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

Applicant Information	
Name: MASTER	Region: III
Date: September 29, 2003	Facility/Unit: POINT BEACH U1 & U2
License Level: RO	Reactor Type: W
Start Time:	Finish Time:

Instructions

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. The passing grade requires a final grade of at least 80.00 percent. Examination papers will be collected five hours after the examination starts.

Applicant Certification

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

_____
Applicant's Signature

Results		
Examination Value	75.0	Points
Applicant's Score	_____	Points
Applicant's Grade	_____	Percent

GENERAL GUIDELINES

1. ***[Read Verbatim]*** Cheating on any part of the examination will result in a denial of your application and/or action against your license.

2. If you have any questions concerning the administration of any part of the examination, do not hesitate asking them before starting that part of the test.

3. SRO applicants will be tested at the level of responsibility of the senior licensed shift position (i.e., shift supervisor, senior shift supervisor, or whatever the title of the position may be).

4. You must pass every part of the examination to receive a license or to continue performing license duties. Applicants for an SRO-upgrade license may require remedial training in order to continue their RO duties if the examination reveals deficiencies in the required knowledge and abilities.

5. The NRC examiner is not allowed to reveal the results of any part of the examination until they have been reviewed and approved by NRC management. Grades provided by the facility licensee are preliminary until approved by the NRC. You will be informed of the official examination results about 30 days after all the examinations are complete.

6. After you complete the examination, sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination.

7. To pass the examination, you must achieve a grade of 80.00 percent or greater; grades will not be rounded up to achieve a passing score. Every question is worth one point.

8. For an initial examination, the nominal time limit for completing the examination is six hours; extensions will be considered under extenuating circumstances.

9. You may bring pens, pencils, and calculators into the examination room. Dark pencil should be used to facilitate machine grading.

10. Print your name in the blank provided on the examination cover sheet and the answer sheet.

11. Mark your answers on the answer sheet provided and do not leave any question blank.

12. If you have any questions concerning the intent or the initial conditions of a question, do *not* hesitate asking them before answering the question. Ask questions of the NRC examiner or the designated facility instructor *only.* When answering a question, do *not* make assumptions regarding conditions that are not specified in the question unless they occur as a consequence of other conditions that are stated in the question. For example, you should not assume that any alarm has activated unless the question so states or the alarm is expected to activate as a result of the conditions that are stated in the question. Finally, answer all questions based on actual plant operation, procedures, and references. If you believe that the answer would be different based on simulator

operation or training references, you should answer the question based on the *actual plant*.

13. Restroom trips are permitted, but only one applicant at a time will be allowed to leave. Avoid all contact with anyone outside the examination room to eliminate even the appearance or possibility of cheating.

14. When you complete the examination, assemble a package including the examination cover sheet and your scan-tron sheet and give it to the examiner or proctor. Remember to sign the statement on the examination cover sheet indicating that the work is your own and that you have neither given nor received assistance in completing the examination. Leave all other paper and reference materials at your desk, it will be disposed of immediately after the examination.

10. After you have turned in your examination, leave the examination area as defined by the proctor or NRC examiner. If you are found in this area while the examination is still in progress, your license may be denied or revoked.

11. Do you have any questions?

QUESTION: 001 (1.00)

A Unit 1 reactor trip has occurred for undetermined reasons. The operator is carrying out the Immediate Actions of EOP-0, Reactor Trip or Safety Injection. While performing Step 3, "Verify Safeguards Buses Energized", the operator notes the following:

- All off-site power has been lost to Unit 1.
- All four Emergency Diesel Generators have failed to auto-start.
- Annunciator C02 D 3-4, Unit 1 4.16kV Bus Lockout, is lit.

The operator's next action is to:

a. Immediately transition to ECA-0.0, Loss of All AC Power.

b. Attempt to restore power to 1B-03 or 1B-04 by cross-tying to buses 1B-01 or 1B-02.

c. Attempt to restore power to 1A-05 or 1A-06 by fast starting and loading either G-01 or G-03, Emergency Diesel Generator.

d. Continue on to step 4, "Check if SI is Actuated", when immediate actions are complete, concurrently enter AOP-19, Safeguards Bus Restoration.

QUESTION: 002 (1.00)

Given the following plant conditions:

- Unit 1 has just tripped from 100% power due to a small break LOCA that was caused by a stuck open Pressurizer PORV and Block Valve.
- During implementation of EOP-1, Loss of Reactor or Secondary Coolant, subcooling lowers to 15°F.
- The operating crew has just tripped both Reactor Coolant Pumps (RCPs).

Which of the following indicates the reason the RCPs were tripped by the crew?

a. To prevent excessive RCS inventory loss.

b. To minimize the cooldown rate.

c. To prevent RCP damage from cavitation.

d. To prevent an RCP motor over-current condition.

QUESTION: 003 (1.00)

Given the following Unit 1 plant conditions:

- The Unit has tripped from 100% due to a small break LOCA.
- Conditions have stabilized and operators are evaluating the criteria for terminating Safety Injection.
- Adverse containment conditions do NOT exist.

Which one of the following conditions would PREVENT SI termination per EOP-1.2, "Small Break LOCA Cooldown and Depressurization"?

a. RCS subcooling is 40°F.

b. Both Steam Generator levels are 40%.

c. RCS pressure is 2050 psig.

d. Pressurizer level is 9%.

QUESTION: 004 (1.00)

Given the following plant conditions:

- A Large Break LOCA has occurred on Unit 1.
- EOP-1.3, Transfer To Containment Sump Recirculation
- Low Head Injection, is in progress.
- Containment sump recirculation utilizing RHR Pump 'B' has just been established.

After sump recirculation is established, Safety Injection Pump 'B' is required to be started within 14 hours of the onset of the event.

Which of the following indicates the reason that SI Pump 'B' is started?

a. To prevent the formation of thermal stratification layers in the core.

b. To reduce thermal stresses on RHR injection nozzles.

c. To address boron precipitation concerns within the reactor vessel.

d. To prevent excessive voiding in the reactor vessel head.

QUESTION: 005 (1.00)

Unit 1 is operating at 100% power. The following indications are noted:

- Annunciator "1P-1A or B RCP Upper or Lower Sump Oil Level High or Low" is lit.
- Points 2 and 4 on recorder 1TR-2001 (1P-1A RCP Thrust Bearing Upper and Lower Shoe temperatures) are in alarm and are currently reading 92°C and rising.
- Unit 1 Component Cooling Water Surge Tank level is 49% and lowering.
- 1P-1A RCP seal injection flow is 6 gpm.
- 1P-1A RCP No. 1 seal leakoff is 1.2 gpm.

Which of the following describes the required action and the reason for the action that would explain all of the above abnormal conditions?

a. Unit 1 Reactor must be tripped and 1P-1A RCP stopped because oil has leaked out of the pump resulting in poor bearing lubrication.

b. The position of 1CC-761A, Thermal Barrier Outlet AOV, must be checked to ensure it is shut because the thermal barrier is leaking.

c. Unit 1 Reactor must be tripped and 1P-1A RCP stopped because its oil has been emulsified with CCW and this has affected bearing lubrication.

d. The Seal Return Heat Exchanger must be bypassed because CCW is diluting the RCS through a leak in the heat exchanger.

QUESTION: 006 (1.00)

Unit 1 was operating at 100% power when a disk failure occurred on 1CV-304C, 1P-1A RCP Seal Injection Check Valve. The failure resulted in a complete loss of seal injection to 1P-1A.

1P-1A should be run no more than 24 hours in order to:

a. minimize the possibility of a combined loss of seal injection and CCW to the RCPs.

b. prevent exceeding a TSAC for loss of flow path to RCP seals.

c. minimize damage due to overheating 1P-1A #1 seal.

d. prevent high flow damage to 1P-1B #1 seal.

QUESTION: 007 (1.00)

Given the following plant conditions:

- Unit 1 is in day 10 of a refueling outage.
- Unlatching of rods is in progress.
- Reactor Coolant System temperature (RHR inlet) is 90°F.
- The running RHR pump trips.
- The other RHR pump is tagged out for minor maintenance, but can be restored if needed.

Using the given references, which one of the following indicates the minimum time (number of hours) at which RCS boiling will occur?

a. 165 minutes

b. 16.5 hours

c. 18.0 hours

d. 180 minutes

QUESTION: 008 (1.00)

Given the following sequence of events:

- Unit 2 is operating at 100% power.
- 2P-11A, Component Cooling Water Pump, is running.
- 2P-11B, Component Cooling Water Pump, is in standby.
- A manual Reactor Trip was initiated due to a large feedwater leak in the Turbine Building.
- During performance of Immediate Actions of EOP-0, a manual Safety Injection is initiated due low Pressurizer Level.
- After completing all immediate actions, a lockout on Low Voltage Station Transformer 1X-04 occurs.
- All automatic actions occur and the safeguards buses are re-energized from the Emergency Diesel Generators.

Which of the following indicates the status of the Component Cooling Water Pumps after the buses are re-energized?

a. 2P-11A is running, 2P-11B is in standby.

b. Neither CCW Pump is running.

c. 2P-11A is tripped, 2P-11B is running.

d. Both CCW Pumps are running.

