

U.S. Nuclear Regulatory Commission

Site-Specific RO Written Examination

Applicant Information

Name:

Date:

Facility/Unit: MCGUIRE

Region: I II III IV

Reactor Type: W CE BW GE

Start Time:

Finish Time:

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. To pass the examination, you must achieve a final grade of at least 80.00 percent. Examination papers will be collected 6 hours after the examination begins.

Applicant Certification

All work done on this examination is my own. I have neither given nor received aid.

Applicant's Signature

Results

Examination Value _____ Points

Applicant's Score _____ Points

Applicant's Grade _____ Percent

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Question: 1
(1 point)

Given the following conditions on Unit 1:

- Unit is operating at 100% RTP
- Ops Test Group is performing a slave relay test and a procedural error results in the inadvertent closure of 1RN-277B (RB NON ESS RET CONT OUTSIDE ISOL)
- At 1400, the following NC pumps indications are noted:

| NC Pump | 1A | 1B | 1C | 1D |
|------------------------------|-----------|-----------|-----------|-----------|
| Current Stator Winding Temp. | 250.5°F | 259.5°F | 265°F | 253.6°F |
| Temp. Increase | 1.8°F/min | 1.5°F/min | 1.2°F/min | 1.7°F/min |

Based on the conditions above, which ONE (1) of the following indicates the FIRST NC pump that would have to be manually secured in accordance with AP-08, (MALFUNCTION OF NC PUMP)?

- A. 1A
 - B. 1B
 - C. 1C
 - D. 1D
-

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Question: 2
(1 point)

Given the following conditions on Unit 1:

- Unit is operating at 90% RTP
- The controller for 1KC-132 (LETDOWN HX OUTLET TEMP CTRL) has been placed in MANUAL due to erratic operation
- Letdown Heat Exchanger outlet temperature is initially 100°F
- Subsequently, NV letdown flow is increased by 10 GPM as requested by Chemistry

Based on the conditions above, reactor power will initially (1) .

If Letdown Heat Exchanger outlet temperature increases to a maximum of (2) , 1NV-127A (LD HX OUTLET 3-WAY TEMP CNTRL) will automatically divert letdown to the VCT.

Which ONE (1) of the following completes the statements above?

- A. 1. INCREASE
2. 120°F
 - B. 1. INCREASE
2. 138°F
 - C. 1. DECREASE
2. 120°F
 - D. 1. DECREASE
2. 138°F
-

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Question: 3
(1 point)

Given the following conditions on Unit 1:

- A power decrease from 100% RTP was in progress
 - The following indications were observed:
 - Pressurizer level = 51%
 - Reactor power = 75%
 - The power decrease is halted when the crew notes that 1NV-238 (CHARGING LINE FLOW CONTROL VALVE) is NOT maintaining pressurizer level at program level
 - 1NV-238 is placed in manual and adjusted to restore pressurizer level to program level
- 1) When the crew discovered 1NV-238 was not maintaining program level, how did actual level compare to program level?
- 2) When 1NV-238 is repaired, what operator action(s) will be required to restore automatic pressurizer level control?
- A. 1. Actual level was higher than program level
 2. Place 1NV-238 in automatic AND restore the Pressurizer Level Master to automatic using the DCS soft controls
- B. 1. Actual level was higher than program level
 2. Place 1NV-238 in automatic ONLY
- C. 1. Actual level was lower than program level
 2. Place 1NV-238 in automatic AND restore the Pressurizer Level Master to automatic using the DCS soft controls
- D. 1. Actual level was lower than program level
 2. Place 1NV-238 in automatic ONLY
-

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Question: 4
(1 point)

Given the following conditions on Unit 2:

- The unit is in solid operations while cooling down
- Both trains of ND are in service
- 2A NV pump is in service
- Letdown is through 2NV-121 (ND LETDOWN CONTROL)

Based on the conditions above, a loss of VI to _____ would cause NC system pressure to increase? (Consider each separately)

Which ONE of the following completes the statement above?

- A. 2ND-29 (2A ND Hx Outlet)
 - B. 2ND-34 (A & B ND Hx Bypass)
 - C. 2NV-459 (Letdown Flow Control valve)
 - D. 2KC-57 (2A ND Heat Exchanger Cooling Water Control)
-

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Question: 5
(1 point)

Concerning the operation of Engineering Safeguards Modulating Control Valves:

Upon receipt of a ___(1)___ signal, the modulating control valve circuit will ___(2)___ the control valves.

Which ONE (1) of the following completes the statement above?

- A. 1. Safety Injection ONLY
2. align VI to
 - B. 1. Safety Injection OR Blackout
2. align VI to
 - C. 1. Safety Injection ONLY
2. vent air off
 - D. 1. Safety Injection OR Blackout
2. vent air off
-

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Question: 6
(1 point)

Given the following conditions on Unit 2:

- Containment pressure is initially NEGATIVE 0.1 PSIG and stable
- ONE (1) PZR safety valve sticks partially open
- After the PRT rupture disc relieves, Containment pressure begins to rise at 0.1 PSIG per minute

- 1) How long will it be before the upper limit of Technical Specification 3.6.4 (CONTAINMENT PRESSURE), is reached?
- 2) How long will it be before the Lower Containment Ventilation (VL) AHUs automatically switch to HIGH speed?

- A. 1. 3 minutes
 2. 5 minutes
- B. 1. 3 minutes
 2. 4 minutes
- C. 1. 4 minutes
 2. 5 minutes
- D. 1. 4 minutes
 2. 6 minutes
-

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Question: 7
(1 point)

Given the following conditions on Unit 1:

- A Small Break LOCA occurred in Containment
- SI has actuated on both trains
- 1B NV pump tripped on overcurrent
- Containment pressure is 3.5 PSIG

Based on the above conditions, ALL cooling would be lost to the NC pump ...

- A. motor bearings AND pump lower bearings.
- B. seals AND pump lower bearings.
- C. motor bearings ONLY.
- D. seals ONLY.
-

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Question: 8
(1 point)

Given the following initial conditions on Unit 1:

- The unit is at 100% RTP
- A loss of offsite power occurs

Current Conditions:

- Natural Circulation established
- NC system pressure is 2000 PSIG and STABLE
- All Tcolds 550°F and STABLE
- Pressurizer level is 32% and STABLE
- Pressurizer temperature is 630°F
- The 1A, 1B and 1D PZR HTR MODE SELECT switches on 1MC-10 have been placed in MAN

Based on the conditions above:

The Pressurizer is (1) .

When the BOP closes the PZR HTR Group Supply breakers from 1MC-5, the Pressurizer Backup Heaters (2) automatically energize.

Which ONE (1) of the following completes the statements above?

REFERENCE PROVIDED

- A. 1. saturated
 2. WILL

 - B. 1. subcooled
 2. WILL

 - C. 1. saturated
 2. WILL NOT

 - D. 1. subcooled
 2. WILL NOT
-

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Question: 9
(1 point)

Given the following conditions on Unit 1:

- The unit is increasing power following a Refueling Outage
- At 45% reactor power, the P-8 permissive failed "AS IS"
- Reactor power is currently at 50%

Based on the conditions above:

The P-8 "HI PWR LO FLO RX TRIP BLOCK" status light on 1SI-18 is (1) .

If one NC pump were to trip, an automatic reactor trip (2) occur.

Which ONE (1) of the following completes the statements above?

- A. 1. DARK
2. WILL NOT
 - B. 1. DARK
2. WILL
 - C. 1. LIT
2. WILL NOT
 - D. 1. LIT
2. WILL
-

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Question: 10
(1 point)

Which ONE (1) of the following indicates the power supplies to the D/G Sequencers?

