U.S. NUCLEAR REGULATORY COMMISSION
REGION I

DOCKET/REPORT NO: 50-333/94-12

LICENSEE: New York Power Authority

FACILITY: James A. FitzPatrick Nuclear Power Station
Lycoming, New York

DATES: April 25 - 29, 1994

EXAMINERS: S. McCrory, Examiner (Region IV)
M. Parrish, Examiner (EG&G)

CHIEF EXAMINER: _____ 6/7/94
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PWR & BWR Sections
Division of Reactor Safety

APPROVED BY: _____ 6/14/94
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PWR & BWR Sections
Division of Reactor Safety

EXAMINATION SUMMARY

REPORT NO. 50-333/94-12

During the week of April 25, 1994, three examiners administered initial examinations to three senior reactor operator (SRO) instant applicants and four reactor operator (RO) applicants.

Operations

Five of the seven applicants passed all portions of the examinations. One of the SRO applicants did not pass the walkthrough portion of the operating test. One of the RO applicants did not pass the written examination. Although six of the seven applicants passed the written examination, overall performance on the examination was weak in that four of the successful applicants scored within two points of the passing grade (80%).

No generic strengths were noted on the written examination, and 13 test items were missed by at least half of the applicants, indicating a generic weakness in the subject area. Self-checking during control manipulations, emergency operating procedure reentry, and use of alarm response procedures were noted as strengths on the operating tests. Failure to monitor multiple indications when loading an emergency diesel generator was noted as a generic weakness on the walkthrough portion of the examinations. Communications between the SROs and ROs were generally good during the simulator scenarios, but communications between the ROs were inconsistent.

DETAILS

1.0 INTRODUCTION

The NRC staff administered initial examinations to three senior reactor operator (SRO) instant applicants and four reactor operator (RO) applicants. The examinations were administered in accordance with NUREG-1021, "Examiner Standards," Revision 7.

2.0 PREEXAMINATION ACTIVITIES

Several reference materials necessary for examination preparation were not sent to the examiners in the initial submittal of material. These materials included learning objectives for administrative topics, Emergency Plan training material, and a few surveillance procedures. All of the missing materials were provided promptly when requested by the examiners.

The simulator scenarios and job performance measures (JPMs) were validated during the week of April 11, 1994, on the facility's simulator and in the plant. The facility reviewed the written examinations onsite during the validation week. The facility staff who were involved with these reviews signed security agreements to ensure that the initial examinations were not compromised.

3.0 EXAMINATION RESULTS AND RELATED FINDINGS, OBSERVATIONS, AND CONCLUSIONS

3.1 Examination Results

The results of the examinations are summarized below:

	SRO Pass/Fail	RO Pass/Fail
Written	3/0	3/1
Operating	2/1	4/0
Overall	2/1	3/1

3.2 Facility Generic Strengths and Weaknesses

The following is a summary of the strengths and weaknesses noted during initial examination administration. This information is being provided to aid the training department in upgrading their training program.

Written Examination

Strengths:

All of the applicants responded correctly to multiple questions; however, no specific generic strengths were noted.

Weaknesses:

Questions related to the following specific knowledge/ability topics were missed by at least half of the applicants, indicating a generic weakness in the subject:

- designation of procedures for adherence requirements;
- approval requirements for entry into potential locked high radiation areas and for planned special exposures;
- requirements for backseating of containment isolation valves;
- function of the refuel mode rod select permissive light;
- reactor manual control system design feature that provides protection against a failure of the sequence timer;
- areas that are protected by automatic water spray;
- response of control room ventilation to a loss of off-site power;
- conditions that will enable the automatic isolation of the residual heat removal system in shutdown cooling;
- requirements for deinerting the containment for a planned shutdown;
- actions required to exit an instability region;
- entry conditions for the failure to scram emergency operating procedure (EOP);
- evacuation announcement requirements for a dropped irradiated fuel bundle; and
- function of the condenser air removal pumps.

Operating Tests

Strengths:

The following items were noted as strengths in the performance of all or most of the applicants during the dynamic simulator scenarios and JPMs:

- Self checking during control manipulations;
- EOP entry and reentry; and
- Use of alarm response procedures.

Weaknesses:

The following item was noted as a weakness in the performance of all or most of the applicants during performance of the JPMs:

- Failure to monitor multiple indications when loading an emergency diesel generator.

Communications between the SROs and ROs were generally good during the simulator scenarios, but communications between the ROs were inconsistent.

4.0 EXIT MEETING

An exit meeting was conducted on April 29, 1994. Preliminary generic strengths and weaknesses on the operating tests were presented. The NRC examiners reminded the facility to submit any comments on the written examination within five working days.

NYPA personnel at the exit meeting are listed below:

R. Barrett, General Manager - Operations
F. Catella, Operations Training Supervisor
M. Colomb, General Manager - Support Services
J. Romanowski, Simulator Supervisor
H. Salmon, Resident Manager
D. Topley, Training Manager

Attachments:
1. RO Written Examination and Answer Key
2. SRO Written Examination and Answer Key
3. Facility Comments (w/o references)
4. NRC Resolution of Facility Comments
5. Simulation Facility Report

ATTACHMENT 1

RO WRITTEN EXAMINATION AND ANSWER KEY

MASTER
RO

Nuclear Regulatory Commission
Operator Licensing
Examination

This document is removed from
Official Use Only category on
date of examination.

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
REACTOR OPERATOR LICENSE
REGION 1

CANDIDATE'S NAME: _____

FACILITY: Fitzpatrick

REACTOR TYPE: BWR-GE4

DATE ADMINISTERED: 94/04/25

INSTRUCTIONS TO CANDIDATE:

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. Points for each question are indicated in parentheses after the question. The passing grade requires a final grade of at least 80%. Examination papers will be picked up four (4) hours after the examination starts.

CANDIDATE'S TEST VALUE	SCORE	%
100.00	78.0	% TOTALS

5/9/94

FINAL GRADE

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

_____
Candidate's Signature

ANSWER SHEET

Multiple Choice (Circle or X your choice)
If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001 a b c d ___
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045 a b c d ___

ANSWER SHEET

Multiple Choice (Circle or X your choice)
If you change your answer, write your selection in the blank.

046	a	b	c	d	___	069	a	b	c	d	___
047	a	b	c	d	___	070	a	b	c	d	___
048	a	b	c	d	___	071	a	b	c	d	___
049	a	b	c	d	___	072	a	b	c	d	___
050	a	b	c	d	___	073	a	b	c	d	___
051	a	b	c	d	___	074	a	b	c	d	___
052	a	b	c	d	___	075	a	b	c	d	___
053	a	b	c	d	___	076	a	b	c	d	___
054	a	b	c	d	___	077	a	b	c	d	___
055	a	b	c	d	___	078	a	b	c	d	___
056	a	b	c	d	___	079	a	b	c	d	___
057	a	b	c	d	___	080	a	b	c	d	___
058	a	b	c	d	___	081	a	b	c	d	___
059	a	b	c	d	___	082	a	b	c	d	___
060	a	b	c	d	___	083	a	b	c	d	___
061	a	b	c	d	___	084	a	b	c	d	___
062	a	b	c	d	___	085	a	b	c	d	___
063	a	b	c	d	___	086	a	b	c	d	___
064	a	b	c	d	___	087	a	b	c	d	___
065	a	b	c	d	___	088	a	b	c	d	___
066	a	b	c	d	___	089	a	b	c	d	___
067	a	b	c	d	___	090	a	b	c	d	___
068	a	b	c	d	___	091	a	b	c	d	___

ANSWER SHEET

Multiple Choice (Circle or X your choice)
If you change your answer, write your selection in the blank.

092 a b c d ___

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

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination means an automatic denial of your application and could result in more severe penalties.

2. After the examination has been completed, you must 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. This must be done after you complete the examination.

3. Restroom trips are to be limited and only one applicant at a time may leave. You must avoid all contacts with anyone outside the examination room to avoid even the appearance or possibility of cheating.

4. Use black ink or dark pencil ONLY to facilitate legible reproductions.

5. Print your name in the blank provided in the upper right-hand corner of the examination cover sheet and each answer sheet.

6. Mark your answers on the answer sheets provided and don not leave any question blank.

7. The point value for each question is indicated in parentheses after the question.

8. If the intent of a question is unclear, ask questions of the examiner only.

9. When turning in your examination, assemble the completed examination with examination questions, examination aids and answer sheets. In addition, turn in all scrap paper.

10. To pass the examination, you must achieve a grade of 80% or greater.

11. There is a time limit of four (4) hours for completion of the examination.

12. When you are done and have turned in your examination, leave the examination area (EXAMINER WILL DEFINE THE AREA). If you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION: 001 (1.00)

Which of the following identifies the position of the CRD Flow Control Valve (FCV) and the reason for the Flow Control Valve position following a reactor scram, prior to resetting the scram?

a. FCV will close due to close signal from RPS.

b. FCV will fully open due to low drive flow.

c. FCV will open or close as necessary to maintain drive water pressure 260 psid above reactor pressure.

d. FCV will close due to the high flow in the charging header.

QUESTION: 002 (1.00)

A Rod Worth Minimizer rod group has insert and withdrawal limits of notch 12 and notch 24.

Moving a control rod to which of the following positions would be allowed by the alternate limits for this group?

a. During rod insertion position 10.

b. During rod insertion position 14.

c. During rod withdrawal position 14.

d. During rod withdrawal position 26.

QUESTION: 003 (1.00)

The following conditions exist.

- Reactor power - 80%
- EHC Load Limit set at 95%
- Maximum Combined Flow Limiter at 110%.

An electrical failure occurs that causes the pressure set signal to decrease 10 psi.

Refer to the attached drawing of the Electro-Hydraulic Control Logic.

Assume reactor pressure remains constant.

Identify the response of the EHC system.

a. The TCVs and bypass valves will remain in their present positions.

b. The TCVs will open to pass 95% flow and the bypass valves will remain closed.

c. The TCVs will open to pass 95% flow and the bypass valves will open to pass 15% flow.

d. The TCVs will open to pass 95% flow and the bypass valves will open to pass 17-18% flow.

QUESTION: 004 (1.00)

The Reactor Core Isolation Cooling (RCIC) system initiated at 126.5 inches due to no other injection systems operating. RCIC then raised level to 222.5 inches.

Identify the response of the RCIC to the high level and subsequent level decrease to 126.5 inches.

a. RCIC turbine trips on high level and must be manually reset to allow the turbine to restart at 126.5 inches.

b. RCIC Turbine Steam Inlet Valve(13MOV-131) will close on high level and the high level seal-in must be manually reset to allow 13MOV-131 to reopen at 126.5 inches.

c. The RCIC turbine governor valve goes shut on high level and the governor valve will automatically reset restarting the turbine at 126.5 inches.

d. RCIC Turbine Steam Inlet Valve(13MOV-131) will close on high level and the high level seal-in is automatically reset to allow 13MOV-131 to reopen at 126.5 inches.

