U.S. Nuclear Regulatory Commission
Site-Specific SRO Written Examination

Applicant Information	
Name:	
Date: 3/18/2020	Facility/Unit SQN
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 percent overall, with 70 percent or better on the SRO-only items if given in conjunction with the RO exam; SRO-only exams given alone require a final grade of 80 percent to pass. You have 9 hours to complete the combined examination and 3 hours if you are only taking the SRO-only portion.

Applicant Certification

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

_____
Applicant's Signature

Results
RO/SRO-Only/Total Examination Values _____ / _____ / _____ Points
Applicant's Score _____ / _____ / _____ Points
Applicant's Grade _____ / _____ / _____ Percent

1. Given the following:

   - Unit 1 is at 70% power

   Subsequently,

   - Main Condenser pressure increased to 7 psia
   - Reactor was manually tripped per AOP-S.02, "Loss of Condenser Vacuum"
   - Tave is stable at 545F

   Which one of the following completes the statements below?

   MFPs __(1)__ automatically trip.

   RCS cooldown will be using __(2)__ .

	(1)	(2)
A.	will	S/G ARVs
B.	will	Steam Dumps
C.	will NOT	S/G ARVs
D.	will NOT	Steam Dumps

2. Given the following:

- "A" train Safety Injection pump is tagged out

Subsequently

- Safety Injection occurs
- RCS pressure is 1220 psig and lowering
- Pressurizer level is rising
- "B" train SI pump trips immediately after starting
- The crew entered E-1, "Loss of Reactor or Secondary Coolant" and is performing Step 7, CHECK SI Termination Criteria."

Which one of the following completes the statements below?

The RCS leak location is __(1)__ .

Safety Injection termination criteria __(2)__ met.

	(1)	(2)
A.	Pressurizer safety valve	is
B.	Pressurizer safety valve	is **NOT**
C.	Pressurizer heater well	is
D.	Pressurizer heater well	is **NOT**

3. Given the following:

- ES-1.3 "Transfer to RHR Containment Sump" is in progress
- Both RHR Pumps are running aligned to the Containment Sump
- The CCP and SI Pump suctions from the RWST have been isolated
- RWST level is 20%
- EA-63-2 "Refilling RWST" is in progress

Subsequently,

- RHR Pump 1A-A trips.

Which one of the following completes the statements below?

CCPIT Inlet Flow _(1)_ greater than 0 gpm.

In accordance with ES-1.3 the required action is to _(2)_ .

A. (1) is
(2) ensure 1B-B CCP and 1B-B SI Pumps are running and then place the 1A-A CCP and 1A-A SI Pumps control switches to the pull-to-lock (P-T-L) position

B. (1) is
(2) ensure the CCP and SI pump suctions are realigned to the RWST

C. (1) is **NOT**
(2) ensure 1B-B CCP and 1B-B SI Pumps are running and then place the 1A-A CCP and 1A-A SI Pumps control switches to the pull-to-lock (P-T-L) position

D. (1) is **NOT**
(2) ensure the CCP and SI pump suctions are realigned to the RWST

4. Given the following:

   - Unit 1 is at 15% power
   - AOP-R.04 "Reactor Coolant Pump Malfunctions" was entered due to RCP #1 Seal Temperature

   Which one of the following completes the statements below?

   The P-8 LOW POWER LOW FLOW TRIP BLOCKED annunciator (Bypass and Permissive 1-XA-55-4A) _(1)_ LIT for current plant conditions.

   In accordance with AOP-R.04 the reactor _(2)_ required to be tripped before the #1 RCP.

	(1)	(2)
A.	is	is
B.	is	is **NOT**
C.	is **NOT**	is
D.	is **NOT**	is **NOT**

5. Given the following:

   - Unit 2 is at 100% power
   - The crew entered AOP-M.09, "Loss of Charging"
   - The crew is re-establishing charging flow in accordance with EA-62-5, "Establishing Normal Charging and Letdown" Section 4.2 Establishing Charging flow
   - RCP seal injection flows are as follows:

#1	#2	#3	#4
9.2 gpm	10.5 gpm	11.9 gpm	13.4 gpm

Which one of the following identifies the adjustment needed to 2-FCV-62-89, "Seal Water FCV" and the effect it will have on charging flow through the Regen Heat Exchanger?

	2-FCV-62-89 needs to be throttled	**Charging Flow to the Regen Heat Exchanger WILL**
A.	OPEN	Increase
B.	OPEN	Decrease
C.	CLOSED	Increase
D.	CLOSED	Decrease

6. Given the following:

   - Both Units are at 100% power

   Which one of the following identifies...

   (1) a condition that will cause CCS Train B flow/pressure to lower on BOTH units

   and

   (2) whether a Unit 2 manual reactor trip is required in accordance with AOP-M.03 "Loss of Component Cooling Water" if the Train B flow/pressure cannot be restored

   A. (1) Loss of 480v Shutdown Board 1A2-A
      (2) Reactor Trip is required

   B. (1) Loss of 480v Shutdown Board 1A2-A
      (2) Reactor Trip is **NOT** required

   C. (1) Loss of 480v Shutdown Board 2B2-B
      (2) Reactor Trip is required

   D. (1) Loss of 480v Shutdown Board 2B2-B
      (2) Reactor Trip is **NOT** required

7. Given the following:

- Unit 1 was operating at 50% power

Subsequently,

- A steam line rupture occurred in containment
- FR-S.1, "Nuclear Power Generation / ATWS was entered when the reactor failed to trip
- Control rods are being inserted manually
- All PRMs are 20% and decreasing
- Phase B isolation has occurred

Which one of the following completes the statements below?

In accordance with FR-S.1 RCPs __(1)__ required to be secured immediately.

In accordance with EPM-3-FR-S.1"Basis Document for FR-S.1 Nuclear Power Generation/ATWS" the basis for this is __(2)__ .

	(1)	(2)
A.	are	because support conditions have been lost
B.	are **NOT**	because it could result in reduced heat removal and challenge fuel integrity
C.	are	because of the positive reactivity addition from the RCP core cooling
D.	are **NOT**	because the heat input from RCPs is adding negative reactivity

8. Given the following:

- Unit 1 operating at 100% power
- A steam line break downstream of the #3 S/G MSIV occurred
- All MSIVs failed to close and ECA-2.1, "Uncontrolled Depressurization of All Steam Generators" was entered
- EA-1-1, "Closing MSIVs Locally" is complete and 125v control power fuses have been removed
- Safety Injection termination is **NOT** in progress

Which one of the following completes the statement below?

MSIV Valve position _(1)_ available on 6K/6L Panels at 1-M-6

and

ECA-2.1 Foldout Page transition to E-2, Faulted Steam Generator Isolation is based on _(2)_ .

	(1)	(2)
A.	remains	S/G Pressure
B.	remains	RCS Temperature
C.	does **NOT** remain	S/G Pressure
D.	does **NOT** remain	RCS Temperature

9. Given the following:

- Unit 1 is at 35% power during a plant startup.
- 1A MFW pump is in service.
- The "MFPT B RESET/TRIP" handswitch on 1-M-3 has the Green light **LIT**.

Subsequently, the 1A MFW pump trips.

Which one of the following identifies:

(1) the earliest time that the TDAFW Pump will auto-start

and

(2) the normal source of the cooling water to the TDAFW pump bearing oil cooler?

A. (1) at the time the 1A MFP tripped
(2) a stage on the TDAFW pump

B. (1) at the time the 1A MFP tripped
(2) the ERCW system

C. (1) at the time when SG level lowered to the auto-start setpoint
(2) a stage on the TDAFW pump

D. (1) at the time when SG level lowered to the auto-start setpoint
(2) the ERCW system

10. Given the following:

- A Loss of Offsite Power and Reactor Trip occurred on Unit 1.

- Natural Circulation conditions are being verified in accordance with EA-68-6, "Monitoring Natural Circulation Conditions."

Which one of the following identifies conditions where natural circulation exists?

A. Core exit T/Cs equal to Tcold. Core exit T/Cs at saturation temperature for the S/G pressure.

B. Core exit T/Cs equal to Tcold. Tcold at saturation temperature for the S/G pressure.

C. Core exit T/Cs stable. Core exit T/Cs at saturation temperature for the S/G pressure.

D. Core exit T/Cs stable. Tcold at saturation temperature for the S/G pressure.

11. Given the following:

- Station Blackout has occurred
- Both Units have entered ECA-0.0 "Loss of All AC Power"
- Offsite Power is being restored using AOP-P.01 Attachment 1

Which one of the following completes the statement below?

In accordance with AOP-P.01 "Loss of Offsite Power" the designated source for restoring off-site power is the __(1)__ line

and

this line is __(2)__.

	(1)	(2)
A.	Hiwassee 1	161Kv
B.	Hiwassee 1	500Kv
C.	Chickamauga 1	161Kv
D.	Chickamauga 1	500Kv

12. Given the following:

- Both Units are at 100% power
- 125V DC Vital Battery Board IV is inadvertently deenergized

Which one of the following completes the statements below?

__(1)__ Diesel Generator(s) will auto-start.

In accordance with AOP-P.02 "Loss of 125V DC Vital Battery Board" the 2B-B EDG __(2)__ be shutdown using the EMERGENCY STOP pushbutton on 0-M-26.

	(1)	(2)
A.	Only one	can
B.	Only one	can **NOT**
C.	All four	can
D.	All four	can **NOT**

13. In accordance with AOP-M.01 "Loss of Essential Raw Cooling Water, Section 2.5 ERCW Supply Header 2A Rupture in Aux Building", which one of the following completes the statements below?

    Unit 2 Train A CCP and SI Pump may experience bearing failure __(1)__ after a loss of ERCW cooling.