- A. 1EVDA ; 1EVDD
 - B. 1EVDA ; 1EVDB
 - C. 1EVDC ; 1EVDD
 - D. 1EVDB ; 1EVDC
-

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Question: 11
(1 point)

Given the following conditions on Unit 1:

- A Safety Injection has occurred on the unit

Which ONE (1) of the following indicates the status of the VL (Lower Containment Ventilation) and VU (Upper Containment Ventilation) fans five (5) minutes after the Safety Injection signal?

- | | <u>VL</u> | <u>VU</u> |
|----|-----------------------|--------------------------|
| A. | Running in HIGH speed | Running in MAX COOL mode |
| B. | Running in LOW speed | Running in MAX COOL mode |
| C. | Running in HIGH speed | Shunt tripped OFF |
| D. | Running in LOW speed | Shunt tripped OFF |
-

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Question: 12
(1 point)

Given the following conditions on Unit 1:

- The Unit is operating at 100% RTP
- Train B components are in service
- An Inadvertent SI is initiated by Maintenance performing testing

Based on these conditions:

Lower Containment Ventilation Cooling will be supplied from (1) .

Containment Ventilation System Supply Isolation valves 0RN-301AC and 0RN-302B will be (2) .

Which ONE (1) of the following completes the statements above?

- A. 1. RV pumps
 2. CLOSED

 - B. 1. RV pumps
 2. OPEN

 - C. 1. RN non essential header
 2. CLOSED

 - D. 1. RN non essential header
 2. OPEN
-

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Question: 13
(1 point)

Given the following signals:

1. Low-Low Glycol Tank level
2. Floor Cooling Glycol Low temperature
3. Phase A Containment Isolation
4. Phase B Containment Isolation

Which ONE (1) of the following indicates the signals above that will close 1NF-228A (NF Supply Containment Isolation Valve)?

- A. 1 & 4
 - B. 2 & 4
 - C. 1 & 3
 - D. 2 & 3
-

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Question: 14
(1 point)

Given the following conditions on Unit 1:

- A LOCA has occurred inside Containment
- The crew has implemented E-0 (REACTOR TRIP OR SAFETY INJECTION)
- All Containment Spray (NS) pump discharge valves are OPEN
- Safety Injection has been RESET

Based on the conditions above, to manually start a Containment Spray (NS) pump, the crew must verify that CPCS pressure is greater than a MINIMUM of (1) PSIG AND must depress the (2) .

Which ONE (1) of the following completes the statement above?

- A. 1. 0.35
 2. NS pump START pushbutton ONLY

 - B. 1. 0.50
 2. NS pump START pushbutton ONLY

 - C. 1. 0.35
 2. DG Sequencer RESET pushbutton AND NS pump START pushbutton

 - D. 1. 0.50
 2. DG Sequencer RESET pushbutton AND NS pump START pushbutton
-

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Question: 15
(1 point)

Given the following conditions on Unit 1:

- The unit is at 75% RTP
- A small steam leak has developed on 1A S/G
- NC system pressure is 2210 PSIG and STABLE

Based on the conditions above:

A Main Steam Isolation will occur if the 1A S/G pressure decreases to less than a MINIMUM of (1) PSIG.

If a Main Steam Isolation occurs, in addition to closing the MSIVs, the (2) will also close.

Which ONE (1) of the following completes the statements above?

- A. 1. 775
2. MSIV Bypasses ONLY
 - B. 1. 875
2. MSIV Bypasses ONLY
 - C. 1. 775
2. MSIV Bypass AND SM PORVs
 - D. 1. 875
2. MSIV Bypass AND SM PORVs
-

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Question: 16
(1 point)

Given the following conditions on Unit 1:

- The Main Generator is tied to the grid with both Generator breakers CLOSED
- Turbine Inlet pressure is 510 PSIG
- Both CF pumps are running

Based on the conditions above, the entry conditions of AP-03 (LOAD REJECTION)

____ (1) ____ be met if EITHER CF pump trips.

____ (2) ____ be met if EITHER Busline de-energizes.

Which ONE (1) of the following completes the statements above?

- A. 1. WILL
2. WILL
 - B. 1. WILL NOT
2. WILL
 - C. 1. WILL
2. WILL NOT
 - D. 1. WILL NOT
2. WILL NOT
-

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Question: 17
(1 point)

Given the following conditions on Unit 1:

- Unit is in Mode 3
- The crew is performing unit heatup and pressurization
- NC pressure is 1900 PSIG
- The CA PUMP AUTO START DEFEAT light is LIT

Based on the conditions above:

If both Main Feedwater pumps trip, the MD CA pumps (1) auto start.

If a Safety Injection occurs, the MD CA pumps (2) auto start.

Which ONE (1) of the following completes the statements above?

- A. 1. WILL
2. WILL
 - B. 1. WILL
2. WILL NOT
 - C. 1. WILL NOT
2. WILL
 - D. 1. WILL NOT
2. WILL NOT
-

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Question: 18
(1 point)

Given the following initial conditions on Unit 1:

- FR-H.1 (RESPONSE TO LOSS OF SECONDARY HEAT SINK) has been implemented and the crew is performing a feed and bleed
- CA flow has been restored using the TDCA pump
- Containment pressure = 2.1 PSIG

In accordance with FR-H.1, which ONE (1) of the following indicates the MINIMUM heat sink requirements that must be met to allow termination of NC system feed and bleed?

- A. NR level in at least ONE S/G > 11%
 - B. NR level in at least ONE S/G > 32%
 - C. WR level in at least THREE S/Gs > 24%
 - D. WR level in at least THREE S/Gs > 36%
-

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Question: 19
(1 point)

Given the following on Unit 1:

- A reactor trip from 100% RTP has occurred
- The TD CA pump tripped on overspeed upon starting
- Bus 1ETA locked out due to a ground fault on the bus

Based on the conditions above, which ONE (1) of the following describes which S/Gs are currently being fed and the associated flow rates? (ASSUME NO OPERATOR ACTION)

- A. 1A and 1B S/Gs at 450 GPM total flow
 - B. 1C and 1D S/Gs at 450 GPM total flow
 - C. 1A and 1B S/Gs at 150 GPM to each S/G
 - D. 1C and 1D S/Gs at 150 GPM to each S/G
-

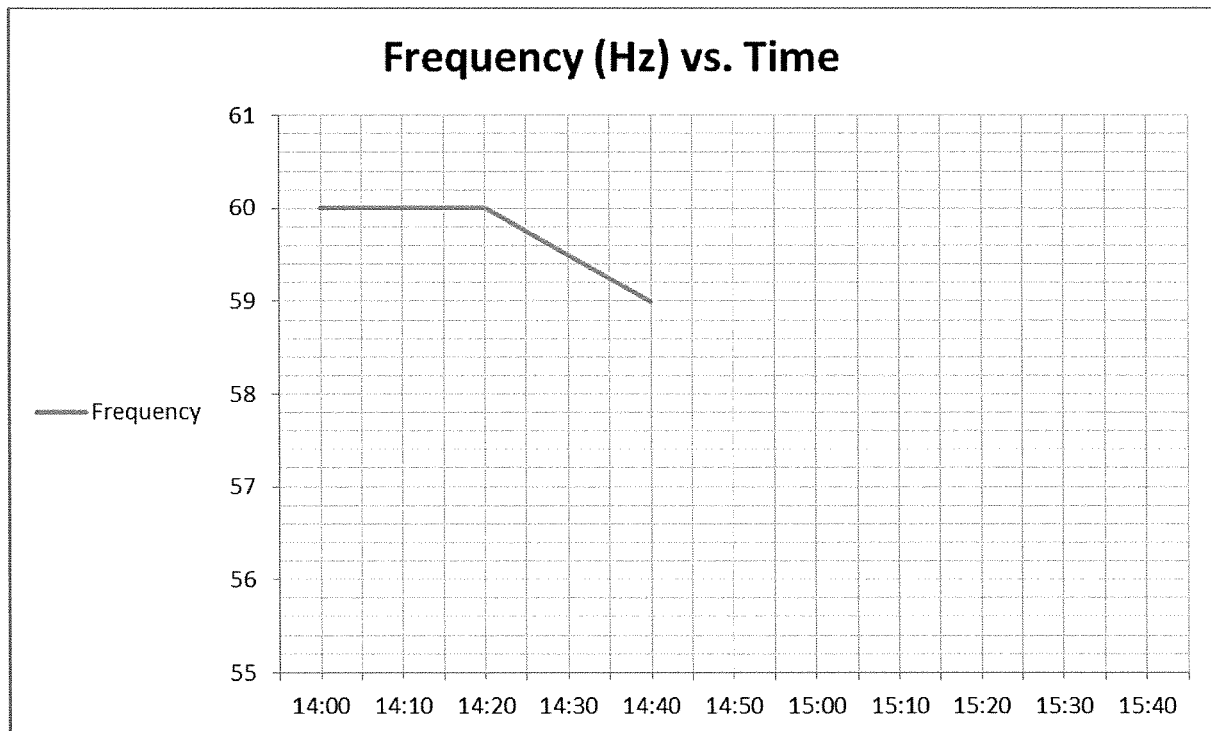
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Question: 20
(1 point)

