Catawba Nuclear Station

ILT16 CNS RO NRC Examination

Question: 1
(1 point)

Given the following conditions on Unit 2:

- The unit is operating at 50% RTP
- Pzr pressure is 2235 PSIG
- Pzr Relief Tank (PRT) pressure is 20 PSIG
- PRT temperature is 125°F
- A Pzr code safety valve is leaking by its seat

Which ONE (1) of the following identifies the approximate temperature that is indicated on the leaking safety valve discharge RTD?

REFERENCE PROVIDED

A. 123 - 127°F

B. 161 - 165°F

C. 227 - 231°F

D. 258 - 262°F

Question: 2
(1 point)

Given the following conditions on Unit 2:

- Mode 1 was entered 30 minutes ago
- Power currently stable at 8% RTP
- The crew has entered AP/2/A/5500/010 (NC System Leak)
- Pressurizer pressure trend is as follows:

Time	Pressurizer Pressure
0800	2200 PSIG
0802	2050 PSIG
0804	1900 PSIG
0806	1800 PSIG

Assuming no operator action, the EARLIEST listed time that an automatic reactor trip signal will be present will be _____(1)_____.

In accordance with the Emergency Core Cooling System (ECCS) acceptance criteria, established by 10 CFR 50.46, peak cladding temperatures are required to be maintained less than a MAXIMUM of _____(2)_____ following a small break LOCA.

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

A. 1. 0804
   2. 5080 °F

B. 1. 0804
   2. 2200 °F

C. 1. 0806
   2. 5080 °F

D. 1. 0806
   2. 2200 °F

Question: 3
(1 point)

The crew has entered EP/1/A/5000/FR-P.1 (Response to Imminent Pressurized Thermal Shock) due to a RED path condition on the Reactor Coolant Integrity CSF Status Tree.

FR-P.1 utilizes the parameters of NC pressure and _____ to check if a large break LOCA has occurred.

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

A. NC T-cold temperatures

B. S/G pressure

C. ND flow rate to cold legs

D. RVLIS level

Question: 4
(1 point)

Given the following conditions on Unit 1:

- 1A NV pump tripped
- Control room crew entered AP/1/A/5500/012 (Loss of Charging or Letdown)

Subsequently:

- Charging and letdown flow have been restored
- Pressurizer level has been restored to programmed level
- The crew has just placed 1NV-294 (NV Pmps A&B Disch Flow Ctrl) in AUTO

Immediately following placing 1NV-294 in Automatic, pressurizer level control is in _____(1)_____.

In order for the charging low flow limit (LM) to be active, the Pressurizer Level Master controller _____(2)_____ required to be in AUTO.

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

A. 1. AUTO
   2. is NOT

B. 1. MANUAL
   2. is NOT

C. 1. AUTO
   2. is

D. 1. MANUAL
   2. is

Question: 5
(1 point)

Given the following conditions on Unit 1:

- Refueling was in progress when a loss of ND occurred
- CRS has implemented AP/1/A/5500/019 (Loss of Residual Heat Removal System) Case III (Loss of ND With Large Vent Path Established)

Subsequently:

- The reason for the loss of ND has been corrected
- Crew is performing Enclosure 8 (Restoring an ND Train To Operation) to place 1A ND train in service

In accordance with Enclosure 8:

The MINIMUM KC flow established to the ND heat exchanger is _____(1)_____ GPM.

Prior to starting the 1A ND pump, 1ND-27 (ND Hx 1A Bypass Ctrl) is placed in the _____(2)_____ position.

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

A. 1. 5000
   2. CLOSED

B. 1. 5000
   2. OPEN

C. 1. 3000
   2. CLOSED

D. 1. 3000
   2. OPEN

Question: 6
(1 point)

Given the following conditions on Unit 1:

- Operating at 100% RTP at normal temperature and pressure

Subsequently:

- The Pressurizer Pressure Master controller has suffered an internal failure resulting in a "Pressurizer Pressure Error" of +100 PSIG
- Actual Pressurizer Pressure is 2100 PSIG and decreasing

Pressurizer Spray valves are currently _____(1)_____.

At the time of the failure, _____(2)_____ received a signal to open.

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

A. 1. OPEN
   2. 1NC-34A ONLY

B. 1. OPEN
   2. all Pressurizer PORVs

C. 1. CLOSED
   2. all Pressurizer PORVs

D. 1. CLOSED
   2. 1NC-34A ONLY

Question: 7
(1 point)

Given the following initial conditions on Unit 1:

- Power stable at 100% RTP with surveillance testing in progress
- Reactor Trip Breaker 'A' (RTA) and Bypass Breaker 'B' (BYB) are racked-in and closed

The following sequence of events occurs:

- A complete loss of feedwater occurred
- All efforts to trip the reactor from the control room were unsuccessful
- Annunciator 1AD-1 A/5 (P-14, S/I OR RX TRIP CAUSES TURBINE TRIP) is LIT
- Operators entered EP/1/A/5000/FR-S.1 (Response to Nuclear Power Generation/ATWS)
- An AO was dispatched to locally trip the Reactor

Based on the given conditions, the Reactor Trip Breaker 'A' (RTA) _____(1)_____ failed to operate as designed.

If the AO is successful in opening all Reactor Trip and Bypass breakers, then per FR-S.1, it _____(2)_____ required to open the MG set breakers locally.

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

A. 1. shunt trip coil ONLY
   2. is NOT

B. 1. shunt trip AND undervoltage coils
   2. is NOT

C. 1. shunt trip coil ONLY
   2. is

D. 1. shunt trip AND undervoltage coils
   2. is

Question: 8
(1 point)

Given the following conditions on Unit 1:

- A Loss of Offsite Power occurred
- Following the reactor trip, the crew entered EP/1/A/5000/E-3 (Steam Generator Tube Rupture) due to a rupture of 1B S/G
  - Cooldown to target CET temperature is complete
  - NC system depressurization has not begun
- NC System Integrity CSF indication is ORANGE due to 1B NC Loop Tcold temperature

In accordance with E-3:

Operators _____(1)_____ required to disregard the NC System Integrity Status due to the 1B NC Tcold indication.

NC system depressurization will be performed using _____(2)_____.

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

A. 1. are NOT
   2. a pressurizer PORV

B. 1. are
   2. a pressurizer PORV

C. 1. are NOT
   2. normal pressurizer spray

D. 1. are
   2. normal pressurizer spray

Question: 9
(1 point)

Which ONE (1) of the following is the primary reason for stopping all NC pumps in EP/1/A/5000/FR-H.1 (Response to Loss of Secondary Heat Sink)

A. To preserve the NC pumps for long term core cooling after the mitigation strategies of FR-H.1 have been successful.

B. To reduce the heat added from the NC pumps, thereby delaying the need for feed and bleed and gaining time to establish a means of supplying feed flow to a S/G.

C. To prevent the heat added by the NC pumps from adversely affecting indications used to determine whether or not NC system feed and bleed will be required.

D. Anticipatory response to prevent cavitation damage to NC pumps due to a loss of NC system subcooling.

Question: 10
(1 point)

Given the following conditions on Unit 1:

- The crew has just entered EP/1/A/5000/ECA-0.0 (Loss of All AC Power)
- 1A D/G automatically started, but then immediately tripped
- 1B D/G failed to automatically start
- Unit 2 was unaffected by the loss of offsite power on Unit 1

Which ONE (1) of the following states the FIRST action **attempted** per ECA-0.0 to restore power to an essential bus?