    The REACTOR COOLANT PUMPS MOTOR THRUST BEARING TEMP HIGH annunciator is required to be monitored on __(2)__ .

	(1)	(2)
A.	10 minutes	both Units
B.	10 minutes	Unit 2 **ONLY**
C.	15 minutes	both Units
D.	15 minutes	Unit 2 **ONLY**

14. Which one of the following completes the statements below?

In accordance with AOP M.02 "Loss of Control Air" 0-FCV-32-82 "Train A Control Air Supply" and 0-FCV-32-85 "Train B Control Air Supply" will close first as pressure reaches a setpoint of __(1)__ and lowering in the Station Control & Service Air System.

The reason for this isolation is to __(2)__.

	(1)	(2)
A.	50 psig	ensure control air is provided to the essential components for safe shutdown
B.	50 psig	prevent exceeding containment design pressure in the event of a design bases accident with an air leak is inside containment
C.	69 psig	ensure control air is provided to the essential components for safe shutdown
D.	69 psig	prevent exceeding containment design pressure in the event of a design bases accident with an air leak is inside containment

15. Given the following:

- Unit 1 is at 75%
- CRO reports Grid Frequency is 59.6 Hz

Which one of the following completes the statements below?

In accordance with AOP-P.07 “Degraded Grid or Abnormal Voltage Conditions” the 6.9 kV SDBDs __(1)__ required to be transferred to the DGs

and

The basis for the 58 Hz frequency trigger value that requires a manual reactor trip is __(2)__ .

	(1)	(2)
A.	are	imminent automatic underfrequency trip
B.	are	25% of lifetime limit for off-frequency operation of LP turbine
C.	are **NOT**	imminent automatic underfrequency trip
D.	are **NOT**	25% of lifetime limit for off-frequency operation of LP turbine

16. Given the following:

- Unit 1 was at 100% power
- A reactor trip and SI occurred due to a LOCA outside containment
- The crew has entered ECA-1.2 "LOCA Outside Containment"

Which one of the following completes the statements below?

FCV-62-69 Letdown Isol Loop 3, __(1)__ auto close from the SI signal.

In accordance with ECA-1.2 "LOCA Outside Containment" step 2 "ATTEMPT to isolate break from RCS" the operator is required to close the RHR __(2)__ leg injection valve.

	(1)	(2)
A.	will	hot
B.	will	cold
C.	will **NOT**	hot
D.	will **NOT**	cold

17. Given the following:

- The Crew has entered FR-H.1, "Loss of Secondary Heat Sink," due to a loss of inventory in the S/Gs and failure of the AFW pumps to start.
- A low pressure feed source from ERCW or HPFP has NOT been established.

Time:	0800	0810	0820	0830
S/G #1 WR (%)	41	33	28	23
S/G #2 WR (%)	39	32	20	19
S/G #3 WR (%)	46	42	31	19
S/G #4 WR (%)	37	28	19	16
Core Exit T/Cs (^{o}F)	548	549	550	551
Cont. Press. (psid)	1.70	2.40	2.70	2.50

Which one of the following is the earliest time that the initiation of RCS Feed and Bleed is required?

A. 0800

B. 0810

C. 0820

D. 0830

18. Given the following:
    - Unit 2 was operating at 100% power when a LOCA occurred.
    - ES-1.3 "Transfer to RHR Containment Sump" has been completed
    - ECA-1.3 "Containment Sump Blockage" was just entered
    - 'B' Train pumps are in PULL TO LOCK
    - 'A' train CCP, SI, RHR, and Containment Spray pumps are running and have all have indications of cavitation

    In accordance with ECA-1.3 which one of the following is an allowable sequence to secure 'A' Train pumps?

    A. Containment Spray, RHR, SI, CCP

    B. RHR, SI, Containment Spray, CCP

    C. CCP, Containment Spray, RHR, SI

    D. SI, CCP, Containment Spray, RHR

19. Given the following:

- The unit is at 85% power
- Rod Control is in MAN
- A continuous uncontrolled Control Bank D rod withdrawal occurs

Which one of the following completes the statements below?

In accordance with AOP-C.01 " Rod Control Malfunctions" the OATC _(1)_ required to place Rod Control in AUTO and CHECK rod motion stopped.

If Rod motion stopped with reactor power at 98%, with no operator action, reactor power will stabilize at _(2)_ .

	(1)	(2)
A.	is	~85%
B.	is	~98%
C.	is **NOT**	~85%
D.	is **NOT**	~98%

20. Given the following:

- Unit 2 was tripped from 100% power.
- The crew is performing ES-0.2 "Natural Circulation Cooldown."
- All steps have been completed up to Step 13,MAINTAIN the following RCS conditions.
- At time 18:00 the following plant conditions existed:

  - Core exit T/Cs = 520°F
  - RCS pressure = 1600 psig

Subsequently, a PZR PORV failed OPEN.
- At time 18:15 the following plant conditions are observed :

  - Core exit T/Cs remain at 520°F.
  - RCS pressure is 800 psig and stable.
  - PZR level is 70% and rising rapidly.

Which one of the following completes the statements below at time 18:15?

In accordance with ES-0.2 Foldout page a transition to E-0, Reactor Trip or Safety Injection __(1)__ required.

PZR level is rapidly rising is due to __(2)__ .

A. (1) is
   (2) an automatic Safety Injection actuation

B. (1) is
   (2) drawing a bubble in the reactor vessel head

C. (1) is **NOT**
   (2) an automatic Safety Injection actuation

D. (1) is **NOT**
   (2) drawing a bubble in the reactor vessel head

21. Given the following:

- Unit 1 is at 40% power
- Two Condenser Vacuum Pumps are running

Subsequently,

- Condenser pressure is 2.5 psia
- AOP-S.02, "Loss of Condenser Vacuum" was entered

Which one of the following completes the statements below?

The third Condenser Vacuum Pump __(1)__ be running.

In accordance with AOP-S.06, "Turbine Trip Below P-9 (50% Power)" if a turbine trip subsequently occurs, and C-9 Condenser Interlock is LIT, control rods are required be positioned to __(2)__.

A. (1) will
   (2) stabilize power with Tave = 547°F

B. (1) will
   (2) stabilize power at approximately 13 -15%

C. (1) will **NOT**
   (2) stabilize power with Tave = 547°F

D. (1) will **NOT**
   (2) stabilize power at approximately 13 -15%

22. Given the following:

- Both Units are at 100% power
- The following alarm is received:

  - 1-RA-90-1A AUX BLDG AREA RAD MON HIGH RAD (0-M-12-A, A-7)

Subsequently, the following alarm is received:

- 0-RA-90-101A AUX BLDG VENT MONITOR HI RAD (0-M-12-B, B-1)

- No other rad monitors are in alarm.

Which one of the following completes the statements below?

The cause of the alarms is __(1)__ .

0-AR-M12-B, B-1 Annunciator Response Procedure, __(2)__ contain steps to check that automatic actions have occurred.

	(1)	(2)
A.	Gas Decay Tank relief valve fails open	does
B.	Gas Decay Tank relief valve fails open	does **NOT**
C.	Gas Decay Tank pressure indicator sensing line breaks	does
D.	Gas Decay Tank pressure indicator sensing line breaks	does **NOT**

23. Given the following:

- Both Units are at 100%
- A fire in the Control Building requires evacuating the Main Control Room

In accordance with AOP-C.04 "Shutdown from Auxiliary Control Room" which one of the following completes the statements below?

PRIOR to the reactor being tripped...

the OATC _(1)_ dispatched outside the MCR

and

following the reactor trip the next action in the MCR is to _(2)_ .

A. is ENSURE MSIV and MSIV bypass valve handswitches to CLOSE

B. is RCP handswitches in STOP/PULL TO LOCK

C. is **NOT** ENSURE MSIV and MSIV bypass valve handswitches to CLOSE

D. is **NOT** RCP handswitches in STOP/PULL TO LOCK

24. Given the following:

- Unit 2 is at 100% power
- AOP-R.06 "High RCS Activity" is in progress

Which of the following completes the sentences below?

AOP-R.06 "High RCS Activity" directs monitoring __(1)__ .

LCO 3.4.16 "RCS Specific Activity" is applicable in Modes __(2)__ .

A. (1) 2-RR-90-1A AUX BLDG AREA RAD MON
   (2) 1-4

B. (1) 2-RR-90-1A AUX BLDG AREA RAD MON
   (2) 1-5

C. (1) 0-RE-90-101B AUX BLDG VENT RADMON-TOTAL GAS
   (2) 1-4

D. (1) 0-RE-90-101B AUX BLDG VENT RADMON-TOTAL GAS
   (2) 1-5

25. Following a large steam line rupture, monitoring of Critical Safety Function Status Trees indicates a RED path for Pressurized Thermal Shock.

    In accordance with EPM-3-FR-P.1 "Basis Document for FR-P.1 "Pressurized Thermal Shock" which one of the statements below identifies the limiting component and reason for the concern?

	Limiting Component	**Reason for Concern**
A.	Pressurizer	Increased stresses resulting from a rapid depressurization condition at high temperature.
B.	Pressurizer	Increased stresses resulting from a cooldown of unexpected severity or an overpressure condition at low temperature.
C.	Reactor Vessel	Increased stresses resulting from a rapid depressurization condition at high temperature.
D.	Reactor Vessel	Increased stresses resulting from a cooldown of unexpected severity or an overpressure condition at low temperature.

26. Which one of the following completes the statements below in accordance with ES-0.3 "Natural Circulation Cooldown with Steam Void in Vessel (With RVLIS)"

    Operators are __(1)__ to attempt to start a RCP

    and

    RCS cooldown rate is limited to a maximum of __(2)__.