QUESTION: 009 (1.00)

Given the following plant conditions:

- Unit 1 is operating at 100% power.
- Normal Letdown has been secured for maintenance.
- Excess Letdown is in service with one Charging Pump running in Manual at minimum speed per OP-5E, Establishing and Securing Excess Letdown.
- Charging and Excess Letdown flow have been balanced and Pressurizer level is stable.
- All other equipment is in a normal alignment.
- No other equipment is out of service.

1LT-428, Pressurizer Level Transmitter, fails low.

Assuming no operator action, what effect will this transmitter failure have on the following Pressurizer parameters?

a.	Pressurizer pressure rises.	Saturation temperature rises.
b.	Subcooling rises.	Saturation temperature lowers.
c.	Subcooling lowers.	Saturation temperature rises.
d.	Pressurizer pressure lowers.	Saturation temperature lowers.

QUESTION: 010 (1.00)

Unit 1 was operating at 100% power when a Steam Generator Tube Rupture occurred.

The following plant conditions exist:

- RCPs Both secured
- Ruptured S/G identified and isolated
- RCS cooled down to target temperature and depressurized
- SI pumps secured
- Charging in service
- Letdown in service

Preparations are being made to start a Reactor Coolant Pump (RCP). Which one of the following parameters is required to be verified acceptable prior to restarting the RCP in EOP-3, Steam Generator Tube Rupture?

a. VCT Pressure

b. # 2 Seal Delta-P

c. #2 Seal Leakoff flow

d. Standpipe level

QUESTION: 011 (1.00)

Given the following Unit 1 plant conditions:

- The Unit has tripped from 100% due to a steam line break inside containment.
- Containment pressure peaked at 28 psig.
- All equipment functioned as designed.
- The crew has completed EOP-0, Reactor Trip or Safety Injection, and Attachment 'A' of EOP-0.
- A transition to EOP-2, Faulted Steam Generator Isolation, has just been made.
- All procedural steps were performed without error.

The current status of the Containment Spray system is:

a. both pumps running.

b. both pumps secured.

c. one pump secured with its suction valve shut.

d. one pump secured with its discharge valves shut.

QUESTION: 012 (1.00)

Given the following sequence of events:

- Unit 2 is operating at 15% power.
- Feedwater control has been transferred to the Main Feedwater Regulating Valves (operating in Auto) and all equipment is in a normal alignment for the given power level.
- The only running Main Feedwater Pump then trips.
- Steam Generator water levels are observed to be lowering.
- The standby Main Feedwater Pump cannot be started.
- S/G 'A' level = 35% NR.
- S/G 'B' level = 48% NR.

Which of the following describes the status of Feedwater System components for these conditions?

a. Both Main Feed Regulating Bypass Valves shut.
Both Main Feed Regulating Valves open.

b. Both Main Feed Regulating Bypass Valves open.
Both Main Feed Regulating Valves shut.

c. Both Main Feed Regulating Bypass Valves open.
S/G 'A' Main Feed Regulating Valve is open, 'B' is shut.

d. S/G 'A' Main Feed Regulating Bypass Valve is open, 'B' is shut.
Both Main Feed Regulating Valves open.

QUESTION: 013 (1.00)

Given the following plant conditions:

- Unit 1 is responding to a loss of offsite power.
- Both Emergency Diesel Generators G-01 and G-03 have started and loaded onto their respective buses.
- Safety Injection did NOT actuate.
- Pressurizer level is 25%.

The Control Operator is attempting to control Pressurizer pressure. What must be done to energize 1T-1C, Backup Group C Heaters?

a. Reset the 1B-03 Non-Safeguards Equipment lockout.
Leave the 1T-1C control switch in AUTO.

b. Restore power to 1B-01.
Then turn the 1T-1C control switch to ON.

c. Turn the 1T-1C control switch to OFF.
Then turn the 1T-1C control switch to ON.

d. Place 1HC-431K, Pressurizer Pressure Controller, in Manual and increase setting.
Leave the 1T-1C control switch in AUTO.

QUESTION: 014 (1.00)

Unit 1 and Unit 2 are at 100% power. Service Water Pumps P-32A, B, and F are running. The following annunciators are received:

- Service Water Strainers Delta-P High.
- North or South Service Water Header Pressure Low.
- G-01 Emergency Diesel Cooler Delta-P Low.
- G-02 Emergency Diesel Cooler Delta-P Low.
- Unit 2 Turbine Building Sump Level High.

Which of the following indicates the cause of these alarms and the appropriate remedial action?

(OI-70, Service Water System Operation)
(AOP-9A, Service Water System Malfunction)

a. The Unit 2 Turbine Building Zurn Strainer is clogged, utilize OI-70 to backwash the strainer.

b. There is a leak in the North Service Water Header, utilize AOP-9A to isolate the leak.

c. The North Service Water Header Strainer is clogged, utilize OI-70 to backwash the strainer.

d. There is a leak in the South Service Water Header, utilize AOP-9A to isolate the leak.

QUESTION: 015 (1.00)

Given the following plant conditions:

- A total loss of the Instrument Air System has occurred due to compressor failures.
- The Service Air to Instrument Air backup valves have failed to open and the Instrument Air System headers have completely depressurized.

Which of the following indicates the impact on 1P-29 Turbine Driven AFP Mini-Recirc Valve, 1AF-4002, and its recirculation line capability?

1AF-4002 will. . .

a. continue to operate normally due to Service Air backup.

b. continue to operate normally due to Nitrogen backup.

c. operate for at least 2 hours since it has an IA accumulator.

d. NOT open, recirculation line capability is immediately lost.

QUESTION: 016 (1.00)

Unit 1 was operating at 100% power, with no equipment out of service.

The following conditions exist:

- A LOCA has occurred outside Unit 1 containment.
- Both Safety Injection Trains have actuated.
- Both SI Pumps are running.
- Both RHR Pumps are running.
- The crew is currently in ECA-1.2, LOCA Outside Containment.
- Annunciator "Unit 1 or 2 RHR Pump Rooms Level High" is in alarm.
- The amber light above 1WL-4100, 1P-10B RHR Pump Drain To Sump, is lit.
- 1WL-4100 switch is in the OPEN position.
- P-40A, -19' Sump Pump, is running continuously.

(1P-10B, Residual Heat Removal Pump)
(1P-15B, Safety Injection Pump)

Based on the above indications, the crew is required to:

a. Continue operating with all Safety Injection and RHR pumps.
All SI and RHR pumps are required to maintain core cooling.

b. Immediately stop 1P-10B and 1P-15B.
Neither pump is required to maintain core cooling since the 'A' Train SI and RHR pumps are operating.

c. Immediately stop 1P-10B only.
1P-15B along with both 'A' Train SI and RHR pumps are required to maintain core cooling.

d. Immediately stop all Safety Injection and RHR pumps.
Only the Charging Pumps are required to ensure core cooling for these conditions.

QUESTION: 017 (1.00)

Following a LOCA, the inability to open either Containment Sump 'B' suction valve has resulted in a loss of containment sump recirculation. All other equipment has functioned normally. ECA-1.1, Loss of Containment Sump Recirculation, is the procedure in effect. The following indications are noted:

- Containment Pressure = 15 psig
- VCT level = 52%
- RWST level = 4%
- RCS Pressure = 26 psig

The crew has just determined that 100 gpm is the required minimum injection flow. Based on these indications, which of the following actions will the crew take to maintain core cooling?

a. Charging Pumps must be aligned to the VCT and started to establish 100 gpm charging flow.

b. One Safety Injection Pump must be started and 100 gpm injection flow established by throttling the respective 1SI-866A/B (SI Pump Discharge Header MOV).

c. Both Safety Injection Pumps must be started and 50 gpm each established by throttling both 1SI-866A and B.

d. One RHR Pump must be started and 100 gpm established by throttling 1RH-625, RHR Hx Outlet Flow Control Valve.

QUESTION: 018 (1.00)

Unit 1 was operating at 100% power when a Reactor Trip and Safety Injection occurred. Subsequent failures have also resulted in a total loss of all Auxiliary Feedwater. The crew has transitioned to CSP-H.1, Response to Loss of Secondary Heat Sink.

While attempting to restore 1P-29, Turbine Driven AFW Pump, using CSP-H.1, the following conditions are noted:

- 1MS-2019, 1P-29 Steam Supply valve - green light off, red light lit.
- 1MS-2020, 1P-29 Steam Supply valve - green light off, red light lit.
- 1MS-2082, 1P-29 Low Suction / Overspeed Trip valve operator - green light off, red light lit.
- 1MS-2082 Trip Valve Position - amber light lit, red light off.
- 1P-29 AFP Low Suction Pressure Trip annunciator is clear.
- Unit 1 Auxiliary Feedwater System Disabled annunciator is lit.