A. Manually start both diesel generators from the control room

B. Initiate Safety Injection on both trains

C. Locally start the 1B diesel generator

D. Align offsite power from Unit 2

Question: 11
(1 point)

Given the following conditions on Unit 1:

- Reactor power is 25%
- A Zone A and Zone B Lockout results in a Loss of Offsite Power (LOOP)
- 1B D/G starts and is powering 1ETB
- 1A D/G failed to start
- Safety Injection (S/I) is NOT actuated
- 1A CFPT remains in service

Based on the given conditions, 1B CA pump _____(1)_____ receive an automatic start signal from AMSAC.

Assuming no operator action, 1A S/G N/R level will be _____(2)_____.

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

A. 1. did NOT
   2. increasing

B. 1. did NOT
   2. decreasing

C. 1. did
   2. increasing

D. 1. did
   2. decreasing

Question: 12
(1 point)

Given the following conditions on Unit 2:

- Reactor power stable at 100%
- RN suction and discharge are aligned to Lake Wylie

Subsequently:

- A loss of 2ERPA occurs

Automatic makeup to 2A D/G fuel oil day tank _____(1)_____ available.

With no operator action, RN pump suction and discharge _____(2)_____ remain aligned to Lake Wylie.

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

A. 1. is NOT
   2. will

B. 1. is
   2. will

C. 1. is NOT
   2. will NOT

D. 1. is
   2. will NOT

Question: 13
(1 point)

Given the following conditions on Unit 1:

- Unit is stable at 100% RTP
- The following Annunciators actuate:
  - 1AD-11 A/8 "125VDC Diesel Gen A Control Pwr Sys Trbl"
  - 1AD-11 B/7 "D/G A Panel Trouble"
- The dispatched operator reports that the 1A D/G Control Power supply breaker 1DGCA-B304 has tripped open and appears to be damaged

Upon a Loss of Offsite Power, the 1A D/G _____(1)_____ automatically start.

The 1A D/G _____(2)_____ be started manually.

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

A. 1. will
   2. can

B. 1. will NOT
   2. can

C. 1. will
   2. can NOT

D. 1. will NOT
   2. can NOT

Question: 14
(1 point)

Given the following indications on Unit 1:

- Power is stable at 80% RTP
- Generator hydrogen pressure is 60 PSIG
- A failure on the Main Generator Voltage Regulator then occurs
- The operator observes the following indications in the control room:
  - Turbine load is 1000 MWs
  - Generator is indicating ~~(-)700 KVARs~~ MRM 06/13/16 (-) 700 MVARs

Generator excitation voltage is currently too _____(1)_____.

If allowed to operate in this region of the Generator Capability Curve, _____(2)_____ overheating will occur.

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

REFERENCE PROVIDED

A. 1. HIGH
   2. field winding

B. 1. LOW
   2. field winding

C. 1. HIGH
   2. armature core end

D. 1. LOW
   2. armature core end

Question: 15
(1 point)

Given the following conditions on Unit 2:

- EP/2/A/5000/ECA-1.2 (LOCA Outside Containment) has been entered

Containment Phase A Isolation _____(1)_____ **automatically** actuated.

In accordance with ECA-1.2, the parameter(s) used to check if the LOCA has been isolated is/are _____(2)_____.

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

A. 1. has
   2. Pressurizer level or RVLIS level

B. 1. has
   2. NC pressure

C. 1. has NOT
   2. Pressurizer level or RVLIS level

D. 1. has NOT
   2. NC pressure

Question: 16
(1 point)

Given the following conditions on Unit 1:

- A Safety Injection has occurred due to High Containment Pressure
- Containment pressure peaked at 2.7 psig and is now slowly decreasing
- The crew is implementing EP/1/A/5000/FR-H.1 (Response to Loss of Secondary Heat Sink)
- All attempts to restore CA flow have been unsuccessful

In accordance with FR-H.1:

The NEXT source of feed water attempted for restoration of flow to the S/Gs is through the CM/CF system using _____(1)_____.

The crew will be required to establish bleed and feed when W/R level in at least 3 S/Gs is less than a MAXIMUM level of _____(2)_____.

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

A. 1. Hotwell and Booster pumps
   2. 24%

B. 1. Hotwell and Booster pumps
   2. 36%

C. 1. either Main Feed Water pump
   2. 24%

D. 1. either Main Feed Water pump
   2. 36%

Question: 17
(1 point)

Given the following conditions on Unit 1:

- The crew has entered EP/1/A/5000/ECA-1.1 (Loss of Emergency Coolant Recirculation) and is preparing to initiate an NC system cooldown
- Primary chemistry has been instructed to sample the NC system for boron concentration
- The BOP is performing Enclosure 2 (Aligning NS for Recirculation)
  - NS suction valves from the containment sump are opened
  - Containment CSF status turns ORANGE

Per ECA-1.1,

The Containment CSF status _____(1)_____ valid.

Boron sample results _____(2)_____ required prior to beginning the cooldown.

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

A. 1. is NOT
   2. are NOT

B. 1. is
   2. are NOT

C. 1. is NOT
   2. are

D. 1. is
   2. are

Question: 18
(1 point)

Given the following conditions on Unit 1:

- Reactor trip from 100% power has occurred
- Crew is implementing EP/1/A/5000/ECA-2.1 (Uncontrolled Depressurization of All Steam Generators)
- All S/G N/R levels are 0%
- Cooldown rate based on NC T-colds in the last hour is 150°F
- CA flow to each S/G has been throttled to 75 GPM

A RED path on the Heat Sink CSF _____(1)_____ exist.

Based on the above conditions and in accordance with ECA-2.1, CA flow to all but one S/G _____(2)_____ required be isolated.

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

A. 1. does
   2. is

B. 1. does
   2. is NOT

C. 1. does NOT
   2. is

D. 1. does NOT
   2. is NOT

Question: 19
(1 point)

Given the following conditions on Unit 1:

- Initially at 100% power when Control Bank A rod H-6 dropped fully into the core
- AP/1/A/5500/014 (Control Rod Misalignment) Case II (Dropped Control Rod) was entered
- Recovery of the dropped rod is in progress, in accordance with OP/1/A/6150/008 (Rod Control) Enclosure 4.6 (Rod Retrieval)
- The operators have placed the lift coils in the required position for all rods in the affected bank in the "CONTROL ROD DISCONNECT SWITCH BOX"

The lift coil for rod H-6 is in the _____(1)_____ position.

When the OATC operates the "ROD MOTION" lever, a "ROD CONTROL URGENT FAILURE" alarm _____(2)_____ be received.

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

A. 1. CONNECTED
   2. will

B. 1. DISCONNECTED
   2. will

C. 1. CONNECTED
   2. will NOT

D. 1. DISCONNECTED
   2. will NOT

Question: 20
(1 point)

Given the following conditions on Unit 1:

- A runback from 100% RTP has occurred
- During the runback, control rod H-8 became stuck
- Rod H-8 is determined to be 16 steps misaligned

The action statement of Tech Spec 3.1.4 (Rod/Group Alignment Limits) _____(1)_____ required to be entered.

In accordance with Tech Spec 3.2.3 (Axial Flux Difference (AFD)), if AFD exceeds the COLR limits due to the stuck rod, reactor THERMAL POWER must be reduced to a value less than a MAXIMUM of _____(2)_____.

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

A. 1. is NOT
2 50%

B. 1. is NOT
2 75%

C. 1. is
2 50%

D. 1. is
2 75%

Question: 21
(1 point)

Given the following conditions on Unit 1:

- The crew has entered EP/1/A/5000/FR-S.1 (Response To Nuclear Power Generation/ATWS) and is initiating emergency boration
- 1NV-236B (Boric Acid to NV Pump Suct) is opened
- Boric Acid transfer pump switches are in "ON"
- 1NV-312A & 1NV-314B (Chrg Line Cont Isol) are OPEN
- Pressurizer pressure is 2340 PSIG

Based on the given conditions, and in accordance with FR-S.1, the crew is required to _____(1)_____ to ensure a MINIMUM boration flow of _____(2)_____.