Given the following plant conditions:

- An electrical grid disturbance has resulted in degrading grid frequency
- AP-05 (GENERATOR VOLTAGE AND ELCTRIC GRID DISTURBANCES) has been implemented
- The crew is monitoring frequency on the OAC and notes the following trend:



Assuming that both units remain tied to the grid AND that the current frequency trend continues, what is the EARLIEST time that the units will meet the NC Pump Bus Underfrequency trip setpoint?

- A. 14:50
- B. 15:00
- C. 15:30
- D. 15:40

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Question: 21
(1 point)

Given the following conditions on Unit 1:

- The unit is operating at 100% RTP
- The 1A D/G has just been declared inoperable due to an oil leak on the Woodward governor

Which ONE (1) of the following describes ALL checks which must be performed within 1 hour to ensure compliance with TS 3.8.1 (AC SOURCES – OPERATING)?

- A. Flowpaths through which 1ETA AND 1ETB are being supplied by offsite power AND operability of 1B D/G.
- B. Flowpath through which 1ETA is being supplied by offsite power AND determine that 1ETA is being supplied independently from 1ETB.
- C. Flowpath through which 1ETA OR 1ETB is being supplied by offsite power AND determine that 1ETA and 1ETB are being supplied independently.
- D. Flowpaths through which 1ETA AND 1ETB are being supplied by offsite power AND determine that 1ETA and 1ETB are being supplied independently.
-

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Question: 22
(1 point)

Given the following plant conditions:

- An equalizing charge of Battery 1DP is in progress

- (1) What is the alignment of the 250VDC Auxiliary Power system battery chargers?
- (2) What is the position of the Unit 1 & 2 Distribution Center bus tie breakers?

- A. 1. The normal charger charges battery 1DP separately from the distribution center while the standby charger supplies the distribution center loads.
2. OPEN
- B. 1. The normal charger supplies the distribution center loads while the standby charger charges battery 1DP separately from the distribution center.
2. CLOSED
- C. 1. The normal charger charges battery 1DP separately from the distribution center while the standby charger supplies the distribution center loads.
2. CLOSED
- D. 1. The normal charger supplies the distribution center loads while the standby charger charges battery 1DP separately from the distribution center.
2. OPEN
-

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Question: 23
(1 point)

Given the following conditions on Unit 1:

- The unit is at 100% RTP
- A Slow Start of the 1A DG is being performed
- The 1A DG is declared inoperable
- The operator places the 1A DG Mode Select switch in the LOCAL position

Before the engine is started, a loss of normal power occurs on 1ETA.

Which ONE (1) of the following describes the action (if any) that must be taken by the Control Room Operator?

- A. No action is necessary;
The 1A DG will start automatically.
 - B. Place the 1A DG Mode Select switch to AUTO;
THEN, the 1A DG will start automatically.
 - C. Place the 1A DG Mode Select switch to C/R;
THEN, the 1A DG will start automatically.
 - D. Place the 1A DG Mode Select switch to C/R;
THEN, press the 1A DG start pushbutton.
-

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Question: 24
(1 point)

Given the following conditions on Unit 2:

- The unit is operating at 100% RTP
- Train A equipment is in operation
- The power supply to 2EMF46A (TRAIN A COMPONENT COOLING) has failed

1) What is the impact of the power supply failure?

2) What procedure will be used to address the situation?

- A. 1. Alarm on Annunciator Panel 2RAD-1 ONLY
2. Annunciator Response for 2RAD-1/A-4 2EMF 46A Train A KC Hi Rad
- B. 1. Alarm on Annunciator Panel 2RAD-1 ONLY
2. OP/2/A/6400/005 (COMPONENT COOLING WATER SYSTEM)
- C. 1. Alarm on Annunciator Panel 2RAD-1 AND 2KC-122 (COMPONENT COOLING WATER SURGE TANK VENT) will auto close
2. Annunciator Response for 2RAD-1/A-4 2EMF 46A Train A KC Hi Rad
- D. 1. Alarm on Annunciator Panel 2RAD-1 AND 2KC-122 (COMPONENT COOLING WATER SURGE TANK VENT) will auto close
2. OP/2/A/6400/005 (COMPONENT COOLING WATER SYSTEM)
-

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Question: 25
(1 point)

Given the following conditions on Unit 1:

- The Unit was initially operating at 100% RTP with B Train components in service
- The 1B RN pump tripped on overcurrent
- The crew implemented AP-20 (LOSS OF RN), and has placed the 1A RN pump in service
- The remaining 'B' Train components are still in operation
- The BOP positions the manual loader for 1RN-190B (RN TO B KC HX CONTROL) to 10% open
- The RO was reviewing the OAC graphic for RN and noted 1RN-190B is indicating full open

Which ONE (1) of the following describes the reason for this?

- A. 1RN-190B control power is not supplied unless the 1B RN Pump breaker is closed.
 - B. Minimum flow requirements for the 1A RN Pump are not met.
 - C. Minimum flow requirements for the 1B RN Pump are not met.
 - D. The manual loader has mechanically failed.
-

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Question: 26
(1 point)

Given the following conditions on Unit 1:

- B Train equipment is in service
- The 1A DG sequencer is in TEST
- A Blackout occurs on the unit
- 1B DG fails to start

Assuming no operator actions, which Unit 1 KC pumps (if any) are in service?

- A. 1A1 and 1A2 KC pumps only
 - B. 1B1 and 1B2 KC pumps only
 - C. 1A1, 1A2, 1B1 and 1B2 KC pumps
 - D. NO Unit 1 KC pumps are in service
-

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Question: 27
(1 point)

The Diesel Generator Starting Air system (VG) can be used to supply the Auxiliary Building Instrument Air system (VI) provided:

Diesel Generator speed is greater than a MINIMUM of (1)

AND

a (2) signal is present.

Which ONE (1) of the following completes the statements above?

- A. 1. 97%
 2. Blackout ONLY

 - B. 1. 95%
 2. Blackout ONLY

 - C. 1. 97%
 2. Blackout OR Safety Injection

 - D. 1. 95%
 2. Blackout OR Safety Injection
-

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Question: 28
(1 point)

Given the following conditions on Unit 2:

- Unit 2 is in Mode 6 loading fuel
- 2EMF-39(L) (CONTAINMENT GAS-LO RANGE) Trip 2 alarm
- 2EMF-3 (CONTAINMENT REFUELING BRIDGE) Trip 2 alarm

Procedure Legend:

AP-25 (SPENT FUEL DAMAGE)

AP-40 (LOSS OF REFUELING CANAL LEVEL)

The Containment Evacuation alarm ____ (1) ____ automatically actuate.

