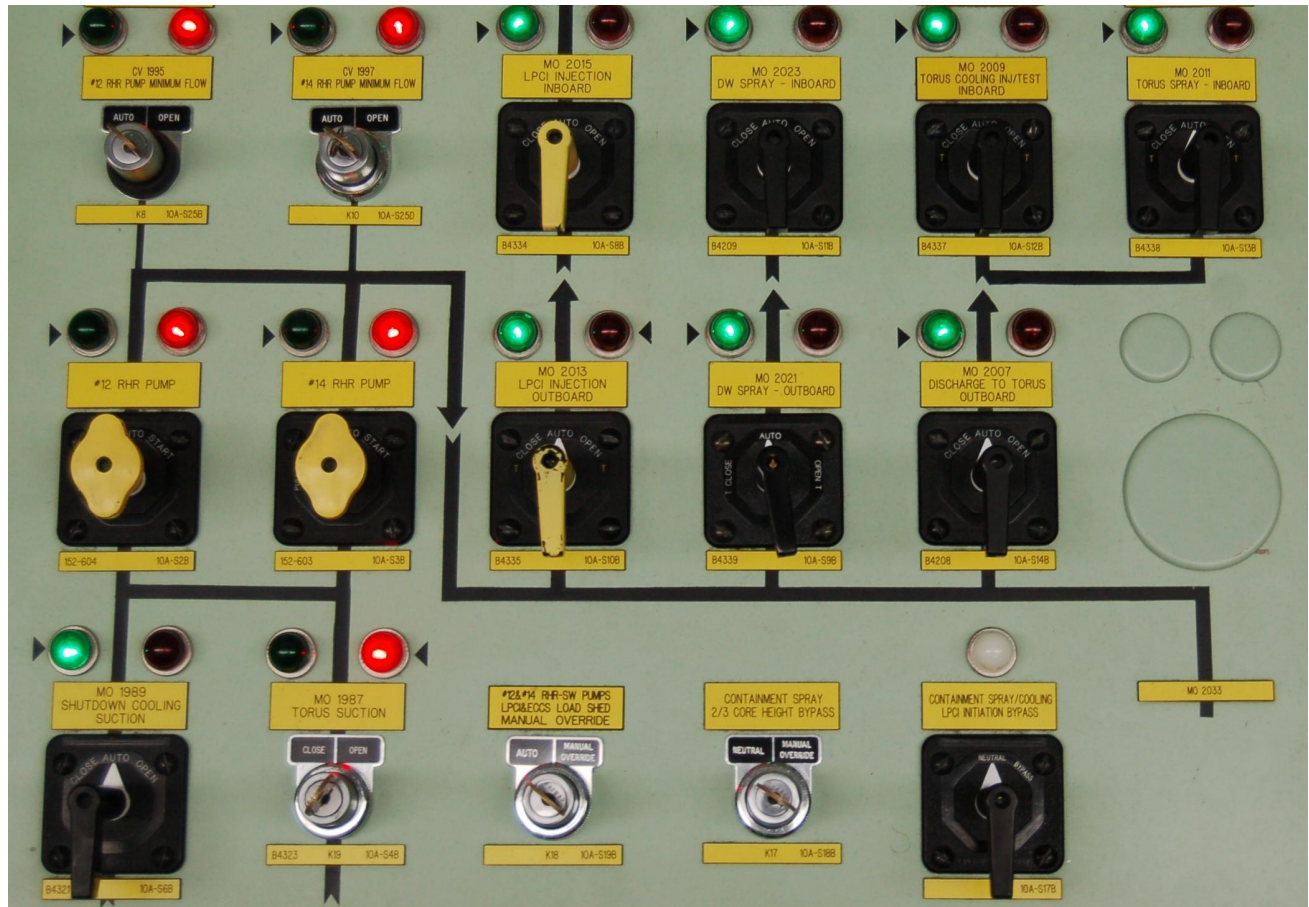
B.03.04-02

NEW

HIGHER

K/A 226001A4.07

2010 MNGP ILT NRC Written Exam - KEY



2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 61.

During a reactor power ascension following startup, the plant was operating at 25% power when annunciator 7-B-25 (TURBINE LOCKOUT) alarmed.

While verifying turbine status as directed by the Annunciator Response Procedure, the operator notes the following:

- All INTERCEPT valves are OPEN
- All INTERMEDIATE STOP valves are OPEN
- All turbine CONTROL VALVES are CLOSED
- All turbine MAIN STOP VALVES are CLOSED
- Generator output breakers 8N4 and 8N5 are OPEN

Evaluate the above indications and select the answer that describes the status of the Main Turbine.

- a. All turbine valves responded as expected for being \leq 30% power.
- b. Not all turbine valves responded as expected, the turbine may sustain damage.
- c. All turbine valves responded as expected, the turbine trip was due to mechanical overspeed.
- d. Not all turbine valves responded as expected, but the Backup Overspeed Trip device will protect the turbine from damage.

ANSWER:

b.

REFERENCE:

B.06.01-02

BANK

HIGHER

K/A 245000 2.1.28

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 62.

The plant is in cold shutdown with preparations in progress to start #11 Reactor Feedwater Pump (RFP) to complete post maintenance testing. Given the following:

- #11 RFP suction pressure 73 psig
- #11 RFP lube oil pressure 3 psig

Which of the following is correct if #11 RFP handswitch is placed in the start position?

- a. The pump will start and continue to run.
- b. The pump will start and trip after 10 seconds.
- c. The pump will NOT start due to low suction pressure.
- d. The pump will NOT start due to low lube oil pressure.

ANSWER:

d.