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

A. 1. manually initiate safety injection
   2. 30 gpm

B. 1. manually initiate safety injection
   2. 60 gpm

C. 1. depressurize the NC system
   2. 30 gpm

D. 1. depressurize the NC system
   2. 60 gpm

Question: 22
(1 point)

Given the following conditions on Unit 1:

- Unit is in Mode 3
- NC pressure is stable at 1900 psig
- All shutdown banks have been withdrawn
- N-31 indication becomes erratic and the crew enters AP/1/A/5500/016 (Malfunction of Nuclear Instrumentation System)
- The "LEVEL TRIP" switch for N-31 has been placed in "BYPASS"

A loss of N-31 _____(1)_____ will result in an automatic reactor trip, and operators are required to enter _____(2)_____.

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

A. 1. instrument power
   2. AP/1/A/5500/005 (Reactor Trip or Inadvertent S/I Below P-11)

B. 1. instrument power
   2. EP/1/A/5000/E-0 (Reactor Trip or Safety Injection)

C. 1. control power
   2. AP/1/A/5500/005 (Reactor Trip or Inadvertent S/I Below P-11)

D. 1. control power
   2. EP/1/A/5000/E-0 (Reactor Trip or Safety Injection)

Question: 23
(1 point)

Given the following conditions on Unit 1:

- A reactor startup is in progress
- Based on the following indications, the startup has been placed on hold:
  - N-31 indicates 1.1×10^{4} cps
  - N-32 indicates 1.0×10^{4} cps
  - N-35 indicates 1.9×10^{-5} % power
  - N-36 indicates 2.0×10^{-6} % power
- Rods are in manual with no rod motion
- CRS has entered AP/1/A/5500/016 (Malfunction of Nuclear Instrumentation System) Case 3 (Intermediate Range Malfunction) due to one of the intermediate range channels being inoperable

The affected intermediate range channel is _____(1)_____.

The "P-6 S/R BLOCK PERMISSIVE" light on 1SI-18 _____(2)_____ lit.

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

A. 1. N-35
   2. is

B. 1. N-35
   2. is NOT

C. 1. N-36
   2. is

D. 1. N-36
   2. is NOT

Question: 24
(1 point)

Given the following conditions on Unit 1:

- The Unit is at the POAH following a refueling outage
- A Containment Air (VQ) release is in progress
- 1EMF-39L (Containment Gas – Low Range) is inoperable

Subsequently:

- 1RAD-3, D/2 "1EMF-17 Reactor Bldg Refuel Bridge" alarms

Based on the given conditions, the containment evacuation alarm _____(1)_____ automatically actuate.

Based on the given conditions, the 1EMF-17 annunciator response procedure _____(2)_____ require the operators to manually secure the VQ release.

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

A. 1. did NOT
   2. does

B. 1. did NOT
   2. does NOT

C. 1. did
   2. does

D. 1. did
   2. does NOT

Question: 25
(1 point)

In accordance with AP/0/A/5500/45 (Plant Fire):

A CO2 actuation in the _____(1)_____ must be considered an "ACTIVE" fire because _____(2)_____.

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

A. 1. CA pump pits
   2. CO2 actuation in this area is ONLY initiated manually

B. 1. CA pump pits
   2. there is no fire detection in this area

C. 1. D/G rooms
   2. CO2 actuation in this area is ONLY initiated manually

D. 1. D/G rooms
   2. there is no fire detection in this area

Question: 26
(1 point)

Given the following conditions on Unit 1:

- Operating at 100% RTP
- An inadvertent Main Steam Isolation results in a Reactor Trip
- EP/1/A/5000/FR-H.2 (Response to Steam Generator Overpressure) has been implemented due to a Yellow Path on Heat Sink
- The OATC notes that 1B S/G pressure is 1230 PSIG and STABLE

Based on given conditions, a MAXIMUM of _____(1)_____ MSSVs (Main Steam Safety Valves) for 1B S/G have failed to operate as designed.

In order to use S/G 1B PORV in MANUAL to reduce S/G pressures, the Main Steam Isolation Signal _____(2)_____ have to be RESET.

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

A. 1. 3
   2. does

B. 1. 4
   2. does

C. 1. 3
   2. does NOT

D. 1. 4
   2. does NOT

Question: 27
(1 point)

Given the following conditions on Unit 1:

- Unit is responding to a LOCA
- All sources of feedwater have been lost, S/G N/R levels are 17% and decreasing
- NC pumps are secured
- EP/1/A/5000/FR-C.1 (Response to Inadequate Core Cooling) has been implemented
- KC, NI and NV pumps are unavailable
- Peak Containment pressure reached 2.5 PSIG

Subsequently:

- S/G depressurization has failed to restore adequate core cooling
- Core Exit Thermocouples are currently indicating 1210°F

Based on the above conditions, which ONE (1) of the following states the next major action(s) required by FR-C.1?

A. Do NOT restart NC pumps, open all Pzr PORVs and head vents to depressurize the NC system.

B. Restart **all** NC pumps and restore secondary heat sink per EP/1/A/5000/FR-H.1 (Response to Loss of Secondary Heat Sink) prior to proceeding in FR-C.1.

C. Restart NC pumps **one at a time** until CETs are less than 1200°F to force two phase flow through the core for core cooling.

D. Do NOT restart NC pumps, continue efforts to initiate feed and bleed of the NC system to restore core cooling.

Question: 28
(1 point)

Given the following conditions on Unit 1:

- Unit is at 100% RTP

Subsequently:

- 1C NC pump trips due to an operator error on the Main Control Board
- The crew verifies the reactor trips

1C S/G N/R level will initially _____(1)_____ than the other S/Gs after the 1C NC pump trips.

NC loop 1C delta T would initially be _____(2)_____ than the other NC loops delta Ts.

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

A. 1. shrink lower
   2. lower

B. 1. swell higher
   2. lower

C. 1. swell higher
   2. higher

D. 1. shrink lower
   2. higher

Question: 29
(1 point)

Given the following initial conditions on Unit 1:

- NCS Tavg is 215°F
- NCS pressure is 250 PSIG
- VCT pressure is 28 PSIG
- The 1A NC pump is to be started for a unit heatup

Subsequently:

- The 1A2 Oil Lift pump is started
- Oil Lift pressure is 480 PSIG

In accordance with OP/1/A/6150/002A (Reactor Coolant Pump Operation) Enclosure 4.1 (Startup And Operation), the MINIMUM required #1 Seal differential pressure for starting the NC pump _____(1)_____ met.

Based on the conditions above, if the 1A NC PUMP SAFETY BKR "**ON**" pushbutton is depressed, the pump _____(2)_____ start.

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

A. 1. is
   2. will NOT

B. 1. is
   2. will

C. 1. is NOT
   2. will NOT

D. 1. is NOT
   2. will

Question: 30
(1 point)

Given the following conditions on Unit 1:

- Unit is in Mode 5
- The NC system is in a water solid condition
- 1A ND is in service
- 1B NV pump is in service
- 1NV-135 (ND Flow To Letdn Hx) is THROTTLED to 50% to maintain letdown flow from ND
- 1NV-294 (NV Pumps A & B Disch Flow Ctrl) is in MANUAL
- All plant parameters are stable

If VI were lost to 1NV-135, NC system pressure would _____(1)_____.