Which of the following is the reason 1P-29 is NOT running?

a. 1P-29 tripped on overspeed, local operator action is required to start 1P-29.

b. 1P-29 did not receive a start signal, Trip Valve 1MS-2082 must be opened manually.

c. 1P-29 tripped on low suction pressure, local operator action is required to start 1P-29.

d. 1P-29 attempted to start but did not because Trip Valve 1MS-2082 was manually shut from the Control Room.

QUESTION: 019 (1.00)

With the Unit 1 Reactor operating at 60% power and turbine in IMP IN, the following indications are observed:

- Rising Steam Generator pressures.
- Rising Pressurizer pressure.
- TAVG greater than TREF and rising.
- Turbine Impulse Pressure constant.
- Rising NI Power.

Assuming no operator action, which of the following would initially explain the above indications?

a. Turbine runback.

b. Main steam line leak.

c. Inadvertent AFW actuation.

d. Uncontrolled rod withdrawal.

QUESTION: 020 (1.00)

Given the following Unit 1 plant conditions:

- An inadvertent reactor trip has just occurred.
- Both reactor trip breakers indicate open.
- Control rod K-7 IRPI reads 220 steps, its rod bottom light is NOT lit.
- Control rod L-6 IRPI reads 35 steps, its rod bottom light is NOT lit.
- Control rod G-3 IRPI reads 10 steps, its rod bottom light is lit.

The current procedure in effect is EOP-0.1, "Reactor Trip Response".

Which of the following describes the minimum amount of boration required for these conditions?

a. No boration is required since the reactor trip breakers are open.

b. A 1200 gallon boration is required since only one control rod is considered not fully inserted.

c. A 2400 gallon boration is required since only two control rods are considered not fully inserted.

d. A 3600 gallon boration is required since three control rods are considered not fully inserted.

QUESTION: 021 (1.00)

Given the following plant conditions:

- Unit 1 is in Mode 3, Hot Standby.
- 1CV-350, Emergency Boration Valve, is tagged shut for repair.
- An inadvertent dilution of the Reactor Coolant System has just been detected.
- The dilution has been terminated, however, a shutdown margin calculation has determined that the required shutdown margin is NOT met.
- After initiating boration, 1CV-110A, Boric Acid to Blender Flow Control Valve, is observed to be shut and cannot be re-opened.

Which one of the following boration flowpaths is immediately available to re-establish shutdown margin per OP-5B, Blender Operation/Dilution/Boration?

a. Borate using the Charging Pumps and the RWST.

b. Borate using the Charging Pumps and the Blender.

c. Borate using the Safety Injection Pumps and the RWST.

d. Borate using the Boric Acid Transfer Pumps, the Charging Pumps and the in-service Boric Acid Tank.

QUESTION: 022 (1.00)

Given the following:

- A Unit 1 reactor startup is in progress per OP-1B, Reactor Startup.
- Reactor power is less than the P-6 interlock and the Intermediate Range Neutron Flux instruments are currently NOT required to be operable per Technical Specifications.
- 1N-35, Intermediate Range, then fails low.

Which of the following indicates the impact of this failure on reactor startup?

a. Reactor power can be raised and maintained greater than the P-10 interlock until the channel is restored.

b. Reactor power is limited to a maximum of 5% until the channel is restored.

c. The failed channel can be bypassed and the startup can continue without restriction.

d. Reactor power must be maintained less than the P-6 interlock until the channel is restored.

QUESTION: 023 (1.00)

Unit 1 was operating at 100% power when a Steam Line Break occurred inside containment on Steam Generator 'A'.

Several Containment Spray and Cooling system failures have resulted in the crew entering CSP-Z.1, Response To High Containment Pressure.

Which of the following actions in CSP-Z.1 helps to limit the containment pressure transient?

a. Feed S/G 'A' at only 50 gpm to minimize liquid inventory.

b. Start up the hydrogen recombiner to minimize the potential for hydrogen burn.

c. Manually isolate feedwater to S/G 'A' to minimize the mass and energy release.

d. Perform a rapid cooldown of the RCS using S/G 'B' to reduce the energy input to containment.

QUESTION: 024 (1.00)

Given the following plant conditions:

- Unit 1 is operating at 100% power.
- A small amount of Steam Generator tube leakage is present on both Steam Generators. However, the leakage is below the Technical Specification limit.
- A fuel cladding defect has been detected via multiple indications of rising RMS monitors.
- The severity and magnitude of the defect is being evaluated.
- An inadvertent Containment Isolation signal is then generated during I&C testing.

Which of the following radiation monitors would be expected to continue to have a stable or increasing trend?

a. 1RE-231, Steam Line 'A' Monitor

b. 1RE-109, Failed Fuel Monitor

c. 1RE-116, Demineralizer Valve Gallery Monitor

d. 1RE-219, Steam Generator Blowdown Liquid Monitor

QUESTION: 025 (1.00)

Assume all automatic actions occur.

Which of the following will result in entering EOP-0, Reactor Trip or Safety Injection, and transition to EOP-1.1, SI Termination, without the implementation of any other EOPs?

a. Unit 1 is at 100% power when a break develops on the RTD Bypass Line, causing containment pressure to rise to 6 psig.

b. Unit 1 is at 30% power when a Pressurizer PORV sticks open and cannot be isolated, causing Pressurizer pressure to lower to 1700 psig.

c. Unit 1 is at 100% power when a steam leak develops on the turbine, causing a high-high steam flow condition on both Steam Generators and Steam Generator pressures to lower to 520 psig.

d. Unit 1 is at 50% power a Steam Generator Safety Valve lifts and sticks open, causing pressure in that Steam Generator to lower to 500 psig.

QUESTION: 026 (1.00)

During recovery from a Unit 1 reactor trip, the crew identifies the following plant conditions at 1200 hours:

- Steam Generator 'A' pressure is 1075 psig and slowly rising.
- Steam Generator 'A' level is 65% and stable.

At 1205 hours, the following plant conditions are noted:

- 'A' Steam Generator pressure begins to lower.
- 'A' Steam Generator level rapidly rises, then slowly lowers.

Which of the following would initiate the conditions noted at 1205 hours?

a. RCS temperature was rapidly lowered.

b. 'A' Steam Generator feed flow was raised.

c. 'A' Steam Generator feed flow was lowered.

d. 'A' Steam Generator Safety Valve has opened.

QUESTION: 027 (1.00)

A small break LOCA has occurred on Unit 1. The crew is performing EOP-1.2, Small Break LOCA Cooldown and Depressurization. Which of the following describes the Reactor Coolant System cooldown rate that is called for in EOP-1.2?

a. Less than 100°F / hour in order to preclude violating thermal shock limits.

b. Less than 100°F / hour in order to minimize outsurge from the Pressurizer.

c. As rapid as possible in order to conserve RWST inventory.

d. As rapid as possible in order to shorten the time until Residual Heat Removal is placed in service.

QUESTION: 028 (1.00)

Unit 1 is at 15% power and preparing to place the Main Generator on-line. 1P-1A, Reactor Coolant Pump, breaker trips open. Which of the following indicates the effect on the Reactor and Reactor Coolant System?

a. The reactor will trip automatically.
'A' loop DT will rise.

b. The reactor will trip automatically.
'A' loop DT will lower.

c. The reactor will not trip.
'A' loop DT will lower.

d. The reactor will not trip.
'A' loop DT will rise.

QUESTION: 029 (1.00)

Unit 1 is operating at 100% power.

- All equipment is in a normal alignment.
- Charging Pump 1P-2A is running in Automatic.
- Charging Pump 1P-2B is in standby.
- Charging Pump 1P-2C is running in Manual.

Charging Pump 1P-2A then trips.

Assuming NO operator action, which of the following correctly describes the change for the given parameters?

a. Seal injection flow will remain the same, labyrinth seal delta-P will remain the same.

b. Seal injection flow will remain the same, Charging line flow will lower.

c. Seal injection flow will lower, Charging line flow will remain the same.

d. Seal injection flow will lower, labyrinth seal delta-P will lower.

QUESTION: 030 (1.00)

The following conditions exist on Unit 1:

- Pressurizer pressure 1620 psig
- Volume Control Tank pressure 20 psig
- 1P-1A RCP, No. 1 Seal leakage 4 gpm
- 1P-1B RCP, No. 1 Seal leakage 0.5 gpm
- All other seal parameters are normal.

Using the given references, which of the following states the condition of the RCP seal leakage and why it is a concern?

a. 1P-1A No. 1 seal leakage is high.
The Labyrinth Seal may be damaged by impurities in the RCS.

b. 1P-1A No.1 seal leakage is high.
The No. 2 Seal does not have enough flow for lubrication.

c. 1P-1B No. 1 seal leakage is low.
The No. 2 Seal may fail due to higher backpressure from the No. 1 Seal.

d. 1P-1B seal leakage is low.
The lower pump radial bearing does not have enough cooling flow.

QUESTION: 031 (1.00)

The normal power supply breaker for 1P-10B, Residual Heat Removal Pump, is located on:

a. 480 Volt Bus B-08

b. 480 Volt Bus 1B-03

c. 480 Volt Bus 1B-04

d. 480 Volt Bus B-09

QUESTION: 032 (1.00)

A small break LOCA has occurred on Unit 1.