REFERENCE:

B.06.05-02

FUNDAMENTAL

BANK

K/A 259001K1.11

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 63.

Which ONE of the following will be affected upon a complete loss of UPS Panel Y-80?

- a. "B" Main Steam Line Radiation Monitor
- b. "B" Off-Gas Pretreatment Radiation Monitor
- c. "B" Reactor Building Ventilation Wide Range Gas Monitor
- d. "B" Turbine Building Normal Waste Sump Radiation Monitor

ANSWER:

c.

REFERENCE:

B.05.11-05

NEW

FUNDAMENTAL

K/A: 272000K2.05

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 64.

The plant is operating at rated conditions with fire detector surveillance testing in progress. The following fire detectors have been found to be inoperable:

- Detector 1C-3 located in RCIC Pump Room
- Detector 15A-1 located in #12 EDG Day Tank Room
- Detector 15B-2 located in #11 Diesel Generator Room

Using Table A.2-3 and A.3 Fire Zones 1-C & 15-B; which of the rooms above will require a fire watch due to the diminished fire detection capability?

- a. RCIC Pump Room ONLY
- b. #12 EDG Day Tank Room ONLY
- c. #11 Diesel Generator Room ONLY
- d. #11 Diesel Generator Room AND #12 EDG Day Tank Room

ANSWER:

b.

REFERENCE:

B.08.05-05

A.3-01-C

A.3-15-B

REFERENCE PROVIDED:

Table A.2-3 and A.3 Fire Zones 1-C & 15-B

NEW

HIGHER

K/A: 286000K3.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 65.

What type of CORE ORIFICING, if any, is used in the fuel support pieces at Monticello?

- a. Core orificing is NOT used at Monticello.
- b. The SAME size orifices are used for all fuel support pieces.
- c. The outer support piece orifices are LARGER than the center support piece orifices.
- d. The outer support piece orifices are SMALLER than the center support piece orifices.

ANSWER:

d.

REFERENCE:

B.01.01-01

B.01.04-01

BANK

FUNDAMENTAL

K/A: 290002K4.03

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 66.

Which one of the following describes the required method for checking that a MANUAL GLOBE valve is in the fully OPEN position?

The exposed valve stem should be at a ____ (1) ____ length above the valve body. Attempt to turn the valve handwheel in the ____ (2) ____ direction.

- | | <u> (1) </u> | <u> (2) </u> |
|----|--------------------------------|--------------------------------|
| a. | minimum | clockwise (CLOSED) |
| b. | minimum | counter-clockwise (OPEN) |
| c. | maximum | clockwise (CLOSED) |
| d. | maximum | counter-clockwise (OPEN) |

ANSWER:

c.

REFERENCE:

AWI-04.04.02

BANK

FUNDAMENTAL

K/A: 2.1.29

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 67.

Which of the following represents the discharge canal rate of change temperature limit, if any, when upstream river temperature is 60°F?

- a. 5°F/hr limit on RISING discharge canal temperature.
- b. 5°F/hr limit on LOWERING discharge canal temperature.
- c. 5°F/24 hr limit on LOWERING discharge canal temperature.
- d. There is NO LIMIT due to current upstream river temperature.

ANSWER:

d.

REFERENCE:

B.06.04-05

Bank

FUNDAMENTAL

K/A: 2.1.32

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 68.

During the performance of a plant surveillance procedure the following data was obtained.

- Data Point 1 is 4.84 seconds
- Data Point 2 is 5.09 seconds
- Data Point 3 is 5.01 seconds
- The acceptance criterion for the average of the data points is 5.00 to 5.20 seconds.

Which one of the following is the correct method of recording the results on the surveillance procedure?

The average value to be recorded is (1) seconds, and this value should be annotated as (2) band.

- | | <u>(1)</u> | <u>(2)</u> |
|----|------------|------------|
| a. | 4.98 | out of |
| b. | 5.00 | within |
| c. | 5.00 | out of |
| d. | 5.01 | within |

ANSWER:

a.

REFERENCE:

OWI-01.04

BANK

HIGHER

K/A: 2.1.18

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 69.

Which of the following would require declaring **ALL FOUR** RHR pumps inoperable?

- a. Three ECCS Room Sump pumps inoperable.
- b. Division 1 & 2 RHR pumps in the Torus Cooling Mode.
- c. Primary Containment non-condensable inventory is 12,000 lbm.
- d. Silting has blocked ESW supply to the RHR pump motor cooling lines.

ANSWER:

c.

REFERENCE:

B.03.04-05

BANK

FUNDAMENTAL

K/A: 2.2.42

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 70.

Complete the following statement that correctly identifies an activity that WOULD allow Independent Verification (IV) to be waived?

Removing a Danger Tag from...

- a. B3301 (#11 SBLC Pump) while in hot shutdown.
- b. B152-503 (#13 RHR Pump) while in hot shutdown.
- c. FP-5 (FIRE SYS TEST VALVE) at rated plant conditions.
- d. RC-3-1 (11 RWCU PUMP SUCT) at rated plant conditions.

ANSWER:

d.

REFERENCE:

4 AWI-04.04.02 Section 4.2.9

BANK – 2009 NRC Exam

HIGHER

K/A: 2.2.13

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 71.

A reactor startup is about to commence with the SRM detectors fully inserted and initial SRM counts reading 3×10^1 cps.

When is single notch withdrawal required?

- a. At ALL times prior to the POAH.
- b. When SRM counts have reached 6×10^1 cps.
- c. During the withdrawal of a HI-LIGHTED/NOTCH control rod from 24 to 48.
- d. When it takes several minutes for SRM counts to stabilize after a rod withdrawal.