If VI were lost to 1NV-294, NC system pressure would _____(2)_____.

Which ONE (1) of the following completes the statements above? (Consider each failure separately)

A. 1. increase
   2. decrease

B. 1. increase
   2. increase

C. 1. decrease
   2. decrease

D. 1. decrease
   2. increase

Question: 31
(1 point)

Given the following conditions on Unit 1:

- The unit is in MODE 5 with the "A" Train of ND in service
- The NC System is in a water solid condition
- LTOP key switches for PORVs are selected to "NORM" position

Subsequently:

- 1KC-56A (KC to ND Hx 1A Sup Isol) closes due to a controller malfunction
- Annunciator 1AD-9 A/6 (ND SUCT OPEN AND NC HI PRESS) has just come in alarm
- NC WR pressure is indicating 460 PSIG

Which ONE (1) of the following describes the redundant indication which would be used to verify that this annunciator is valid?

A. PORVs 1NC-32B and 1NC-34A would be cycling to lower NC pressure

B. 1ND-1B (ND Pump 1A Suct Frm Loop B) would have auto closed

C. CF&E sump level increasing ONLY

D. PRT Level increasing ONLY

Question: 32
(1 point)

Given the following conditions on Unit 1:

- A Steamline break has occurred on the equalization header
- NC system pressure is 1200 PSIG and decreasing
- Main Steam equalization header pressure is 500 psig and decreasing slowly
- MSIVs on 1B & 1C S/Gs did NOT close on the Main Steam Isolation signal
- 1A and 1D S/G N/R levels are 30% and increasing

Per EP/1/A/5000/E-0 (Reactor Trip or Safety Injection) Enclosure 1 (Foldout Page):

1NV-202B & 1NV-203A (NV Pumps A&B Recirc Isol) were required to be closed by the operators when NC system pressure decreased to less than a MAXIMUM of _____(1)_____ PSIG.

Auxiliary Feedwater flow _____(2)_____ required to be isolated to the 1B & 1C S/Gs.

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

A. 1. 1500
   2. is

B. 1. 1500
   2. is NOT

C. 1. 2000
   2. is

D. 1. 2000
   2. is NOT

Question: 33
(1 point)

Given the following conditions on Unit 1:

- NC fill and vent activities have been completed following a forced outage
- A nitrogen blanket was placed on the pressurizer during the outage
- NC level is 85% in preparation for drawing a bubble in the pressurizer

The limit on pressurizer heat up rate per Selected Licensee Commitment 16.5-4 (Pressurizer) is _____(1)_____.

In accordance with OP/1/A/6100/001 (Unit Startup), N2 venting is considered complete when PRT pressure _____(2)_____ increase with a corresponding PRT level increase.

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

A. 1. 100°F per hour
   2. does

B. 1. 200°F per hour
   2. does

C. 1. 100°F per hour
   2. does NOT

D. 1. 200°F per hour
   2. does NOT

Question: 34
(1 point)

Given the following conditions on Unit 1:

- Unit is at 100% power
- A malfunction has caused 1KC-132 (Letdn Hx Otlt Temp Ctrl) to fail closed
- Annunciator 1AD-7 F/3 (Letdn Hx Outlet High Temp) has alarmed

The Annunciator Response Procedure for 1AD-7 F/3 refers the crew to _____(1)_____, which will direct alignment of _____(2)_____ to the VCT position.

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

A. 1. AP/1/A/5500/012 (Loss of Charging or Letdown)
   2. 1NV-172A (3-Way Divert To VCT-RHT)

B. 1. AP/1/A/5500/012 (Loss of Charging or Letdown)
   2. 1NV-153A (Letdn Hx Otlt 3-Way Valve)

C. 1. AP/1/A/5500/021 (Loss of Component Cooling Water)
   2. 1NV-172A (3-Way Divert To VCT-RHT)

D. 1. AP/1/A/5500/021 (Loss of Component Cooling Water)
   2. 1NV-153A (Letdn Hx Otlt 3-Way Valve)

Question: 35
(1 point)

Given the following conditions on Unit 1:

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

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

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

A. motor bearings AND pump lower bearings

B. seals AND pump lower bearings

C. motor bearings ONLY

D. seals ONLY

Question: 36
(1 point)

Given the following conditions on Unit 1:

- Unit is operating at 80% RTP
- A Pressurizer PORV sticks open

Departure From Nucleate Boiling Ratio (DNBR) _____(1)_____.

Over Temperature Delta T (OT ΔT) **setpoint** _____(2)_____.

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

A. 1. decreases
   2. decreases

B. 1. decreases
   2. increases

C. 1. increases
   2. decreases

D. 1. increases
   2. increases

Question: 37
(1 point)

Given the following conditions and sequence of events on Unit 1:

- Unit is operating at 100% RTP
- The crew enters AP/1/A/5500/016 (Malfunction of Nuclear Instrumentation) due to N-42 lower detector failing LOW
- IAE has placed the required bistables in the trip condition per AP/16
- A complete loss of 1ERPA occurs

Which ONE (1) of the following describes the NEXT action the crew will take?

A. Enter AP/1/A/5500/029 (Loss of Vital or Aux Control Power)

B. Enter EP/1/A/5000/E-0 (Reactor Trip or Safety Injection)

C. Enter AP/1/A/5500/003 (Load Rejection)

D. Continue in AP/16

Question: 38
(1 point)

Which ONE (1) of the following describes the impact on the Reactor Protection System for a loss of 125 VDC Panelboard 1EPA or 1EPD?

A. The associated Reactor Trip Breaker cannot be opened by the Shunt trip

B. The associated Reactor Trip Breaker cannot be opened by the UV trip

C. SSPS Output Bay has lost one of two power supplies

D. SSPS Logic Bay has lost one of two power supplies

Question: 39
(1 point)

Given the following conditions on Unit 2:

- A unit shutdown and cooldown is in progress
- All actions associated with NC system pressure going below P-11 have been completed
- 'B' Train components are in service

The following sequence of events occurs:

1. 120VAC Vital panel board 2ERPD de-energizes due to an electrical fault
2. 'A' Main Steam line ruptures
3. Pressurizer pressure is 1840 PSIG and decreasing
4. Containment pressure is 1.2 PSIG and increasing

Which ONE (1) of the following (if any) would automatically START? (Assume no operator actions have occurred.)

A. Only 'A' Train ECCS equipment

B. Only 'B' Train ECCS equipment

C. None of the ECCS equipment

D. All ECCS equipment

Question: 40
(1 point)

Given the following conditions on Unit 2:

- Unit is at 50% RTP
- 2A CFPT is in service
- 2B CFPT is RESET but has not been placed in service

Subsequently:

- 2A CFPT trips

A CA autostart signal will FIRST be generated _____.

Which ONE (1) of the following completes the statement above? (Assume no operator action)

A. immediately due to loss of both CFPTs

B. immediately due to actuation of AMSAC circuitry

C. upon Lo/Lo S/G level setpoint of 11%

D. upon Lo/Lo S/G level setpoint of 37%

Question: 41
(1 point)

Given the following conditions on Unit 2:

- 2A, 2B, & 2C Lower Containment Ventilation Units (LCVUs) are operating in low speed

Subsequently:

- A safety injection occurs due to high containment pressure
- Containment pressure is 1.5 PSIG and stable

One minute after the Safety Injection, with **no operator actions**:

The 2A, 2B, & 2C LCVUs will be operating in _____(1)_____ speed.

2RN-473 (LWR CONT VENT UNIT 2A FULL FLOW) valve is _____(2)_____.