- EOP-1.1, SI Termination, is in progress.
- Safety Injection Pump 1P-15A has just been stopped.
- Safety Injection Pump 1P-15B is running.

The following conditions are noted:

-	1TI-970, Subcooling Monitor	200°F and stable
-	1TI-971, Subcooling Monitor	25°F and stable
-	RCS Wide Range Pressure	1210 psig
-	Core Exit Thermocouple avg	545°F
-	Containment pressure	5 psig
-	Containment rad levels	4 R/hr

After comparing the subcooling readings with RCS pressure and CETs, the crew will determine that:

a. 1TI-970 is reading accurately, Safety Injection Pump 1P-15A will NOT be started, the crew will continue in EOP-1.1.

b. 1TI-970 is reading inaccurately, Safety Injection Pump 1P-15A will be started to restore subcooling.

c. 1TI-971 is reading accurately, Safety Injection Pump 1P-15A will NOT be re-started, the crew will continue in EOP-1.1.

d. 1TI-971 is reading inaccurately, Safety Injection Pump 1P-15B will be stopped since adequate subcooling exists.

QUESTION: 033 (1.00)

A small break LOCA has occurred on Unit 1. Pressurizer PORVs are being used to reduce RCS pressure per EOP-1.2 Small Break LOCA Cooldown and Depressurization.

- Containment pressure is 10 psig

Which of the following is the minimum pressure inside the Pressurizer Relief Tank that will cause the PRT rupture disc to rupture?

a. 90 psig

b. 100 psig

c. 110 psig

d. 125 psig

QUESTION: 034 (1.00)

Given the following plant conditions:

- Unit 2 is operating at 100% power and all equipment is in a normal alignment.
- Annunciator "2T-12 CC Surge Tank Level High or Low" is lit.
- 2LI-618B, CC Surge Tank Level, indicates 58% and rising.

Which of the following actions will help mitigate the consequences of this event?

a. swap Component Cooling Water Heat Exchangers.

b. isolate flow to the SI Pump Seal Coolers.

c. secure Normal Letdown and place Excess Letdown in service.

d. shut CC-LW-63 and CC-LW-64, Radwaste System CC Supply and Return Valves.

QUESTION: 035 (1.00)

Unit 1 is operating at 100% power when the following sequence of events occurs:

- 1RC-431C, PORV, opens and sticks open.
- 1RC-515, PORV Block valve, cannot be shut.
- Unit 1 Reactor trips.
- Safety Injection actuates.
- PRT pressure rises to the point that the PRT Rupture Disc ruptures.

Which of the following is an effect of the disc rupturing?

a. N2 Header pressure lowers.

b. Pressurizer Relief Valve Outlet temperature lowers.

c. H2 concentration in containment lowers.

d. PRT level drains below the sparging nozzles.

QUESTION: 036 (1.00)

Unit 1 is operating at 100% power steady-state.

1RC-516, Pressurizer PORV Block valve, has just been shut due to seat leakage past 1RC-430, Pressurizer PORV.

Which of the following would be an indication that 1RC-516 also has seat leakage?

a. Primary leak rate remains the same.

b. Pressurizer Vapor Space temperature is rising.

c. 1RE-211, Containment Particulate Monitor, indication is rising.

d. Annunciator 1RC-430 or 431C Pressurizer PWR-Operated Relief Valve Not Shut alarms.

QUESTION: 037 (1.00)

Unit 2 was operating at 100% power when a total loss of Main Feedwater occurred. An automatic Reactor Trip signal was generated. However, both Reactor Trip breakers remained shut.

- All attempts to perform a manual Reactor Trip have been unsuccessful.
- An Urgent Failure alarm is preventing all rod motion.
- Auxiliary Feedwater is operating per design.
- Main Generator Output indicates 530 MWe.
- Reactor power remains near 100% on Nuclear Instrumentation.

Which of the following actions will the operator take to mitigate this transient?

a. Trip the Main Turbine to avoid an excessive Reactor Coolant System pressure increase after the Steam Generator tubes uncover.

b. Open the Pressurizer PORVs immediately because the increasing Reactor Coolant System pressure will take the Pressurizer solid, resulting in insufficient water relief.

c. Align maximum Auxiliary Feedwater flow to one Steam Generator to maintain it as a heat sink for cooldown of the Reactor Coolant System.

d. Reduce turbine load slowly to avoid a rapid Reactor Coolant System temperature and pressure increase, leading to opening of a Pressurizer Safety Valve.

QUESTION: 038 (1.00)

Given the following plant conditions:

- Unit 1 is in Mode 4, Hot Shutdown.
- Both RHR Pumps are in service for decay heat removal and there is a bubble in the Pressurizer.
- I&C is performing maintenance on a failed Containment Pressure instrument.

The following indications are noted:

- "Containment Pressure High" annunciator is lit on 1C04.
- Several Containment Isolation valves which were previously open are now shut.
- All four Emergency Diesel Generators are running (unloaded).

Which of the following procedures will the crew use to address these indications?

a. EOP-0, Reactor Trip or Safety Injection.

b. AOP-24, Response To Instrument Malfunctions.

c. AOP-26, Recovery From Inadvertent Safety Injection.

d. SEP-1, Degraded RHR System Capability.

QUESTION: 039 (1.00)

Unit 1 is in Mode 3, Hot Standby, and preparing for reactor startup. Three sets of Containment Cooling and Containment Accident Fans are running. The reason that at least three Containment Accident Fans must be running for these conditions is to:

a. prevent steam formation in the Service Water coils.

b. maintain Containment pressure below its limit.

c. support continuous operation of the Reactor Coolant Pumps.

d. satisfy the LCO for Containment Spray and Cooling Systems.

QUESTION: 040 (1.00)

A steam line break in Unit 1 Containment caused a Containment Spray actuation. All equipment responded as required. Thirty (30) seconds after the spray actuation, what is the status of the Unit 1 Containment Spray System components?

a. Both spray pumps running.
All four discharge valves open.
Both spray eductor valves shut.

b. Both spray pumps running.
All four discharge valves open.
Both spray eductor valves open.

c. Both spray pumps running.
All four discharge valves shut.
Both spray eductor valves shut.

d. Both spray pumps secured.
All four discharge valves open.
Both spray eductor valves shut.

QUESTION: 041 (1.00)

Unit 1 was operating at 100% power when a steam line break occurred in the PAB. The break is upstream of 1MS-2019, 'B' Steam Generator Supply to 1P-29 TDAFP.

During the performance of EOP-2, Faulted Steam Generator Isolation, the Control Operator fails to manually shut 1MS-2019 as required by procedure.

Which of the following describes a consequence of this error?

a. 1P-29 will lose its steam supply because both Steam Generators will blow down through the rupture.

b. 1P-29 will lose its steam supply because 1MS-2082, 1P-29 Low Suction/Overspeed Trip Valve, will trip shut.

c. 1P-29 will NOT be affected because 1MS-2017, 'B' Steam Generator Main Steam Stop, will automatically shut.

d. 1P-29 will NOT be affected because 1MS-2019, 'B' Steam Generator Supply to 1P-29 AFP, is a stop-check MOV.

QUESTION: 042 (1.00)

Unit 1 is operating at 100% power. All equipment is in a normal alignment. 1PT-484, Steam Header Pressure Transmitter, fails high. Which of the following describes an effect of this failure?

a. The Condenser Steam Dumps will NOT open on a loss of turbine load as long as the Steam Dump Mode Selector is in Auto.

b. The Condenser Steam Dumps will open immediately.

c. The Condenser Steam Dumps will NOT open on a Reactor Trip as long as the Steam Dump Mode Selector is in Auto.

d. The Condenser Steam Dumps will open if the Steam Dump Mode Selector is taken to Manual.

QUESTION: 043 (1.00)

OP-13A, Secondary Systems Startup, contains a note to start the Steam Generator Feed Pump (SGFP) oil pumps prior to starting the Condensate Pumps. The reason for this note is to:

a. electrically enable the Condensate Pumps to start.

b. minimize the effects of cold seal water on SGFP bearings.

c. prevent damage to the SGFPs due to condensate flow spinning the pumps.

d. allow time for the SGFPs oil to warm up to operating temperature prior to starting the SGFPs.

QUESTION: 044 (1.00)

Unit 1 is operating at 100% power, when the following conditions are noted:

- 1P-28A SG Feed Pump Suction Pressure Low alarm.
- 1P-28B SG Feed Pump Suction Pressure Low alarm.
- Both Steam Generator levels are 63% and lowering.
- 1PI-2273, SG Feed Pump Suction Pressure, is 165 psig.
- 1FI-2255, Heater Drain Pumps Discharge Flow, is 5200 gpm.
- 1PI-2272, Condensate Pump Discharge Pressure, is 200 psig.

Which of the following would cause the above conditions?

a. One Main Feed Pump has tripped.

b. One Condensate Pump has tripped.

c. The standby Heater Drain Tank Pump is rotating backwards.

d. One Heater Drain Tank Pump has tripped.