ANSWER:

d.

REFERENCE:

C.1

GFE-Rx Operational Physics

BANK

FUNDAMENTAL

K/A: 2.2.2

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 72.

The following items have Federal Radiation Exposure Limits:

- a. Skin
- b. Whole Body
- c. Lens of the Eye

Based on Federal Radiation Exposure Limits; which of the following ranks the listed items in order, from LOWEST to HIGHEST dose allowed?

- a. a, c, b
- b. b, a, c
- c. b, c, a
- d. c, a, b

ANSWER:

c.

REFERENCE:

AWI-08.04.01

NEW

FUNDAMENTAL

K/A: 2.3.4

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 73.

Following an inadvertent instrument actuation a reactor scram occurred and plant conditions were stabilized. The OATC took actions to reset the scram per C.4-A and due to these actions, the following annunciator conditions are present:

- 5-B-6 (DISCH VOLUME HI WATER LEVEL BYPASS) **IN ALARM**
- 5-B-21 (DISCH VOLUME WATER LEVEL SCRAM TRIP) **RESET**
- 4-A-11 (REACTOR BUILDING HI RADIATION) **IN ALARM**

Based on the above information, which of the below is the source of the Reactor Building radiation condition?

- a. Waste Collector Tank.
- b. Reactor Building Floor Drain Sump.
- c. Reactor Building Equipment Drain Tank.
- d. Reactor Building Equipment Drain Sump.

ANSWER:

c.

REFERENCE:

C.4-A

BANK

HIGHER

K/A: 2.3.14

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 74.

Given the following indicators:



Which of the above indicators, if any, is Post Accident Monitoring (PAM) instrumentation?

- a. C-03 PLR-7251A ONLY
- b. C-04 LI-2996 ONLY
- c. C-292 LI-7338B ONLY
- d. None are required for PAM

ANSWER:

a.

REFERENCE:

4AWI-04.01.01

NEW

HIGHER

K/A: 2.4.3

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 75.

Which of the following completes the statement below concerning subsequent actions in C.4-A (REACTOR SCRAM)?

Resetting the scram is a priority and should be done as soon as possible in order to reduce...

- a. CRD flow into the vessel thus minimizing stratification in the lower head.
- b. CRD flow into the vessel thus reducing thermal stress on the feedwater nozzles.
- c. dP across the CRD piston thus reducing mechanical stress on the CRD stub tubes.
- d. dP across the CRD flow control valve thus ensuring the cooling water header is not over pressurized.

ANSWER:

a.

REFERENCE:

C.4-A Bases

BANK

FUNDAMENTAL

K/A: 2.4.22

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 76.

The plant has been operating at rated conditions for several months.

On December 16th at 2000 it was discovered that SR 3.4.1.1 for Recirculation Loops Operating had not been performed since December 15th at 1200. A risk assessment has **NOT** been performed.

Given the information above, determine if an extension is allowed, if so, when is the latest the surveillance can be completed and remain in compliance with Technical Specifications?

- a. An extension IS allowed; perform the surveillance prior to December 17th at 0200.
- b. An extension IS allowed; perform the surveillance prior to December 17th at 2000.
- c. An extension IS allowed; perform the surveillance prior to December 18th at 0200.
- d. An extension IS NOT allowed; immediately enter the REQUIRED ACTIONS of LCO 3.4.1.

ANSWER:

b.

REFERENCE:

TS 3.4.1

SR 3.0.3

REFERENCE PROVIDED

TS 3.4.1

TS SRs

NEW

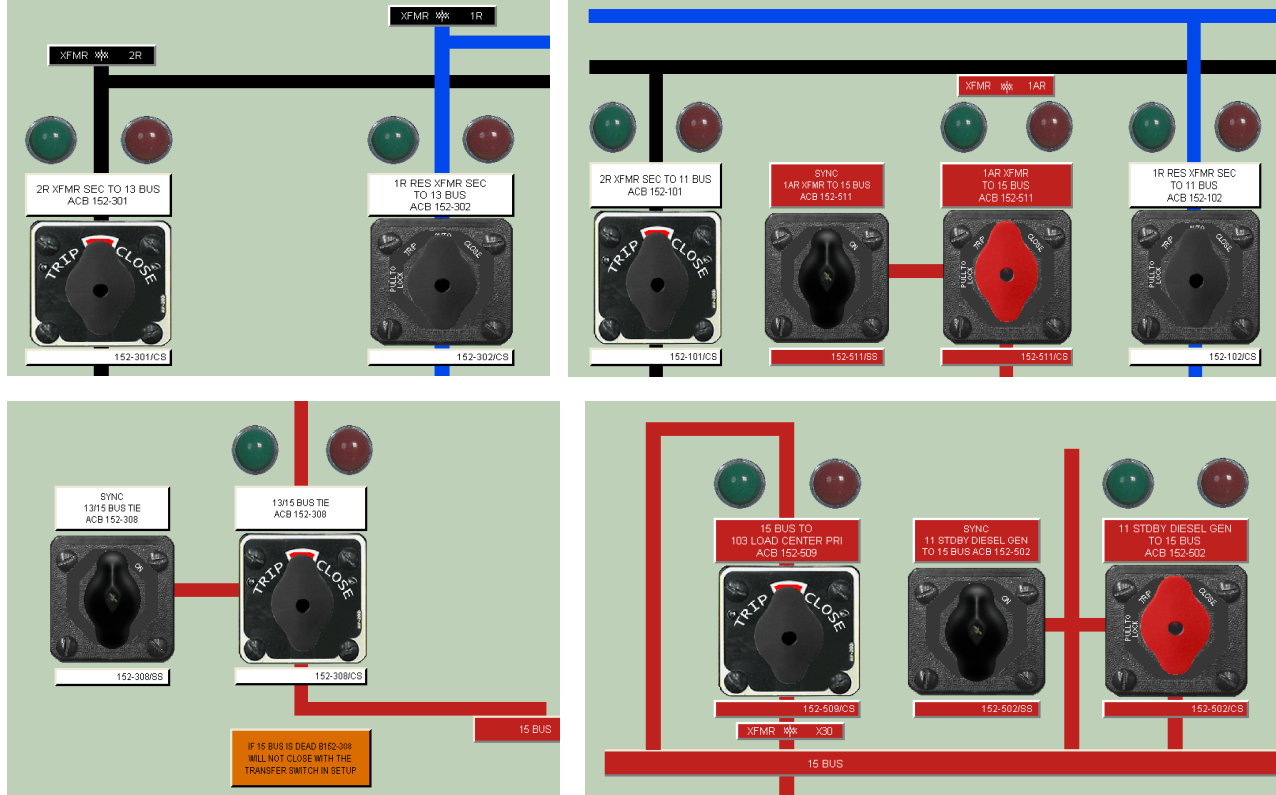
HIGHER

K/A: 2.2.40

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 77.

The plant is operating at rated conditions when a transient results in the following BUS BREAKER indications on the C08 horizontal panel:



Assuming all other BUS BREAKER indications on the C08 horizontal panel are normal, which one of the following procedures should the CRS direct to be entered and why?

- a. C.4-B.09.10.A (LOSS OF A 125 VDC BUS) for a loss of Division 1 125 VDC.
- b. C.4-B.09.10.A (LOSS OF A 125 VDC BUS) for a loss of Division 2 125 VDC.
- c. C.4-B.09.09.A (LOSS OF A 250 VDC BUS) for a loss of Division 1 center tapped 250 VDC.
- d. C.4-B.09.09.A (LOSS OF A 250 VDC BUS) for a loss of Division 2 center tapped 250 VDC.

ANSWER:

a.

REFERENCE:

C.4-B.09.10.A

NEW

HIGHER

K/A: 295004A2.04

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 78.

The plant was operating at rated conditions when the EPR failed causing RPV pressure to lower to 820 psig with a subsequent reactor scram. The following conditions now exist:

- RPV level is +20 inches and stable
- RPV pressure is 1030 psig and rising
- Reactor period is -80 seconds and steady
- Reactor power is on IRM Range 6 and lowering
- Five control rods are at position 06, all other rods are fully inserted

Based on the conditions above, which of the following must be directed by the CRS?

- a. Perform C.5-3101 (ALTERNATE ROD INSERTION).
- b. Insert the five control rods IAW C.4-A (REACTOR SCRAM).
- c. Stabilize RPV pressure below 1056 psig using the main turbine bypass valves.
- d. Terminate and prevent injection from Condensate & Feedwater, HPCI and LPCI.

ANSWER:

b.

REFERENCE:

C.5-1100 Flowchart

C.5-2007 Flowchart

C.4-A

REFERENCE PROVIDED

EOP-1100 & 2007 Flowcharts

NEW

HIGHER

K/A: 295006A2.02

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 79.

The plant is in Mode 3 performing a plant shutdown. A Complete Loss of Instrument Air occurs resulting in the following conditions:

- Drywell (DW) pressure is 0.85 psig and rising
- Drywell (DW) temperature is 140°F and rising
- 896 ft. Rx Bldg Drain Tank Room (A-15) ARM is in alarm

Which of the following is a correct action(s) for the CRS to direct to the BOP?

- a. When DW pressure exceeds 1.84 psig, verify SBT starts and secondary containment isolates.
- b. When DW pressure exceeds 1.84 psig, restart secondary containment HVAC because SBT is unavailable.
- c. Isolate N2 makeup prior to exceeding 1.84 psig in the DW by closing CV-3269 (DW/TORUS N2 MAKEUP SUPPLY).
- d. Maintain DW pressure below 1.84 psig by venting via the 2 inch DW Vent line and through AO-2387 (DW OTBD VENT).

ANSWER:

a.

REFERENCE:

C.5-1100/1200/1300

C.4-B.08.04.01.A

REFERENCE PROVIDED

EOP- 1100/1200/1300 Flowcharts

BANK

HIGHER

K/A: 295019 2.1.20

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 80.

The plant is in a refueling outage with the following conditions present:

- The RPV head is removed
- RPV water level is two feet above the reactor vessel flange
- 1027' elevation radiation levels are 2 mrem/hr
- Secondary containment is NOT established

A leak occurs in the East Shutdown Cooling room that's confirmed by the Reactor Building Operator and plant conditions changed as follows:

- RPV water level lowered BY 224 inches
- 1027' elevation radiation levels rose to 18 mrem/hr
- 14 minutes after the start of the leak, it was isolated and RPV water level was restored to the flange

Using the figure on the following page, which of the following E-plan classifications, if any, should be declared?

- a. NUE
- b. ALERT
- c. Site Area Emergency
- d. No classification required

ANSWER:

a.