	(1)	(2)
A.	required	50°F/hour
B.	**NOT** allowed	50°F/hour
C.	required	100°F/hour
D.	**NOT** allowed	100°F/hour

27. Given the following:

- Large Break LOCA is in progress on Unit 2
- Containment pressure is 1.9 psig and stable
- The STA reports an ORANGE condition on the CONTAINMENT (FR-Z) Safety Function Status Tree due to high level in the containment sump

Which one of the following...

(1) describes the action(s) that will be directed by FR-Z.2, "Containment Flooding,"

and

(2) In accordance with EPM-3-FR-Z.2 "Basis Document for FR-Z.2 Containment Flooding" what is the concern if the action(s) are **NOT** successful?

A. (1) Transfer water from containment sump to the RWST.
(2) Components necessary for plant recovery could be damaged and rendered inoperable.

B. (1) Transfer water from containment sump to the RWST.
(2) Water reaching the bottom of the reactor vessel could result in thermal shock and vessel failure.

C. (1) Identify and isolate the source of excess water.
(2) Components necessary for plant recovery could be damaged and rendered inoperable.

D. (1) Identify and isolate the source of excess water.
(2) Water reaching the bottom of the reactor vessel could result in thermal shock and vessel failure.

28. Given the following:

- Unit 1 is at 9% power
- All control systems are in AUTO

Subsequently,

- Loop 1 Reactor Coolant Pump tripped
- No operator actions have been taken

Which one of the following is the plant response?

A. #2, #3, and #4 S/G steam flows rise.

B. #2, #3, and #4 S/G steam flows lower.

C. #2, #3, and #4 S/G steam flows do **NOT** change.

D. The reactor automatically trips on HIGH #1 steam generator level.

29. Given the following:

- Unit 1 is at 100%
- Annunciator TS-62-75 LOW PRESSURE LETDOWN RELIEF TEMP HIGH (1-M-6 Window C-4) is in alarm.
- RCS leakrate is calculated at 3 gpm

To maintain PZR level stable, operator action __(1)__ required.

The letdown relief flow __(2)__ go to the PRT.

	(1)	(2)
A.	is	does
B.	is	does **NOT**
C.	is **NOT**	does
D.	is **NOT**	does **NOT**

30. Given the following:

- Unit 1 is at 100% power
- Letdown in service at 75 gpm

Which one of the following conditions will result in **lowering** the available NPSH to the CCPs?

A. Loss of air to 1-FCV-62-77, Letdown Flow Isolation

B. Loss of air to 1-FCV-62-118, Letdown Divert to HUT LCV

C. Loss of air to 1-FCV-62-79, Mixed Bed High Temp Bypass

D. Loss of air to 1-TCV-70-192, Letdown HX Outlet Temperature Control

31. Which one of the following is powered from C&A Vent Board 1B1-B?

    A. 1-FCV-74-1, RHR Suction From Loop 4 HL

    B. 1-FCV-74-21, RHR Pump 1B Suction Isolation

    C. 1-FCV-63-1, RHR Pump Suction from the RWST

    D. 1-FCV-63-93, RHR CL Inj To Loops 2 & 3

32. Given the following:
- Unit 1 was operating at 100% power.
- A loss of Vital Instrument Power Board 1-II occurred.
- The OATC observes the following:
  • RWST to CCP suction valves 1-FCV-62-135, -136 automatically OPEN
  • VCT to CCP suction valves 1-FCV-62-132, -133 automatically CLOSE

Which one of the following completes the statement below?

The CCP suction source swapped to the RWST due to a loss of power to _(1)_

and

In accordance with AOP-P.03, "Loss of Unit 1 Vital Instrument Power Board", operators will _(2)_.

	(1)	(2)
A.	Separation Relays	trip the Reactor
B.	Separation Relays	manually transfer CCP suction source to VCT
C.	VCT level Instruments	trip the Reactor
D.	VCT level Instruments	manually transfer CCP suction source to VCT

33. Which one of the following is an AUTOMATIC action during automatic switchover to sump recirculation after a large-break LOCA?

    A. RWST to CCP suction valves (FCV-62-135, -136) CLOSE.

    B. RWST to RHR pump suction valves (FCV-74-3, -21) CLOSE.

    C. RHR Discharge to CCP and SI Pump suction (FCV-63-7, -6) OPEN.

    D. RHR heat exchanger discharge crosstie valves (FCV-74-33, -35) CLOSE.

34. Given the following:

- Unit 2 is at 90% power.
- Due to a leaking PORV, 2-FCV-68-332 PORV block valve was closed.
- PRT level is 89%
- PRT pressure is 7 psig
- PRT Temperature is 145°F

Which one of the following completes the statements below?

In accordance with 2-SO-68-5, "Pressurizer Relief Tank," PRT temperature and __(1)__ are outside the recommended band.

Primary Water flow for PRT cooling enters the tank via __(2)__ .

	(1)	(2)
A.	level	a sparger at the bottom of the tank
B.	level	spray nozzles at the top of the tank
C.	pressure	a sparger at the bottom of the tank
D.	pressure	spray nozzles at the top of the tank

35. Given the following:

- Unit 1 is being cooled down and has been placed on shutdown cooling with 'A' Train RHR in service.
- Temperature on 1-TI-70-157, "RHR Heat Exchanger 1A Outlet Temperature" reads 112°F and rising.

Which one of the following completes the statements below?

In accordance with "RHR HX A OUTLET TEMPERATURE HIGH" (M27-B-A, E-6), Annunciator response, RHR HX outlet temperature shall NOT exceed _(1)_ for given conditions .

In order to reduce the RHR heat exchanger CCS outlet temperature, _(2)_ .

A. (1) 115°F;
(2) either the CCS flow or the RHR flow through the heat exchanger is allowed to be adjusted

B. (1) 115°F;
(2) only the CCS flow through the heat exchanger is allowed to be adjusted

C. (1) 145°F;
(2) either the CCS flow or the RHR flow through the heat exchanger is allowed to be adjusted

D. (1) 145°F;
(2) only the CCS flow through the heat exchanger is allowed to be adjusted

36. Which one of the following is the power supply to the valve position indication for PZR PORV 68-340A on Unit 1?

A. 125V Battery Board I

B. 125V Battery Board IV

C. 120V Vital Instrument Power Board 1-I

D. 120V Vital Instrument Power Board 1-IV

37. Given the following:

- Unit 1 is at 100%
- Rod control has been placed in MANUAL with Tavg at 578.0°F

Which one of the following identifies how the actual RPS trip setpoint value will change if Tavg decreases by 1°F? Assume AFD remains constant.

A. Both OTΔT and OPΔT trip setpoint values will decrease.

B. OTΔT trip setpoint value will increase and OPΔT trip setpoint value will decrease.

C. OTΔT trip setpoint value will increase and OPΔT trip setpoint value will remain the same.

D. OTΔT trip setpoint value will remain the same and OPΔT trip setpoint value will decrease.

38. Given the following:

- Unit 1 is in Mode 3 preparing for a reactor startup

Which of the following completes the sentences below?

Technical Specification 3.5.2 ECCS - Operating __(1)__ applicable for this plant condition.

LCO 3.5.2 helps ensure highest fuel cladding temperature following a LOCA will not exceed __(2)__ .

	(1)	(2)
A.	is	2200°F
B.	is	1200°F
C.	is **NOT**	2200°F
D.	is **NOT**	1200°F

39. Given the following:

- Both Units are at 100%
- Upper Compartment Cooling Units A-A and B-B are in service on both units

Compare the effects of the inadvertent closing of the **Lower** Compartment Cooling Unit (LCCU) valves listed:

- Unit 1, LCCU 1A-A ERCW Inlet FCV (Outboard), 1-FCV-67-107
- Unit 2, LCCU 2A-A ERCW Inlet FCV (Outboard), 2-FCV-67-107

Which one of the following identifies the effect on the Upper Containment humidity on the respective unit(s) and the mitigation strategy, if any?

A. Upper containment humidity would RISE on Units 1 and 2.
No additional cooling unit would be available to be placed in service for either Unit.

B. Upper containment humidity would RISE on Units 1 and 2.
0-SO-30-4, Upper Compartment Cooling Units, would be used to place additional coolers in service on both Units.

C. Upper containment humidity would RISE on Unit 1 only.
No additional cooling unit would be available to be placed in service for this Unit.

D. Upper containment humidity would RISE on Unit 1 only.
0-SO-30-4, Upper Compartment Cooling Units, would be used to place additional coolers in service for this Unit.

40. Given the following:
- A LOCA occurred on Unit 1
- Phase B automatically actuated

Subsequently
- ECA-1.1 "Loss of ECCS Sump Recirculation", was entered
- Annunciator status
  - LS-63-50A RWST LVL LO, 1-M6-E window E-3 is in Alarm
  - LS-63-50B RWST LVL LO-LO, 1-M6-E window E-4 is Dark
  - STM GEN LEVEL ADVERSE SETPOINT, 1-M3-C window E-2 is Dark
- Both Containment Spray pumps are running
- The crew is implementing Step 9:

9. **DETERMINE** containment spray requirements:

Which one of the following completes the statement below?

_(1)_ Containment Spray Pump(s) are required to be secured _(2)_.

[REFERENCE PROVIDED]

	(1)	(2)
A.	One	now
B.	One	when LS-63-50B RWST LVL LO-LO alarms
C.	Both	now
D.	Both	when LS-63-50B RWST LVL LO-LO alarms

41. The reason the Ice Condenser Lower Inlet doors are required to be closed during normal operations is to prevent which of the following?

A. Loss of Divider Barrier Integrity.

B. Excessive sublimation of the ice.

C. Frost buildup blocking flow channels.

D. Violating minimum containment air temperature.

42. Given the following:

- Unit 1 is at 100% power

Subsequently,

- A LOCA occurred
- ES-1.3, "Transfer to RHR Containment Sump" is in progress
- Containment pressure peaked at 3.0 psig
- Current containment pressure is 1.8 psig and stable

In accordance with ES-1.3 which one of the following identifies the **MINIMUM** action(s) necessary to allow 1B-B Containment Spray Pump to be stopped and placed in A-AUTO?