Based on the above conditions, the crew will be required to implement ____ (2) ____ to mitigate the event.

Which ONE (1) of the following completes the statements above?

- A. 1. WILL
2. AP-25
 - B. 1. WILL NOT
2. AP-25
 - C. 1. WILL
2. AP-40
 - D. 1. WILL NOT
2. AP-40
-

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Question: 29
(1 point)

Regarding Control Rod Insertion Limits:

- The reason from maintaining Control Rods above a minimum insertion limit is to ensure ____ (1) ____.
- If the annunciator 1AD-2 / B8 (CONTROL ROD BANK LO LIMIT) is received as the result of a **RUNBACK**, the crew will ____ (2) ____.

Which ONE (1) of the following completes the statements above?

Procedure legend:

AP-38 (EMERGENCY BORATION AND RESPONSE TO INADVERTENT DILUTION)

- A.
 1. adequate Shutdown Margin is maintained
 2. ensure the alarm clears as Xenon builds in
 - B.
 1. adequate Shutdown Margin is maintained
 2. initiate Emergency Boration in accordance with AP-38
 - C.
 1. axial flux distribution limits are maintained
 2. ensure the alarm clears as Xenon builds in
 - D.
 1. axial flux distribution limits are maintained
 2. initiate Emergency Boration in accordance with AP-38
-

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Question: 30
(1 point)

The WCC SRO has requested a Safety Tag be hung on the breaker for the Unit 2 Reciprocating Charging Pump (PD).

Which ONE (1) of the following electrical panels will the operator need to go to in order to hang this Tag?

- A. LC 2ELXD
 - B. MCC 2MXJ
 - C. MCC 2MXK
 - D. MCC 2EMXB
-

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Question: 31
(1 point)

Given the following conditions on Unit 1:

- A Large Break LOCA has occurred
- Subcooling based on the 5 HI T/C AVG indicates negative (-) 4°F on the Inadequate Core Cooling Monitor (ICCM)

On the ICCM, Subcooling based on the 5 HI T/C AVG (1) be displayed in reverse video.

The range of indication for 5 HI T/C AVG is (2) .

Which ONE (1) of the following completes the statements above?

- A. 1. WILL
 2. 0°F to 2300°F

 - B. 1. WILL NOT
 2. 0°F to 2300°F

 - C. 1. WILL
 2. 32°F to 2300°F

 - D. 1. WILL NOT
 2. 32°F to 2300°F
-

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Question: 32
(1 point)

Given the following conditions on Unit 1:

- VF in Filter Mode
- 1EMF-42 (FUEL BLDG VENT HI RAD) is in service
- Loaded Dry Cask movement is in progress in Unit 1 SFP
- Control Room receives a 1RAD 3 Cabinet Trouble Alarm due to a loss of power to 1EMF-17 (SPENT FUEL BLDG REFUEL BRDG)

Based on the conditions above, which one of the following states the required Selected Licensee Commitments (SLC) action (if any)?

- A. Dry Cask movement may continue since 1EMF-42 is in service.
 - B. Dry Cask movement may continue since this is not movement of recently irradiated fuel assemblies.
 - C. Suspend all fuel movement operations in the fuel handling area being monitored IMMEDIATELY.
 - D. Suspend all fuel movement operations in the fuel handling area being monitored WITHIN 1 HOUR.
-

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Question: 33
(1 point)

Concerning the Steam Dump Control System:

The P-12 LO-LO Tavg setpoint is ____ (1) ____ .

In the Load Rejection Mode, the setpoint at which the Bank 1 Steam Dump valves receive a trip open signal is at a ($T_{avg} - T_{ref}$) difference of ____ (2) ____ .

Which ONE (1) of the following completes the statements above?

- A. 1. 551°F
 2. 8.1°F
 - B. 1. 553°F
 2. 8.1°F
 - C. 1. 551°F
 2. 14.4°F
 - D. 1. 553°F
 2. 14.4°F
-

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Question: 34
(1 point)

Given the following conditions on Unit 1:

- A turbine load increase was in progress following a Refueling Outage with 1A CF pump in service
- The 1B CF pump was placed in service and Main Generator electrical load increased to 700 MWe
- The load increase was placed on hold at 700 MWe while troubleshooting a problem with the 1B CF pump Low Pressure (LP) governor
- Control Rods were placed in MANUAL to maintain AFD at current levels

Based on the conditions above, the crew will have to initially (1) the NC system to maintain stable plant conditions.

After the 1B CF pump is repaired and the unit load increase is recommenced, the withdrawal of control rods (2) be restricted by fuel maneuvering limits.

Which ONE (1) of the following completes the statements above?

REFERENCE PROVIDED

- A. 1. BORATE
2. WILL
 - B. 1. DILUTE
2. WILL
 - C. 1. BORATE
2. WILL NOT
 - D. 1. DILUTE
2. WILL NOT
-

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Question: 35
(1 point)

Given the following conditions on Unit 1:

- Unit is at 40% RTP
- Exhaust Hood temperature is 160°F
- Condenser vacuum is 26 inches HG and DEGRADING slowly
- (1ZJP5000) CSAE steam pressure is reading 100 PSIG

Which ONE (1) of the following actions is directed by AP-23 (LOSS OF CONDENSER VACUUM) to mitigate this event?

- A. Dispatch operator to increase CSAE steam pressure
 - B. Open the Exhaust Hood Spray valves
 - C. Start additional RC pumps
 - D. Reduce turbine load
-

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Question: 36
(1 point)

Both Main Feedwater (CF) pumps will trip if (1) Condensate Booster pumps trip.

An individual CF pump will trip if its suction pressure decreases to less than a minimum of (2).

Which ONE (1) of the following completes the statements above?

- A. 1. 2 / 3
 2. 230 PSIG

 - B. 1. 3 / 3
 2. 230 PSIG

 - C. 1. 2 / 3
 2. 280 PSIG

 - D. 1. 3 / 3
 2. 280 PSIG
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 37
(1 point)

Given the following plant conditions:

- Both units are at 100% RTP
- The B WMT is being released in accordance with an approved LWR Permit
- This is the first attempt to release this tank using this permit

Subsequently:

- Annunciator 1RAD-1 / C5 (EMF-49 LIQUID WASTE DISCH HI RAD) alarms in the Control Room
- 1WP-35 (WMT & VUCDT TO RC CNTRL) indicates OPEN
- 1WP-37 (LIQUID WASTE TO RC CNTRL) indicates OPEN

Based on the conditions above, ___(1)___ has/have failed to automatically close.

The FIRST action directed by the Alarm Response Procedure for 1RAD-1 / C5 is to ___(2)___.

Which ONE (1) of the following completes the statements above?

- A. 1. WP-35 ONLY
 2. ensure 1WP-35 is closed
- B. 1. WP-35 ONLY
 2. direct Radwaste to close 1WM-45 (EMF49 Outlet Isol to RC)
- C. 1. BOTH WP-35 and WP-37
 2. ensure 1WP-35 is closed
- D. 1. BOTH WP-35 and WP-37
 2. direct Radwaste to close 1WM-45 (EMF49 Outlet Isol to RC)
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 38
(1 point)

Given the following conditions on Unit 2:

- 2EMF-59 (EQUIPMENT STAGING BUILDING VENTILATION MONITOR) is in Trip 2 alarm

If VK (EQUIPMENT STAGING BUILDING VENT) is in ____ (1) ____, THEN ____ (2) ____.

Which ONE (1) of the following completes the statement above?

- A. 1. "AUTO"
 2. the Supply fans ONLY will trip

 - B. 1. "AUTO"
 2. the Exhaust AND Supply fans will trip

 - C. 1. "ON"
 2. the Supply fans ONLY will trip

 - D. 1. "ON"
 2. the Exhaust AND Supply fans will trip
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 39
(1 point)

Given the following conditions on Unit 1:

- A Reactor Trip has occurred
- E-0 (REACTOR TRIP OR SAFETY INJECTION) has been implemented

In accordance with E-0, if the turbine has not automatically tripped and can NOT be manually tripped, the crew will NEXT attempt to (1) .