QUESTION: 045 (1.00)

Unit 1 is operating at 100% power. During troubleshooting of an electrical problem associated with the Auxiliary Feedwater Actuation circuitry, both Motor Driven Auxiliary Feedwater Pumps auto-start and both Unit 1 AFW Discharge MOVs, AF-4023 and AF-4021, open. No other equipment is affected. Unit 1 Main Feedwater flow will:

a. lower due to Steam Generator swell.

b. lower due to rising Steam Generator level.

c. remain constant due to the higher head of the Main Feed pumps.

d. remain constant due to having a separate Steam Generator feed line.

QUESTION: 046 (1.00)

Unit 1 has been operating at 100% power for several months. Unit 2 has just reached 100% power, after being shutdown for several weeks for maintenance. Both Units are tripped due to a Circulating Water System malfunction. Decay heat is being removed with the aid of the Atmospheric Steam Dumps and the Auxiliary Feedwater System. How does the amount of AFW required by Unit 1 compare to the amount required by Unit 2, and why?

a. Unit 1 will require more AFW because decay heat is dependent on power history.

b. Unit 1 will require more AFW because the metal of its primary system has absorbed more heat.

c. The units will require equal amounts of AFW because both units started out at the same temperature.

d. The units will require equal amounts of AFW because both units started out at the same power level.

QUESTION: 047 (1.00)

Given the following plant conditions:

- Unit 1 is at 100% power.
- Turbine Driven Auxiliary Feedwater Pump, 1P-29, is tagged out for maintenance.
- Engineering has just notified the Shift Manager that both Motor Driven Auxiliary Feedwater Pumps, P-38A and P-38B, have several electrical components installed that were calibrated incorrectly.
- The Shift Manager has declared P-38A and P-38B inoperable.

In addition to initiating action to restore an Auxiliary Feedwater Pump to service, which of the following statements describes an action required for Unit 1?

a. Stable plant conditions should be maintained.

b. A reactor shutdown to Mode 2 is required.

c. A reactor shutdown to Mode 3 is required.

d. A reactor shutdown to Mode 4 is required.

QUESTION: 048 (1.00)

Both Units are operating at 100% power steady-state. The AC Electrical Distribution System is in a normal alignment, except that TS-81, Emergency Diesel Generator G-01 Monthly, is in progress. G-01 is operating in parallel with offsite power through 1X-04 and 1A-05.

The following ammeter indications are noted on C02:

- G-01 Emergency Diesel Generator 300 amps
- 1X-11 Station Service Transformer to 1B01 60 amps
- 1X-13 Station Service Transformer to 1B03 100 amps
- 1X-14 Station Service Transformer to 1B04 80 amps
- 1X-12 Station Service Transformer to 1B02 70 amps

What will the G-01 EDG ammeter indicate if 1A52-57, 1A-03 to 1A-05 Bus Tie breaker, trips open? (Note: No other equipment or alignment is affected.)

a. 100 amps

b. 180 amps

c. 300 amps

d. 400 amps

QUESTION: 049 (1.00)

Both units are operating at 100% power. The DC electrical distribution system is in a normal alignment.

The following conditions are noted:

- D-07 Battery Charger Trouble alarm.
- D-01/D-03 125V DC Bus Under/Over Voltage alarm.
- D-05-AM, Battery Ammeter, indicates 120 amps discharging.
- D-01-VM, Bus Voltmeter, indicates 123 VDC.

The cause of the above indications is:

a. D-05 Battery Feed to Bus D-01 breaker tripped open.

b. D-01 DC Bus has a ground.

c. D-05 Battery has an internal short in a cell.

d. D-07 Battery Charger DC Output Breaker tripped open.

QUESTION: 050 (1.00)

Both units were operating at 100% power. Three minutes ago, an inadvertent Safety Injection occurred on Unit 1. All equipment responded as required. For these conditions, which of the following will initiate a trip of G-03, Emergency Diesel Generator?

a. Low Water Pressure.

b. Low Bearing Oil Pressure.

c. High Crankcase Pressure.

d. High Jacket Water Temperature.

QUESTION: 051 (1.00)

Unit 1 has been operating at 100% power for several weeks. 1SC-938C, 1RE-109 Failed Fuel Monitor Flow Valve, which is normally in a throttled position, was just inadvertently taken to a full open position. 1RE-109, Failed Fuel Monitor, indication will:

a. rise because now it is more sensitive to small fuel defects.

b. rise because now more N-16 gammas will reach the detector.

c. remain the same because the gross specific activity of the reactor coolant has not changed.

d. lower because of the increased flow which lowers the time N-16 gammas are in the detector.

QUESTION: 052 (1.00)

The following plant conditions exist:

- Unit 1 is in Mode 5.
- The RCS is solid at 300 psig and on RHR.
- 1HC-135, Letdown Line Pressure Controller, is in Manual to control RCS pressure.
- All RCS and RHR conditions are stable.

The PAB operator then performs a blowdown of the Service Water side of 1HX-12A and HX-12B, Component Cooling Water Heat Exchangers.

If no other operator actions are taken, RCS pressure will:

a. lower because RHR temperature will lower.

b. rise because more RHR flow will bypass the RHR Heat Exchangers.

c. rise because Service Water blowdown flow will bypass the CCW Heat Exchanger tubes.

d. lower because the Non-Regenerative Heat Exchanger letdown outlet temperature will rise.

QUESTION: 053 (1.00)

Which of the following is the power supply to Instrument Air Compressor K-2A?

a. 480 Volt MCC 1B-32.

b. 480 Volt MCC 2B-32.

c. 480 Volt Bus 1B-04.

d. 480 Volt Bus 2B-04.

QUESTION: 054 (1.00)

Given the following conditions:

- Unit 1 is in Mode 5 with RCS temperature at 100°F.
- RCS time to boil is 2 hours.
- Containment Integrity has been relaxed per OP-3C, Hot Standby To Cold Shutdown.
- Containment purge is in operation per OP-9C, Containment Venting and Purging.

The Unit 1 containment upper personnel airlock has been damaged such that neither door can be shut. Maintenance estimates that it will take 12 hours to return at least one of the doors to service.

Which of the following is a valid concern about the status of the upper airlock?

a. An unmonitored release to the atmosphere is taking place while both airlock doors are open.

b. The lower airlock cannot be utilized because one of its bulkhead doors must be locked shut.

c. The containment closure time requirements of CL-1E, Containment Closure Checklist, are not met.

d. The Unit 1 upper airlock will not be returned to service before the one hour Technical Specification Required Action time.

QUESTION: 055 (1.00)

Unit 1 is operating at 100% power. A Unit 1 containment inspection is in progress per PC-24, Containment Inspection Checklist. The two Operators and an RP Tech are on the 8' level of containment. The Control Room receives indications of a steam leak inside containment and orders the immediate evacuation of containment.

The three individuals must evacuate via the:

a. lower personnel hatch because it is the closest exit.

b. lower personnel hatch because it is the normal entry/exit used during PC-24.

c. upper personnel hatch because it is the only unlocked exit.

d. upper personnel hatch because that is where the Designated Airlock Operator is stationed.

QUESTION: 056 (1.00)

Given the following plant conditions:

- Following a series of plant malfunctions, operators are currently implementing ECA-0.0, Loss of All AC Power.
- The operators have reached the point in the procedure where they are to begin depressurization of the Steam Generators.

Which of the following statements indicates the reason that a secondary depressurization is performed?

a. To ensure the reactor remains subcritical and does not result in a restart accident.

b. To minimize RCS inventory loss through the RCP seals, which maximizes time to core uncovery.

c. To remove stored energy in the Steam Generators to prevent a secondary side Safety Valve from lifting.

d. To depressurize the RCS in order to prevent a challenge to the "Integrity" Critical Safety Function Status Tree which is being monitored for implementation.

QUESTION: 057 (1.00)

Given the following plant conditions:

- Unit 1 is at 100% power with all plant equipment in a normal alignment.
- Charging Pump 1P-2A is running in Automatic.
- Charging Pump 1P-2C is running in Manual.
- An electrical fault has resulted in the closure of 1RC-427, Reactor Coolant Loop B Letdown Isolation Valve.
- Attempts to re-open the valve have been unsuccessful.

Which of the following choices is correct regarding the response of the Pressurizer Level Control System to this failure and the actions required to mitigate this event?

a. 1P-2A Charging pump speed will rise.
1P-2C Charging Pump speed must be lowered manually with 1CV-142 (Charging Line Control Valve) fully opened until Normal Letdown can be re-established.

b. 1P-2A Charging pump speed will lower.
1P-2C Charging Pump speed must be raised manually with 1CV-142 fully opened until Normal Letdown can be re-established.

c. 1P-2A Charging pump speed will lower.
Charging flow must be reduced to one pump at minimum speed with 1CV-142 fully closed, and then Excess Letdown placed in service.

d. 1P-2A Charging pump speed will rise.
1P-2C Charging pump speed must be lowered manually to minimum with 1CV-142 fully closed, and then Excess Letdown placed in service.