A. Reset the Train B Phase B signal and then the Train B Containment Spray signal

B. Reset the Train B Containment Spray signal **ONLY**

C. Simultaneously Reset BOTH Trains of Phase B

D. Reset the Train B Phase B **ONLY**

43. Given the following:

A plant cooldown is in progress on Unit 2 in accordance with 0-GO-7, "Unit Shutdown From Hot Standby To Cold Shutdown."

at 08:00, conditions were achieved in accordance with 0-GO-7:
- RCS pressure is 1850 psig
- RCS temperature is 455°F

Subsequently,
at 08:15, an event occurred and the following conditions currently exist

- RCS pressure is 1700 psig and lowering at 10 psi per second
- S/G pressures are 700 psig and lowering at 25 psi per second
- Containment pressure is 1.2 psig and rising

Which one of the following completes the statement below?

At 08:15,

an automatic Safety Injection _(1)_ occurred

and

a Main Steam Line Isolation _(2)_ occurred.

	(1)	(2)
A.	has	has
B.	has	has **NOT**
C.	has **NOT**	has
D.	has **NOT**	has **NOT**

44. Given the following:
- Unit 1 is at 25% power
- The #3 S/G MFW Reg valve is in Manual and throttled open
- The #3 S/G MFW Bypass valve is in Manual and closed

Which one of the following completes the statement below for how controllers are required to be transferred from MANUAL to AUTO in accordance with 1-SO-98-1"Distributed Control System (DCS)"?

The __(1)__ controller will be transferred first, otherwise SG level will __(2)__ .

	(1)	(2)
A.	MFW Reg valve	Rise
B.	MFW Reg valve	Lower
C.	MFW Bypass valve	Rise
D.	MFW Bypass valve	Lower

45. Given the following:

- Unit 1 is at 100% power.
- MFW header pressure transmitters (1-PT-3-1, 1A, 1B) fail **LOW** due to an instrument line leak.
- DCS does **NOT** transfer any MFW controllers to manual.

Which one of the following completes the statements below?

The failure will initially cause Steam Generator levels to _(1)_.

In accordance with AOP-S.01, "Main Feedwater Malfunctions," the operator is required to take manual control of _(2)_ to stabilize the plant.

	(1)	(2)
A.	rise	main feed pump speed control
B.	rise	main feedwater regulating valves
C.	lower	main feed pump speed control
D.	lower	main feedwater regulating valves

46. Given the following:

- Unit 2 is at 50% power

Subsequently, a reactor trip occurs

- The crew entered ES-0.1, "Reactor Trip Response" and is performing Step 1
- The following parameters are observed:
  - PZR level is 25% and slowly lowering
  - All S/G levels are between 12% and 18% NR and slowly rising
  - S/G pressures are 990 psig and slowly lowering
  - All RCPs are running
  - Tavg is 545°F and slowly lowering
  - RCS pressure is 2020 psig and slowly lowering
- NO operator actions have been taken

In accordance with ES-0.1, which one of following is required to be performed FIRST?

A. Emergency borate

B. Throttle Auxiliary Feedwater flow

C. Close MSIVs and bypass valves

D. Initiate Safety Injection

47. Given the following:

- Unit 2 is in Mode 1
- The TDAFW Pump is tagged out of service
- A Loss of Feedwater causes a reactor trip
- Concurrent with the trip, 2B-B 6.9kV SDBD de-energizes on Differential fault

Assuming **NO** operator actions have been taken, which one of the following describes the Auxiliary Feedwater alignment and design flowrate for these conditions?

A. 1 and 2 S/Gs being fed at 220 GPM each

B. 1 and 2 S/Gs being fed at 440 GPM each

C. ALL S/Gs being fed at 110 GPM each

D. ALL S/Gs being fed at 220 GPM each

48. Given the following:

- 0-SO-82-2 "Diesel Generator 1B-B", Section 8.3 Control Room Start is in progress for a Post maintenance test run
- Shutdown Boards are aligned to the Normal Supply Unit boards

Which of the following completes the statement below?

The 1B-B Diesel Generator will be operating in parallel with the supply from the _(1)_ 6.9 kV Unit Board.

and

If the DG output breaker Overcurrent (50) Relay actuates during the maintenance run, while operating in parallel, it _(2)_ cause the DG Output breaker to open.

	(1)	(2)
A.	1D	will
B.	1D	will **NOT**
C.	1C	will
D.	1C	will **NOT**

49. Given the following:

- Both Units are at 100% power
- All Offsite power is lost to both Units
- 1A-A and 2B-B diesel generators start and load
- 1B-B and 2A-A diesel generators do **NOT** start
- **NO** operator action has yet been taken

Which one of the following describes status of the 125V Vital Boards?

A. Vital boards I and II are energized by their battery.

B. Vital boards I and IV are energized by their battery.

C. Vital boards II and III are energized by their battery.

D. All Vital 125V DC boards are energized by their battery charger.

50. Which one of the following will cause the Emergency Diesel Generator (EDG) to receive a trip signal following an **Emergency Start** condition?

A. Engine Overspeed

B. Low lube oil pressure

C. High Jacket Water temperature

D. Loss of Field (40) Relay actuation

51. Given the following:

- Unit 1 is at 100% power with Steam Generator Blowdown (SGBD) in service to the Cooling Tower Blowdown.
- The following alarm is received:
  - "1-RA-120/121B STM GEN BLDN LIQ SAMP MON INSTR MALFUNC" (0-AR-M12A, B6), due to low sample flow.
  - FCV-15-44, S/G Blowdown to CTBD, is open

Which one of the following completes the sentences below?

Normally __(1)__ of the rad monitors that provide input to this alarm is(are) in service.

In accordance with the ARP, the operator is required to __(2)__ .

	(1)	(2)
A.	one	ensure FCV-15-44 is closed
B.	one	dispatch operator to adjust sample flow
C.	both	ensure FCV-15-44 is closed
D.	both	dispatch operator to adjust sample flow

52. Given the following:

    - Both units were operating at 100%

    Subsequently,

    - A loss of all off site power to both units occurs
    - The 2A-A DG did not start.

    Which ERCW pumps will <u>have</u> power available?

    A. J-A and K-A

    B. J-A and Q-A

    C. K-A and R-A

    D. Q-A and R-A

53. Given the following:

- A Safety Injection has occurred on Unit 1
- ERCW pump L-B is not selected and not running
- ERCW pump M-B pump failed to automatically start

Which one of the following describes the impact of this ERCW condition (if any) on the 1B-B D/G?

A. 1B-B D/G will **NOT** auto-start

B. 1B-B D/G is required to be immediately stopped

C. 1B-B D/G will be unaffected since the ERCW system is crosstied between the 1A and 1B trains

D. 1B-B D/G will be unaffected since the 1B ERCW header is crosstied with the 2B ERCW header

54. Given the following:

- Unit 1 is at 100% power
- Annunciator "LS-32-63 AUX AIR COMPRP A LOW OIL LVL HI AIR TEMP" 1-AR-M15-B(C-6) is in alarm
- Auxiliary Building AUO reports a red indicating light for high discharge air temperature is LIT

Which one of the following completes the statements below?

This condition _(1)_ cause an automatic trip of the Auxiliary air compressor.

Cooling water to the Auxiliary Air Compressor _(2)_ supplied from the Raw Cooling Water system.

	(1)	(2)
A.	will	is
B.	will	is **NOT**
C.	will **NOT**	is
D.	will **NOT**	is **NOT**

55. Given the following:

- Unit 1 is in Mode 6.
- An inadvertent dilution is in progress.
- Source Range audible count rate is rising.

In accordance with SOURCE RANGE HIGH FLUX LEVEL AT SHUTDOWN (1-AR-M4-B) which ONE of the following completes the statements below?

The EARLIEST time that containment evacuation is required is when SR counts first reach _(1)_ times above background.

An audible alarm inside containment _(2)_ occur when the annunciator alarms.

	(1)	(2)
A.	3	will
B.	3	will **NOT**
C.	5	will
D.	5	will **NOT**

56. Which one of the following completes the statement below?

The Unit 2 Power Range Overpower Rod withdrawal stop setpoint is _(1)_ on _(2)_ Power Range channels.

	(1)	(2)
A.	100% Power	1 of 4
B.	100% Power	2 of 4
C.	103% Power	1 of 4
D.	103% Power	2 of 4

57. Normal DC Control Power for the 1A-A Centrifugal Charging Pump breaker is powered from which of the following electrical boards?

A. Vital Battery Board I

B. Vital Battery Board II

C. Vital Battery Board III

D. Vital Battery Board IV

58. Given the following:

- 1-FR-0 "Status Trees" for CORE COOLING is being evaluated
- RVLIS > 42% lower range

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Which one of the following completes the statement below?

A RED PATH in Core Cooling requires at least _(1)_ thermocouples greater than _(2)_ .

	(1)	(2)
A.	four	700°F
B.	four	1200°F
C.	five	700°F
D.	five	1200°F

59. Given the following:

- The Rx has tripped from 65% power.
- 'A' Rx trip breaker failed to open (remains closed)

Which one of the following completes the statement below?

Control of steam dumps will _____ .

A. transfer to the Rx Trip Controller and the steam dump valves will open

B. remain on the Load Reject Controller and the steam dump valves will open

C. transfer to the Rx trip controller, however, the steam dump valves will NOT open

D. remain on the Load Reject Controller; however, the steam dump valves will NOT open

60. Given the following:

- Unit 2 is at 100%
- CRO observes the following on EHC Display Panel, 2-XX-47-2000:
  - 'RUNBACK OPER' light LIT
  - 'VALVE POS LIMIT' light DARK

Which one of the following describes the event and turbine control response to the event in progress? (Assume no operator action.)