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

A. 1. low
   2. CLOSED

B. 1. low
   2. OPEN

C. 1. high
   2. CLOSED

D. 1. high
   2. OPEN

Question: 42
(1 point)

Which ONE (1) of the following lists of conditions would ALL result in 1NF-228A (NF Supply Containment Isolation Valve) closing? (Evaluate each condition separately)

1. Loss of instrument air (VI)
2. Trip of all running Ice Condenser Glycol Pumps
3. Glycol Expansion Tank Lo/Lo Level
4. Loss of DC power to 1NF-228A

A. 1, 2, and 3

B. 2, 3, and 4

C. 1, 2, and 4

D. 1, 3, and 4

Question: 43
(1 point)

Given the following conditions on Unit 1:

- OTG is performing Aux Safeguards testing
- A spurious automatic signal caused 1NF-233B (Containment Return Isolation) to inadvertently close during the testing

1NF-233B was closed by an inadvertent _____(1)_____ signal.

The glycol expansion tank _____(2)_____ overflow inside containment.

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

A. 1. S_T
   2. will NOT

B. 1. S_P
   2. will NOT

C. 1. S_T
   2. will

D. 1. S_P
   2. will

---

① "AFTER INF-233B CLOSES, WITH NO ADDITIONAL OPERATOR ACTIONS, THE GLYCOL EXPANSION TANK (2) OVERFLOW INSIDE CONTAINMENT."

MKM 06/13/2016

Question: 44
(1 point)

Given the following conditions on Unit 1:

- A Large Break LOCA has occurred
- Crew is performing EP/1/A/5000/ES-1.3 (Transfer to Cold Leg Recirculation)
- Containment pressure is 3.5 PSIG
- Containment sump level is 5 feet
- 1A NS pump is running
- The BOP has just completed Enclosure 2 (Aligning NS for Recirculation)

1A NS pump will automatically stop when the CPCS signal decreases to a MAXIMUM of _____(1)_____ PSIG.

After the 1A NS pump automatically stops, If containment pressure quickly increases to 2 PSIG due to a large hydrogen burn in containment, the 1A NS pump _____(2)_____ automatically start.

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

A. 1. 0.35
   2. will NOT

B. 1. 0.90
   2. will NOT

C. 1. 0.35
   2. will

D. 1. 0.90
   2. will

Question: 45
(1 point)

Given the following conditions on Unit 1:

- Unit initially operating at 100% RTP when a Loss of Offsite Power occurs
- Train "A" CA has been RESET
- Train "B" CA could NOT be RESET and a maintenance crew is investigating

Subsequently:

- The CA common suction piping from condensate grade sources ruptures
- 1AD-5, E/1 "CA Pumps Train A Loss of Norm Suct" is LIT
- 1AD-5, E/2 "CA Pumps Train B Loss of Norm Suct" is LIT

With no operator actions, after a 5 second time delay from the receipt of the above alarms,:

CAPT #1 will automatically _____(1)_____.

1B CA pump will automatically _____(2)_____.

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

A. 1. align to take a suction from the RN system
   2. trip

B. 1. align to take a suction from the RN system
   2. align to take a suction from the RN system

C. 1. trip
   2. trip

D. 1. trip
   2. align to take a suction from the RN system

Question: 46
(1 point)

Given the following conditions on Unit 1:

- The Unit is at 50% RTP
- S/G 1A N/R level increases to 90%
- All other S/G N/R levels are 52% and stable

The above condition will isolate CF Flow to _____(1)_____.

In order to mitigate the above condition, operators are required to enter procedure _____(2)_____.

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

A. 1) S/G 1A ONLY
   2) EP/1/A/5000/E-0 (Reactor Trip or Safety Injection)

B. 1) S/G 1A ONLY
   2) AP/1/A/5500/002 (Turbine Trip)

C. 1) ALL S/Gs
   2) EP/1/A/5000/E-0 (Reactor Trip or Safety Injection)

D. 1) ALL S/Gs
   2) AP/1/A/5500/002 (Turbine Trip)

Question: 47
(1 point)

Given the following conditions on Unit 2:

- A loss of offsite power occurs from 100% RTP
- Crew is implementing EP/2/A/5000/ES-0.1 (Reactor Trip Response)
- 2A and 2B motor driven CA pumps failed to start automatically or manually
- BOP placed switch "CA PMP #2" to ON to feed the S/Gs

Subsequently:

- Alarm 2AD-5 F/3 (CAPT MECH OS TRIP) actuated
- CA System Valve control has been RESET on both 'A' and 'B' trains

Valves 2SA-2 (S/G 2B SM To CAPT) & 2SA-5 (S/G 2C SM To CAPT) are _____(1)_____.

CAPT #2 _____(2)_____ be restarted from the control room WITHOUT local operator actions.

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

A. 1. open
   2. can NOT

B. 1. open
   2. can

C. 1. closed
   2. can NOT

D. 1. closed
   2. can

Question: 48
(1 point)

Given the following conditions on Unit 2:

- Stable at 25% RTP
- The power supply to 2TB from transformer 2T1B spuriously opens

Due to the above conditions:

NC Pump 2B is _____(1)_____.

Once available, the power supply to 2TB is restored to normal alignment by a(n) _____(2)_____ transfer.

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

A. 1) tripped
   2) automatic

B. 1) running
   2) automatic

C. 1) tripped
   2) manual

D. 1) running
   2) manual

Question: 49
(1 point)

Given the following conditions on Unit 1:

- Unit 1 is operating at 100% RTP
- 1B NI pump is inoperable
- 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 an action which must be performed WITHIN ONE HOUR of declaring 1A D/G inoperable to ensure compliance with TS 3.8.1 (AC SOURCES – OPERATING)?

A. Perform PT/1/A/4350/002 C (Available Power Source Operability Check)

B. Determine the OPERABLE 1B D/G is not inoperable due to a common cause failure

C. Perform PT/1/A/4350/002 B (Diesel Generator 1B Operability Test)

D. Declare 1A NI pump inoperable, because it is a required redundant feature supported by the inoperable 1A D/G, and declare entry into LCO 3.0.3

Question: 50
(1 point)

Vital battery 1EBA is supplying 1ERPA through inverter 1EIA without a battery charger on line.

As battery terminal voltage decreases from 125 VDC to 120 VDC, battery current flow _____(1)_____ and battery discharge rate _____(2)_____.

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

A. 1. increases
   2. decreases

B 1. decreases
   2. decreases

C. 1. decreases
   2. increases

D. 1. increases
   2. increases

Question: 51
(1 point)

Given the following conditions on Unit 1:

- The BOP is performing OP/1/A/6350/002 (Diesel Generator Operation) Enclosure 4.12 (D/G Startup and Shutdown from the Control Room)
- The BOP is preparing to parallel 1A D/G to the grid and notes the following control room indications:
  - Line Volts – 4160 volts
  - D/G 1A Volts – 4150 volts
  - D/G 1A synchroscope is moving rapidly in the counter-clockwise (SLOW) direction

Per OP/1/A/6350/002 Enclosure 4.12, prior to closing the 1A D/G breaker:

The D/G 1A voltage control _____(1)_____ pushbutton must be operated.

The D/G 1A governor control _____(2)_____ pushbutton must be operated.

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

A. 1. RAISE
   2. LOWER

B. 1. RAISE
   2. RAISE

C. 1. LOWER
   2. LOWER

D. 1. LOWER
   2. RAISE

Question: 52
(1 point)

Given the following conditions on Unit 1:

- Unit is operating at 100% RTP
- BOP is setting up 1EMF-39L (Containment Gas – Low Range) for a VQ release per OP/1/A/6450/017 (Containment Air Release and Addition System)
- Current 1EMF-39L setpoints are as follows:
  - Trip 1 – 7.0E+2 cpm
  - Trip 2 – 1.0E+3 cpm

If the BOP inputs a Trip 1 value of 1.2E+3, the EMF module _____(1)_____ accept it.