QUESTION: 058 (1.00)

Which one of the following inputs cause the rod bottom lights to illuminate?

a. Bank demand for each control rod bank.

b. Individual rod position signal via a reed switch.

c. The Individual Rod Position Indicator (IRPI) signal.

d. The output signal of the rod control P/A converter.

QUESTION: 059 (1.00)

Unit 1 was operating at 100% power when the following conditions were noted:

- Numerous annunciators are alarming.
- Numerous instruments have failed.
- Unit 1 'B' Steam Generator level is rising.
- None of the bistable status lights on 1C-04 are lit.

Given the above conditions, which Power Range Nuclear Instrument channel has lost power?

a. 1N-41

b. 1N-42

c. 1N-43

d. 1N-44

QUESTION: 060 (1.00)

An accident is in progress on Unit 1. The Control Room staff has entered CSP-C.1, Response To Inadequate Core Cooling. Several steps in CSP-C.1 require the value of core exit thermocouples. From what qualified source is this data obtained?

a. Digital display on 1C-04.

b. PPCS drop screen on 1C-03.

c. 1TR-00001A and 1TR-00001B on 1C-20.

d. SPEC-200 racks above the Control Room.

QUESTION: 061 (1.00)

Given the following plant condition:

- A seismic event has occurred that has resulted in a non-isolable leak at the North end of the Spent Fuel Pool.
- The leak is located one foot above the top of the spent fuel racks.
- Level in the pool is slowly lowering.
- The fuel transfer canal doors are open.

What will be the effect of this leak on the Spent Fuel Pool Cooling System and what action will the crew take to mitigate this event?

a. Cooling will NOT be lost since the leak is above the suction pipe opening, the transfer canal doors are required to be shut to conserve water inventory.

b. Cooling will NOT be lost since the leak is above the suction pipe opening, makeup to the pool is required to be initiated to provide radiation shielding above the fuel.

c. Cooling will be lost when level drops below the suction pipe opening, pool cooling will be initiated by recirculating water between the transfer canal and the Spent Fuel Pool with P-9, HUT Recirc Pump.

d. Cooling will be lost when level drops below the suction pipe opening, make-up to the pool is required to be initiated to control pool temperature and maintain inventory.

QUESTION: 062 (1.00)

Unit 1 is holding reactor power at 28%. The following conditions are noted:

- Main Generator MWe = 150 MWe and stable.
- 1PT-2058, Impulse Pressure, indicates 100%.
- The LOAD REF CHAN monitor light is lit.

Based on the above conditions, the Control Operator must ensure:

a. the VPL is limiting governor valve position.

b. EH controls are in Turbine Manual.

c. the Control Rod Bank Selector switch is in Manual.

d. the Condenser Steam Dump controller is in Manual.

QUESTION: 063 (1.00)

A discharge of the "A" Monitor Tank is in progress. Which of the following would provide the Control Operator indication that WL-18, Waste Condensate Overboard to SW Header Control Valve, has automatically closed?

a. The "Unit 1 Process Monitor High" annunciator alarms.

b. RE-223, Waste Distillate Tank Overboard Monitor, status indication on the RMS server changes from green to blue.

c. The status light for WL-18 is lit on the Containment Isolation Panel.

d. RE-218, Waste Disposal System Liquid Monitor, status indication on the RMS server changes from green to red.

QUESTION: 064 (1.00)

Given the following plant conditions:

- Unit 1 is at 100% power.
- The "A" Gas Decay Tank is being discharged per OP-9D, Discharge of Gas Decay Tanks.
- A forced vent of Unit 1 containment is in progress per OP-9C, Containment Venting and Purging.

The following alarms are then received:

- "Containment or Aux Bldg Vent System Air Flow Low" annunciator on 1C04.
- FT-3298A, PAB Flow Stack Velocity, alarms on the RMS System Server and indicates low.

Which of the following actions is required for these conditions?

a. Secure the Gas Decay Tank discharge.

b. Secure the Unit 1 containment forced vent.

c. Start the standby Cavity Cooling Fan.

d. Start the standby Purge Exhaust Fan.

QUESTION: 065 (1.00)

P-35A, Electric Fire Pump, is OOS. PS-3713, Diesel Fire Pump Start Pressure Switch, is inadvertantly isolated. In the event of a fire, which of the following will NOT be protected by an automatic suppression system?

a. Vital Switchgear Room.

b. G-03, Emergency Diesel Generator.

c. Auxiliary Feed Pump room.

d. Main Turbine bearings.

QUESTION: 066 (1.00)

Given the following plant conditions:

- Unit 1 is at 100% power.
- Bank D step counter indicates 220 steps.
- Unit 1 containment forced vent in progress.

Which of the following control board indications will require Unit 1 to enter a Technical Specification Action Condition?

a. 1LI-428, Pressurizer Level, indicates 40%.

b. Control Rod C-7 (Bank D) IRPI indicates 205 steps.

c. 1PI-449, Pressurizer Pressure, indicates 2215 psig.

d. 1PI-945, Containment Pressure, indicates -0.4 psig.

QUESTION: 067 (1.00)

You are the Unit 1 Control Operator. Unit 1 has had a steam line break. The procedure currently in use is EOP-0, Reactor Trip or Safety Injection. The DOS reads the following step to you:

Check If Secondary System Is Intact:

- No S/G pressure dropping in an uncontrolled manner.
  AND
- No S/G completely depressurized.

The following conditions are noted:

'A' S/G pressure	400 psig and lowering
'B' S/G pressure	800 psig and stable

What reply is required to be given to the DOS?

a. "Yes, the secondary system is not intact."

b. "Yes, the Bravo Steam Generator is intact, but no, the Alpha Steam Generator is not."

c. "No, Alpha Steam Generator pressure is 400 psig and lowering, Bravo Steam Generator pressure is 800 psig and stable."

d. "No, Alpha Steam Generator is faulted, Bravo Steam Generator pressure is 800 psig."

QUESTION: 068 (1.00)

Unit 2 has been operating at 50% power for several days due to 2P-28A, Main Feedwater Pump, being OOS for maintenance. A severe plant transient occurs. The result is several automatic trip signals being generated without the reactor trip breakers opening; however, a manual trip is successfully performed. After stabilizing the plant, a Post Trip Review indicated the following simultaneous panel readings occurred during the transient:

- RCS pressure 2400 psig
- Reactor power 52%
- RCS TAVG 640°F
- RCPs Both running

Using the given references, which of the following statements is correct?

a. No safety limits were exceeded.

b. Only the Reactor Core Safety Limit was exceeded.

c. Only the RCS Pressure Safety Limit was exceeded.

d. Both Reactor Core and the RCS Pressure Safety Limits were exceeded.

QUESTION: 069 (1.00)

Given the following plant conditions:

- Unit 1 was operating at 100% power when condenser vacuum was observed to be lowering.
- Power was rapidly reduced and is currently 65%.
- Rod control is in AUTO.
- Control Bank 'D' is observed to be stepping in at minimum speed (8 steps/min) due to a TAVG-TREF deviation of +2.0°F and is currently at 96 steps.

Which of the following is correct with regard to control rod operation for these conditions?

a. The rod speed proportional controller is malfunctioning.

b. Control Bank 'D' rods should be stepping out.

c. Control Bank 'C' and 'D' rods should be stepping in.

d. The rod control system is operating properly.

QUESTION: 070 (1.00)

Which of the following is a description of how a Rod Control Cluster Assembly (RCCA) is changed in a fuel assembly located inside containment?

a. The manipulator removes the RCCA from the spent fuel assembly and places it in the basket of the change fixture, the change fixture gripper picks up the RCCA and places it in the receiving fuel assembly in the upender.

b. The manipulator places a spent fuel assembly with an RCCA in one basket on the change fixture, the change fixture gripper picks up the RCCA from the assembly and places it in the receiving fuel assembly in the upender.

c. The manipulator places a spent fuel assembly with an RCCA in one of the baskets on the change fixture, then places the receiving fuel assembly in the basket next to the spent fuel assembly, the change fixture gripper then picks up the RCCA and shifts it to the receiving fuel assembly.

d. The manipulator places a spent fuel assembly with an RCCA in one of the baskets on the change fixture. The manipulator operator then removes the RCCA from the assembly with the manipulator and places it in the receiving fuel assembly in the core.

QUESTION: 071 (1.00)

Operations and RP have just completed filling the spent resin High Integrity Container (HIC) with spent resin. The results of a subsequent radiation survey is as follows:

		Contact	@ 30 cm
-	Top of shielded HIC by fill head	2500 mr/hr	1200 mr/hr
-	Sides of HIC	100 mr/hr	60 mr/hr

Which of the following describes the required radiological postings?

a. The HIC must be posted as a High Radiation Area with a red flashing light.

b. The HIC must be posted as a High Radiation Area without a red flashing light.

c. No postings are required.

d. The PAB truck bay must be posted as a Very High Radiation Area.