	EVENT	**TURBINE CONTROL RESPONSE**
A.	OTΔT Runback	Reference and setter indicating changing values.
B.	OTΔT Runback	Reference and setter indicating the initial value.
C.	HDTP Runback	Reference and setter indicating changing values.
D.	HDTP Runback	Reference and setter indicating the initial value.

61. In accordance with AOP-S.02 "Loss of Condenser Vacuum" which one of the following completes the statements below?

When turbine load is less than 30%, the EARLIEST time a manual turbine trip is required is when condenser pressure first rises above (1) .

When turbine load is greater than 30%, the EARLIEST time a manual reactor trip is required is when condenser pressure first rises above (2) .

	(1)	(2)
A.	1.72 psia	3.5 psia
B.	1.72 psia	5.4 psia
C.	2.7 psia	3.5 psia
D.	2.7 psia	5.4 psia

62. Which one of the following completes the statement below?

The 1A MFW Pump auto-trip setpoint for seal water is low _____ that lasts for 28 seconds.

A. injection pressure below 220 psig

B. differential pressure below 10 psid

C. injection pressure below 265 psig

D. differential pressure below 20 psid

63. In accordance with 0-SO-77-1, "Waste Disposal System (Liquid)" which one of the following completes the statements below?

The minimum required dilution flow for radioactive liquid releases is _(1)_ .

IF a total of two CCW Pumps are running at the site, THEN the minimum required dilution flow for radioactive liquid releases _(2)_ met.

	(1)	(2)
A.	10,000gpm	is
B.	10,000gpm	is **NOT**
C.	17,000gpm	is
D.	17,000gpm	is **NOT**

64. Which one of the following completes the statements below?

0-RE-90-125/126 "Main Control Room Intake Monitors", __(1)__ the instruments that cause a Control Room Isolation.

If a Control Room Isolation occurs, 0-FCO-311-20 "MCR AHU A INLET" __(2)__ required to be OPEN.

	(1)	(2)
A.	are	is
B.	are	is **NOT**
C.	are **NOT**	is
D.	are **NOT**	is **NOT**

65. Both units are performing AOP-M.01, Loss of ERCW, for a Loss of all ERCW flow.

- High Pressure Fire Protection (HPFP) temporary cooling has been aligned in accordance with AOP-M.01
- No actions have been performed under Appendix H, TSC Actions in the event of Loss of ERCW.

Subsequently,
A total loss of the High Pressure Fire Protection system occurs.

Which of the following have lost their source of TEMPORARY cooling?

A. Glycol Chillers

B. Centrifugal Charging Pumps

C. Residual Heat Removal Pumps

D. Component Cooling System Pumps

66. Which one of the following identifies when a required periodic verification of a locked valve may be waived in accordance with OPDP-6, Locked Valve/Breaker Program?

A. Valve located in area where the heat stress stay time <1 hour.

B. Valve located in containment raceway during normal power operations.

C. Valve inside a Clearance boundary with system's status control not being maintained.

D. Valve located within a locked area and access to the area has not occurred since the last verification.

67. In accordance with Tech Spec 3.4.16, "RCS Specific Activity", which one of the following identifies the specific activity limits for the primary coolant in Mode 1?

	Dose Equivalent Xe-133	Dose Equivalent I-131
A.	≤ 1612.6 microcuries/gram	≤ 0.10 microcuries/gram
B.	≤ 1612.6 microcuries/gram	≤ 0.35 microcuries/gram
C.	≤ 1200 microcuries/gram	≤ 0.10 microcuries/gram
D.	≤ 1200 microcuries/gram	≤ 0.35 microcuries/gram

68. Which one of the following completes the statements below?

The license thermal power limit is based on a __(1)__ AVERAGE.

In accordance with OPDP-1 "Conduct of Operations", secondary-side control valve oscillations that cause AVERAGE thermal power to exceed the licensed thermal power limit __(2)__ allowable.

	(1)	(2)
A.	1 hour	are
B.	1 hour	are **NOT**
C.	8 hour	are
D.	8 hour	are **NOT**

69. Given the following:

- 1C HWP has been secured for three days for maintenance.
- Hold order was removed and the pump was started at **1005**.
- Immediately after the motor came up to speed, the pump was shut down.
- The pump was restarted at **1020**
- The pump continued to run until **1045**, when it was shutdown again.

In accordance with GOI-6, "Apparatus Operations," which one of the following identifies if/when the 1C HWP can be restarted?

A. Pump can be restarted immediately.

B. 20 minutes cooldown is required prior to restarting.

C. 45 minutes cooldown is required prior to restarting.

D. Starting requirements were violated, do not restart the pump.

70. Which one of the following completes the statements below?

The Safety Limit (Tech Spec 2.1.2) for RCS pressure states RCS pressure shall be maintained $\leq$ (1) .

Tech Spec 2.1.2 is applicable in modes (2) .

	(1)	(2)
A.	2485 psig	1-4
B.	2485 psig	1-5
C.	2735 psig	1-4
D.	2735 psig	1-5

71. In accordance with 0-SO-77-1 "Waste Disposal System" Section 6.2, Monitor Tank Recirculation and Release, what is the minimum required recirculation time?

A. 5 minutes

B. 10 minutes

C. 50 minutes

D. 60 minutes

72. Given the following:

- A Unit 1 Lower Containment entry in accordance with 0-PI-OPS-000-011.0, "Containment Access Control during Modes 1-4" is scheduled to add oil to #1 RCP

- The Incore Flux Detectors are within 10 feet of the bottom of the core

Which one of the following completes the statements below?

The Incore Flux detectors __(1)__ in an approved storage location to be TAGGED.

and

UNIT 1 UPR/LWR AIR LOCK BREACH (0-M12-C, A-5) __(2)__ expected to alarm.

	(1)	(2)
A.	are	is
B.	are	is **NOT**
C.	are **NOT**	is
D.	are **NOT**	is **NOT**

73. In accordance with EPM-4 “User’s Guide” which one of the following completes the statements below?

    One of the verbs used to visually identify a Continuous Action Step is _(1)_ .

    Equipment or control devices _(2)_ be manipulated when performing a step with the word CHECK.

	(1)	(2)
A.	MONITOR	must
B.	MONITOR	should **NOT**
C.	ENSURE	must
D.	ENSURE	should **NOT**

74. Given the following:

The crew has reached a point in the EOPs where FRPs are being monitored and implemented when required.

In accordance with EPM-4,"User's Guide" which one of the following completes the statements below?

If a RED or ORANGE priority condition comes in and clears prior to FRP entry, the FRP __(1)__ performed.

FR-C.2, "Degraded Core Cooling", includes steps for depressurizing intact S/Gs which may cause a RED path on the FR-P.1, "Pressurized Thermal Shock status tree". In this case __(2)__ has priority.

	(1)	(2)
A.	must be	FR-C.2
B.	must be	FR-P.1
C.	does not need to be	FR-C.2
D.	does not need to be	FR-P.1

75. Which one of the following procedures contains at least one immediate operator action?

A. AOP-M.02, Loss of Control Air

B. ECA-0.0, Loss of All AC Power

C. FR-C.1 Inadequate Core Cooling

D. AOP-C.02, Uncontrolled RCS Boron Concentration Changes

76. Given the following:

- Unit 1 is in Mode 4
- Containment Pressure is rising slowly

Which one of the following completes the statements below?

Technical Specification LCO 3.6.4, "Containment Pressure" _(1)_ applicable in MODE 4.

In accordance with Technical Specification 3.6.4, Bases, a _(2)_ results in a higher peak containment pressure and is the bounding event when both worst case events are considered.

	(1)	(2)
A.	is	LOCA
B.	is	SLB
C.	is **NOT**	LOCA
D.	is **NOT**	SLB

77. Given the following:
- Unit 1 is at 100% power
- Pressurizer level starts to lower
- Initially, both of the following temperature indications indicate a lowering trend

1-TI-62-71, "REGEN HX OUTLET TEMP - LETDOWN"
1-TI-62-87, "REGEN HX OUTLET TEMP - CHARGING"

Subsequently, the crew entered AOP-R.05 "RCS Leak" and performed the following actions:

- Charging flow was controlled to stabilize PZR level
- VCT level could NOT be maintained and CCP suction was aligned to the RWST
- A manual Reactor trip was inserted due to the inability to stop the boration.

Which one of the following completes the statements below?

The leak is located on the _(1)_ line downstream of the Regenerative Heat Exchanger.

In accordance with AOP-R.05, the Unit SRO _(2)_ required to implement AOP-C.02, "Uncontrolled RCS Boron Concentration Changes."

	(1)	(2)
A.	Letdown	is
B.	Letdown	is **NOT**
C.	Charging	is
D.	Charging	is **NOT**

78. Given the following:

- Unit 1 is in MODE 5 performing AOP-R.03, RHR System Malfunction, due to a loss of CCS cooling
- CCS flow could not be established to either 'A' or 'B' RHR heat exchanger

[REFERENCE PROVIDED]

Which one of the following completes the statements below?

The 'A' RHR pump mini-flow valve __(1)__ in the correct position.

In accordance with AOP-R.03, the crew is required to GO TO __(2)__ .

	(1)	(2)
A.	is	AOP-M.03, Loss of Component Cooling Water
B.	is	AOP-R.03 Section 2.6, RCS Alternate Heat Sink using S/Gs or RCS Feed and Bleed
C.	is **NOT**	AOP-M.03, Loss of Component Cooling Water
D.	is **NOT**	AOP-R.03 Section 2.6, RCS Alternate Heat Sink using S/Gs or RCS Feed and Bleed

79. Given the following:

- Unit 1 has entered AOP-I.11, “Eagle 21 Malfunction”

Subsequently,

- AOP-I.04, “Pressurizer Instrument and Control Malfunctions”, is entered to remove Pzr Pressure Instrument 1-P-68-340 from service.