When performing the source check on 1EMF-39L, the Trip 1 and Trip 2 lights _____(2)_____ illuminate.

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

Question: 53
(1 point)

Given the following power supplies for Unit 2:

1. 2TA
2. 2TB
3. 2TC
4. 2TD

Which ONE (1) of the following is a COMPLETE list of the YV (Containment Chilled Water System) chiller power supplies on Unit 2?

A. 1, 2, and 3

B. 2, 3, and 4

C. 1, 3, and 4

D. 1, 2, and 4

Question: 54
(1 point)

Given the following conditions on Unit 2:

- Unit operating at 100% RTP
- 2VI-77B (VI Cont Isol) fails closed

Lower containment temperature will _____(1)_____.

The LCVU full flow bypass valves will fail _____(2)_____.

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

A. 1. increase
   2. CLOSED

B. 1. decrease
   2. CLOSED

C. 1. increase
   2. OPEN

D. 1. decrease
   2. OPEN

Question: 55
(1 point)

During a normal containment air release (VQ), valve _____(1)_____ automatically closes to prevent containment pressure from decreasing below 0 PSIG.

The limit on negative (-) containment pressure per Tech Spec 3.6.4 (Containment Pressure) is _____(2)_____ PSIG.

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

A. 1. VQ-10 (VQ Fans Disch To Unit Vent)
   2. -0.1

B. 1. VQ-3B (VQ Fan Suct From Cont Isol)
   2. -0.1

C. 1. VQ-10 (VQ Fans Disch To Unit Vent)
   2. -0.3

D. 1. VQ-3B (VQ Fan Suct From Cont Isol)
   2. -0.3

Question: 56
(1 point)

Given the following conditions on Unit 1:

- Unit operating at 100% RTP

Subsequently:

- 'C' NC loop Tavg is HIGH
- 'C' NC loop ΔT is LOW

The failure that caused the above indications was _____(1)_____.

The C-3 "OTDT Rod Stop & Turbine Runback" status light on 1SI-18 is _____(2)_____.

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

A. 1. 'C' loop T-hot failed high
   2. DARK

B. 1. 'C' loop T-hot failed high
   2. LIT

C. 1. 'C' loop T-cold failed high
   2. DARK

D. 1. 'C' loop T-cold failed high
   2. LIT

Question: 57
(1 point)

Given the following conditions on Unit 1:

- Unit is operating at 100% RTP
- Control Bank 'D' rods are reading 222 steps on DRPI

Subsequently:

- Control Bank 'D' rod M-6 indicates 192 steps on DRPI
- Annunciator 1AD-2 D/10 "RPI URGENT FAILURE" alarms
- DRPI background for Control Bank 'D' turns ORANGE

To determine that rod M-6 is actually misaligned, the operator would expect to see AFD in that quadrant to become _____(1)_____ negative.

The 1AD-2 D/10 Annunciator Response states that a rod with > _____(2)_____ steps deviation within a bank is a probable cause for this alarm.

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

A. 1. less
   2. 24

B. 1. less
   2. 12

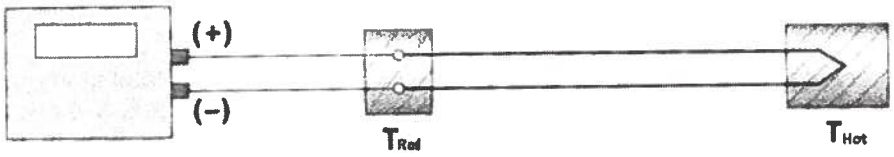
C. 1. more
   2. 24

D. 1. more
   2. 12

Question: 58
(1 point)

Given the following:

- The following instrument diagram represents a typical CET measuring circuit:



If the thermocouple measuring junction experiences an open circuit, the associated CET will indicate _____(1)_____ temperature.

If the thermocouple reference junction temperature **decreases** by 50°F, the associated CETs will indicate 50°F _____(2)_____.

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

A. 1. HIGH
   2. HIGHER

B. 1. HIGH
   2. LOWER

C. 1. LOW
   2. HIGHER

D. 1. LOW
   2. LOWER

Question: 59
(1 point)

Which ONE (1) of the following is the power supply for the 1A VE Fan?

A. 1MXJ

B. 1MXK

C. 1EMXI

D. 1EMXB

Question: 60
(1 point)

Concerning the Containment Purge System (VP):

During refueling mode of operation, airborne contaminants are directed to _____(1)_____ Containment.

This is accomplished by changing the _____(2)_____ fan discharge alignment.

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

A. 1. Upper
   2. Supply

B. 1. Lower
   2. Supply

C. 1. Upper
   2. Exhaust

D. 1. Lower
   2. Exhaust

Question: 61
(1 point)

Given the following conditions on Unit 1:

- A large break LOCA has occurred
- Unit 2 BOP is performing EP/1/A/5000/E-0 (Reactor Trip or Safety Injection) step to monitor Spent Fuel Pool level and temperature using G-1 Enclosure 1
- BOP notices that KF pump 1A has tripped and that Spent Fuel Pool level on 1KFP5120 has failed low
- The Unit Supervisor and the Unit 2 BOP enter AP/1/A/5500/041 (Loss of Spent Fuel Pool Cooling or Level)
- Spent Fuel Pool temperature on 1KFP5130 is reading 105°F
- An AO dispatched to monitor Spent Fuel Pool Level locally reports that level is one foot below the top of the skimmer loop trough

Per E-0, Spent Fuel Pool level and temperature monitoring _____(1)_____ **required** within 2 hours of the event.

The MAXIMUM KF flow allowed by AP-41 when the 1B KF pump is placed in service is _____(2)_____ GPM.

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

REFERENCE PROVIDED

A. 1. is NOT
   2. 2310

B. 1. is
   2. 2310

C. 1. is NOT
   2. 2840

D. 1. is
   2. 2840

Question: 62
(1 point)

The reactor building fuel hoist mechanical overload switch opens at a MINIMUM of _____(1)_____ pounds.

This interlock _____(2)_____ be bypassed.

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

A. 1. 2700
   2. can NOT

B. 1. 1200
   2. can NOT

C. 1. 2700
   2. can

D. 1. 1200
   2. can

Question: 63
(1 point)

Given the following conditions on Unit 1:

- A 1C S/G tube rupture has occurred
- Total CA flow is 1200 GPM and stable
- Containment pressure is 0.2 PSIG and stable

Per EP/1/A/5000/E-0 (Reactor Trip or Safety Injection) Enclosure 1 (Foldout Page), the LOWEST S/G N/R level that will require CA flow to be isolated to 1C S/G is _____.

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

A. 11%

B. 16%

C. 29%

D. 39%

Question: 64
(1 point)

Given the following plant conditions:

- A Waste Gas release is in progress
- A system lineup issue has resulted in an unintentional release of radioactive gas into the Auxiliary Building
- The following EMF Trip 2 lights are lit:
  - 0EMF-41 (Auxiliary Building Ventilation Monitor)
  - 1EMF-6 (Waste Gas and Spent Resin Area)
  - 1EMF-35 (Unit Vent Particulate Monitor)
  - 0EMF-50L (Waste Gas Discharge – Low Range)
- The operator notes the following for the VA system on Unit 1:
  - 1A & 1B Exhaust trains are operating in the FILTER mode of operation
  - 1A & 1B Unfiltered Exhaust fans have tripped
  - 1A & 1B Supply fans have tripped

With no operator actions, which ONE (1) of the following EMFs being in Trip 2 automatically caused the VA alignment listed above?