QUESTION: 005 (1.00)

Identify how Standby Liquid Control Storage Tank level is measured.

a. A pressure detector measures pressure at the bottom of the tank.

b. A pressure detector measures back pressure on an air line which is providing flow to the bottom of the tank.

c. A differential pressure detector compares pressure at the bottom of the tank with atmospheric pressure.

d. A differential pressure detector compares air supply pressure with back pressure on an air line which is providing flow to the bottom of the tank.

QUESTION: 006 (1.00)

The following readings exist for the recirculation flow reference units for the Rod Block Monitor.

Flow unit A - 50%
Flow unit C - 55%

What is the High setpoint for the "A" RBM?

a. 87%

b. 78%

c. 75%

d. 69%

QUESTION: 007 (1.00)

The reactor is operating at 100% power. The operator observes that the Group I light on panel 9-5 for RPS A is NOT illuminated. The operator confirms that Group I light is also not illuminated on panel 09-15.

IDENTIFY the effects this condition will have on continued operation.

If a half-scram condition occurs on the:

a. "A" logic; 1/4 of the control rods will scram.

b. "B" logic; 1/4 of the control rods will scram.

c. "A" logic; 1/2 of the control rods will scram.

d. "B" logic; 1/2 of the control rods will scram.

QUESTION: 008 (1.00)

Which of the following will generate a rod block with the Reactor Mode Switch in "Refuel"?

a. The refuel platform is over the fuel pool and is moving a fuel bundle.

b. The refuel platform is over the core, and one control rod is withdrawn to position 24.

c. The refuel platform is over the core and the fuel grapple is not full up.

d. The refuel platform is over the fuel pool and the trolley mounted hoist is loaded.

QUESTION: 009 (1.00)

A loss of drywell cooling occurs. Drywell pressure increases to 2.9 psig. Drywell temperature increases to 150 F.

Identify all sections of the Emergency Procedures that would be entered.

a. All sections of EOP-4, Primary Containment Control.

b. Primary Containment Pressure (PC/P) and Drywell Temperature (DW/T) sections of EOP-4, Primary Containment Control.

c. Primary Containment Pressure (PC/P) and Drywell Temperature (DW/T) sections of EOP-4, Primary Containment Control and all sections of EOP-2, RPV Control.

d. All sections of EOP-2, RPV Control and all sections of EOP-4, Primary Containment Control.

QUESTION: 010 (1.00)

A failure to scram has occurred and reactor power is approximately 65%.

Identify why the recirculation pump speed is reduced to minimum prior to tripping the recirculation pumps.

a. To avoid tripping the turbine due to high RPV water level.

b. To determine if reducing speed is sufficient to reduce power to < 5% on the APRMs.

c. To limit the rapid power reduction transient due to tripping recirculation pumps from high power.

d. To avoid tripping high pressure injection sources on high RPV water level.

QUESTION: 011 (1.00)

The following conditions exist:

- a failure to scram has occurred
- reactor power is 20%
- a high temperature condition in the secondary containment has occurred due to a fire
- Main Steam Isolation valves have closed
- HPCI is maintaining RPV level
- rods are being inserted using CRD

Which of the following systems should be isolated if they are discharging into the secondary containment?

a. Control Rod Drive

b. Reactor Water Cleanup

c. High Pressure Coolant Injection

d. Fire suppression

QUESTION: 012 (1.00)

Which ONE of the following combinations of main steam line radiation monitor trips will cause a full Main Steam Isolation Valve (MSIV) closure?

a. Channel "B" -- High
Channel "C" -- High - High

b. Channel "A" -- Downscale
Channel "D" -- Inop

c. Channel "B" -- High High
Channel "D" -- High - High

d. Channel "A" -- Inop
Channel "B" -- High - High

QUESTION: 013 (1.00)

The plant is operating at 100% power.

Identify the differential pressure sensed by the core spray sparger break detection system prior to and after a break occurs.

a. Prior - negative differential pressure
After - zero differential pressure

b. Prior - zero differential pressure
After - positive differential pressure

c. Prior - negative differential pressure
After - positive differential pressure

d. Prior - positive differential pressure
After - negative differential pressure

QUESTION: 014 (1.00)

Instrument air pressure is decreasing due to air compressor trips. Loss of Instrument Air AOP-12 has been entered.

Which of the following requires a manual scram?

a. The "Scram Air Header Pressure Low" alarm is received.

b. Instrument air pressure has reached 70 psig.

c. The "Rod Drift" annunciator is in for control rod 40-17, NO other rods have moved.

d. A single Main Steam Line Isolation Valve has closed.

QUESTION: 015 (1.00)

The on-coming Nuclear Control Operator (NCO) is coming back on shift for the first time after 30 days.

How far back is this operator REQUIRED to review the NCO Logs prior to assuming the shift?

The operator must review the NCO log:

a. for the previous shift.

b. for the previous 7-day period.

c. for the previous 14-day period.

d. back to the operator's last time on shift.

QUESTION: 016 (1.00)

Given the following plant conditions:

- The plant is in a declared Site Area Emergency
- All site and plant emergency facilities required for this emergency classification are operational
- The Control Room has just received a report of a fire in the "A" Diesel Generator
- This fire is unrelated to the Site Area Emergency

Where shall the Fire Brigade assemble for the above conditions?

a. Technical Support Center

b. Operational Support Center

c. Outside the Diesel Generator Building

d. Turbine Building Fire Brigade Locker on the 272' elevation near the Radwaste Building

QUESTION: 017 (1.00)

Automatic Depressurization System Safety Relief Valve (SRV) 02RV-71G is being opened from the Control Room. The "White" light above the control switch is illuminated.

What provides the input signal to this "White" light for that SRV?

The "White" light comes on when:

a. steam flow is sensed in the SRV outlet piping.

b. SRV discharge piping temperature reaches 250 degrees F.

c. the SRV main valve reaches its 98% closed position.

d. the SRV pilot valve solenoid is energized.

QUESTION: 018 (1.00)

Which ONE of the following describes the function of the Gain Change Circuit in the Rod Block Monitor (RBM) system.

The Gain Change Circuit will:

a. initiate a rod block if the LPRM average input is higher than the APRM reference signal.

b. prevent rod movement until the RBM output is adjusted to equal the APRM reference signal.

c. initiate a "null sequence" if the difference between the local average power and the APRM reference signal is too large.

d. modify the RBM amplifier output if the average of the LPRM inputs is lower than the APRM reference signal.

QUESTION: 019 (1.00)

A Traversing In-Core Probe (TIP) trace is being taken when an I&C Technician error causes a containment isolation signal.

What is the expected automatic response of the TIP system?

a. The TIP drive shifts into reverse withdrawing the detector into the chamber shield, then the shear valve fires.

b. The TIP drive shifts into reverse withdrawing the detector into the chamber shield, then the ball valve closes.

c. The TIP shear valve fires, cutting the detector cable and sealing the guide tube.

d. The TIP ball valve closes, cutting the detector cable and sealing the guide tube.

QUESTION: 020 (1.00)

Given the following plant conditions:

- The "B" Diesel Generator is running for a surveillance test
- The Auxiliary Operator at the diesel has reported a fire in the generator
- The "B" Diesel Generator output breaker has been opened
- Attempts to stop the diesel with local and control room switches have failed
- The Shift Supervisor has directed the Auxiliary Operator to perform an emergency diesel generator shutdown

Select the method the Auxiliary Operator should use to shutdown the diesel.

a. Push the injector control lever to overspeed the engine.

b. Manually trip the engine fuel racks.

c. Isolate fuel from the day tank to the engine.

d. Deenergize the engine governor solenoid.

QUESTION: 021 (1.00)

Power is 50% and one Safety Relief Valve has opened. The actions of AOP-36, Stuck Open Relief Valve, are in progress

Select the MAXIMUM torus water temperature allowed before the reactor must be scrammed.

a. 85 degrees F

b. 95 degrees F

c. 110 degrees F

d. 122 degrees F

QUESTION: 022 (1.00)

Which of the following methods for backup control rod insertion requires the scram to be reset?

Control rod insertion by:

a. using the Reactor Manual Control System (RMCS).

b. using the individual control rod scram test switches.

c. venting the scram air header.

d. venting the control rod mechanism over-piston volume.

QUESTION: 023 (1.00)

Select the emergency classification due to an off-site release that requires entry into EOP-6, Radioactivity Release Control?

a. General Emergency

b. Site Area Emergency

c. Alert

d. Unusual Event

QUESTION: 024 (1.00)

During performance of AOP-1, Reactor Scram, the operator attempts to reset the scram. Rod Groups 1 and 4 reset as indicated by the lights on the 09-5 panel but rod groups 2 and 3 will not reset.

Select the effect of continued operation in this condition.

a. Both scram discharge volumes will not drain.

b. A flow path exists from the reactor to the reactor building via the scram discharge volume.

c. Only one scram backup valve will reposition.

d. One scram discharge volume will drain but the other will remain isolated.

QUESTION: 025 (1.00)

Identify the reason reactor water level is lowered to reduce power during a failure to scram (ATWS) event.

a. Lowering level below the moisture separator removes the flowpath thereby minimizing flow through the core.

b. Lowering level reduces the pressure in the core by reducing the head of water above the core.

c. Lowering level decreases the differential pressure between outside the shroud and inside the core.

d. Lowering level reduces power by increasing the subcooling of the water entering the core.

QUESTION: 026 (1.00)

The New York Power Authority administrative annual limit on Total Effective Dose Equivalent (TEDE) is:

a. 0.5 rem

b. 1.0 rem

c. 2 rem

d. 3 rem

QUESTION: 027 (1.00)

A 26 year old male auxiliary operator has a lifetime total effective dose equivalent of 24.5 rem.

What is the maximum dose the operator could receive before approval from an RP Supervisor is required to access on an Radiation Work Permit?

a. .5 rem

b. 1.3 rem

c. 1.5 rem

d. 2.4 rem

QUESTION: 028 (1.00)

Which of the following would be the maximum dose rate that would NOT require a locked door?

a. 99 mrem/hr

b. 499 mrem/hr

c. 999 mrem/hr

d. 499 rad/hr

QUESTION: 029 (1.00)

A new procedure has been developed. Certain sections meet the requirements to be designated "Continuous Use" while other sections of the same procedure only meet the requirements for "Reference Use."