- The Loop 1 OTΔT setpoint is NORMAL

Which one of the following completes the statement below?

The Unit Supervisor _(1)_ required to perform Attachment 1, Removing Channel I Pzr Press Instrument P-68-340 from Service (Including Channel I OTΔT Bistables)

and

in accordance with the Basis for Tech Spec 3.3.1 "Reactor Trip System Instrumentation" the Overtemperature (OT) ΔT trip Function ensures the _(2)_.

	(1)	(2)
A.	is	integrity of the fuel
B.	is	design limit DNBR is met
C.	is **NOT**	integrity of the fuel
D.	is **NOT**	design limit DNBR is met

80. Given the following:

- A tube rupture has occurred in SG #1
- The crew is performing E-3, Steam Generator Tube Rupture
- RCS subcooling is 46°F
- Pressurizer level is 22%

Which one of the following identifies the procedure that will cooldown and depressurize and allow RHR to be placed in service in the least amount of time?

A. ES-3.1, Post-SGTR Cooldown Using Backfill.

B. ES-3.2, Post-SGTR Cooldown Using Blowdown.

C. ES-3.3, Post-SGTR Cooldown Using Steam Dump.

D. ECA-3.2, SGTR With Loss of Reactor Coolant - Saturated Recovery Desired.

81. Given the following:

- Both Units are operating at 100% power.

0700 - 120V AC Vital Instrument Power Board (VIPB) **2-III** was declared INOPERABLE.

0900 - Unit 1 OATC reports all channel status lights on RX Trip - SI Status panels are **dark.**

Which one of the following completes the statement below?

At 0900, 120V AC VIPB __(1)__ was lost.

In accordance with Tech Specs, the earliest time required to enter Mode 3 is __(2)__ .(Assuming no repairs have been completed)

REFERENCE PROVIDED

A. (1) 1-I
   (2) 2100

B. (1) 1-I
   (2) 2300

C. (1) 1-II
   (2) 2100

D. (1) 1-II
   (2) 2300

82. Given the following:

- Unit 1 is at 90% power
- Control Bank D rods at 215 steps

Subsequently,

- A runback occurred on Unit 1 due to a MFP trip
- The OATC reports:
  - Control Bank D is at 115 steps
  - Control Bank D rods D4 and D12 are at 130 steps due to liftcoil failures

[REFERENCE PROVIDED]

Which one of the following completes the statements below?

LCO 3.1.4 "Rod Group Alignment Basis", Condition A __(1)__ required to be entered.

In accordance with AOP-C.01 "Rod Control Malfunctions" this condition will be corrected by __(2)__ .

	(1)	(2)
A.	is	rod realignment
B.	is	reactor shutdown
C.	is **NOT**	rod realignment
D.	is **NOT**	reactor shutdown

83. Given the following:

- Startup in progress in accordance with 0-GO-4, Power Ascension from Less than 5% Reactor Power to 30% Reactor Power
- Power is being held at 7%

0800, 29 OCT N-35 declared INOPERABLE
0700, 30 OCT N-36 failed to 20%, actual power was still at 7%

Which one of the following completes the statement below?

The earliest time Unit 1 is required to reduce Thermal Power < P-6 is _(1)_

and

when power is < P-6 the Source Range _(2)_ automatically reinstate.

[REFERENCE PROVIDED]

	(1)	(2)
A.	0800, 30 OCT	will
B.	0800, 30 OCT	will **NOT**
C.	0900, 30 OCT	will
D.	0900, 30 OCT	will **NOT**

84. Which one of the following completes the following statement IAW the SQN Fire Protection Report Part II - Fire Protection Plan?

A continuous fire watch requires that a trained individual be in the specified area at _(1)_, and that each compartment in the specified area be patrolled at least once _(2)_.

	(1)	(2)
A.	all times	every 5 minutes
B.	all times	every 15 minutes
C.	least every 15 minutes	every 5 minutes
D.	least every 15 minutes	every 15 minutes

85. Which one of the following completes both statements in accordance with FR-C.3 "Saturated Core Cooling"?

IF ECA-3.2 "SGTR With Loss of Reactor Coolant-Saturated Recovery Desired", is in progress, THEN FR-C.3 _(1)_ be performed.

FR-C.3, Step 5: (CHECK RCS Inventory Loss Paths) _(2)_.

	(1)	(2)
A.	must	all block valves are required to be closed
B.	must	at least one block valve is required to be open
C.	is **NOT** required to	all block valves are required to be closed
D.	is **NOT** required to	at least one block valve is required to be open

86. Given the following:

-Unit 2 is implementing FR-C.2 "Degraded Core Cooling"
-All RCPs are running

Which one of the following completes the statement below?

In accordance with FR-C.2 "Degraded Core Cooling" _(1)_ RCP(s) will be secured.

In accordance with EPM-3-FR-C.2 "Basis Documents for FR-C.2 Degraded Core Cooling" the pump(s) (is/are) secured based on _(2)_ .

	(1)	(2)
A.	One	reserving for future use
B.	One	reducing heat input to RCS
C.	Three	reserving for future use
D.	Three	reducing heat input to RCS

87. Given the following plant conditions:

- Unit 1 is in MODE 2.
- A loss of 125 VDC Vital Battery Board I occurs.

Which one of the following completes the statements below?

RTA (reactor trip breaker A) main control board indication _(1)_ available.

In accordance with Basis of LCO 3.3.1 "RTS Instrumentation" RTA _(2)_ OPERABLE.

	(1)	(2)
A.	is	remains
B.	is	is **NOT**
C.	is **NOT**	remains
D.	is **NOT**	is **NOT**

88. Given the following:
- Unit 1 is at 100% power

Subsequently,

- A Main Steam Line break occurred on #2 SG upstream of the MSIV
- RX was manually tripped
- Safety Injection was actuated
- E-0 "Reactor Trip or Safety Injection" was entered
- After Immediate Operator Action steps completed the OATC reports
  - RCS pressure 1400 psig and lowering
  - Containment pressure 2.9 psig and rising
- One Pressurizer safety valve is open

Which one of the following completes the statements below?

The MSIVs _(1)_ automatically close.

The FIRST procedure transition from E-0 will be to _(2)_ .

	(1)	(2)
A.	will	E-1, Loss of Reactor or Secondary Coolant
B.	will	E-2, Faulted Steam Generator Isolation
C.	will **NOT**	E-1, Loss of Reactor or Secondary Coolant
D.	will **NOT**	E-2, Faulted Steam Generator Isolation

89. Given the following:

- Unit 1 is at 70% power
- AOP-I.08 "Turbine Impulse Pressure Malfunction" is in progress
- Two turbine impulse pressure channels failed low
  - P-1-73
  - P-47-13

Which one of the following completes the statements below?

Automatic Rod Withdrawal _(1)_ blocked.

AOP-I.08 "Appendix A, Placing Steam Dumps in Pressure Mode" _(2)_ required to be performed.

	(1)	(2)
A.	is	is
B.	is	is **NOT**
C.	is **NOT**	is
D.	is **NOT**	is **NOT**

90. Given the following:

- Both units are in Mode 1 with all 6.9 kV Unit Boards in Automatic and aligned to USSTs.
- The USST 1A LTC CONTROL SWITCH (1-HS-241-107) and USST 1B LTC CONTROL SWITCH (1-HS-241-108) are in the MANUAL – PUSHED IN position

Which one of the following completes the statement below?

LCO 3.8.1 “AC Sources – Operating” __(1)__ met.

1-HS-241-107 and -108 are located __(2)__.

	(1)	(2)
A.	is	at 1-M-1
B.	is	on the Electrical Control Boards
C.	is **NOT**	at 1-M-1
D.	is **NOT**	on the Electrical Control Boards

91. Given the following:

- Unit 1 is at 100% power
- Backup Bank B Pressurizer heaters lost power

In accordance with LCO 3.4.9 "Pressurizer", which one of the following completes the statements below?

__(1)__ group(s) of pressurizer heaters is(are) required to be OPERABLE.

For the given condition the Pressurizer is __(2)__ .

	(1)	(2)
A.	One	OPERABLE
B.	One	**NOT** OPERABLE
C.	Two	OPERABLE
D.	Two	**NOT** OPERABLE

92. Which one of the following completes both statements for Tech Spec 3.3.3, Post Accident Monitoring Instrumentation?

In Table 3.3.-1 (PAM Instrumentation), for Function 17-Neutron Flux, _(1)_ are required to be operable.

In accordance with the Basis for "Function 17 – Neutron Flux" these instrument(s) _(2)_ required for diagnosing positive reactivity insertion.

A. (1) **ONLY** the Source Range Instruments
(2) are

B. (1) **ONLY** the Source Range Instruments
(2) are **NOT**

C. (1) **BOTH** the Source Range and Intermediate Range Instruments
(2) are

D. (1) **BOTH** the Source Range and Intermediate Range Instruments
(2) are **NOT**

93. Given the following:

- Unit 1 is at 100% power

- “A” Train Lower Containment Purge is in service IAW 0-SO-30-3, "Containment Purge System Operation"

- 1-FCV-30-56 LOWER PURGE EXHAUST fails closed

Which of the following completes the statements below?

Annunciator 1-M6-E window C-6, ZS-61-186 ICE CONDENSER LOWER INLET DOOR OPEN _(1)_ be LIT.

and

In accordance with 0-PI-OPS-000-011.0 "Containment Access Control During Modes 1-4" Plant Manager authorization for Containment access to #1 Accumulator Room to locally inspect 1-FCV-30-56 _(2)_ required.