A. 0EMF-41

B. 1EMF-6

C. 1EMF-35

D. 0EMF-50L

Question: 65
(1 point)

Given the following plant conditions:

- A Loss of Instrument Air has occurred
- VI pressure is 75 PSIG and slowly decreasing

Based on the given conditions, and per AP/0/A/5500/022 (Loss of VI):

Operators _____(1)_____ required to be dispatched to ensure 1VI-499 (VI Comp D to VS Hdr) is closed.

1VS-78 (VS Auto Backup to VI) _____(2)_____ automatically opened.

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

A. 1. are
   2. has

B. 1. are
   2. has NOT

C. 1. are NOT
   2. has

D. 1. are NOT
   2. has NOT

Question: 66
(1 point)

Given the following conditions on Unit 1:

- Control rods are in manual
- The plant is at 30% RTP when a loss of 1ETA occurs
- The 1A D/G starts and is carrying the 1ETA bus
- Tave has decreased to 563.5°F and Tref is 565.5°F and **stable**
- Reactor power has increased from 30% to 34%

Per AD-OP-ALL-0203, Reactivity Management, which ONE (1) of the following describes the required crew actions, if any, to address the power increase?

A. The crew should emergency borate using 1NV-236B (Boric Acid To NV Pumps Suct), to establish power at or below the pre-transient power level

B. Crew should reduce turbine load to establish power at or below the pre-transient power level

C. No actions required by AD-OP-ALL-0203, because reactor power was maintained less than 100% throughout the transient

D. Operate control rods to restore Tave within 1.5°F of Tref

Question: 67
(1 point)

Given the following conditions on Unit 1:

- Unit is in Mode 6 performing total core **unload** 5 days following shutdown

Which ONE (1) of the following conditions would require that Core Alterations be suspended IMMEDIATELY **per Tech Specs**?

A. The equipment hatch is off

B. Refueling Cavity Boron concentration is < COLR minimum

C. Source Range N31 inoperable with N32 and both BDMS channels OPERABLE

D. Refueling Cavity water level at 23 feet above the reactor vessel flange with ONLY one ND loop OPERABLE

Question: 68
(1 point)

Given the following conditions on Unit 1:

- Unit tripped 24 hours ago (0800 yesterday) after a 200 day run at 100% RTP
- An Estimated Critical Position (ECP) of Control Bank "D" at 90 steps was calculated for a reactor startup at 0800 today
- The reactor startup has been delayed until 1300 today while waiting to clear a Tech Spec Action Statement

If there is no change to NC system boron concentration:

Per PT/0/A/4150/019 (1/M Approach To Criticality), the existing ECP (0800 startup) _____(1)_____ be used for the 1300 Reactor startup.

The actual critical rod height for the 1300 Reactor startup will be _____(2)_____ than Control Bank "D" at 90 steps.

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

A. 1. can
   2. higher

B. 1. can
   2. lower

C. 1. can NOT
   2. higher

D. 1. can NOT
   2. lower

Question: 69
(1 point)

Concerning the inservice valve testing (IWV) program:

Valves with remote position indication shall be observed locally at least once every _____(1)_____.

When performing IWV testing of a valve in the closed direction, the stop watch will be started when the associated valve E30 switch _____(2)_____.

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

A. 1. quarter
   2. "CLOSE" pushbutton is depressed

B. 1. quarter
   2. position indicating light changes state

C. 1. 2 years
   2. "CLOSE" pushbutton is depressed

D. 1. 2 years
   2. position indicating light changes state

Question: 70
(1 point)

Given the following conditions on Unit 2:

- Mode 3 with startup in progress

Subsequently:

- A loss of offsite power occurs
- The plant stabilizes with Pressurizer level stable at 90%, and only 2ETA powered from its Diesel Generator

Which ONE (1) of the following identifies the status of LCO 3.4.9 (PRESSURIZER)?

A. LCO 3.4.9 is met.

B. LCO 3.4.9 is NOT met, because Pzr level is too high ONLY.

C. LCO 3.4.9 is NOT met, because of insufficient Pzr Heater Capacity ONLY.

D. LCO 3.4.9 is NOT met, because of insufficient Pzr Heater Capacity AND because Pzr level is too high.

Question: 71
(1 point)

Given the following conditions on Unit 1:

- You are to perform a valve lineup in the Letdown Heat Exchanger Room
- The dose rate in the room is 3000 mREM/HR

In accordance with PD-RP-ALL-0001 (RADIATION PROTECTION):

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

An EXCLUDE flag is a notification that an individual has reached _____(2)_____ or greater of the established administrative limit.

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

A. 1. Locked High Radiation
   2. 80%

B. 1. Locked High Radiation
   2. 90%

C. 1. Very High Radiation
   2. 80%

D. 1. Very High Radiation
   2. 90%

Question: 72
(1 point)

Given the following conditions on Unit 2:

- Mode 4 valve checklist PT is being performed
- The PT calls for independent verification of a single valve located in a room with a general dose rate of 110 mR/hr
- The time to independently verify the valve's position is 5 minutes

In accordance with NSD-700 (VERIFICATION TECHNIQUES), independent verification of the valve above _____(1)_____ be waived because _____(2)_____.

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

A. 1. may
   2. the general area dose rate is greater than 100 mR/hr

B. 1. may NOT
   2. the general area dose rate is less than 10 R/hr

C. 1. may
   2. the radiation exposure for a single verification exceeds the allowable limit

D. 1. may NOT
   2. the radiation exposure for a single verification is within the allowable limit

---

Question: 73
(1 point)

Given the following conditions on Unit 1:

- Operators have entered EP/1/A/5000/FR-P.1 (Response To Imminent Pressurized Thermal Shock Condition) due to a valid ORANGE path status for NC Integrity

In accordance with OMP 1-7 (Emergency/Abnormal Procedure Implementation Guidelines):

If the NC Integrity status turns RED during performance of FR-P.1, the CRS _____(1)_____ required to return to step 1.

If the Core Cooling status turns ORANGE during performance of FR-P.1 (while NC Integrity is ORANGE), the CRS _____(2)_____ required to go to EP/1/A/5000/FR-C.2 (Response to Degraded Core Cooling).

Which ONE (1) of the following completes the statements above? (Consider each statement separately as it relates to the initial condition)

A. 1. is
   2. is

B. 1. is
   2. is NOT

C. 1. is NOT
   2. is

D. 1. is NOT
   2. is NOT

Question: 74
(1 point)

During an emergency event:

The on-site emergency facility that assumes responsibility for communications with offsite agencies including the NRC once it is activated is the _____(1)_____.

The MINIMUM level of emergency classification that always REQUIRES an evacuation of all non-essential personnel from the site is a _____(2)_____.

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

A. 1. Technical Support Center (TSC)
   2. Site Area Emergency

B. 1. Technical Support Center (TSC)
   2. General Emergency

C. 1. Operations Support Center (OSC)
   2. Site Area Emergency

D. 1. Operations Support Center (OSC)
   2. General Emergency

Question: 75
(1 point)

Given the following conditions on Unit 1:

- 1B D/G is tagged out
- The control room has been evacuated per AP/1/A/5500/017 (Loss of Control Room) due to a **fire** in the Auxiliary Building
- Following control room evacuation, a loss of offsite power occurred

AP/17 requires a reactor operator to be dispatched to the _____(1)_____ to maintain Hot Standby conditions on Unit 1.