How is this procedure to be designated?

a. The procedure cover page will be designated with the most restrictive requirement. All sections must be used to this standard.

b. The procedure cover page will be designated "Continuous Use." Sections that are designated for "Reference Use" will be designated prior to those sections.

c. The procedure cover page will designate the sections of the procedure and their required use level.

d. The procedure cover page will be designated "Reference Use." Sections that are designated for "Continuous Use" will be designated prior to those sections.

QUESTION: 030 (1.00)

Which of the following is a direct responsibility of an operator concerning protective tagging?

a. Ensuring instrumentation drained for maintenance or testing is filled and vented prior to being returned to service.

b. Ensuring compliance with Tech Specs regarding equipment operability.

c. Ensuring proper positioning and tagging sequence of all protective devices.

d. Determining if the tagged devices will provide adequate protection of equipment and personnel for the work to be performed.

QUESTION: 031 (1.00)

A differential pressure cell that measures main steam line flow is required to be isolated for protective tagging. The cell provides input to PCIS.

Select the personnel who should conduct the valve positioning and the independent verification.

a. A Journeyman Operator or Licensed Operator should reposition the valves ONLY after consulting Instrumentation and Control personnel. A Licensed Operator is required to perform the independent verification.

b. A Journeyman Operator or Licensed Operator should reposition the valves ONLY after consulting Instrumentation and Control Personnel. Either a Licensed Operator or Journeyman Operator is required to perform the independent verification.

c. A Licensed Operator should reposition the valves. A Licensed Operator is required to perform the independent verification.

d. Instrumentation and Control Personnel should reposition the valves. A Licensed Operator or Journeyman Operator is required to perform the independent verification.

QUESTION: 032 (1.00)

Valve lineups are being performed following a refueling outage. A manual valve is located in a 200 mrem/hr area. It is estimated that it will take 5 minutes verify the valve's position. The valve is in a system requiring independent verification.

Select the correct method for performing the independent verification of this valve.

a. Perform a review of all Protective Tagging Records (PTRs) for the outage. If the valve was not manipulated waive the valve lineup.

b. With the Operations Managers approval waive the independent verification.

c. Perform a "Dual Concurrent Verification" instead of an independent verification.

d. Perform the independent verification of the valve position.

QUESTION: 033 (1.00)

An operator was on jury duty from March 1 to June 22. The operator's license was in an active status prior to the jury duty.

Select the MINIMUM number of shifts that the operator will have to stand and the date by which those watches must be completed.

a. The operator will have to stand 5 eight hour shifts prior to July 1.

b. The operator will have to stand 7 eight hour shifts prior to July 1.

c. A 25% grace period is allowed so the operator will have until July 22 to complete 5 eight hour shifts.

d. A 25% grace period is allowed so the operator will have until July 22 to complete 7 eight hour shifts.

QUESTION: 034 (1.00)

A fire has occurred in cable room, requiring a scram and entry into EOPs.

Who is to assume the duty of the Fire Brigade Leader? (Assume all potential Fire Brigade Leaders are qualified)

a. Station Fire Chief

b. Senior Nuclear Operator

c. Assistant Shift Supervisor

d. Nuclear Control Operator

QUESTION: 035 (1.00)

HPCI Outboard Steam Supply Isolation Valve, 23MOV16, has valve packing leakage which is causing increased local temperatures.

In order to minimize leakage, the valve:

a. should be electrically backseated as this is preferable to manual backseating.

b. should be manually backseated as this is preferable to electrical backseating.

c. should be electrically backseated because manual backseating of containment isolation valves is prohibited

d. should be electrically backseated because of personnel danger associated with attempting to manual backseat.

QUESTION: 036 (1.00)

Instrumentation and Control (I&C) technicians will be performing a surveillance that will result in inserting and resetting half-scrams. An I&C technician will be on the phones in front of the 9-5 panel.

Identify any restrictions placed on the I&C technician resetting the half-scrams.

a. The Assistant Shift Supervisor (ASS) may grant the I&C technician permission to reset all half-scrams that are caused by the task.

b. I&C technicians are not authorized to manipulate controls at anytime.

c. The I&C technician is required to obtain permission from the NCO each time prior to resetting the half-scram.

d. When the Shift Supervisor signs the work authorization the I&C technician is granted permission to reset the half-scrams when the procedure specifically requires them to be reset.

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QUESTION: 037 (1.00)

The plant is operating at 11% power with the mode switch in STARTUP. The following is a status of LPRM inputs and indicated reactor power for each APRM:

	APRM A	APRM B	APRM C	APRM D	APRM E	APRM F
D LPRMs	3	2	4	3	4	3
C LPRMs	3	2	4	2	4	3
B LPRMs	3	3	4	4	4	4
A LPRMs	3	3	3	4	4	4
Indicated Power	12%	11%	11%	10%	16%	13%

Based on the above status, what signal/signals, if any, would be going to the reactor manual controls system and RPS system?

a. No scram signal, no rod withdrawal block signal.

b. No scram signal, rod withdrawal block signal.

c. Half-scram signal, rod withdrawal block signal.

d. Full-scram signal.

QUESTION: 038 (1.00)

Operation with 03HCU-102 (CRD withdraw line isolation valve) closed and 03HCU-101 (CRD insert line isolation valve) open is cautioned against.

Select the reason for this caution.

a. Long scram times could result if a scram occurs.

b. Damage to the CRD can occur if an insert signal is applied.

c. Rod drift can occur with this condition.

d. Damage to the CRD can occur on a scram.

QUESTION: 039 (1.00)

The Refuel Mode Rod Select Permissive light is illuminated. Select the condition that will cause the light to be illuminated.

a. No refueling bridge position or hoist loading interlocks exist that would prevent rod movement.

b. Mode switch in Refuel. One rod is selected. No rods are withdrawn.

c. Mode switch in Refuel. No rods are selected. No rods are withdrawn.

d. Mode switch is in Refuel. One rod is selected and withdrawn to 06. All other rods are fully inserted.

QUESTION: 040 (1.00)

Which of the following features of Reactor Manual Control System will prevent continuous withdrawal of a control rod due to a failure of the sequence timer?

a. A timer will remove all output signals from the sequence timer if a withdrawal signal is applied for two seconds.

b. The control rod will be deselected if a withdrawal signal is applied for two seconds.

c. A rod block will be generated if Rod Position Indicating System determines that the rod has withdrawn past its desired position.

d. The control rod will be deselected if the complete timer sequence exceeds 8.0 seconds.

QUESTION: 041 (1.00)

Which of the following describes the Rod Out Notch Override function?

a. Rod movement is initiated by placing the Rod Movement Control Switch to "NOTCH OUT" then placing the Rod Out Notch Override switch to "OVERRIDE."

b. Once rod motion is initiated rod movement will continue as long as the Rod Movement Control Switch is in "NOTCH OUT."

c. Once rod motion is initiated releasing either the Rod Movement Control Switch or Rod Out Notch Override switch will cause rod motion to cease once rod the reaches the next notch.

d. Once rod motion is initiated rod movement will continue as long as the Rod Out Notch Override switch is in "OVERRIDE."

QUESTION: 042 (1.00)

The reactor is operating at 48% power when an instrumentation technician causes a low feedwater flow signal to be sensed by the recirculation water flow control system. The shift supervisor directs the instrumentation technician to remove the cause of the low feedwater flow signal.

Select the response of the initial low flow signal and the response when the signal is removed.

a. Initially recirculation will runback to 44%. When the signal is removed recirculation pumps will return to the original speed.

b. Initially recirculation will runback to 44%. When the signal is removed recirculation pumps will remain at 44% until the RWR MG RUNBACK pushbuttons are depressed.

c. Initially recirculation will runback to 26%. When the signal is removed recirculation pumps will return to the original speed.

d. Initially recirculation will runback to 26%. When the signal is removed recirculation pumps will remain at 26% until the RECIRC MG RUNBACK pushbuttons are depressed.

QUESTION: 043 (1.00)

The reactor is operating at 92%. Due to flow oscillations the operator has just locked the scoop tube on the "A" recirculation pump per OP-27, Recirculation System.

A 44% runback has been initiated due to a loss of a reactor feed pump.

Select the status of the "A" Recirculation Pump and what action would be required (if any).

a. Recirculation pump "A" speed would be automatically reduced to 44%.

b. Speed would be at original value and operator would have to trip the "A" recirculation pump.

c. Speed would be at original value and the operator would have to use the Manual Speed Controller on the "A" Manual/Automatic Controller to reduce speed.

d. Speed would be at original value and the operator would have to reset the scoop tube lock to reduce speed.

QUESTION: 044 (1.00)

Which of the following components must be tagged in the closed position in order to prevent inadvertent draining of the reactor to the torus during shutdown cooling loop A operation?

a. 10MOV-13A, Torus Suction Valve.

b. 10MOV-16A, RHR Pump Minimum Flow Valve.

c. 10MOV-34A, Torus Return Valve

d. 10MOV-38A, Torus Spray Valve

QUESTION: 045 (1.00)

Emergency Operating Procedures have directed termination or prevention of RPV injection. AOP-52 requires that LPCI Outboard Injection Valves 10MOV-27A and B be closed to complete this action.

Which of the following signals would have to be defeated to close these valves?

a. High Drywell Pressure

b. Low-Low-Low Reactor Water Level

c. RHR Injection Valve Open Permissive Pressure

d. Five Minute Timer

QUESTION: 046 (1.00)

A LPCI signal has occurred due to high drywell pressure.

Select the condition that will close AC INPUT BREAKER 1CB1 in the LPCI MOV power supply.

a. The control room operator places LPCI MOV A PWR SUPP switch to "ISOLATE."

b. Local toggle switch for 1CB1 is placed to "CLOSE."

c. Low battery voltage on the respective battery.

d. LPCI MOV A PWR SUPP switch is placed to "BYPASS" and ten minutes have elapsed since LPCI signal.

QUESTION: 047 (1.00)

The following conditions exist:

- Drywell pressure = 1.8 psig
- RPV level = 30 inches TAF
- Containment spray control in MANUAL spring return to NORMAL.

Which of the following valves can be operated?

a. Torus Spray valve 10MOV-38A

b. Outboard Containment Spray valve 10MOV-26A

c. Inboard Containment Spray valve 10MOV-31A

d. Torus Cooling/Full Flow Test Isolation 10MOV-34A

QUESTION: 048 (1.00)

HPCI was in operation with level at 115 inches. The operator inadvertently depresses the Manual Isolation switch.

Select the condition(s) that must be met for HPCI to be returned to service.

a. Release the Manual Isolation switch.

b. Release the Manual Isolation switch then depress the Isolation Reset Pushbutton.

c. Release the Manual Isolation switch then depress Turbine Trip Reset.

d. Release the Manual Isolate switch then depress the Isolation and Turbine Trip Resets.