REFERENCE:

B.01.01-06 figure 28

EAL Matrix

REFERENCE PROVIDED:

B.01.01-06 figure 28

BANK – 2009 NRC Exam

K/A: 295031A2.01

2010 MNGP ILT NRC Written Exam - KEY

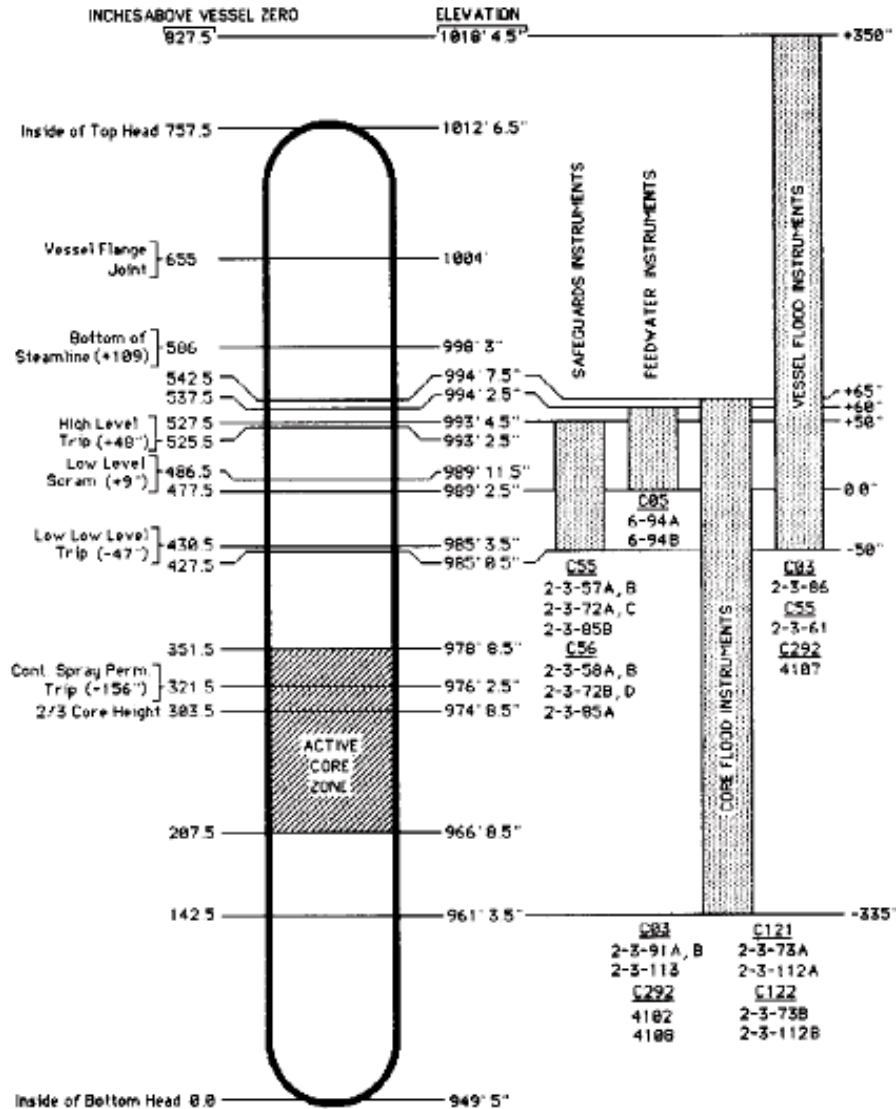
MONTICELLO NUCLEAR GENERATING PLANT

Ops Man B.01.01-06

Revision 10

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Figure 28 Reactor Vessel Level Instrumentation



I/kab

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 81.

The plant is operating at rated conditions when a fire occurs in the 1AR Transformer. The Fire Brigade Leader reports to the control room that the fire has been extinguished.

As the CRS, which of the following is the MINIMUM Fire Watch requirement that must be implemented for the extinguished fire?

- a. A fire watch is NOT required since 1AR is outside secondary containment.
- b. Establish a continuous fire watch for a minimum of one hour.
- c. Establish a continuous fire watch for a minimum of two hours.
- d. Establish a continuous fire watch for a minimum of four hours.

ANSWER:

b.

REFERENCE:

A.3-004 pg 5

AWI-08.01.01

NEW

FUNDAMENTAL

K/A: 600000A2.15

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 82.

The plant is operating at rated conditions when a grid disturbance results in lowering voltage and frequency on the Main Generator. Given the following frequency timeline:

<u>TIME</u>	<u>GENERATOR FREQUENCY</u>
00:00:00	60.0 Hz
00:01:00	59.5 Hz
00:02:00	59.0 Hz
00:03:00	58.5 Hz
00:04:00	58.0 Hz

After time 00:04:00 generator frequency remains stable at the given frequency. Which of the following actions, if any, must be directed by the CRS?

- a. No action required the generator can operate **indefinitely** at this frequency.
- b. Direct a Manual Scram IAW C.4-K (IMMEDIATE REACTOR SHUTDOWN) and a Turbine Trip IAW C.4-A (REACTOR SCRAM) by time **00:46:00**.
- c. Direct a Manual Scram IAW C.4-K (IMMEDIATE REACTOR SHUTDOWN) and a Turbine Trip IAW C.4-A (REACTOR SCRAM) by time **00:09:00**.
- d. Direct a Manual Scram IAW C.4-K (IMMEDIATE REACTOR SHUTDOWN) and a Turbine Trip IAW C.4-A (REACTOR SCRAM) **immediately**.

ANSWER:

d.

REFERENCE:

C.6.8-A-34

NEW

HIGHER

K/A: 700000A2.08

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 83.

Given the following sets of parameters:

Case1)	Torus Average Water Temperature, stable at	180°F
	RPV Pressure, stable at	500 psig
	Drywell Pressure, stable at	10 psig
	Torus Water Level, stable at	-3 ft
Case 2)	Torus Average Water Temperature, stable at	190°F
	RPV Pressure, stable at	800 psig
	Drywell Pressure, stable at	14 psig
	Torus Water Level, stable at	-2 ft

Is Emergency Depressurization (BLOWDOWN) required in each of these cases? (Assume operator actions to restore and maintain the above parameters have NOT been successful.)