	(1)	(2)
A.	will	is
B.	will	is **NOT**
C.	will **NOT**	is
D.	will **NOT**	is **NOT**

94. Given the following:

A Work Control Center (WCC) SRO has previously held a SRO license at SQN, but does not currently hold a SRO license.

In accordance with OPDP-1 "Conduct of Operations" which of the following completes the statements below?

This WCC SRO _(1)_ authorize switchyard access.

This WCC SRO _(2)_ be the incident commander.

	(1)	(2)
A.	can	can
B.	can	can **NOT**
C.	can **NOT**	can
D.	can **NOT**	can **NOT**

95. Given the following:

- Unit 1 Ice bed maximum temperature readings are being logged every 12 hours in accordance with SR 3.6.12.1

Date	Time	Maximum Ice Bed Temperature
25 Oct	0830	19.50°F
25 Oct	2030	21.50°F
26 Oct	0830	23.50°F
26 Oct	2030	25.50°F

Which one of the following completes the statements below?

In accordance with LCO 3.6.12 "Ice Bed", if current temperature trend continues the earliest the Ice Bed will be INOPERABLE is at __(1)__ .

In accordance with SR 3.0.2 to comply with the Frequency of 12 hours the reading may be taken a maximum of __(2)__ from the previous reading.

	(1)	(2)
A.	27 Oct 0830	13.2 hours
B.	27 Oct 0830	15 hours
C.	28 Oct 2030	13.2 hours
D.	28 Oct 2030	15 hours

96. In accordance with NPG-SPP-10.2 "Clearance Procedure to Safely Control Energy" which one of the following completes the statements below?

Local Control Pushbuttons/Hand switches _(1)_ be used as as an energy isolation device for a clearance.

A licensed SRO who has not stood watch in the control room SRO for 6 months (i.e, an inactive SRO) _(2)_ allowed to approve a clearance for placement or release.

	(1)	(2)
A.	can	is
B.	can	is **NOT**
C.	can **NOT**	is
D.	can **NOT**	is **NOT**

97. In accordance with NPG-SPP-07.2.11, "Shutdown Risk Management," which one of the following completes the statements below?

    The Defense-in-Depth checklist must be completed __(1)__ .

    A planned entry into a RED condition __(2)__.

    A. (1) each shift
       (2) requires Plant Manager authorization

    B. (1) each shift
       (2) is **NOT** allowed

    C. (1) every 24 hours
       (2) requires Plant Manager authorization

    D. (1) every 24 hours
       (2) is **NOT** allowed

98. Given the following:

- Both Units are at 100% power
- LS-87-3 SPENT FUEL PIT LEVEL HIGH-LOW annunciator is LIT

Which one of the following completes the statements below?

The Spent Fuel Pit level annunciator is located on __(1)__ .

In accordance with Technical Specification 3.7.13, "Spent Fuel Pool Water Level Basis", the minimum water level __(2)__ .

A. (1) both Units
(2) provides long term cooling following a core unload

B. (1) both Units
(2) meets the assumptions of iodine decontamination factors following a fuel handling accident

C. (1) Unit 1 **ONLY**
(2) provides long term cooling following a core unload

D. (1) Unit 1 **ONLY**
(2) meets the assumptions of iodine decontamination factors following a fuel handling accident

99. Which one of the following completes the following statements in accordance with EPIP-8, "Personnel Accountability and Evacuation?"

The decision to utilize the Assembly and Accountability System to invoke the “Two Person Line of sight Rule” will be made by the _(1)_ based upon the recommendation of the _(2)_ .

	(1)	(2)
A.	Nuclear Security Response Team Leader	Shift Manager or SED
B.	Shift Manager or SED	Nuclear Security Response Team Leader
C.	Operations Support Center	Nuclear Security Response Team Leader
D.	Nuclear Security Response Team Leader	Operations Support Center

100. In accordance with EPIP-1 "Emergency Plan Classification Matrix" which one of the following completes the statement below?

If a condition existed 2 hours ago that met an EAL threshold but no emergency was declared and the basis for the emergency no longer exists at the time of discovery, then the emergency condition ____ .

A. must be declared and reported to the NRC within 1 hour

B. must be declared and reported to the NRC within 4 hours

C. shall **NOT** be declared, but must be reported to the NRC within 1 hour

D. shall **NOT** be declared, but must be reported to the NRC within 4 hours

Step	Action/Expected Response	Response Not Obtained

9. **DETERMINE** containment spray requirements:

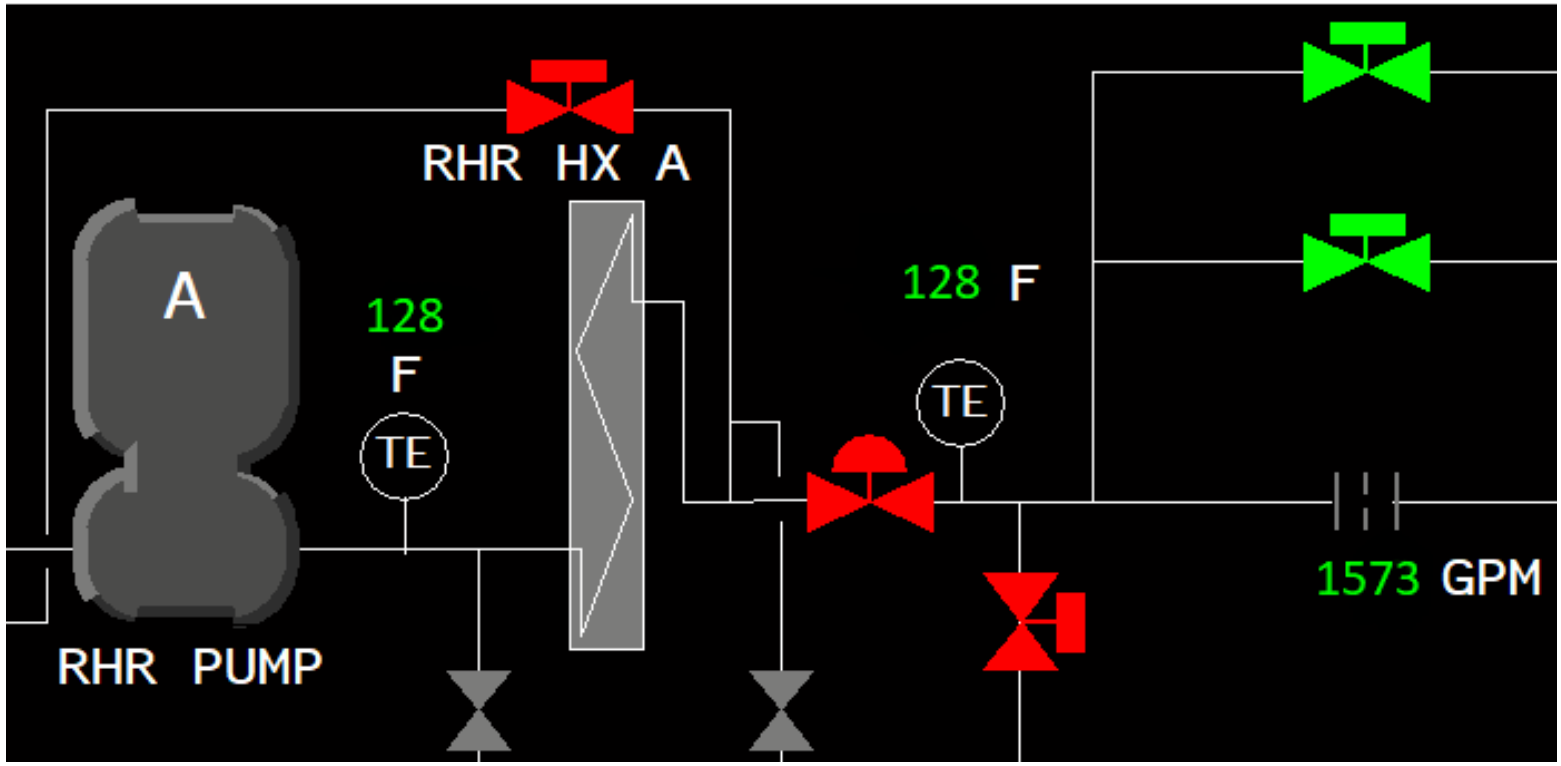
   a. **CHECK** Cntmt Spray pump suction ALIGNED to RWST.

   a. **IF** Cntmt Spray pump suction is aligned to sump,
   THEN
   GO TO Step 11.

   b. **DETERMINE** number of spray pumps required from table below:

RWST LEVEL (%)	CNTMT PRESSURE (PSIG)	NUMBER OF CNTMT SPRAY PUMPS REQUIRED
Greater than 8	Greater than 12.0	2
	Between 9.5 and 12.0	1
	Less than 9.5	0
Less than 8	--------	0

(Step continued on next page.)


RHR HX A
A
128
F
TE
128 F
TE
1573 GPM
RHR PUMP

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems - Operating

LCO 3.8.9 Two electrical power distribution trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 1 AC shutdown boards inoperable.	A.1 ----------NOTE---------- Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for vital DC electrical power trains made inoperable by inoperable AC electrical power distribution subsystems. ---------- Restore Unit 1 AC electrical power distribution subsystem(s) to OPERABLE status.	8 hours
B. One or more AC vital instrument power distribution subsystems inoperable.	B.1 Restore AC vital instrument power distribution subsystem(s) to OPERABLE status.	8 hours
C. One or more vital DC electrical power distribution subsystems inoperable.	C.1 Restore vital DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
----------NOTES---------- 1. Only applicable during planned maintenance. 2. Only applicable when Unit 2 is defueled or in MODE 6 following defueled with Unit 2 refueling water cavity level ≥ 23 ft. above top of reactor vessel flange. ---------- D. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 2 AC shutdown boards inoperable.	D.1	Declare associated required feature(s) inoperable.	Immediately
E. One or more AC electrical power distribution subsystems inoperable due to one or more Unit 2 AC shutdown boards inoperable for reasons other than Condition D.	E.1	Restore Unit 2 AC electrical power distribution subsystem(s) to OPERABLE status.	24 hours
F. One or more DG DC electrical power distribution panels inoperable.	F.1	Declare associated supported DG inoperable.	Immediately
G. Required Action and associated Completion Time not met.	G.1 AND G.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Two or more electrical power distribution subsystems inoperable that result in a loss of safety function.	H.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required AC, vital DC, DG DC, and AC vital instrument electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

3.1 REACTIVITY CONTROL SYSTEMS

3.1.4 Rod Group Alignment Limits

LCO 3.1.4 All shutdown and control rods shall be OPERABLE.