QUESTION: 049 (1.00)

Select the number of starts allowed in an hour for DC motor operated valve(MOV) in the HPCI system and the definition of a MOV start.

a. 3 per hour. Any application of an open or closed signal.

b. 3 per hour. Any complete opening or closing of the valve.

c. 5 per hour. Any application of an open or closed signal.

d. 5 per hour. Any complete opening or closing of the valve.

QUESTION: 050 (1.00)

Following a reactor scram the "SDV A or B Hi Level" annunciator is illuminated. In order to perform AOP-34, Backup Control Rod Insertion, operators are required override the reactor scram signal if necessary to reset the scram.

Which of the following conditions would require the operators to override the reactor scram?

a. Reactor pressure is 700 psig.

b. Main Steam Line Isolation valves are shut.

c. Reactor power is 17%

d. Intermediate range A and B fail upscale after driving the detectors in. All APRMs indicate downscale.

deleted

QUESTION: 051 (1.00)

On which of the following RPV level instruments will indicated level decrease due to a heatup from cold shutdown to normal operating temperature? Assume actual level remains constant.

a. Narrow range

b. Wide range

c. Refueling

d. Fuel Zone

QUESTION: 052 (1.00)

EPIC displays plant heatup and cooldown rates. Variable "B" displays the RPV temperature change over the previous 60 minutes.

Select the setpoint at which Variable "B" will change from green to red.

a. 30 F/hr

b. 60 F/hr

c. 90 F/hr

d. 100 F/hr

QUESTION: 053 (1.00)

A loss of reactor feed has resulted in a reactor scram and automatic initiation of HPCI and RCIC.

Which of the following conditions would prevent using RCIC in the pressure control mode?

a. RCIC tripped on high RPV water level but level has decreased to 150 inches.

b. Low CST level.

c. HPCI automatic initiation condition is present.

d. Torus cooling cannot be initiated.

QUESTION: 054 (1.00)

What is the effect of loss of 125 V DC "B" on operation of the Automatic Depressurization System?

a. The Channel "B" logic will be lost preventing operation of ADS valves B, D, F, and H on an ADS signal.

b. Power will be lost to ADS valves B, D, F, and H preventing their operation on an ADS signal.

c. Manual operation of ADS valves from remote panel 02ADS-71 would be lost.

d. The Channel "B" logic will be lost preventing operation of all ADS valves on an ADS signal.

QUESTION: 055 (1.00)

Reactor is operating at 94% with feedwater level control selected to "A" level instrument. The operator observes level instruments 52A and 52C decreasing.

Select the cause for this indication and the response of feedwater level control.

a. A leak in the variable leg for level instruments 52A and 52C. Actual RPV level will increase until a reactor feed pump trip occurs.

b. A leak in the reference leg for level instruments 52A and 52C. Actual RPV level will decrease until a reactor scram occurs.

c. A leak in the variable leg for level instruments 52A and 52C. Actual RPV level will increase. A reactor feed pump trip will not occur.

d. A leak in the reference leg for level instruments 52A and 52C. Actual RPV level will increase until a reactor feed pump trip occurs.

QUESTION: 056 (1.00)

Select the basis for waiting until the mode switch is in RUN before opening Reactor Feed Pump Discharge valves, 34MOV-100A or B.

a. The capacity of the reactor feed pump could quickly overfill the vessel.

b. A reactor scram from IRM Hi-Hi could occur due to cooler moderator being injected.

c. Level control with the reactor feed pump is difficult below 10% power.

d. Instabilities between the low flow valve and the reactor feed pump could occur.

QUESTION: 057 (1.00)

Opening which of the following valves will cause Standby Gas Treatment (SBGT) system to start?

a. Below refuel suction valve, 01-125MOV-12

b. Above refuel suction valve, 01-125MOV-11

c. SBGT Suction valve, 01-125MOV-14A

d. SBGT Discharge valve, 01-125MOV-15A

QUESTION: 058 (1.00)

Select the expected response of the fire system to a high temperature in the "B" Standby Gas Treatment Train.

a. High temperature will initiate fire protection and standby gas treatment will shutdown automatically.

b. High temperature will shutdown the affected standby gas treatment train but the operator will have to manually initiate fire protection.

c. High temperature will initiate the fire protection but the operator will have to manually shutdown SGT.

d. High temperature will cause an alarm on the fire panel (Panel FPP). The operator will have to shutdown SGT and initiate fire protection.

QUESTION: 059 (1.00)

The following conditions exist following a loss of offsite power.

- EDG "A" operating with its output breaker 10502 closed.
- EDG "C" operating with its output breaker 10512 open.
- The tie breaker 10504 is open.

Select the condition that would cause these conditions.

a. EDG "A" achieved rated voltage and speed 5 seconds prior to EDG "C".

b. EDG "A" achieved 400 rpm 5 seconds prior to EDG "C".

c. EDG "A" closed to the bus first locking out EDG "C" output breaker.

d. EDG "A" achieved 4000 volts 5 seconds prior to EDG "C".

QUESTION: 060 (1.00)

Which of the following diesel generator trips is bypassed if the diesel is started due to high drywell pressure?

a. Low Lube Oil Pressure

b. Engine Overspeed

c. High differential current

d. Reverse power

QUESTION: 061 (1.00)

During a reactor shutdown with reactor power at 5% the operator selects a rod in a rod group below the current Rod Worth Minimizer (RWM) rod group.

Select the response of the RWM.

a. A select error will be received and the rod cannot be moved.

b. A select error will be received but the rod will be able to be moved. Upon movement an insert error will be received but no insert block.

c. A select error will be received but the rod will be able to be moved. No insert error will be received when the rod is moved.

d. A select error and insert error will be received when the rod is selected but the rod will be able to be moved.

QUESTION: 062 (1.00)

A Non-Regenerative Heat Exchanger (NRHX) high outlet temperature has occurred due to a loss of Reactor Building Closed Loop Cooling System (RBCLC).

Select all the valve(s) that will shut on the high temperature.

a. RWCU Supply Inboard Isolation Valve, 12MOV-15, and RWCU Return Containment Isolation Valve, 12-069.

b. RWCU Supply Outboard Isolation Valve, 12MOV-18.

c. RWCU Supply Outboard Isolation Valve, 12MOV-18, and RWCU Return Containment Isolation Valve, 12-069.

d. RWCU Supply Inboard Isolation Valve, 12MOV015, RWCU Supply Outboard Isolation Valve, 12MOV-18, and RWCU Return Containment Isolation Valve, 12-069.

QUESTION: 063 (1.00)

Select the effect on RWCU operation that could occur when rejecting water from RWCU to the Main Condenser.

a. Increased flow through the RWCU pump could result in high amperage condition.

b. Increased flow through the non-regenerative heat exchanger could result in increased heat exchanger outlet temperature.

c. Decreased return flow through the regenerative heat exchanger could cause increased NRHX outlet temperatures.

d. Increased flow through the filter-demineralizers could result in damage to the filter-demineralizers.

QUESTION: 064 (1.00)

Which of the power supply transfers for the Uninteruptible Power Supply can ONLY occur manually?

a. AC Motor to MCC 252.

b. AC Motor to DC Motor.

c. DC Motor to MCC 252.

d. MCC 252 to DC Motor.

QUESTION: 065 (1.00)

Which of the following areas protected by Water Spray is automatically initiated?

a. Reactor Feed Pump Turbine

b. Generator Hydrogen Seal Oil

c. Standby Gas Treatment

d. RCIC Area

QUESTION: 066 (1.00)

Pressure in the fire system has decreased to 90 psi. Identify all the pump(s) that will be operating Assume all pumps are aligned for automatic operation.

a. Both Diesel fire pumps.

b. The Electric Fire pump and Diesel Driven Fire Pump, 76P-1.

c. The Electric Fire pump.

d. The Electric Fire pump and Diesel Drive Fire Pump, 76P-4 (Non Tech Spec).

QUESTION: 067 (1.00)

A loss of offsite power has occurred and a high drywell pressure signal is generated. Diesel generator "C" fails to start.

Select the effect on automatic loading on bus 10500.

a. The first RHR pump will not automatically start.

b. The second RHR pump will not automatically start.

c. The starting of the second RHR pump will be delayed by 5 seconds.

d. The starting of each load will be delayed by 7 seconds.

QUESTION: 068 (1.00)

A surveillance is being performed which requires the operator to operate the test pushbutton for the Main Steam Isolation Valves. The operator fails to release the test pushbutton.

Select the response of the Main Steam Isolation Valve.

a. When the valve reaches 90% it will reopen.

b. When the valve reaches 90% it will stop closing and remain at 90% as long as the switch is depressed.

c. The valve will fast close once the 90% closure point is passed.

d. The valve will continue to slow close as long as the pushbutton is depressed.

QUESTION: 069 (1.00)

Which of the following conditions would prevent use of the Main Steam Leak Collection System?

a. Steam header pressure = 25 psig.

b. A main steam line outboard isolation valve fails to close.

c. Blowdown valve to radwaste from the Main Steam Line Collection System is closed.

d. Standby gas treatment started on a high reactor building radiation signal.

QUESTION: 070 (1.00)

The Control Room and Relay ventilation system are operating with the "A" train components in service when a loss of off-site power occurs.

Select the expected complete lineup for control room ventilation when power is restored from the Emergency Diesel Generators.

a. The system operates in the "Isolate" mode with ONLY the "A" train in operation.

b. The system operates in the "Auto" mode with both trains operating.

c. The system operates in the "Auto" mode with ONLY the "A" train in operation.

d. The system operates in the "Isolate" mode with both trains operating.

QUESTION: 071 (1.00)

Select the conditions that will enable the automatic isolation of the LPCI Inboard Injection Valve, 10MOV-25A.

a. Reactor pressure - 100 psig.
Inboard Shutdown Cooling Isolation Valve, 10MOV-17 - Closed
Outboard Shutdown Cooling Isolation Valve, 10MOV-18 - Closed
Shutdown Cooling Suction Valves, 10MOV-15A&C - Open

b. Reactor pressure - 50 psig
Inboard Shutdown Cooling Isolation Valve, 10MOV-17 - Closed
Outboard Shutdown Cooling Isolation Valve, 10MOV-18 - Closed
Shutdown Cooling Suction Valves, 10MOV-15A&C - Open

c. Reactor pressure - 100 psig
Inboard Shutdown Cooling Isolation Valve, 10MOV-17 - Open
Outboard Shutdown Cooling Isolation Valve, 10MOV-18 - Open
Shutdown Cooling Suction Valves, 10MOV-15A&C - Closed

d. Reactor pressure - 50 psig
Inboard Shutdown Cooling Isolation Valve, 10MOV-17 - Open
Outboard Shutdown Cooling Isolation Valve, 10MOV-18 - Open
Shutdown Cooling Suction Valves, 10MOV-15A&C - Closed

QUESTION: 072 (1.00)

A Residual Heat Removal pump is operating with only its minimum flow valve open. The MAXIMUM time the pump should run is:

a. 5 minutes

b. 10 minutes

c. 15 minutes

d. 30 minutes

QUESTION: 073 (1.00)

A main steam isolation has resulted in a loss of feed. Which of the following conditions indicates that reactor recirculation pumps should have tripped?

a. Two safety relief valves (L & K) have opened.

b. RCIC has initiated.

c. Narrow range RPV level indicates at the bottom of the range.

d. Standby Gas Treatment has initiated.