The E-0 basis for the required actions above is to (2) .

Which ONE (1) of the following completes the statements above?

- A. 1. close the MSIVs AND MSIV bypasses
 2. Prevent an uncontrolled cooldown

 - B. 1. place the turbine in MANUAL AND close the governor valves
 2. Prevent an uncontrolled cooldown

 - C. 1. place the turbine in MANUAL AND close the governor valves
 2. Maintain steam generator inventory

 - D. 1. close the MSIVs AND MSIV bypasses
 2. Maintain steam generator inventory
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 40
(1 point)

Given the following conditions on Unit 1:

- The unit has experienced a Reactor Trip and Safety Injection due to a Small-Break LOCA
- The crew has just completed the actions of E-0 (REACTOR TRIP OR SAFETY INJECTION)
- NV pump flow to the NC system Cold Legs is 390 GPM
- NC system pressure is 1350 PSIG and STABLE
- SG pressures are 1092 PSIG and STABLE
- NC system subcooling on the ICCM is 22°F and STABLE

Which ONE (1) of the following describes plant conditions upon transition to E-1 (LOSS OF REACTOR OR SECONDARY COOLANT)?

| | NC Pumps Running? | SGs Required for Heat Removal? |
|----|-------------------|--------------------------------|
| A. | NO | YES |
| B. | NO | NO |
| C. | YES | YES |
| D. | YES | NO |

McGuire Nuclear Station

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Question: 41
(1 point)

Given the following conditions on Unit 2:

- The unit is at 100% RTP
- The BOP observes that vibration reading on the 1C NCP are INCREASING
- The following is the vibration trend for the 1C NCP:

| <u>Time</u> | <u>2100</u> | <u>2105</u> | <u>2110</u> | <u>2115</u> |
|--------------------------|-------------|-------------|-------------|-------------|
| Motor Shaft Vibration | 5 | 15 | 19 | 22 |
| Frame Vibration | 2 | 4 | 6 | 8 |

Based on the vibration trend above, which ONE (1) of the following indicates the EARLIEST time that the 1C NCP must be secured?

- A. 2100
 - B. 2105
 - C. 2110
 - D. 2115
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 42
(1 point)

Given the following initial conditions:

- Unit 1 is in Mode 6
- NC system is mid-loop at +10"
- Both ND trains are in operation
- NC system temperature is 268°F

Based on the indications above, ND pump cavitation will occur if ND pump suction pressure decreases below a MINIMUM of (1) PSIG.

One indication that the ND pump is cavitating would be that motor amps are (2) .

Which ONE (1) of the following completes the statements above?

REFERENCE PROVIDED

- A. 1. 25
2. fluctuating
 - B. 1. 40
2. fluctuating
 - C. 1. 25
2. high
 - D. 1. 40
2. high
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 43
(1 point)

Given the following conditions on Unit 2:

- The unit is in HOT SHUTDOWN on ND Cooling (Both Train A and B)
- 2A Train KC is aligned to supply Reactor and Aux Bldg Non-Essential Headers with both A train KC pumps in operation
- 2B Train KC is aligned to supply the B ND HX Header with both B train KC pumps in operation
- The 2B2 KC pump has just tripped
- 2A KC Surge Tank level is slowly decreasing due to a leak

In accordance with the Limits and Precautions of OP/2/A/6400/005 (COMPONENT COOLING WATER SYSTEM), KC flow through the 2B ND Heat Exchanger shall be throttled to less than a MAXIMUM of (1) GPM.

In accordance with AP-21 (LOSS OF KC OR KC SYSTEM LEAKAGE), the Operators will take action to isolate flow to the **Auxiliary Building** Non-Essential Header if the 2A KC Surge Tank level decreases below a MINIMUM of (2) .

Which ONE (1) of the following completes the statements above?

- A. 1. 4000
 2. 1 foot
 - B. 1. 2000
 2. 1 foot
 - C. 1. 4000
 2. 2 feet
 - D. 1. 2000
 2. 2 feet
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 44
(1 point)

Given the following conditions on Unit 2:

- A SBLOCA occurred coincident with a loss of Off-site power (LOOP)
- ES-1.2 (POST LOCA COOLDOWN AND DEPRESSURIZATION) has been entered and the NCS has been cooled down to 510°F
- NC System Pressure is 1600 PSIG
- PZR level is 2%
- Containment pressure peaked at 3.1 PSIG and is now STABLE at 1.9 psig

Which ONE (1) of the following identifies:

(1) the method of NC System depressurization directed by ES-1.2

AND

(2) when the depressurization can be stopped?

- A.
 1. Normal PZR Spray
 2. Depressurization can be stopped as soon as pressurizer level exceeds 25%
 - B.
 1. Normal PZR Spray
 2. Depressurization can be stopped as soon as pressurizer level exceeds 50%
 - C.
 1. One PZR PORV
 2. Depressurization can be stopped as soon as pressurizer level exceeds 25%
 - D.
 1. One PZR PORV
 2. Depressurization can be stopped as soon as pressurizer level exceeds 50%
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 45
(1 point)

Given the following conditions on Unit 1:

- A SGTR has occurred on the 1A SG
- E-3 (STEAM GENERATOR TUBE RUPTURE) has been implemented

When P-12 (LO-LO Tavg) status light on 1SI-18 is lit, the operator will be required to ____ (1) ____ to continue NC system cooldown.

Maximum cooldown rate will be achieved when open status lights are lit for steam dump valves ____ (2) ____.

Which ONE (1) of the following completes the statements above?

- A. 1. Place Steam Dump Select switch to Bypass Interlock
 2. 3, 6 and 9

 - B. 1. Place Steam Pressure Controller in Manual
 2. 3, 6 and 9

 - C. 1. Place Steam Dump Select switch to Bypass Interlock
 2. 3, 12 and 21

 - D. 1. Place Steam Pressure Controller in Manual
 2. 3, 12 and 21
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 46
(1 point)

Given the following conditions on Unit 1:

- Unit 1 has established feed and bleed while performing the actions of FR-H.1 (RESPONSE TO LOSS OF SECONDARY HEAT SINK)
- The TDCA pump has been started and is available to feed the S/Gs
- CETs are STABLE
- All S/G WR levels are indicating 0%

- 1) Based on the conditions described above the criteria for restoration of CA flow is to restore cooling to _____ at a rate not to exceed 100 GPM.
- 2) The basis for the restoration of flow criteria is to minimize _____.

Which ONE (1) of the following completes the statements above?

- A.
 1. ONE intact S/G
 2. the thermal stress on the S/G to prevent failure of S/G components
 - B.
 1. ONE intact S/G
 2. additional NC cooldown causing thermal stress to the reactor vessel
 - C.
 1. ALL intact S/Gs
 2. the thermal stress on the S/G to prevent failure of S/G components
 - D.
 1. ALL intact S/Gs
 2. additional NC cooldown causing thermal stress to the reactor vessel
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 47
(1 point)

Given the following initial conditions:

- Both units have experienced a Loss of Offsite Power
- BOTH Diesel VI compressors are unavailable
- ECA-0.0 (LOSS OF ALL AC POWER) was implemented on Unit 1 and the crew has just transitioned to ECA-0.1 (LOSS OF ALL AC POWER RECOVERY WITHOUT S/I REQUIRED)

Current conditions:

- NC T_{hots} are STABLE
- S/G pressures are STABLE at 725 PSIG
- S/G levels are decreasing and approaching 11% NR
- NC T_{colds} are 490°F and STABLE
- VI header pressure is 0 PSIG

Based on the indications above:

Natural Circulation flow (1) been established.