- a. Case 1) BLOWDOWN NOT required.
Case 2) BLOWDOWN NOT required.
- b. Case 1) BLOWDOWN NOT required.
Case 2) BLOWDOWN required.
- c. Case 1) BLOWDOWN required.
Case 2) BLOWDOWN NOT required.
- d. Case 1) BLOWDOWN required.
Case 2) BLOWDOWN required.

ANSWER:

b.

REFERENCE:

C.5.1-1200

C.5-1200

REFERENCE PROVIDED:

EOP-1200 Flowchart

BANK

K/A: 295013A2.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 84.

The plant was operating at rated conditions with a Condensate Demin Backwash/Precoat in progress. While placing the Condensate Demin back in service a flow disturbance occurred resulting in both reactor feed pumps tripping on low suction pressure. Given the following timeline.

00:00:00 Both reactor feed pumps tripped
00:00:10 Automatic reactor scram
00:00:20 RPV level lowered to -35 inches
00:00:25 11 reactor feed pump is restarted
00:00:30 RPV level is -20 inches and rising
00:00:35 RPV pressure is 820 psig and rising
00:00:40 7 control rods reported at position 04, all others are fully inserted
00:00:45 The Mode Switch is placed in the SHUTDOWN position

Based on the given timeline, which of the following is a correct action for the CRS to direct? (assume automatic actions occur as expected)

- a. Inhibit the ADS system IAW C.5-2007 (FAILURE TO SCRAM).
- b. Stabilize RPV pressure using the Main Turbine Bypass Valves IAW C.5-1100 (RPV CONTROL).
- c. Open the MSIVs IAW B.02.04-05.H.1 (OPENING MSIVs FOLLOWING A GROUP 1 ISOLATION).
- d. Bypass the MSIV isolation IAW C.5-3301 (DEFEATING RPV LOW-LOW LEVEL ISOLATION FOR MSIV CLOSURE).

ANSWER:

c.

REFERENCE:

C.5.1-1100

B.02.04-05.H.1

B.05.06-02 pg 18

REFERENCE PROVIDED:

EOP-1100 Flowchart

NEW

HIGHER

K/A: 295020A2.06

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 85.

The plant was operating at rated conditions when a transient occurred. Steam Chase temperature rose to 250°F and all MSIVs isolated.

Complete the following statement describing the bases behind the high temperature setting for this isolation?

This temperature value for this isolation is chosen to...

- a. detect a leak equivalent to 210 gpm
- b. prevent excessive RPV depressurization.
- c. ensure the core will not become uncovered.
- d. detect a leak equivalent to between 5 gpm and 10 gpm.

ANSWER:

d.

REFERENCE:

TS 3.3.6.1 Bases

BANK

FUNDAMENTAL

K/A: 295032 2.2.25

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 86.

The plant was operating at rated conditions when the following timeline of events occurred:

00:00:00 ADS Timer inadvertently actuated
00:01:00 ADS Inhibit switches were placed in INHIBIT
01:01:00 Power reduction commenced IAW C.3 (SHUTDOWN)
14:00:00 The Reactor Mode switch is placed in the SHUTDOWN position

Based on the timeline above and using 4AWI-04.08.02 Figures 5.1-5.3; which of the following represents the EARLIEST time the clock would have started for a 10CFR50.72 Immediate Notification?

- a. 00:00:00
- b. 00:01:00
- c. 01:01:00
- d. 14:00:00

ANSWER:

c.

REFERENCE:

AWI-04.08.02 Fig. 5.1-5.3

10CFR50.72

TS 3.5.1

REFERENCE PROVIDED:

AWI-04.08.02 Fig. 5.1-5.3

TS 3.3.5.1

TS 3.5.1

NEW

HIGHER

K/A: 239002A2.04

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 87.

The plant is beginning a refuel outage with the Mode Switch in SHUTDOWN, reactor coolant temperature is 160°F and several reactor vessel head closure bolts de-tensioned.

Additional conditions are as follows:

- CRDH is injecting to the RPV
- RWCU is in the Dump Mode providing RPV level control
- An OPDRV (Operation with Potential to Drain the Reactor Vessel) is in progress

A RWCU level control failure occurs resulting in RPV water level lowering to -58 inches; which of the following EAL classifications must be made?

- a. ALERT IAW CA1.1
- b. ALERT IAW CA2.1
- c. Site Area Emergency IAW CS1.1
- d. Site Area Emergency IAW CS2.1

ANSWER:

b.

REFERENCE:

EAL Matrix Table

TS Table 1 (Modes)

REFERENCE PROVIDED:

EAL Matrix Table

NEW

HIGHER

K/A: 259002 2.1.25

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 88.

A normal plant startup is in progress with an expected lineup for 12% reactor power. A steam line rupture occurs and the following conditions are reported:

- Reactor power is stable at 12%
- The steam line rupture is in the Turbine Building
- Reactor Building Exhaust Plenum radiation is 28 mrem/hr and rising

As the CRS, which of the following must be directed?

- a. Shutdown the MVP using B.06.03-05.F.1
(MECHANICAL VACUUM PUMP (MVP) SHUTDOWN).
- b. Restart RB ventilation using B.04.02-05.H.5
(RESTORATION FROM SCTMT ISOLATION UNDER ABNORMAL CONDITIONS).
- c. Restart Secondary Containment ventilation using C.5-3601
(BYPASS SECONDARY CONTAINMENT HVAC ISOLATION INTERLOCKS).
- d. Restart RB Plenum exhaust fans and Turbine Building ventilation using C.4-B.04.01.B (PRIMARY CONTAINMENT GROUP 2 – ISOLATION).