QUESTION: 074 (1.00)

Refueling operations are in progress. The operator places the mode switch to "Startup" to perform a surveillance.

Select the effect this will have on refueling operations.

a. The bridge will be prevented from moving over the core under all conditions.

b. The fuel grapple will be unable to be lifted if the bridge is over the core.

c. The bridge will be prevented from moving over the core only if one control rod is withdrawn.

d. Upward motion of the frame mounted hoist will be prevented if the bridge is over the core.

QUESTION: 075 (1.00)

Following a loss of DC Power System "A" the operator is instructed to close the Main Steam Isolation Valves (MSIVs).

Select the reason for closing the MSIVs.

a. The "A" reactor feed pump will not trip on high water level.

b. HPCI turbine will not trip on high water level.

c. Prevent rapid cooldown from the turbine bypass valves failing open.

d. Due to the inability to trip the turbine from the control room.

QUESTION: 076 (1.00)

Identify the PREFERRED method for verifying all control rods are full in following a reactor scram.

a. Verify all blue scram lights are illuminated.

b. Verify all rods indicate -99 on a full core scan.

c. Deselect all control rods and verify that the "Refuel Mode Select Permissive" is illuminated.

d. Verify all Green FULL IN lights are illuminated on the full cored display.

QUESTION: 077 (1.00)

A trip of a reactor recirculation pump has resulted in operation at 45% power and 38% flow.

The power to flow map is provided.

Select the acceptable method for exiting the region.

a. Restart the tripped reactor recirculation pump.

b. Raise flow of the operating recirculation pump but only if flow can be raised until region C is exited.

c. Insert control rods using the normal insertion sequence until power is out of the region.

d. Raise flow of the operating recirculation pump until region B is exited even if operations in region C will occur.

QUESTION: 078 (1.00)

A loss of all service water pumps has occurred. Emergency Service Water pump "A" failed to start.

During efforts to supply Reactor Building Closed Loop Cooling Loads and Drywell cooling the operator is specifically directed to monitor temperature in which of the following components or areas?

a. Crescent Areas

b. Control Room

c. Emergency Diesel Generator

d. Control Rod Drive Pump

QUESTION: 079 (1.00)

A loss of all Reactor Building Closed Loop Cooling Water pumps has occurred.

Select the status of Emergency Service Water availability to drywell cooling.

a. ESW is automatically aligned to drywell coolers.

b. The supply valves to drywell cooling must be energized and opened.

c. ESW will be supplied to drywell cooling only if ESW pressure is greater than service water pressure.

d. The operator must open cooling water supply valves from 09-75 panel.

QUESTION: 080 (1.00)

A loss of the UPS has occurred. The operator observes both reactor recirculation pumps starting to run back.

Select the required operator action.

a. Lock the scoop tubes on both recirculation pumps. Place both reactor feed pumps in manual to control level.

b. Lock the scoop tubes on both recirculation pumps. Trip one reactor feed pump. Take manual control of other feed pump with the motor speed changer.

c. Allow both recirculation pumps to run back. Place both reactor feed pumps in manual to control level.

d. Allow both recirculation pumps to runback. Trip one reactor feed pump. Take manual control of the other feed pump with the motor speed changer.

QUESTION: 081 (1.00)

A loss of shutdown cooling has occurred due to isolation of shutdown cooling.

Select the condition that requires starting recirculation pumps.

a. Level cannot be maintained greater than 234.5 inches.

b. Shutdown cooling is projected to be lost for 45 minutes.

c. Indications of thermal stratification exist.

d. Reactor coolant temperature cannot be maintained below 140 F.

QUESTION: 082 (1.00)

A loss of shutdown cooling has occurred and is unable to be reestablished with RPV temperature at 126 F and the vessel head removed.

As temperature increases the reactor building is required to be evacuated and secondary containment is required to be established before RPV temperature reaches:

a. 130 F

b. 160 F

c. 200 F

d. 212 F

QUESTION: 083 (1.00)

The operator observes that power has decreased from 98% to 91%. The cause cannot be readily determined. Total core flow has increased.

Select the required immediate action.

a. Insert CRAM rods then other rods until power is less than 50%. Then reduce recirculation flow to minimum.

b. Insert control rods using normal sequence until power is less than 50%. Then reduce recirculation flow to minimum.

c. Reduce power using recirculation to less than 45% flow then insert CRAM rods until power is less than 50%.

d. Reduce recirculation flow to minimum then scram the reactor.

QUESTION: 084 (1.00)

A fire has occurred in the control room requiring evacuation.

Which of the following is an immediate action of the Nuclear Operator B (NOB)?

a. Start the "B" Emergency Service Water pump.

b. Open 10MOV-16B, RHR Minimum Flow Valve.

c. Trip the turbine.

d. Start "B" and "D" Emergency Diesel Generators.

QUESTION: 085 (1.00)

Select the effect a loss of DC system "A" will have on operation of the HPCI system.

a. HPCI will NOT start due to loss of power to level instruments.

b. HPCI will NOT increase speed above minimum due to loss of power to speed control system.

c. HPCI will NOT automatically transfer to the suppression pool when required.

d. HPCI will NOT trip on high vessel water level.

QUESTION: 086 (1.00)

A station blackout has occurred. HPCI and RCIC initiated on low RPV level.

Select the PREFERRED method of level control.

a. Allow HPCI to cycle from the initiation setpoint to the high level setpoint.

b. Use HPCI but attempt to control injection rate to avoid HPCI from starting and stopping.

c. Allow RCIC to cycle from the initiation to the high level setpoint.

d. Use RCIC but attempt to control injection rate to avoid RCIC from starting and stopping.

QUESTION: 087 (1.00)

The plant was operating at 89 % power and 100% rod line when a loss of feedwater heating occurred. Power increased to 94% due to the loss of feedwater heating.

Power is required to be reduced by:

a. driving CRAM rods until power is below 89%. Then reduce power using recirculation flow until power is less than 69%.

b. reducing recirculation flow until power is less than 74% then driving CRAM rods until power is below the 100% rod line.

c. reducing recirculation flow until power is less than 69% then driving CRAM rods until power is below the 100% rod line.

d. driving CRAM rods and reducing recirculation flow until power is below 69% and the 80% rod line.

QUESTION: 088 (1.00)

A scram has occurred and the following control rods have remained at the following positions:

Rod	Position
22-47	32
22-31	24
34-19	08
18-35	48

Select the sequence in which the control rods are to be inserted.

a. Starting at the outside insert rods in a spiral direction inward.

b. Starting at the inside insert rods in a spiral direction outward.

c. Starting with the rod at 48 insert rods based on how far the rod is withdrawn.

d. Starting with the rod at 08 insert rods based on how far the rod is inserted.

QUESTION: 089 (1.00)

A complete loss of the UPS has occurred. During shutdown a main steam isolation occurs.

Identify how it would be determined that a safety relief valve had opened.

a. Use white light by SRV switch. Annunciator power is lost.

b. Use tail pipe temperature due to loss of acoustic monitor.

c. Use annunciator or white light due to loss of tailpipe temperature recorder.

d. Monitor pressure to ensure cycling as would be expected for SRV's cycling. The acoustic monitor and tailpipe temperature recorder are lost.

QUESTION: 090 (1.00)

The plant was operating at 100% power when APRM chart recorders and annunciators indicated that a high APRM scram should have occurred.

Which of the following conditions would require entry into EOP-3, Failure to Scram?

a. Entered following insertion of a manual scram if 2 or more rods remain at position 04.

b. Entered following insertion of a manual scram only if power remains above 2.5%.

c. Entered directly based on the failure to scram.

d. Entered upon verification that the automatic scram signal did not result in insertion of all control rods to or beyond 02.

QUESTION: 091 (1.00)

Following a major accident EPIC is out of service and these conditions exist:

- Torus pressure 2.5 psig
- Torus water level 10 ~~inches~~ ~~ft~~
- Torus temperature 215 deg F

Select the MAXIMUM Core Spray Pump flow limit.

Note: Figure 2.1 and 2.2 of EOP-2 is provided.

a. 5000 gpm

b. 5500 gpm

c. 6000 gpm

d. 6500 gpm

QUESTION: 092 (1.00)

EOP-4, Primary Containment Control, requires that "IF Torus water level cannot be maintained below the SRV Tail Pipe Level Limit and IF the core will still be adequately cooled THEN terminate injection into the RPV from sources external to the containment except SLC and CRD."

HPCI is aligned to its normal suction and RCIC is aligned to its alternate supply.

If adequate core cooling can be assured which of the following systems should be secured?

a. Core Spray and RHR Keep Full

b. HPCI and Condensate

c. Low Pressure Coolant Injection and Condensate Transfer

d. RCIC and Core Spray Keep Full

QUESTION: 093 (1.00)

A reactor startup is in progress with the following conditions:

- RPV pressure = 600 psig
- "B" CRD pump is operating and "A" is in standby.
- A loss of rod position indication has occurred on rod 42-15.

A loss of the "B" CRD pump occurs on low suction and "A" CRD pump fails to start. The Auxiliary Operator is investigating.

Which of the following actions is required?

a. An immediate scram is required due to the loss of indication on rod 42-15.

b. A scram would be required if any additional rod in the 5 x 5 array containing rod 42-15 became inoperable for any reason.

c. A scram would be required ONLY if an additional rod in the 5 X 5 array containing rod 42-15 became inoperable due to low accumulator pressure.

d. A scram would be required ONLY if two additional rods in the 5 x 5 array containing rod 42-15 became inoperable due to low accumulator pressure.

QUESTION: 094 (1.00)

A main steam line isolation and scram have occurred.

What is the maximum pressure that should be maintained and the reason for this maximum pressure?

a. Below 1000 psig in order to be in the normal range.

b. Below 1045 psig in order to be able to reset the scram.

c. Below 1090 to avoid having the SRV's with the lowest setpoints continuously opening.

d. Below 1120 in order to be able to reset ARI.