QUESTION: 072 (1.00)

Per NP 4.2.14, Administrative Dose Levels/Dose Level Extension Procedure, an individual at Point Beach has an administrative dose limit of (1) _____ mrem TEDE per year. This can be raised to (2) _____ mrem TEDE per year by the First-line Supervisor.

a. (1) 1000 (2) 3000

b. (1) 1000 (2) 4000

c. (1) 2000 (2) 3000

d. (1) 2000 (2) 5000

QUESTION: 073 (1.00)

Which one of the following pieces of equipment, if operated, would be considered a monitored release path?

a. 1MS-2037, Steam Supply to the Priming Air Ejector.

b. 1P-29, Turbine Driven Auxiliary Feedwater Pump.

c. 1MS-2016, Atmospheric Steam Dump.

d. 1MS-2050, Condenser Steam Dump.

QUESTION: 074 (1.00)

A transient has occurred on Unit 1 causing multiple alarms. The unit has remained on-line. The Unit 1 CO has just used the "Mushroom" to silence alarms. Which one of the following individuals is required to be notified that the "Mushroom" has been used?

a. OS

b. DOS

c. Shift Manager

d. Unit 2 CO

QUESTION: 075 (1.00)

Given the following Unit 1 plant conditions:

- OP-3C, Hot Standby to Cold Shutdown, is in progress.
- 1P-10A, RHR Pump, is running.
- Preparations are being made to start 1P-10B, RHR Pump.
- RCS temperature is 250°F and slowly lowering.
- 1P-10A suddenly trips due to motor failure.
- An attempt to start 1P-10B is made, however, its breaker will NOT close.
- Subsequent attempts to start an RHR pump have failed.
- The procedure currently in effect is SEP-1.1, Alternate Core Cooling.

Which of the following methods available in SEP-1.1 would NOT provide for decay heat removal for these conditions?

a. Steaming via a Steam Generator (SG) and utilizing Auxiliary Feedwater as makeup to the SG.

b. Feeding with a Safety Injection Pump and opening a Pressurizer PORV.

c. Steaming via a SG and utilizing Condensate as makeup to the SG.

d. Gravity drain of the Refueling Water Storage Tank to the RCS via the RHR piping.

(********** END OF EXAMINATION **********)

ANSWER: 001 (1.00)
a.
REFERENCE:
EOP-0, Reactor Trip or Safety Injection Bank
NRC Y2K Bnk
031.02.LP0405.006.002
PBNP Electrical Bus Diagram
ARB C02 D 3-4
4.16kV Bus Lockout
HIGH
BANK
007.2.4.31 ..(KA's)

ANSWER: 002 (1.00)
a.
REFERENCE:
LP1829, EOP Generic Issues
FUNDAMENTAL
BANK
008.AK3.03 ..(KA's)

ANSWER: 003 (1.00)
d.
REFERENCE:
INPO bank 2866 PBNP exam 8/2/1999 EOP-1.2 foldout page
HIGH
BANK
009.EA2.34 ..(KA's)

ANSWER: 004 (1.00)
c.
REFERENCE:
EOP-1.3 and BG Document
LP3340 pg 13
FUNDAMENTAL
BANK
011.EK2.02 ..(KA's)

ANSWER: 005 (1.00)
c.
REFERENCE:
AOP-1B
HIGH
NEW
015.AK3.02 ..(KA's)

ANSWER: 006 (1.00)
a.
REFERENCE:
AOP-1D
FUNDAMENTAL
NEW
022.AK3.02 ..(KA's)

ANSWER: 007 (1.00)
b.
REFERENCE:
None Provided
HIGH
BANK
025.AK1.01 ..(KA's)

ANSWER: 008 (1.00)
b.
REFERENCE:
None Provided
HIGH
BANK
026.AK3.02 ..(KA's)

ANSWER: 009 (1.00)
d.
REFERENCE:
TRHB 10.3, Pressurizer, Pressure Control and Relief System WEST 883D195 Sh.18, Pressurizer Pressure and Level Control Logics
HIGH
NEW
027.AK1.01 ..(KA's)

ANSWER: 010 (1.00)
a.
REFERENCE:
EOP-3
FUNDAMENTAL
NEW
038.EA2.17 ..(KA's)

ANSWER: 011 (1.00)
c.
REFERENCE:
EOP-0, Attachment A, Automatic Action Verification
HIGH
NEW
040.AA2.05 ..(KA's)

ANSWER: 012 (1.00)
d.
REFERENCE:
NRC Y2K BNK.LXRBANK
WEST 883D195 sh. 10
HIGH
MODIFIED
054.AA2.05 ..(KA's)

ANSWER: 013 (1.00)
c.
REFERENCE:
AOP-18A, Train "A" Equipment Operation
HIGH
NEW
056.AA1.31 ..(KA's)

ANSWER: 014 (1.00)
b.
REFERENCE:
ARB C01 A 1-6, ARB C01 A 3-5, AOP-9A
HIGH
NEW
2.4.31 ..(KA's)

ANSWER: 015 (1.00)
c.
REFERENCE:
AOP-5B Rev 22, NOTE before and step 24
FUNDAMENTAL
NEW
065.AK3.03 ..(KA's)

ANSWER: 016 (1.00)
b.
REFERENCE:
ECA-1.2, LOCA Outside Containment
HIGH
NEW
W/E04.EK1.3 ..(KA's)

ANSWER: 017 (1.00)
a.
REFERENCE:
ECA-1.1, Loss Of Containment Sump Recirculation
ARB C01 B 3-9
STPT 11.1
HIGH
NEW
W/E11.EK1.3 ..(KA's)

ANSWER: 018 (1.00)
a.
REFERENCE:
LP0169, Auxiliary Feedwater System
HIGH
NEW
W/E05.EA1.1 ..(KA's)

ANSWER: 019 (1.00)
d.
REFERENCE:
NRC Y2K Bnk.LXRBank 055.00.LP0000.000 003
AOP-6C Symptoms or Entry Conditions
HIGH
BANK
001.AK1.08 ..(KA's)

ANSWER: 020 (1.00)
c.
REFERENCE:
INPO bank #2691(S) #9134(R) EOP-0.1 and BG-EOP-0.1
HIGH
MODIFIED
005.AA2.03 ..(KA's)

ANSWER: 021 (1.00)
a.
REFERENCE:
NRC Y2K BANK.LXRBank 055.00.LP0000.000 005
EOP-0.1 / OP 5B
FUNDAMENTAL
BANK
024.AK2.04 ..(KA's)

ANSWER: 022 (1.00)
d.
REFERENCE:
OP-1B, Reactor Startup
HIGH
BANK
033.2.1.33 ..(KA's)

ANSWER: 023 (1.00)
c.
REFERENCE:
TRCR43_0BNK.LXRBank 043.03.LP2000.006 003
CSP-Z.1 / BG-EOP-2
FUNDAMENTAL
BANK
069.AK3.01 ..(KA's)

ANSWER: 024 (1.00)
a.
REFERENCE:
WEST 883D195 sh 21
HIGH
NEW
076.AA1.04 ..(KA's)

ANSWER: 025 (1.00)
c.
REFERENCE:
EOP-0, Reactor Trip or Safety Injection INPO 17388, Salem, ExamDate 01/23/1998 WEST 883D195 Sh. 7, Safeguards Actuation Signals Logic
HIGH
BANK

ANSWER: 026 (1.00)
d.
REFERENCE:
LP0446, Steam Generator Transient Response
HIGH
NEW
W/E13.EA1.2 ..(KA's)

ANSWER: 027 (1.00)
a.
REFERENCE:
EOP-1.2, Small Break LOCA Cooldown and Depressurization LP3339, Reactor Coolant System. LO 057.02.LP3339.001 LP 1829 EOP Generic issues L.O 031.02.LP1829.005
FUNDAMENTAL
NEW
W/E03.EA2.2 ..(KA's)

ANSWER: 028 (1.00)
c.
REFERENCE:
WEST 883D195 Sh. 15, RCS Trip Signals WEST 883D195 Sh. 12, Nuclear Instr. Permissives & Blocks STPT 3.1, Reactor Trip Interlock Setpoints LP0408
HIGH
NEW
003.K3.01 ..(KA's)

ANSWER: 029 (1.00)
d.
REFERENCE:
WEST 685J175 Sh. 2, Chemical & Volume Control P&ID
HIGH
NEW
003.A3.01 ..(KA's)

ANSWER: 030 (1.00)
d.
REFERENCE:
AOP-1B, Reactor Coolant Pump Malfunction, Figure 1 OP-4B, Reactor Coolant Pump Operation
HIGH
NEW
004.K6.31 ..(KA's)

ANSWER: 031 (1.00)
c.
REFERENCE:
OI-112, Aligning Equipment to Appendix R Power Supply
FUNDAMENTAL
NEW
050.K2.01 ..(KA's)

ANSWER: 032 (1.00)
b.
REFERENCE:
OP 4B, EOP-1.1, SI Termination Steam Tables
HIGH
NEW
006.K6.18 ..(KA's)

ANSWER: 033 (1.00)
c.
REFERENCE:
LP0078, Pressurizer, Level Control, Pressure Control, and Relief System
HIGH
NEW
007.K1.01 ..(KA's)

ANSWER: 034 (1.00)
c.
REFERENCE:
AOP-9B
HIGH
NEW
008.A1.04 ..(KA's)