In accordance with ECA-0.1, the Operators will (2) .

Which ONE (1) of the following completes the statements above?

REFERENCE PROVIDED

- A. 1. HAS
2. increase CA flow using flow controllers in the control room
 - B. 1. HAS
2. increase CA flow by notifying NEO to throttle CA valves locally
 - C. 1. HAS NOT
2. increase dumping steam using SM PORV controller on main control board
AND increase CA flow using flow controllers in the control room
 - D. 1. HAS NOT
2. dispatch an operator to locally increase flow from the SM PORV
AND increase CA flow by notifying NEO to throttle CA valves locally
-

McGuire Nuclear Station

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Question: 48
(1 point)

In accordance with ECA-0.0 (Loss of All AC Power):

Vital Batteries are sized to supply their design loads for a MINIMUM of (1) .

If Channel 1 S/G Pressure indication for B & C S/Gs is lost, alternate indication is available in the (2) doghouses.

Which ONE (1) of the following completes the statements above?

- A. 1. 1 hour
 2. exterior

 - B. 1. 4 hours
 2. exterior

 - C. 1. 1 hour
 2. interior

 - D. 1. 4 hours
 2. interior
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 49
(1 point)

Given the following on Unit 1:

- A loss of EVDD has occurred
- The Control Room team has entered AP-15 (LOSS OF VITAL OR AUX CONTROL POWER)

In accordance with AP-15, the operating crew will be required to respond to rising containment pressure due to isolation of ____ (1) ____.

Containment pressure will be controlled by maintaining Upper Containment temperature within the TS 3.6.5 (Containment Air Temperature) LCO limits of ____ (2) ____.

Which ONE (1) of the following completes the statements above?

- A. 1. the VQ (Containment Air Addition and Release) system
 2. 75 - 100°F

 - B. 1. RV (Containment Cooling) to Upper Containment
 2. 75 - 100°F

 - C. 1. the VQ (Containment Air Addition and Release) system
 2. 100 - 120°F

 - D. 1. RV (Containment Cooling) to Upper Containment
 2. 100 - 120°F
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 50
(1 point)

Given the following conditions on Unit 1:

- The 125VDC/120VAC Auxiliary Control Power System is in normal alignment
- The supply breaker from DCA to Static Inverter KXA trips open

Based on the conditions above:

Bus KXA ___(1)___ automatically swap to its alternate power source.

The crew can verify power has been restored to KXA by observing that ___(2)___.

Which ONE (1) of the following completes the statements above?

- A.
 1. WILL NOT
 2. NC pump vibration monitors are IN SERVICE
 - B.
 1. WILL NOT
 2. the indicating light (control power) to 0RN-10AC (TRAIN 1B & 2B LLI SUPPLY) is LIT
 - C.
 1. WILL
 2. the NC pump vibration monitors are IN SERVICE
 - D.
 1. WILL
 2. the indicating light (control power) to 0RN-10AC (TRAIN 1B & 2B LLI SUPPLY) is LIT
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 51
(1 point)

Given the following indications on Unit 1:

- The Unit is operating at 100% RTP
- 1AD8 / D2 (SUMP B GROUNDWATER DRAINAGE HI HI LVL) just alarmed
- An AO has been dispatched to investigate reports that the B Groundwater sump is overflowing

Which ONE (1) of the following describes the source of the flooding?

- A. 2A RN strainer basket shaft seal failure
 - B. 2B RN Pump Suction piping weld failure
 - C. RF piping break in the Unit 1 CA pump Room
 - D. 1B RN strainer automatic backwash valve has failed open
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 52
(1 point)

Given the following conditions on Unit 1:

- The unit is at 100% RTP
- The air line for 1NV-241 (Seal Injection Flow Control) blows off

Based on the conditions above, Seal Injection flow to the NC pumps will (1).

The reason for the Seal Injection flow response above is that 1NV-241 fails (2) on a loss of instrument air.

Which ONE (1) of the following completes the statements above?

- A. 1. INCREASE
 2. OPEN

 - B. 1. DECREASE
 2. OPEN

 - C. 1. INCREASE
 2. CLOSED

 - D. 1. DECREASE
 2. CLOSED
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 53
(1 point)

Given the following conditions on Unit 1:

- The unit is responding to a LOCA Outside Containment
- The crew has implemented ECA-1.2 (LOCA OUTSIDE CONTAINMENT)

In accordance with ECA-1.2:

The crew will FIRST attempt to isolate the leak by isolating the ____ (1) ____ system from the NC system.

If an NC system cooldown is required, the crew will be directed to use ____ (2) ____.

Which ONE (1) of the following completes the statements above?

- A. 1. NI
 2. NC feed and bleed

 - B. 1. ND
 2. NC feed and bleed

 - C. 1. NI
 2. the Steam Generators

 - D. 1. ND
 2. the Steam Generators
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 54
(1 point)

An ECA-1.1 (LOSS OF EMERGENCY COOLANT RECIRC) major action requires further depressurization of S/Gs to cooldown and depressurize the NC system.

Which ONE (1) of the following lists ALL the reasons for the major action?

List of Reasons

1. Minimize NC subcooling
 2. Reach RHR system conditions
 3. Minimize break flow from the LOCA
 4. Allow Cold Leg Accumulators to inject
-
- A. 1 and 4 ONLY
 - B. 2 and 3 ONLY
 - C. 2, 3, and 4 ONLY
 - D. 1, 2, and 3 ONLY
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 55
(1 point)

Given the following initial conditions on Unit 1:

- The crew has implemented FR-H.1 (RESPONSE TO LOSS OF SECONDARY HEAT SINK)
- All attempts to restore CA flow have been unsuccessful
- SG 1A is faulted inside Containment
- Containment pressure peaked at 3.2 PSIG and is currently 1.8 PSIG

In accordance with FR-H.1:

The first source of feedwater which is prioritized for restoration is (1).

If feedwater cannot be restored, NC system feed and bleed must be initiated when the required SG WR levels decrease to a MINIMUM of (2).

Which ONE (1) of the following completes the statements above?

- A. 1. Condensate (CM)
2. 24%
 - B. 1. Condensate (CM)
2. 36%
 - C. 1. Main Feedwater (CF)
2. 24%
 - D. 1. Main Feedwater (CF)
2. 36%
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 56
(1 point)

Given the following conditions on Unit 1:

- The unit is at 100% RTP with Main Generator power factor at 0.99 lagging
 - Operators are controlling the Main Generator Voltage Regulator in MANUAL because the voltage regulator is not controlling properly in AUTO
 - A major grid disturbance causes power factor to become slightly leading
1. Which button on the voltage regulator is operated to bring power factor back to its original value?
 2. What part of the generator is susceptible to overheating should power factor be erroneously adjusted to 0.8 lagging?

REFERENCE PROVIDED

- A.
 1. "RAISE" button
 2. Generator Field Windings
 - B.
 1. "RAISE" button
 2. Generator Armature Core End
 - C.
 1. "LOWER" button
 2. Generator Field Windings
 - D.
 1. "LOWER" button
 2. Generator Armature Core End
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 57
(1 point)

Given the following conditions on Unit 1:

- AP-14 (ROD CONTROL MALFUNCTION) has been implemented due to a misaligned control rod
- Control Rod P8 (Control Bank C) indicates 215 Steps
- The remaining rods in Control Bank C indicate 228 Steps

Based on the conditions above:

The URGENT ALARM on the RPI panel (1) be illuminated.

The color displayed on the RPI indicator for Rod P-8 will be (2) .

Which ONE (1) of the following completes the statements above?

- A. 1. WILL
 2. GREEN
 - B. 1. WILL
 2. ORANGE
 - C. 1. WILL NOT
 2. GREEN
 - D. 1. WILL NOT
 2. ORANGE
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 58
(1 point)

The setpoint for the overload cutoff limit for the Reactor Building Manipulator crane is less than or equal to ____ (1) ____ pounds.