The emergency sound powered phone circuit _____(2)_____ be available for communications.

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

A. 1. Auxiliary Shutdown Panels
   2. will

B. 1. Auxiliary Shutdown Panels
   2. will NOT

C. 1. Standby Shutdown Facility
   2. will

D. 1. Standby Shutdown Facility
   2. will NOT

Source: CNM-1300.00153, Fig. 17-3, Dwg 435HA148 (Rev. 2)

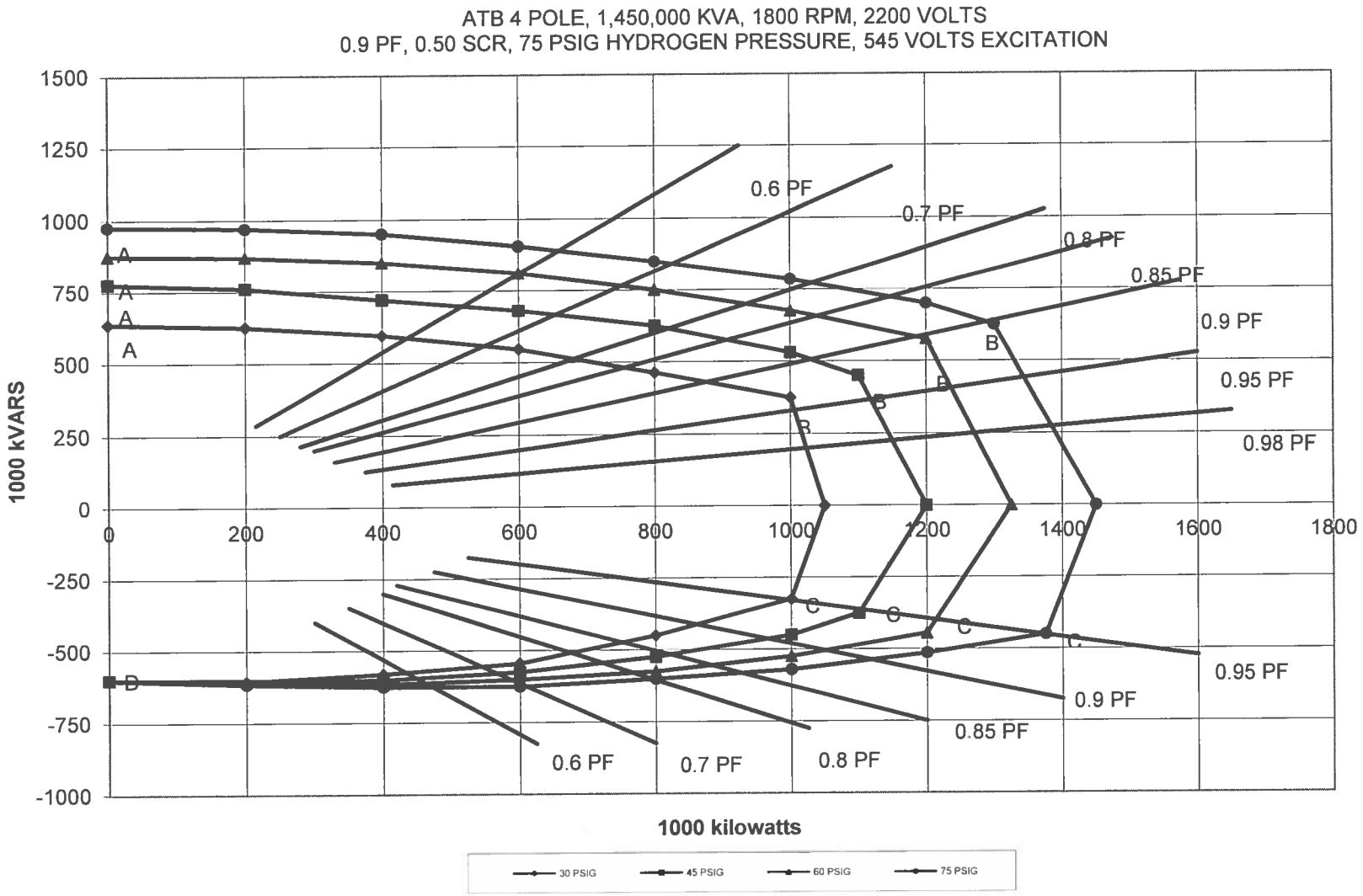


Figure 43 - Generator Capability Curves

__ 1. **IF Spent Fuel Pool level instruments are unavailable, THEN locally determine level. REFER TO Enclosure 19 (Spent Fuel Pool Local Level Determination).**

NOTE
- Flow rates decrease at 140°F due to removing the purification loop from service at 125°F.
- 1KFP5130 only goes to 200°F, therefore the 212°F value is obtained by local observation.

__ 2. **Refer to the following table for allowable KF flows (GPM) verses Spent Fuel Pool temperature and level.**

Spent Fuel Pool Temp (1KFP5130)	Spent Fuel Pool Level (1KFP5120)									
	37	38	38.6	39	39.5	40	40.5	41	41.5	42
100	0	0	750	2310	2840	2840	2840	2840	2840	2840
120	0	0	750	2310	2840	2840	2840	2840	2840	2840
140	0	0	750	2310	2310	2310	2310	2310	2310	2310
160	0	0	750	2310	2310	2310	2310	2310	2310	2310
180	0	0	750	2310	2310	2310	2310	2310	2310	2310
190	0	0	750	2170	2170	2170	2170	2310	2310	2310
195	0	0	750	2170	2170	2170	2170	2170	2170	2170
200	0	0	750	1420	1420	1420	1420	2170	2170	2170
212	0	0	750	750	750	750	750	1000	1200	1420

__ 1. **Obtain Radiation Protection assistance as required for entry to the Unit 1 Spent Fuel Pool area.**

2. **Determine approximate Unit 1 Spent Fuel Pool water level as follows:**

NOTE The following reference points can be used to determine approximate Unit 1 SFP level by visual inspection.

__ a. Refer to the table below to determine approximate pool level.

SFP Reference Point	Approximate Unit 1 SFP level
SFP Underwater Light Receptacles	41' 0"
Top of Skimmer Trough	40' 0"
1st Horizontal SFP Liner Plate Angle-Iron Cover	40' 0"
Bottom of Skimmer Trough	38' 10'
Centerline of KF pump Suction Strainers	37' 6"
2nd Horizontal SFP Liner Plate Angle-Iron Cover	30' 0"
3rd Horizontal SFP Liner Plate Angle-Iron Cover	20' 0"
Top of Spent Fuel Storage Racks	14' 6"

__ b. Notify Control Room Supervisor of approximate Unit 1 Spent Fuel Pool water level.

ILT 2016 - NRC RO Written Exam Answer Key

1	D			26	D			51	B		
2	D			27	C			52	B		
3	C			28	A			53	A		
4	D			29	A			54	D		
5	A			30	B			55	A		
6	A			31	D			56	C		
7	D			32	B			57	D		
8	B			33	C			58	C		
9	B			34	D			59	C		
10	A			35	C			60	B		
11	A			36	A			61	B		
12	A			37	B			62	A		
13	D			38	A			63	A		
14	D			39	A			64	C		
15	B			40	D			65	A		
16	C			41	B			66	B		
17	A			42	D			67	B		
18	B			43	C			68	D		
19	A			44	A			69	C		
20	C			45	B			70	C		
21	C			46	C			71	B		
22	C			47	A			72	D		
23	C			48	D			73	C		
24	A			49	A			74	B		
25	D			50	D			75	D		