AND

Individual indicated rod positions shall be within 12 steps of their group step counter demand position.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more rod(s) inoperable.	A.1.1 Verify SDM to be within the limits specified in the COLR. OR A.1.2 Initiate boration to restore SDM to within limit. AND A.2 Be in MODE 3.	1 hour 1 hour 6 hours
B. One rod not within alignment limits.	B.1 Restore rod to within alignment limits. OR B.2.1.1 Verify SDM to be within the limits specified in the COLR. OR	1 hour 1 hour

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.2.1.2 Initiate boration to restore SDM to within limit. AND B.2.2 Reduce THERMAL POWER to ≤ 75% RTP. AND B.2.3 Verify SDM is within the limits specified in the COLR. AND B.2.4 Perform SR 3.2.1.1. AND B.2.5 Perform SR 3.2.2.1. AND B.2.6 Re-evaluate safety analyses and confirm results remain valid for duration of operation under these conditions.	1 hour 2 hours Once per 12 hours 72 hours 72 hours 5 days
C. Required Action and associated Completion Time of Condition B not met.	C.1 Be in MODE 3.	6 hours
D. More than one rod not within alignment limit.	D.1.1 Verify SDM is within the limits specified in the COLR. OR	1 hour

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	D.1.2 Initiate boration to restore required SDM to within limit. AND D.2 Be in MODE 3.	1 hour 6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.4.1	Verify individual rod positions within alignment limit.	In accordance with the Surveillance Frequency Control Program
SR 3.1.4.2	Verify rod freedom of movement (trippability) by moving each rod not fully inserted in the core ≥ 10 steps in either direction.	In accordance with the Surveillance Frequency Control Program
SR 3.1.4.3	Verify rod drop time of each rod, from the fully withdrawn position, is ≤ 2.7 seconds from the beginning of decay of stationary gripper coil voltage to dashpot entry, with: a. T_{avg} ≥ 500°F and b. All reactor coolant pumps operating.	Prior to criticality after each removal of the reactor head

3.3 INSTRUMENTATION

3.3.1 Reactor Trip System (RTS) Instrumentation

LCO 3.3.1 The RTS instrumentation for each Function in Table 3.3.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1-1.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one or more required channels or trains inoperable.	A.1 Enter the Condition referenced in Table 3.3.1-1 for the channel(s) or train(s).	Immediately
B. One Manual Reactor Trip channel inoperable.	B.1 Restore channel to OPERABLE status. OR B.2 Be in MODE 3.	48 hours 54 hours
C. One channel or train inoperable.	C.1 Restore channel or train to OPERABLE status. OR C.2.1 Initiate action to fully insert all rods. AND	48 hours 48 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	C.2.2 Place the Rod Control System in a condition incapable of rod withdrawal.	49 hours
D. One Power Range Neutron Flux - High channel inoperable.	----------NOTES---------- 1. The inoperable channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment of other channels. 2. Perform SR 3.2.4.2 if input to QPTR from one or more Power Range Neutron Flux channels are inoperable with THERMAL power >75% RTP. ---------- D.1 Place channel in trip. <u>OR</u> D.2 Be in MODE 3.	 72 hours 78 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One channel inoperable.	----------NOTE---------- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. ----------	
	E.1 Place channel in trip.	72 hours
	OR	
	E.2 Be in MODE 3.	78 hours
F. One Intermediate Range Neutron Flux channel inoperable.	F.1 Reduce THERMAL POWER to < P-6.	24 hours
	OR	
	F.2 Increase THERMAL POWER to > P-10.	24 hours
G. Two Intermediate Range Neutron Flux channels inoperable.	G.1 ----------NOTE---------- Limited plant cooldown or boron dilution is allowed provided the change is accounted for in the calculated SDM. ----------	
	Suspend operations involving positive reactivity additions.	Immediately
	AND	
	G.2 Reduce THERMAL POWER to < P-6.	2 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. One Source Range Neutron Flux channel inoperable.	H.1 ----------NOTE---------- Limited plant cooldown or boron dilution is allowed provided the change is accounted for in the calculated SDM. ---------- Suspend operations involving positive reactivity additions.	Immediately
I. Two Source Range Neutron Flux channels inoperable.	I.1 Open reactor trip breakers.	Immediately
J. One Source Range Neutron Flux channel inoperable.	J.1 Restore channel to OPERABLE status.	48 hours
	OR	
	J.2.1 Initiate action to fully insert all rods.	48 hours
	AND	
	J.2.2 Place the Rod Control System in a condition incapable of rod withdrawal.	49 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
K. One channel inoperable.	----------NOTE---------- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. ----------	
	K.1 Place channel in trip.	72 hours
	OR	
	K.2 Reduce THERMAL POWER to < P-7.	78 hours
L. One Turbine Trip channel inoperable.	----------NOTE---------- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. ----------	
	L.1 Place channel in trip.	72 hours
	OR	
	L.2 Reduce THERMAL POWER to < P-9.	76 hours
M. One train inoperable.	----------NOTE---------- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. ----------	
	M.1 Restore train to OPERABLE status.	24 hours
	OR	
	M.2 Be in MODE 3.	30 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
N. One reactor trip breaker train inoperable.	----------NOTE---------- One train may be bypassed for up to 4 hours for surveillance testing, provided the other train is OPERABLE. ----------	
	N.1 Restore train to OPERABLE status.	24 hours
	OR	
	N.2 Be in MODE 3.	30 hours
O. One or more channels inoperable.	O.1 Verify interlock is in required state for existing unit conditions.	1 hour
	OR	
	O.2 Be in MODE 3.	7 hours
P. One or more channels inoperable.	P.1 Verify interlock is in required state for existing unit conditions.	1 hour
	OR	
	P.2 Be in MODE 2.	7 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
Q. One trip mechanism inoperable for one reactor trip breaker.	----------NOTE---------- The reactor trip breaker train shall not be bypassed while one of the diverse trip features is inoperable except for up to 4 hours for performing maintenance to restore the breaker to OPERABLE status ----------	
	Q.1 Restore inoperable trip mechanism to OPERABLE status.	48 hours
	OR	
	Q.2 Be in MODE 3.	54 hours
R. One channel inoperable.	----------NOTE---------- The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. ----------	
	R.1 For the affected protection set, adjust the Trip Time Delay for one affected steam generator (T_S) to match the Trip Time Delay for multiple affected steam generators (T_M).	4 hours
	AND	
	R.2 Place channel in trip.	6 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
S. One channel inoperable.	S.1	For the affected protection set, adjust the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint to the same value as Steam Generator Water Level - Low-Low (Adverse).	6 hours
	OR		
	S.2	For the affected protection set, place the Steam Generator Water level--Low-Low channel(s) in trip.	6 hours
	OR		
	S.3	Be in MODE 3.	12 hours
T. One channel inoperable.	T.1	For the affected protection set, adjust the Trip Time Delays (T_S and T_M) threshold power level for zero seconds time delay to 0% RTP.	6 hours
	OR		
	T.2	For the affected protection set, place the Steam Generator Water Level--Low-Low channel(s) in trip.	6 hours
	OR		
	T.3	Be in MODE 3.	12 hours
U. Required Action and associated Completion Time of Condition R not met.	U.1	Be in MODE 3.	6 hours

ANSWER KEY REPORT

for RO Exam Test Form: 0

#	Answers 0
1	A
2	B
3	A
4	A
5	A
6	D
7	B
8	A
9	A
10	D
11	C
12	D
13	A
14	C
15	A
16	D
17	D
18	D
19	C
20	B
21	B
22	C
23	B
24	A
25	D
26	C
27	C
28	A
29	C
30	A
31	B
32	B
33	B
34	B
35	C
36	A
37	C
38	A
39	C
40	C
41	B
42	B
43	C
44	B
45	A
46	B
47	A

ANSWER KEY REPORT

for RO Exam Test Form: 0

	Answers
#	0
48	C
49	C
50	A
51	B
52	B
53	D
54	D
55	A
56	C
57	A
58	D
59	A
60	A
61	A
62	A
63	C
64	A
65	B
66	D
67	B
68	D
69	A
70	D
71	D
72	B
73	B
74	C
75	B
SECTION 1 (75 items)	

ANSWER KEY REPORT

for SRO Exam Test Form: 0

#		Answers 0	
1	(76)	A	
2	(77)	D	
3	(78)	D	
4	(79)	D	
5	(80)	C	
6	(81)	A	
7	(82)	D	
8	(83)	B	
9	(84)	B	
10	(85)	D	
11	(86)	A	
12	(87)	D	#87: Answer Key Changed to "C"
13	(88)	A	
14	(89)	A	
15	(90)	C	
16	(91)	D	
17	(92)	C	
18	(93)	B	
19	(94)	A	#94: Also accept "B"
20	(95)	B	
21	(96)	C	
22	(97)	B	
23	(98)	D	
24	(99)	B	
25	(100)	C	
SECTION 1 (25 items)			