The reason for the manipulator crane overload limits it to prevent damage to the ____ (2) ____.

Which ONE (1) of the following completes the statements above?

- A. 1. 2900
 2. Core Internals
 - B. 1. 3250
 2. Core Internals
 - C. 1. 2900
 2. Refueling Bridge
 - D. 1. 3250
 2. Refueling Bridge
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 59
(1 point)

Given the following conditions on Unit 2:

- A Steam Generator Tube Leak has occurred
- All NC pumps are running

Which ONE (1) of the following sets of operating conditions will result in the least Primary-to-Secondary leakage?

REFERENCE PROVIDED

| | <u>NCS Temperature</u> | <u>NCS Pressure</u> |
|----|------------------------|---------------------|
| A. | 505°F | 775 PSIG |
| B. | 511°F | 815 PSIG |
| C. | 517°F | 855 PSIG |
| D. | 523°F | 895 PSIG |

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 60
(1 point)

Given the following conditions on Unit 2:

- The unit is operating at 100% RTP
- Main condenser vacuum is degrading slowly
- AP-23 (LOSS OF CONDENSER VACUUM) has been implemented

In accordance with AP-23, a turbine trip is required if Main Condenser vacuum is less than a MAXIMUM of (1) .

After the Main Turbine reaches its trip setpoint and is tripped, decay heat removal will be via the (2) .

Which ONE (1) of the following completes the statements above?

- A. 1. 20" HG
 2. SM PORVs

 - B. 1. 23" HG
 2. SM PORVs

 - C. 1. 20" HG
 2. Steam Dumps

 - D. 1. 23" HG
 2. Steam Dumps
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 61
(1 point)

Given the following conditions on Unit 1:

- The Control Room has been evacuated due to toxic gas
- AP-17 (LOSS OF CONTROL ROOM) has been implemented

In accordance with AP-17:

A local operator will ensure an adequate heat sink is maintained by monitoring S/G (1) level indication.

The local operator maintains S/G levels within the specified range by (2) .

Which ONE (1) of the following completes the statements above?

- A.
 1. Narrow-Range
 2. manually throttling the motor operated isolation valves in the Doghouses
 - B.
 1. Wide-Range
 2. manually throttling the motor operated isolation valves in the Doghouses
 - C.
 1. Narrow-Range
 2. adjusting the manual loaders at the local CA pump panels
 - D.
 1. Wide-Range
 2. adjusting the manual loaders at the local CA pump panels
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 62
(1 point)

1EMF-48 (Reactor Coolant Monitor) is located downstream of the Reactor Coolant
____(1)____ Sample Hx.

Related to its capability to identify a failed fuel event, 1EMF-48 detects ____ (2) ____.

Which ONE (1) of the following completes the statements above?

- A. 1. Cold Leg
 2. N16 gamma

 - B. 1. Cold Leg
 2. total gamma flux

 - C. 1. Hot Leg
 2. N16 gamma

 - D. 1. Hot Leg
 2. total gamma flux
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 63
(1 point)

Given the following on Unit 1:

- The unit is initially at 100% RTP
 - At 1100 a Large Break LOCA occurs
 - At 1215, the crew is in E-1 (LOSS OF REACTOR OR SECONDARY COOLANT), waiting for the time to transfer to Hot Leg Recirc
 - Containment sump level is 7.5 feet and slowly increasing
- 1) If Containment Sump level is increasing at a constant rate of 0.25 feet per minute, at what time is entry into FR-Z.2 (RESPONSE TO CONTAINMENT FLOODING), FIRST required?
- 2) Why is safe plant recovery not assured for a design-basis Large Break LOCA when Containment water level requires entry into FR Z.2?
- A. 1. 1225
 2. Operation of the hydrogen skimmer system is compromised by loss of direct access to the containment atmosphere.
- B. 1. 1235
 2. Operation of the hydrogen skimmer system is compromised by loss of direct access to the containment atmosphere.
- C. 1. 1225
 2. Operation of critical ECCS components needed for safe recovery is endangered by submersion.
- D. 1. 1235
 2. Operation of critical ECCS components needed for safe recovery is endangered by submersion.
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 64
(1 point)

Given the following conditions on Unit 1:

- A Small-Break LOCA has occurred
- ES-1.2 (POST LOCA COOLDOWN AND DEPRESSURIZATION) has been implemented
- Containment pressure is 2.8 PSIG and STABLE

In accordance with ES-1.2:

The crew will FIRST attempt to establish an NC system cooldown using the (1).

The crew will cooldown (2).

Which ONE (1) of the following completes the statements above?

- A.
 1. SM PORVs
 2. as close as possible without exceeding 100°F in an hour
 - B.
 1. SM PORVs
 2. at the maximum rate
 - C.
 1. Condenser Dumps
 2. as close as possible without exceeding 100°F in an hour
 - D.
 1. Condenser Dumps
 2. at the maximum rate
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 65
(1 point)

Given the following conditions on Unit 1:

- A Small-Break LOCA has occurred
- Containment pressure is 1.2 PSIG
- NC system pressure is 400 PSIG
- FR-P.1 (RESPONSE TO IMMEDIATE PRESSURIZED THERMAL SHOCK) has been implemented
- SI Termination criteria per FR-P.1 has been met

To terminate Safety Injection, FR-P.1 directs the operator to reset (1) and stop (2) .

Which ONE (1) of the following completes the statement above?

- A. 1. Safety Injection ONLY
2. both NI pumps and all but one NV pump ONLY
 - B. 1. Safety Injection AND the Sequencers
2. both NI pumps, both ND pumps and all but one NV pump
 - C. 1. Safety Injection AND the Sequencers
2. both NI pumps and all but one NV pump ONLY
 - D. 1. Safety Injection ONLY
2. both NI pumps, both ND pumps and all but one NV pump
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 66
(1 point)

Given the following conditions on Unit 1:

- The unit is in Mode 6
- "A" ND Train is in operation
- "B" ND Train is available

Which ONE (1) of the following conditions would prevent commencing fuel movement?
(Consider each individually)

- A. The reactor has been subcritical for 96 hours.
 - B. The Equipment Hatch is closed with 2 bolts fastened.
 - C. The Refueling Cavity level is lowered to 370" on 1NCP-5990 (NC WR LEVEL).
 - D. MCB Annunciator 1AD10/F-1 (UPPER CONT AIRLOCK RX DOOR OPEN), alarms.
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 67
(1 point)

Given the following plant conditions:

- The Main Control Room has been evacuated due to toxic gas
- AP-17 (LOSS OF CONTROL ROOM) has been implemented
- Both Auxiliary Shutdown Panels (ASP) are manned

The Operator at the Unit 1 ASP believes that the following indications at the Unit 1 ASP are not indicating correctly:

1. NC System Cold Leg Temperature
2. NC System Hot Leg Temperature
3. NC System WR Pressure
4. NC System Letdown Flow

Which ONE (1) of the following indicates the parameters listed above that can be verified using redundant indications at the Safe Shutdown Facility (SSF)?

- A. 1 & 3 ONLY
 - B. 2 & 3 ONLY
 - C. 1, 3, & 4
 - D. 2, 3, & 4
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 68
(1 point)

Regarding Maintenance Rule Assessments:

NSD-403 (SHUTDOWN RISK MANAGEMENT) is the official tool for performing risk assessment in MODES ____ (1) ____.

When using the Electronic Risk Assessment Tool (ERAT), the color associated with a condition where the capability of the ERAT software has been exceeded is ____ (2) ____.

Which ONE (1) of the following completes the statements above?