ANSWER: 035 (1.00)
b.
REFERENCE:
LP0413, Second Law of Thermodynamics
HIGH
NEW
010.K6.04 ..(KA's)

ANSWER: 036 (1.00)
a.
REFERENCE:
P&ID 541F091 Sh. 2, Reactor Coolant System
FUNDAMENTAL
NEW
010.A4.03 ..(KA's)

ANSWER: 037 (1.00)
a.
REFERENCE:
INPO 20653, PBNP, ExamDate 02/02/2002 CSP-S.1, Response to Nuclear Power Generation/ATWS
FUNDAMENTAL
BANK
012.A2.06 ..(KA's)

ANSWER: 038 (1.00)
c.
REFERENCE:
AOP-26
HIGH
BANK
2.4.4 ..(KA's)

ANSWER: 039 (1.00)
c.
REFERENCE:
OI 72, Containment Air Recirculation System
FUNDAMENTAL
NEW
022.2.1.27 ..(KA's)

ANSWER: 040 (1.00)
a.
REFERENCE:
WEST 883D195 Sh. 8, Safeguard Sequence Logic Diagram WEST 883D195 Sh. 9, Safeguards Sequence Logic
FUNDAMENTAL
NEW
026.A3.01 ..(KA's)

ANSWER: 041 (1.00)
d.
REFERENCE:
P&ID M-201 Sh. 1, Main & Reheat Steam System TRHB 11.1, Secondary Systems Descriptions: Main Steam
HIGH
NEW
039.K1.07 ..(KA's)

ANSWER: 042 (1.00)
d.

REFERENCE:
WEST 883D195 Sh. 17, Steam Dump Control Logic Diagram
HIGH
NEW
039.K3.06 ..(KA's)

ANSWER: 043 (1.00)
c.
REFERENCE:
LP0102, Condensate System
FUNDAMENTAL
NEW
056.K1.03 ..(KA's)

ANSWER: 044 (1.00)
b.
REFERENCE:
M-202 Sh.1, Condensate System, TRHB 11.2, TRHB 11.6
HIGH
NEW
056.A2.04 ..(KA's)

ANSWER: 045 (1.00)
b.
REFERENCE:
LP0131, Feedwater Control System
HIGH
NEW
059.K1.02 ..(KA's)

ANSWER: 046 (1.00)
a.
REFERENCE:
LP0332, Fundamentals of Nuclear Physics (Part 2)
FUNDAMENTAL
NEW
061.K5.02 ..(KA's)

ANSWER: 047 (1.00)
a.
REFERENCE:
LP3343, TS 3.7.5
FUNDAMENTAL
NEW
2.2.22 ..(KA's)

ANSWER: 048 (1.00)
a.
REFERENCE:
LP0007, 4160 VAC Electrical Distribution
HIGH
NEW
062.A3.01 ..(KA's)

ANSWER: 049 (1.00)
d.
REFERENCE:
ARP 2C20A 1-1 ARP 2C20A 2-2 0-SOP-DC-001
HIGH
NEW
063.A3.01 ..(KA's)

ANSWER: 050 (1.00)
b.
REFERENCE:
054.02.LP0133.004.001 TRHB 12.8
FUNDAMENTAL
BANK
064.K4.02 ..(KA's)

ANSWER: 051 (1.00)
b.
REFERENCE:
RMSASRB CI 1RE-109
HIGH
NEW
073.K5.01 ..(KA's)

ANSWER: 052 (1.00)
a.
REFERENCE:
1-SOP-CC-001
HIGH
NEW
076.K1.08 ..(KA's)

ANSWER: 053 (1.00)
a.
REFERENCE:
LP0338, Instrument and Service Air, PBNP Electrical Dist. Drawing, WEST 883D195 sh9.
FUNDAMENTAL
NEW
078.K2.01 ..(KA's)

ANSWER: 054 (1.00)
c.
REFERENCE:
CL-1E, Containment Closure Checklist
HIGH
NEW
103.K3.01 ..(KA's)

ANSWER: 055 (1.00)
a.
REFERENCE:
PC-24, Containment Inspection Checklist
FUNDAMENTAL
NEW
103.A2.04 ..(KA's)

ANSWER: 056 (1.00)
b.
REFERENCE:
ECA-0.0, LP0462.
FUNDAMENTAL
BANK
2.4.6 ..(KA's)

ANSWER: 057 (1.00)
c.
REFERENCE:
OP-5E
HIGH
NEW
011.A2.07 ..(KA's)

ANSWER: 058 (1.00)
c.
REFERENCE:
LP0576, Rod Position Indication System OP-1B, Reactor Startup
FUNDAMENTAL
NEW
014.K4.03 ..(KA's)

ANSWER: 059 (1.00)
d.
REFERENCE:
LP3456, DC and Instrument Bus Malfunctions LP2416, Nuclear Instrumentation System
HIGH
NEW
015.K2.01 ..(KA's)

ANSWER: 060 (1.00)
c.
REFERENCE:
CSP-C.1, Response to Inadequate Core Cooling
FUNDAMENTAL
NEW
016.A4.02 ..(KA's)

ANSWER: 061 (1.00)
d.
REFERENCE:
AOP-8F, LP0110 pg 19 L.O 112.01.LP0110.006
HIGH
NEW
033.A2.03 ..(KA's)

ANSWER: 062 (1.00)
b.
REFERENCE:
LP0023, Main Turbine Controls
HIGH
NEW
045.A2.17 ..(KA's)

ANSWER: 063 (1.00)
d.
REFERENCE:
RMSASRB CI RE-218, Waste Disposal System Liquid Monitor RMSASRB 1.0, Generic RMS Alarm Response Guidelines
FUNDAMENTAL
NEW
068.A4.04 ..(KA's)

ANSWER: 064 (1.00)
a.
REFERENCE:
ARB 1C04 1C 2-9 RMS ARB FT-3298A OI-39 pg 10
HIGH
NEW
071.A1.06 ..(KA's)

ANSWER: 065 (1.00)
b.
REFERENCE:
LP0003, Fire Protection
FUNDAMENTAL
NEW
086.A2.04 ..(KA's)

ANSWER: 066 (1.00)
b.
REFERENCE:
T.S. 3.1.4, Rod Group Alignment Limits
FUNDAMENTAL
NEW
2.1.33 ..(KA's)

ANSWER: 067 (1.00)
c.
REFERENCE:
OM 3.7, AOP and EOP Procedure Sets Use And Adherence
FUNDAMENTAL
NEW
2.1.17 ..(KA's)

ANSWER: 068 (1.00)
a.
REFERENCE:
T.S. 2.0, Safety Limits INPO 20655, PBNP, 02/02/2002 COLR, Core Operating Limits Report
HIGH
BANK
2.2.22 ..(KA's)

ANSWER: 069 (1.00)
c.
REFERENCE:
Modified question from KNPP 2002 exam. LP1547, Rod Control System.
HIGH
MODIFIED
2.2.33 ..(KA's)

ANSWER: 070 (1.00)
c.
REFERENCE:
TRCR112bnk.LXRBank 112.01.LP0259.002 006 LP0259, Fuel Handling Containment
FUNDAMENTAL
BANK
2.2.27 ..(KA's)

ANSWER: 071 (1.00)
a.
REFERENCE:
INPO 20657, PBNP, ExamDate 02/02/2002 HP 3.2, Radiological Labeling, Posting and Barricading Requirements
HIGH
BANK
2.3.1 ..(KA's)

ANSWER: 072 (1.00)
c.
REFERENCE:
Bank question 19331 from INPO bank NP 4.2.14, Administrative Dose Levels/Dose Level Extension Procedure
FUNDAMENTAL
BANK
2.3.4 ..(KA's)

ANSWER: 073 (1.00)
d.
REFERENCE:
LP0035 LP0135
FUNDAMENTAL
NEW
2.3.11 ..(KA's)

ANSWER: 074 (1.00)
d.
REFERENCE:
OM 1.1
FUNDAMENTAL
NEW
2.4.31 ..(KA's)

ANSWER: 075 (1.00)
d.
REFERENCE:
SEP-3, Loss of All AC Power to a Shutdown Unit
OP-3C, Hot Standby To Cold Shutdown
HIGH
NEW
2.4.9 ..(KA's)

(********** END OF EXAMINATION **********)

A N S W E R K E Y

001 a	016 b	031 c	046 a	061 d
002 a	017 a	032 b	047 a	062 b
003 d	018 a	033 c	048 a	063 d
004 c	019 d	034 c	049 d	064 a
005 c	020 c	035 b	050 b	065 b
006 a	021 a	036 a	051 b	066 b
007 b	022 d	037 a	052 a	067 c
008 b	023 c	038 c	053 a	068 a
009 d	024 a	039 c	054 c	069 c
010 a	025 c	040 a	055 a	070 c
011 c	026 d	041 d	056 b	071 a
012 d	027 a	042 d	057 c	072 c
013 c	028 c	043 c	058 c	073 d
014 b	029 d	044 b	059 d	074 d
015 c	030 d	045 b	060 c	075 d

(********** END OF EXAMINATION **********)