QUESTION: 095 (1.00)

An irradiated fuel bundle was being removed from the core when it was dropped, resulting in the bundle lying across the top of the core.

The control room operator is required to sound the evacuation alarm and evacuate which areas?

a. Refuel Floor only.

b. Refuel Floor and Drywell.

c. Drywell and Reactor Building.

d. Reactor Building including the refuel floor.

QUESTION: 096 (1.00)

A Main Steam Line Isolation has occurred. HPCI and RCIC initiated and are maintaining level. SRV's are being opened by the operator to control pressure. Torus water level is decreasing due to a leak in a core spray suction line.

Select the component that becomes uncovered at 9.58 ft thereby requiring emergency depressurization.

a. HPCI exhaust line

b. RCIC exhaust line

c. Drywell-Torus downcomers

d. SRV tailpipes

QUESTION: 097 (1.00)

A loss of main condenser vacuum is occurring.

Select the condition that would PROHIBIT use of the condenser air removal pumps in attempting to maintain vacuum.

a. Off-gas isolated due to high radiation.

b. Off-gas isolated due to a hydrogen ignition.

c. Main steam line radiation at the high alarm level.

d. Reactor power at 4%.

QUESTION: 098 (1.00)

A fire occurred in the control room requiring evacuation before any control room actions could be performed.

Select the method used for closing the outboard Main Steam Line Isolation Valves from outside the control room.

a. Remove AC power to the MSIV solenoids.

b. Remove DC power to the MSIV solenoids.

c. Isolate and vent instrument air to the outboard MSIVs.

d. Place the control switches in 25ASP-4 (300' Admin Building Hallway) to local.

QUESTION: 099 (1.00)

Power ascension is in progress and control rods are being withdrawn with recirculation flow at minimum speed. Reactor power is 28% when a turbine trip occurs.

Following the turbine trip the operator observes that reactor power has increased to 33% power due to a loss of feedwater heating.

Select the required operator action.

a. Drive control rods to reduce power to within the capacity of the bypass valves.

b. Manually operate SRV's to control pressure until power is reduced to within the capacity of the bypass valves.

c. Scram the reactor and enter AOP-1, Reactor Scram.

d. Maintain one Reactor Feed Pump operating and open main steam line drains to control RPV pressure.

QUESTION: 100 (1.00)

During plant shutdown torus water level increases to 14.2 feet.

Select the criteria used to determine if EOP-4, Primary Containment Control, is required to be entered during shutdown conditions.

a. RPV temperature is greater than 212 F.

b. Shutdown cooling has NOT been put in service.

c. Fuel in the vessel.

d. Shift Supervisor has discretion on use of EOPs when the mode switch is out of RUN.

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

ANSWER: 001 (1.00)

d.

REFERENCE:

SDLP-03C, Control Rod Hydraulic System, page 22, revision 7, L.O. 1.05.c.3

[3.8/3.9]

201001A204 ..(KA's)

ANSWER: 002 (1.00)

a.

REFERENCE:

SDLP-03D, Rod Worth Minimizer, page 17, rev. 5, LO 1.05.b.2.

[3.0/3.0]

201006K514 ..(KA's)

ANSWER: 003 (1.00)

c.

REFERENCE:

SDLP-94C, EHC Logic, pages 18-20, rev 5, LO 1.05.a.

[3.5/3.7]

295007K201 ..(KA's)

ANSWER: 004 (1.00)

d.

REFERENCE:

SDLP-13, Reactor Core Isolation Cooling, page 46, rev. 7, LO 1.05.2.3.

[3.4/3.6]

295008K206 ..(KA's)

ANSWER: 005 (1.00)

b.

REFERENCE:

SDLP-11, Standby Liquid Control, page 23, rev 8. LO 1.05.a.10.

[3.0/3.2]

211000K506 ..(KA's)

ANSWER: 006 (1.00)

c.

REFERENCE:

SDLP-07C, Power Range Neutron Monitoring Systems (LPRM, APRM, RBM), page 46, figure 8, LO 1.05.a

[3.6/3.5]

215002A304 ..(KA's)

ANSWER: 007 (1.00)

b.

REFERENCE:

SLDP-05, Reactor Protection System, page 22 and figure 05-5A, LO 1.05.a.6

[3.8/3.9]

212000A219 ..(KA's)

ANSWER: 008 (1.00)

c.

REFERENCE:

SDLP-08b, Refueling Interlocks, page 11, rev. 3, LO 1.05.b.

[3.1/3.7]

234000A302 ..(KA's)

ANSWER: 009 (1.00)

d

REFERENCE:

MIT 301.11A (Use and Format), page 13, rev. 3, LO 1.05.
RPV Control Entry Conditions
Primary Containment Control Entry Conditions.

[4.3*/4.5*]

295024G011 ..(KA's)

ANSWER: 010 (1.00)

a.

REFERENCE:

MIT 301.11D, Failure to Scram, page 6, rev.3, LO 3.07.

[4.1/4.2]

295037K301 ..(KA's)

ANSWER: 011 (1.00)

b.

REFERENCE:

EOP-5, Secondary Containment Control.

[3.7/3.9]

295032A105 ..(KA's)

ANSWER: 012 (1.00)

d.

REFERENCE:

SDLP-17, Process and Area Radiation Monitoring Systems, page 19-20, rev 6, LO 1.05.a.3.

[3.8/3.9]

272000A301 ..(KA's)

ANSWER: 013 (1.00)

c.

REFERENCE:

SDLP-14, Core Spray System. page 22, revision 7. LO 1.05.a.13.
NOTE: SDLP-14 indicates that the this information was to be covered but the document does not include this information. A LO exists that states the trainee should know the information.

[3.0/3.2]

209001K404 ..(KA's)

ANSWER: 014 (1.00)

c.

REFERENCE:

AOP-12, Loss of Instrument Air, Page 7, Rev 10.
SDLP-39, Instrument, Breathing, Service Air, rev 8, LO 1.15.

[3.7/3.4]

295019G010 ..(KA's)

ANSWER: 015 (1.00)

c.

REFERENCE:

ODSO-4, "Shift Turnover And Log Keeping", Section 7.2, Page 8, rev 56.
Learning Objective ODSO-04, EO1.01

[3.4/3.6]

294001A106 ..(KA's)

ANSWER: 016 (1.00)

b.

REFERENCE:

EAP-3, "Fire", Section 4.4.4, Rev. 15, Page 4
Learning Objective LP 10-12.5.4.2 TO 6.0.
CAF for closest fire brigade locker.
[3.5/3.8]

294001K116 ..(KA's)

ANSWER: 017 (1.00)

a.

REFERENCE:

SDLP-02J, "Automatic Depressurization System", Rev. 9, Pages 25,
LOR-1.05.a.5

[3.7/3.8]

239002A102 ..(KA's)

ANSWER: 018 (1.00)

d.

REFERENCE:

SDLP-07C, "Power Range Neutron Monitoring System", page 42, Rev. 6,
LO-1.05.a.4.c).

[3.8/3.8]

215002G007 ..(KA's)

ANSWER: 019 (1.00)

b.

REFERENCE:

SLDP-07F, "Traversing In-Core Probe System", Rev. 6, Page 17, LOR-1.10d

[3.4/3.5]

215001K401 ..(KA's)

ANSWER: 020 (1.00)

a.

REFERENCE:

OP-22, "Diesel Generator Emergency Power", Rev. 28, Page 75
SDLP-93, "Emergency AC Power System", Rev. 6, LO1.05.c.1.g

[3.6/3.7]

264000G014 ..(KA's)

ANSWER: 021 (1.00)

c.

REFERENCE:

EOP-4, Primary Containment Control, Rev. 0, Figure 4.1.
Technical Specifications section 3.7.A.1.c.(3), page 166.

[3.3/4.2*]

295013G003 ..(KA's)

ANSWER: 022 (1.00)

b.

REFERENCE:

AOP-34, Backup Control Rod Insertion, Rev. 11, Page 11

[4.0/4.1]

295015K204 ..(KA's)

ANSWER: 023 (1.00)

c.

REFERENCE:

EOP-6, Radioactivity Release Control, Rev. 0, Flowchart Entry Conditions

MIT 301.11G, EOP-6 Radioactivity Release Control, Rev. 3, LOR-6.02

[4.2/4.5]

295017G011 ..(KA's)

ANSWER: 024 (1.00)

b.

REFERENCE:

AOP-1, Reactor Scram, page 8, rev. 21.

[3.5/3.6]

295006A106 ..(KA's)

ANSWER: 025 (1.00)

c.

REFERENCE:

MIT 301.11D, EOP-3 Failure to Scram, page 25, rev. 3, LO 3.07.

[3.7/4.1]

295031K103 ..(KA's)

ANSWER: 026 (1.00)

c.

REFERENCE:

Radiation Protection Manual section 6.6.2.a)
No Facility Learning Objective Identified
[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 027 (1.00)

b.

REFERENCE:

Radiation Protection Program Manual section 6.6.2 and 6.6.3.a)
No Facility Learning Objective Identified
[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 028 (1.00)

c.

REFERENCE:

Radiation Protection Program Manual section 6.7.5.
Learning Objective LPAP-6.11 1.10, 1.02 & 1.05
[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 029 (1.00)

c.

REFERENCE:

AP-02.06, Procedure Use and Adherence, section 8.1.4, page 7, revision 3.
Learning Objective LPAP-02.06 1.04

[4.2*/4.2*]

294001A102 ..(KA's)

ANSWER: 030 (1.00)

c.

REFERENCE:

AP-12.01, Equipment and Personnel Protective Tagging, section 6.2, page 14, revision 3.
Learning Objective LPAP-10.01, 1.10.

[3.9/4.5*]

294001K102 ..(KA's)

ANSWER: 031 (1.00)

d.

REFERENCE:

AP-12.01, Equipment and Personnel Protective Tagging, sections 7.1.6 and 7.1.22, pages 23 and 29, Revision 3.
Learning Objective ODSO-18 1.01

[3.7/3.7]

294001K101 ..(KA's)

ANSWER: 032 (1.00)

b.

REFERENCE:

ODSO-18, Equipment Status Control, section 7.10.2, page 16.
Learning Objective ODSO-18, EO 1.02
[3.7/3.7]

294001K101 ..(KA's)

ANSWER: 033 (1.00)

b.

REFERENCE:

ODSO-30, NRC License Maintenance, section 5.2 and 7.1, pages 5 and 8.
Learning Objective ODSO-30 1.01
[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 034 (1.00)

c.