- A. 1. 4, 5, 6, and No MODE ONLY
2. RED
 - B. 1. 3, 4, 5, 6 and No MODE
2. RED
 - C. 1. 4, 5, 6, and No MODE ONLY
2. WHITE
 - D. 1. 3, 4, 5, 6 and No MODE
2. WHITE
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 69
(1 point)

Given the following conditions on Unit 1:

- A unit startup is in progress
- The reactor is a 10^{-8} AMPS in the Intermediate Range

In accordance with Tech Spec 2.1.2 (RCS Pressure Safety Limit), NC system pressure shall be less than or equal to a MAXIMUM of ____ (1) ____ PSIG.

Based on the conditions above, if the NC system Safety Limit is exceeded, NC system pressure must be restored to within limits in a MAXIMUM of ____ (2) ____.

Which ONE (1) of the following completes the statements above?

- A. 1. 2485
 2. 5 minutes

 - B. 1. 2735
 2. 5 minutes

 - C. 1. 2485
 2. 1 hour

 - D. 1. 2735
 2. 1 hour
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 70
(1 point)

Given the following conditions on Unit 1:

- Letdown Heat Exchanger Room dose rate = 3000 mREM/HR

In accordance with NSD-507 (RADIATION PROTECTION):

The Letdown Heat Exchanger Room must be posted as a ____ (1) ____ Area.

Access to the room is controlled by requiring the entrance to be ____ (2) ____.

Which ONE (1) of the following completes the statements above?

- A. 1. Locked High Radiation
 2. locked OR guarded

 - B. 1. Locked High Radiation
 2. locked at all times

 - C. 1. Very High Radiation
 2. locked OR guarded

 - D. 1. Very High Radiation
 2. locked at all times
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 71
(1 point)

Given the following conditions on Unit 1:

- The unit is at 75% RTP
- An engineer needs to enter the Reactor Building pipechase area to perform some scoping work for a future modification

In accordance with MSD 585 (Reactor Building Personnel Access and Material Control):

1. What operational modes require the use of the “buddy system” for entry into the Reactor Building Annulus or Containment?
 2. What is a responsibility of the Operations Control Room personnel for this evolution?
-
- A. 1. Modes 1 and 2 only
 2. Performance of PT/0/A/4700/062 (Daily Surveillance of Reactor Building Entries)
- B. 1. Modes 1 and 2 only
 2. Ensure proper VE airlock door operation
- C. 1. Modes 1, 2, 3 and 4
 2. Performance of PT/0/A/4700/062 (Daily Surveillance of Reactor Building Entries)
- D. 1. Modes 1, 2, 3 and 4
 2. Ensure proper VE airlock door operation
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 72
(1 point)

Given the following conditions:

- A worker will be replacing a valve in the Unit 2 Auxiliary Building
- The worker's current dose for the year is 1400 mREM
- The dose rate in the area where he will be working is 50 mREM/HR

The worker can take up to (1) to complete the job before exceeding the Duke Energy annual ALERT exposure limit.

To exceed the ALERT exposure limit, the worker must (2) .

Which ONE (1) of the following completes the statements above?

- A. 1. 4 hours
 2. notify their supervisor
 - B. 1. 8 hours
 2. notify their supervisor
 - C. 1. 4 hours
 2. obtain a dose extension
 - D. 1. 8 hours
 2. obtain a dose extension
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 73
(1 point)

Given the following conditions on Unit 1:

- A loss of Instrument Air (VI) has occurred
- The crew has implemented AP-22 (LOSS OF VI)

Which ONE (1) of the following conditions would IMMEDIATELY require tripping the reactor in accordance with AP-22?

- A. Pressurizer level going up in an uncontrolled manner.
 - B. Reactor Coolant Pump stator temperatures are 301°F and going up.
 - C. Reactor coolant system temperature less than 557°F and going down.
 - D. FRV controllers indicate 100% demand and S/G levels are going down.
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 74
(1 point)

Given the following plant conditions:

- A fire has occurred in the Unit 2 Turbine Building basement
- The "A" Main Fire Pump auto-started due to a low fire header pressure signal
- The fire brigade has extinguished the fire after forty-five minutes
- "1A" and "1B" Jockey Pumps are OFF
- "A" Main Fire Pump is running
- "B" and "C" Main Fire Pumps are OFF

(1) The automatic start setpoint for the 'A' Main Fire Pump on decreasing fire header pressure is _____ PSIG.

(2) In accordance with OP/1/A/6400/002A (FIRE PROTECTION SYSTEM), the sequence for returning the Fire Protection system to normal alignment is to _____.

Which ONE (1) of the following completes the statements above?

- A. 1. 73
 2. Place the Jockey Pump to be started in "MAN", "START" the Jockey Pump selected to "MAN", and stop the "A" Main Fire Pump.
- B. 1. 83
 2. Place the Jockey Pump to be started in "MAN", "START" the Jockey Pump selected to "MAN", and stop the "A" Main Fire Pump.
- C. 1. 73
 2. Stop the 'A' Main Fire Pump, place the Jockey Pump to be started in "MAN", and "START" the Jockey Pump selected to "MAN".
- D. 1. 83
 2. Stop the 'A' Main Fire Pump, place the Jockey Pump to be started in "MAN", and "START" the Jockey Pump selected to "MAN".
-

McGuire Nuclear Station

2013A MNS RO NRC Examination

Question: 75
(1 point)

Given the following conditions on Unit 1:

- A BLACKOUT has occurred on 1ETA
- D/G '1A' failed to start due to an 86N relay actuation
- Annunciator 1AD-11/ B4 (BATTERY EVCA UNDERVOLTAGE) is in alarm

Per the Annunciator Response Procedure, which ONE (1) of the following addresses the Battery EVCA under voltage condition?

- A. Cross tie EVDC to EVDA
 - B. Swap EVDA to Battery Charger EVCS
 - C. Swap Battery Charger Connection box to 2EMXH
 - D. Swap Battery Charger Connection box to 2EMXA
-

Reference List for: 2013A MNS RO NRC Examination

Steam Tables

U1 Data Book Enclosure 4.3, Fuel Maneuvering Limits

Generic Enclosure 33

Generator Capability Curve

Examination KEY for: 2013A MNS RO NRC Examination

| <i>Question Number</i> | <i>Answer</i> |
|----------------------------|---------------|
| 1 | A |
| 2 | D |
| 3 | A |
| 4 | B |
| 5 | C |
| 6 | D |
| 7 | C |
| 8 | D |
| 9 | C |
| 10 | A |
| 11 | C |
| 12 | B |
| 13 | C |
| 14 | C |
| 15 | C |
| 16 | A |
| 17 | C |
| 18 | A |
| 19 | B |
| 20 | D |
| 21 | D |
| 22 | B |
| 23 | A |
| 24 | C |
| 25 | C |

Examination KEY for: 2013A MNS RO NRC Examination

| <i>Question Number</i> | <i>Answer</i> |
|----------------------------|---------------|
| 26 | A |
| 27 | B |
| 28 | A |
| 29 | A |
| 30 | C |
| 31 | C |
| 32 | C |
| 33 | B |
| 34 | B |
| 35 | A |
| 36 | B |
| 37 | A |
| 38 | B |
| 39 | B |
| 40 | C |
| 41 | C |
| 42 | A |
| 43 | C |
| 44 | D |
| 45 | C |
| 46 | A |
| 47 | B |
| 48 | C |
| 49 | A |
| 50 | C |

Examination KEY for: 2013A MNS RO NRC Examination

| <i>Question Number</i> | <i>Answer</i> |
|----------------------------|---------------|
| 51 | B |
| 52 | B |
| 53 | D |
| 54 | C |
| 55 | D |
| 56 | A |
| 57 | A |
| 58 | A |
| 59 | D |
| 60 | A |
| 61 | D |
| 62 | D |
| 63 | D |
| 64 | C |
| 65 | B |
| 66 | B |
| 67 | A |
| 68 | C |
| 69 | D |
| 70 | A |
| 71 | D |
| 72 | A |
| 73 | D |
| 74 | B |
| 75 | D |