ANSWER:

d.

REFERENCE:

C.4-B.04.01.B pg 24

EOP C.5-1300

NEW

HIGHER

K/A: 261000A2.13

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 89.

The plant was operating at rated conditions when a LONOP occurred with a LOCA. HPCI and RCIC have been unable to maintain RPV water level. The following conditions are now present:

- 15 Bus has a LOCKOUT
- RPV pressure is 550 psig and lowering slowly
- RPV water level is -120 inches and lowering slowly
- 12 and 14 RHR pumps are running in the Torus Spray/Cooling Mode
- The Main and Low Flow Feedwater Regulating valves are CLOSED with their respective controllers in MANUAL
- 12 Core Spray pump is running with MO-1752 (#12 CS OUTBOARD ISOLATION) OPEN and MO-1754 (#12 CS INBOARD ISOLATION) CLOSED

As the CRS, which one of the following directions must be given at this time?

- a. Initiate an Emergency Depressurization.
- b. Realign B RHR to the LPCI Injection mode.
- c. Place the Low Flow Feedwater Regulating valve in AUTO.
- d. Place the 12 Core Spray system in its normal injection lineup.

ANSWER:

b.

REFERENCE:

C.5.1-1100 Bases

EOP-1100 Flowchart

REFERENCE PROVIDED:

EOP-1100 Flowchart

BANK

HIGHER

K/A: 262001 2.4.18

ONLY the Generic part of K/A is matched. Matching the 263000 topic portion is NOT possible as it doesn't apply to EOP Bases discussions. The Generic part of K/A met IAW NUREG 1021 ES-401 D.2.a paragraph 2. This paragraph allows the development of questions only using one part of a multi-part K/A.

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 90.

The plant is operating at rated conditions with breaker B4482 (Y82 120V INST AC ALT SOURCE XFMR) tagged out for maintenance.

An equipment malfunction results in the DC Input voltage to Y-81 (DIV 2 120 VAC CLASS 1E INVERTER) lowering to 90 VDC.

Which one of the following abnormal procedures, if any, must be directed to mitigate the conditions above?

- a. C.4-F (Rapid Power Reduction).
- b. C.4-K (Immediate Reactor Shutdown).
- c. C.4-B.05.07.A (Loss of Reactor Water Level Control).
- d. None; Panels Y-30 & Y-80 will both remain energized.

ANSWER:

c.

REFERENCE:

C.4-B.09.13.G

C.4-B.09.13.E

NEW

HIGHER

K/A: 262002A2.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 91.

The plant is operating at rated conditions. Test 0081 (Control Rod Drive Scram Insertion Test) is being performed. Given the following data:

Control rod scram times to notch position 06:

- Rod 30-31 - 6.8 seconds
- Rod 26-35 - 6.5 seconds
- Rod 34-27 - 8.0 seconds

Which of the following Technical Specification actions **MUST** be taken at this time?

- a. Be in Mode 3 within 12 hours.
- b. Declare Rod 34-27 inoperable.
- c. Declare ALL three rods inoperable.
- d. Declare ALL three rods operable but slow.

ANSWER:

b,

REFERENCE:

TS 3.1.4.1

TS 3.1.3

REFERENCE PROVIDED:

TS 3.1.3

TS 3.1.4

TS Table 3.1.4.1

BANK

HIGHER

K/A: 201003A2.10

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 92.

The plant was operating at rated conditions when a severe transient and reactor scram occurred. Given the following:

- DW Pressure is 10 psig
- DW Temperature is 250°F
- RPV pressure is 1000 psig
- Reactor Building Temperature is 205°F
- Fuel Zone level instruments read -49 inches
- Safeguards level instruments read -45 inches
- Vessel Flood level instrument reads -40 inches
- One control rod remains at position 48

Based on the above conditions, which of the following actions must be taken by the CRS?

- a. Enter C.5-2006 (RPV FLOODING) at Point 23.
- b. Enter C.5-2006 (RPV FLOODING) at Point 24.
- c. Remain in C.5-1100 (RPV CONTROL) and control RPV water level using Fuel Zone instruments ONLY.
- d. Remain in C.5-1100 (RPV CONTROL) and control RPV water level using Fuel Zone AND/OR Safeguards instruments.

ANSWER:

c.

REFERENCE:

C.5.1-1100 EOP Bases

C.5-1100

REFERENCE PROVIDED:

EOP Flowcharts (C.5-1100)

NEW

HIGHER

K/A: 216000 2.4.20

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 93.

A plant cooldown is in progress with the Reactor Mode Switch in SHUTDOWN, reactor coolant temperature is 250°F and all closure head bolts fully tensioned. A severe thunderstorm is in progress that causes the following conditions:

- Protected area winds are reported at 95 mph
- 3-A-27 (RX BLDG DP AT OR ABOVE 0" WATER) is received
- The Reactor Building 935' West Emergency Personnel Airlock Doors 55 & 56 are damaged and partially off their hinges.

Based on the above conditions, which of the following actions, if any, are required?

- a. Declare an NUE.
- b. Restore Secondary Containment within 4 hours.
- c. Restore Secondary Containment within 8 hours.
- d. No action required; Secondary Containment operability is NOT required.

ANSWER:

b.

REFERENCE:

B.04.02-05

TS 3.6.4.1

EAL Matrix

REFERENCE PROVIDED:

EAL Matrix

TS 3.6.4.1

TS 3.6.4.2

NEW

HIGHER

K/A: 290001A2.01

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 94.