REFERENCE:

ODSO-1, Operating Staff Responsibilities and Authorities, section 6.6.9, page 15, rev 23.
Learning Objective ODSO-01 1.01.e & 1.02.c

[3.5/3.8]

294001K116 ..(KA's)

ANSWER: 035 (1.00)

c.

REFERENCE:

ODSO-27, Administrative Control for Electrically Backseating Motor Operated Valves, section 7.1, page 4, rev 3.
Learning Objective ODSO-27 1.01
[3.7/3.7]

294001K101 ..(KA's)

ANSWER: 036 (1.00)

c.

REFERENCE:

ODSO-2, Operating Principles and Philosophy, section 7.8.1, page 17, rev. 10.
Learning Objective ODSO-2 1.06
[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 037 ~~(1.00)~~ deleted

d.

REFERENCE:

SDLP-07C, Power Range Monitoring, page 29, 30, & 31. LO 1.05.3.c.
ARP 9-5-2-54 APRM TRIP SYSTEM A INOP OR UPSCALE TRIP
ARP 9-5-2-55 APRM TRIP SYSTEM B INOP OR UPSCALE TRIP

[4.1*/4.2]

215005K402 ..(KA's)

ANSWER: 038 (1.00)

d.

REFERENCE:

OP-25, Control Rod Drive Hydraulic System, section C.2, page 11, revision 44.

[3.2/3.3]

201001G010 ..(KA's)

ANSWER: 039 (1.00)

c.

REFERENCE:

SDLP-03F, Reactor Manual Control System, page 24, revision 6. LO 1.05.b.1.j.

[3.5/3.5]

201001K402 ..(KA's)

ANSWER: 040 (1.00)

b.

REFERENCE:

SLDP-03F, Reactor Manual Control System, page 19, revision 6. LO 1.05.b.3.

[2.7/2.7]

201002K401 ..(KA's)

ANSWER: 041 (1.00)

c.

REFERENCE:

SDLP-03F, Reactor Manual Control System, page 18, Revision 6, LO 1.05.a.1.b)

[3.3/3.3]

201001K405 ..(KA's)

ANSWER: 042 (1.00)

c.

REFERENCE:

SDLP-02I, Recirculation Flow Control, pages 12-14, Revision 7, LO 1.05.b.1)

[3.2/3.2]

202002A101 ..(KA's)

ANSWER: 043 (1.00)

a. or d.

REFERENCE:

SDLP-02I, Recirculation Flow Control, page 15, revision 7. LO 1.14.
AOP-42, Feedwater Malfunction (Lowering Feedwater Flow), section B, Rev. 6.

[3.2/3.3]

202002K305 ..(KA's)

ANSWER: 044 (1.00)

b.

REFERENCE:

SDLP-10, Residual Heat Removal, page 41, rev. 6, LO 1.05.a.4.g.

[3.2/3.2]

205000A405 ..(KA's)

ANSWER: 045 (1.00)

d.

REFERENCE:

AOP-52, Termination or Prevention of RPV Injection when directed by EOPs, revision 8. LO 1.05.a.1.c.
Facility - Provide best description of Low Reactor Level
[4.1*/4.1*]

203000A402 ..(KA's)

ANSWER: 046 (1.00)

d.

REFERENCE:

SDLP-10, Residual Heat Removal System, page 33, Rev. 6, LO 105.a.1.e.
Facility: Unable to locate the operating procedure to obtain names of components.

[2.5*/2.7*]

203000K202 ..(KA's)

ANSWER: 047 (1.00)

d.

REFERENCE:

SDLP-10, Residual Heat Removal, page 35, 37, and 38, LO 1.05.a.2.b.
Note: Facility needs to verify that the ability to open either 26 or 31 with the other one closed is NOT in effect with a LPCI signal present.

[3.7*/3.5]

219000A402 ..(KA's)

ANSWER: 048 (1.00)

a.

REFERENCE:

SDLP-23, High Pressure Coolant Injection System, page 44, LO 1.05.a.18

[3.9/4.0]

206000K402 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

OP-15, High Pressure Coolant Injection, page 15.

[3.9*/3.8*]

206000G010 ..(KA's)

ANSWER: 050 (1.00)

c.

REFERENCE:

SLDP-05, Reactor Protection System, Table VII, LO 1.07.a

[3.9/4.1]

212000K412 ..(KA's)

deleted

ANSWER: 051 (1.00)

b.

REFERENCE:

SDLP-02B, Reactor Vessel Level Instrumentation, page 26, LO 1.06.b, LO 1.05.a.1.

[3.1/3.3]

216000K510 ..(KA's)

ANSWER: 052 (1.00)

b.

REFERENCE:

SDLP-02C, Reactor Vessel Temperature Instrumentation, page 15, revision 5, LO 1.05.a.6

[3.0/3.1]

216000A403 ..(KA's)

ANSWER: 053 (1.00)

c.

REFERENCE:

OP-19, Reactor Core Isolation Cooling System, section D.2, page 18, Rev 29.
SLDP-13, Reactor Core Isolation Cooling System, page 42, Rev. 7, LO 1.13.

[3.4/3.5]

217000G010 ..(KA's)

ANSWER: 054 (1.00)

c.

REFERENCE:

SDLP-02J, Automatic Depressurization System, page 36, rev 9, LO 1.04, LO 1.10.d.

[3.1*/3.3*]

218000K201 ..(KA's)

ANSWER: 055 (1.00)

c.

REFERENCE:

SDLP-06, Feed Water Level Control, figures 4 and 3, rev 6, LO 1.10.
SDLP-02B, Reactor Vessel Level Instrumentation, page 20, rev. 9, LO 1.10.

[3.5/3.5]

259002K605 ..(KA's)

ANSWER: 056 (1.00)

b. or c

REFERENCE:

SDLP-06, Feedwater Level Control, page 20, rev. 6, LO 1.13.

[3.3/3.4]

259002G010 ..(KA's)

ANSWER: 057 (1.00)

c.

REFERENCE:

SDLP-01B, Standby Gas Treatment, page 22, rev 7, LO 1.05.b.5

[3.0/3.0]

261000A403 ..(KA's)

ANSWER: 058 (1.00)

d.

REFERENCE:

OP-20, Standby Gas Treatment System, page 20, rev 18.
SLDP-01B, Standby Gas Treatment System, page 30, rev 7, LO 1.14.

[2.9/3.2]

261000A203 ..(KA's)

ANSWER: 059 (1.00)

b.

REFERENCE:

SDLP-93, Emergency AC Power System, page 42, rev 7, LO 1.05.b.1.

[3.8/3.7]

264000K408 ..(KA's)

ANSWER: 060 (1.00)

a.

REFERENCE:

SDLP-93, Emergency Diesel Generators, table VII, rev 7, LO 1.05.c.1.

[4.0/4.2]

264000K402 ..(KA's)

ANSWER: 061 (1.00)

b.

REFERENCE:

SDLP-03D, Rod Worth Minimizer, page 15, rev 5, LO 1.05.b.

[3.3/3.4]

201006K403 ..(KA's)

ANSWER: 062 (1.00)

c.

REFERENCE:

SDLP-12, Reactor Water Cleanup System, pages 16, 17 and 28, rev 9, LO 1.14.e.

[3.4/3.5]

2(00A304 ..(KA's)

ANSWER: 063 (1.00)

c.

REFERENCE:

SDLP-12, Reactor Water Cleanup System, page 32, rev 9. LO 1.13.c.

[2.9/2.9]

204000A101 ..(KA's)

ANSWER: 064 (1.00)

d.

REFERENCE:

SDLP-71A, AC Electrical Distribution, page c3 rev 3, LO 1.05.c

[3.1/3.4]

262002K401 ..(KA's)

ANSWER: 065 (1.00)

d.

REFERENCE:

SDLP-76, Fire Protection System, page 28, rev. 7, LO 1.05.a.5.

[3.2/3.3]

286000A304 ..(KA's)

ANSWER: 066 (1.00)

b.

REFERENCE:

SDLP-76, Fire Protection Systems, page 24, rev 7, LO 1.05.a

[3.3/3.5]

286000K402 ..(KA's)

ANSWER: 067 (1.00)

b.

REFERENCE:

SDLP-93, Emergency AC Power System, page 44-45, rev. 7, LO 1.05.b.2.

[3.4/3.6]

262001A304 ..(KA's)

ANSWER: 068 (1.00)

d.

REFERENCE:

SDLP-29, Main Steam, page 30, rev 6, LO 1.05.a.1.a)

[4.2*/4.0]

239001A401 ..(KA's)

ANSWER: 069 (1.00)

a.

REFERENCE:

SDLP-29, Main Steam, rev. 6, page 33,

[2.8/3.0]

239003A209 ..(KA's)

ANSWER: 070 (1.00)

b.

REFERENCE:

SDLP-70, Control/Relay Room HVAC, page 70, rev. 4, LO 1.10

[3.3/3.5]

290003A301 ..(KA's)

ANSWER: 071 (1.00)

d.

REFERENCE:

SDLP-10, Residual Heat Removal, page 28, rev 6, LO 1.05.a.4.c.

[3.6/3.6]

205000K101 ..(KA's)

ANSWER: 072 (1.00)

b. or a.

REFERENCE:

OP-13, Residual Heat Removal System, page 11, rev 71.
SDLP-10, Residual Heat Removal System, rev 6, LO 1.13.

[3.4/3.5*]

219000G010 ..(KA's)

ANSWER: 073 (1.00)

b.

REFERENCE:

SDLP-02H, Reactor Recirculation, page 28, rev 7, LO 1.05.c.2.
SDLP-02B, Reactor Vessel Level Instrumentation, Table VII
[4.0/4.1*]

202001K414 ..(KA's)

ANSWER: 074 (1.00)

a.

REFERENCE:

SDLP-08b, Refueling Interlocks, page 11, rev. 3, LO 1.05.b.

[3.3/3.6]

234000K104 ..(KA's)

ANSWER: 075 (1.00)

a.

REFERENCE:

AOP-45, Loss of DC Power System A, page 3, rev. 3.
SDLP-71B, DC Electrical Systems, rev. 4, LO 1.14.c.

[3.4/3.8]

263000K303 ..(KA's)

ANSWER: 076 (1.00)

d.

REFERENCE:

AOP-1, Reactor Scram, page 5, rev 21.

[4.1/4.1]

295006A107 ..(KA's)

ANSWER: 077 (1.00)

d.

REFERENCE:

AOP-8, Loss of Reactor Coolant Flow, page 6, rev. 11.
SDLP-02H, Reactor Recirculation, rev. 7, LO 1.15.a.

[3.3/3.3]

295001A105 ..(KA's)

ANSWER: 078 (1.00)

a.