The plant was operating at rated conditions when a LOCA occurred. Drywell conditions have degraded and the CRS is implementing the Drywell Pressure leg of C.5-1200 (PRIMARY CONTAINMENT CONTROL). Given the following:

- A WHITE border exists around the "Drywell Spray OK" tag on the SPDS Containment Control display?

Which of the following actions should be taken by the CRS?

- a. When the border changes to RED direct C.5-3502 for Drywell Sprays.
- b. When the border changes to BLUE direct C.5-3502 for Drywell Sprays.
- c. When the border changes to GREEN direct C.5-3502 for Drywell Sprays.
- d. Containment conditions are currently met to direct C.5-3502 for Drywell Sprays.

ANSWER:

d.

REFERENCE:

C.5-1200

EOP Fig N

REFERENCE PROVIDED:

C.5-1200 Flowchart

BANK

HIGHER

K/A: 2.1.19

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 95.

The plant is operating at rated conditions. A normal load reduction from 100% RTP is about to commence to remove a Reactor Feed Pump from service.

Which of the following is the minimum required reactivity adjustment oversight required for the performance of this load reduction?

- a. Duty Control Room Supervisor ONLY
- b. Duty Control Room Supervisor and Shift Manager ONLY
- c. Duty Control Room Supervisor, Shift Manager and Operations Manager
- d. Duty Control Room Supervisor, Shift Manager and Reactivity Management SRO (RMSRO)

ANSWER:

d.

REFERENCE:

OWI-01.06

NEW

HIGHER

K/A: 2.1.37

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 96.

The plant is in Mode 2 performing a reactor startup.

Given the following at **1000**:

- Control Rod withdrawal commenced
- Average SRM count rate was 20 cps

Given the following at **1100**:

- The highest achieved average SRM count rate was 160 cps
- The reactor was then scrammed and all rods fully inserted

If control rod withdrawal is scheduled to recommence at **1600**; which of the following is correct in regards to completing Form 2150 (PLANT PRE-START CHECKLIST) and why?

- a. A **NEW** checklist must be initiated because the reactor went critical.
- b. The **ORIGINAL** checklist is still valid because the reactor remained subcritical.
- c. A **NEW** checklist must be initiated because > 4 hours have elapsed since control rods were fully inserted.
- d. The **ORIGINAL** checklist is still valid because \leq 4 hours have elapsed with control rods withdrawn.

ANSWER:

c.

REFERENCE:

C.1

NEW

HIGHER

K/A: 2.2.1

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 97.

Which of the following activities REQUIRE the use of the Bypass Control Process?

- a. Disabling a Control Room annunciator.
- b. Removing a 480 VAC breaker to the Electric Shop for maintenance.
- c. Installing a temporary hose to drain the RHRSW System to the floor drains.
- d. Installing new Instrument Air compressors that have NOT yet been released to the plant.

ANSWER:

a.

REFERENCE:

AWI-04.04.03

NEW

FUNDAMENTAL

K/A: 2.2.43

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 98.

The plant is operating at rated conditions. Given the following:

- 4-A-12 (OFF GAS HI RADIATION) has been in alarm for 5 minutes
- Main Steam Line Radiation Monitors indicated higher than normal radiation levels

As the CRS, which one of the following procedures must be directed for the above conditions?

- a. C.4-F (RAPID POWER REDUCTION).
- b. B.04.02-05.D.3 (MANUALLY INITIATE SBTGT A TRAIN).
- c. B.07.02.01-05 (RECOVERING FROM RECOMBINER TRAIN TRIP).
- d. B.07.02.02-05.G.1 (BYPASSING THE COMPRESSED GAS STORAGE SYSTEM).

ANSWER:

a.

REFERENCE:

C.6-004-A-12

C.5.1-1200

NEW

HIGHER

K/A: 2.3.11

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 99.

The plant was operating at normal rated power when a LOCA and a breach of primary containment occurred. The following conditions are now present:

- Both SBGT trains failed to initiate
- Reactor pressure 650 psig and slowly lowering
- Reactor water level -94 inches and lowering 1 inch/min
- Drywell pressure 17 psig and rising 0.2 psig/min
- Torus level is +5 inches and rising 1 inch/10min
- Reactor Building D/P is 0 inches H₂O
- NO radiation monitors are in alarm

Based on the given conditions, which of the following actions is required to be directed NEXT?

- a. Drain torus water to radwaste.
- b. Prevent LPCI and Core Spray injection.
- c. Restart Secondary Containment HVAC.
- d. Initiate a normal plant cooldown using main turbine bypass valves.

ANSWER:

c.

REFERENCE:

C.5.1-1300

EOP-1300

REFERENCE PROVIDED:

EOP-1100/1200/1300 Flow Charts

BANK – 2009 NRC Exam

K/A: 2.4.6

2010 MNGP ILT NRC Written Exam - KEY

QUESTION # 100.

The plant was operating at rated conditions when a LOCA occurred at **0700**. Given the following conditions at **0711**:

- Drywell pressure is 1.84 psig and rising 0.2 psig/minute
- Drywell temperature is 130°F and rising 8°F/minute
- Torus temperature is 80°F and rising 0.5°F/minute

As the CRS, which of the following is required to be directed by **0724**?

- a. Start drywell sprays.
- b. Start RHR room coolers.
- c. Place Torus cooling in service.
- d. Place H2/O2 analyzers in service.

ANSWER:

b.

REFERENCE:

B.03.04-05 pg 6

EOP-1200

REFERENCE PROVIDED:

EOP-1200 Flowchart

BANK

HIGHER

K/A: 2.4.23