REFERENCE:

AOP-11, Loss of Reactor Building Closed Loop Cooling, page 5, rev 5.
SDLP-15, Reactor Building Closed Loop Cooling, rev. 6, LO 1.15.a.

[3.3/3.4]

295018A201 ..(KA's)

ANSWER: 079 (1.00)

b.

REFERENCE:

SDLP-15, Reactor Building Closed Loop Cooling System, page 23, rev 6, LO 1.05 c.5

[3.3/3.4]

295018A101 ..(KA's)

ANSWER: 080 (1.00)

d.

REFERENCE:

AOP-21, Loss of UPS, rev 9, page 5.
SDLP-71A, AC Electrical Distribution, rev 3, LO 1.14.

[3.9*/4.1*]

295003G010 ..(KA's)

ANSWER: 081 (1.00)

a.

REFERENCE:

AOP-30, Loss of Shutdown Cooling, page 5, rev 4.
SDLP-10, Residual Heat Removal System, rev 6, LO 1.15.a.

[3.0/3.0]

295021A105 ..(KA's)

ANSWER: 082 (1.00)

a. c ~ d

REFERENCE:

AOP-30, Loss of Shutdown Cooling, page 7.
SDLP-10, Residual Heat Removal, LO 1.15.

[3.1/3.2]

295021G007 ..(KA's)

ANSWER: 083 (1.00)

a.

REFERENCE:

AOP-32, Unexplained Reactivity Change, page 6, rev 3.

[3.8*/3.7*]

295001G010 ..(KA's)

ANSWER: 084 (1.00)

b.

REFERENCE:

AOP-43, Plant Shutdown from outside the Control Room, page 7, rev 16.

[3.8*/3.6*]

295016G010 ..(KA's)

ANSWER: 085 (1.00)

d.

REFERENCE:

AOP-45, Loss of DC Power System A, page 3, rev. 3.
SDLP-71B, DC Electrical Systems, rev. 4, LO 1.14.c.

[3.3/3.3]

295004K203 ..(KA's)

ANSWER: 086 (1.00)

d.

REFERENCE:

AOP-49, Station Blackout, page 3, rev. 2
SDLP-71A, AC Electrical Distribution, rev 3, LO 1.14.h.

[4.4*/4.4*]

295003A103 ..(KA's)

ANSWER: 087 (1.00)

c.

REFERENCE:

AOP-62, Loss of Feedwater Heating, page 5, rev. 1.

[3.6/3.8]

295014A102 ..(KA's)

ANSWER: 088 (1.00)

a.

REFERENCE:

AOP-1, Reactor Scram, Attachment I, rev 21.

[4.1*/4.2*]

295015A202 ..(KA's)

ANSWER: 089 (1.00)

b.

REFERENCE:

AOP-21, Loss of UPS, page 7, rev. 9.
SDLP-71A, AC Electrical Distribution, rev 3, LO 1.14.

[3.9/4.1*]

295007A104 ..(KA's)

ANSWER: 090 (1.00)

a.

REFERENCE:

EOP-2, RPV Control, Rev. 0
MIT 301.11D, EOP-3 Failure to Scram, LO 3.02

[4.5/4.6]

295006A201 ..(KA's)

ANSWER: 091 (1.00)

a.

REFERENCE:

MIT 301.11B pgs 4 & 5, and EOP-2
MIT 301.11C, EO 2.06
TO=TP+.4(TL-3.8)=2.5+.4(10-3.8)=5, actual limit based on Temp

[3.4/3.8]

295026G007 ..(KA's)

ANSWER: 092 (1.00)

b.

REFERENCE:

EOP-4 Primary Containment Control
MIT 301.11E, EOP-4 Primary Containment Control, page 8, LO 4.0.

[3.7/4.4]

295029G012 ..(KA's)

ANSWER: 093 (1.00)

b.

REFERENCE:

ARP- 09-5-1-30, CRD PUMP 3P-16B SUCT PRESS LO, rev 4.
SDLP-03C, Control Rod Drive Hydraulic System, rev. 7, LO 1.14.

[3.1/3.2]

295022G007 ..(KA's)

ANSWER: 094 (1.00)

b.

REFERENCE:

EOP-3, Failure to Scram.
EOP-2, RPV Control
MIT 301.11C, EOP-2 RPV Control, page 13, rev. 3, LO 2.07.

[3.5/3.7]

295025G007 ..(KA's)

ANSWER: 095 (1.00)

c.

REFERENCE:

AOP-44, Dropped Fuel Bundle, rev. 1, page 2.

[3.3/4.2]

295023G001 ..(KA's)

ANSWER: 096 (1.00)

c.

REFERENCE:

MIT 301.11E, EOP-4 Primary Containment Control, page 8, rev. 3, LO 4.05.

[3.5/3.8]

295030K207 ..(KA's)

ANSWER: 097 (1.00)

b.

REFERENCE:

AOP-31, Loss of Condenser Vacuum, page 5, rev. 6.

[3.2/3.2]

295002G007 ..(KA's)

ANSWER: 098 (1.00)

d.

REFERENCE:

AOP-43, Plant Shutdown from Outside the Control Room, page 10, rev 16.

[4.2*/4.3*]

295016A107 ..(KA's)

ANSWER: 099 (1.00)

c.

REFERENCE:

AOP-2, Main Turbine Trip without Scram, page 5, rev. 7.

[3.1/3.3]

295005G007 ..(KA's)

ANSWER: 100 (1.00)

a.

REFERENCE:

ODSO-32, Shutdown Procedure, page 7, rev. 1.

[4.2*/4.5*]

295029G011 ..(KA's)

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

ANSWER KEY

MULTIPLE CHOICE

001 d
002 a
003 c
004 d
005 b
006 c
007 b
008 c
009 d
010 a
011 b
012 d
013 c
014 c
015 c
016 b
017 a
018 d
019 b
020 a
021 c
022 b
023 c
024 b
025 c
026 c
027 b
028 c
029 c
030 c
031 d
032 b
033 b
034 c
035 c
036 c
037 ~~d~~ deleted
038 d
039 c
040 b
041 c
042 c
043 a or d
044 b
045 d

ANSWER KEY

046 d

047 d

048 a

049 c

050 c

051 ~~b~~ deleted

052 b

053 c

054 c

055 c

056 b or c

057 c

058 d

059 b

060 a

061 b

062 c

063 c

064 d

065 d

066 b

067 b

068 d

069 a

070 b

071 d

072 b or a

073 b

074 a

075 a

076 d

077 d

078 a

079 b

080 d

081 a

082 a or d

083 a

084 b

085 d

086 d

087 c

088 a

089 b

090 a

091 a

ANSWER KEY

092 b

093 b

094 b

095 c

096 c

097 b

098 d

099 c

100 a

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

ATTACHMENT 2

SRO WRITTEN EXAMINATION AND ANSWER KEY

MASTER

SRO

Nuclear Regulatory Commission
Operator Licensing
Examination

This document is removed from
Official Use Only category on
date of examination.

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
SENIOR OPERATOR LICENSE
REGION 1

CANDIDATE'S NAME: _____

FACILITY: Fitzpatrick

REACTOR TYPE: BWR-GE4

DATE ADMINISTERED: 94/04/25

INSTRUCTIONS TO CANDIDATE:

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. Points for each question are indicated in parentheses after the question. The passing grade requires a final grade of at least 80%. Examination papers will be picked up four (4) hours after the examination starts.

TEST VALUE	CANDIDATE'S SCORE	%
97.00		
~~100.00~~ raw 5/9/94		% TOTALS
	FINAL GRADE	

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

_____
Candidate's Signature

ANSWER SHEET

Multiple Choice (Circle or X your choice)
If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001 a b c d ___
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003 a b c d ___
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043 a b c d ___
044 a b c d ___
045 a b c d ___

ANSWER SHEET

Multiple Choice (Circle or X your choice)
If you change your answer, write your selection in the blank.

046 a b c d ___
047 a b c d ___
048 a b c d ___
049 a b c d ___
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085 a b c d ___
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087 a b c d ___
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090 a b c d ___
091 a b c d ___

ANSWER SHEET

Multiple Choice (Circle or X your choice)
If you change your answer, write your selection in the blank.

092 a b c d ___

093 a b c d ___

094 a b c d ___

095 a b c d ___

096 a b c d ___

097 a b c d ___

098 a b c d ___

099 a b c d ___

100 a b c d ___

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

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination means an automatic denial of your application and could result in more severe penalties.

2. After the examination has been completed, you must 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. This must be done after you complete the examination.

3. Restroom trips are to be limited and only one applicant at a time may leave. You must avoid all contacts with anyone outside the examination room to avoid even the appearance or possibility of cheating.

4. Use black ink or dark pencil ONLY to facilitate legible reproductions.

5. Print your name in the blank provided in the upper right-hand corner of the examination cover sheet and each answer sheet.

6. Mark your answers on the answer sheets provided and do not leave any question blank.

7. The point value for each question is indicated in parentheses after the question.

8. If the intent of a question is unclear, ask questions of the examiner only.

9. When turning in your examination, assemble the completed examination with examination questions, examination aids and answer sheets. In addition, turn in all scrap paper.

10. To pass the examination, you must achieve a grade of 80% or greater.

11. There is a time limit of four (4) hours for completion of the examination

12. When you are done and have turned in your examination, leave the examination area (EXAMINER WILL DEFINE THE AREA). If you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION: 001 (1.00)

The following conditions exist

- Reactor power - 80%
- EHC Load Limit set at 95%
- Maximum Combined Flow Limiter at 110%.

An electrical failure occurs that causes the pressure set signal to decrease 10 psi.

Refer to the attached drawing of the Electro-Hydraulic Control Logic.

Assume reactor pressure remains constant.

Identify the response of the EHC system.

a. The TCVs and bypass valves will remain in their present positions.

b. The TCVs will open to pass 95% flow and the bypass valves will remain closed.

c. The TCVs will open to pass 95% flow and the bypass valves will open to pass 15% flow.

d. The TCVs will open to pass 95% flow and the bypass valves will open to pass 17-18% flow.

QUESTION: 002 (1.00)

The Reactor Core Isolation Cooling (RCIC) system initiated at 126.5 inches due to no other injection systems operating. RCIC then raised level to 222.5 inches.

Identify the response of the RCIC to the high level and subsequent level decrease to 126.5 inches.

a. RCIC turbine trips on high level and must be manually reset to allow the turbine to restart at 126.5 inches.

b. RCIC Turbine Steam Inlet Valve(13MOV-131) will close on high level and the high level seal-in must be manually reset to allow 13MOV-131 to reopen at 126.5 inches.

c. The RCIC turbine governor valve goes shut on high level and the governor valve will automatically reset restarting the turbine at 126.5 inches.

d. RCIC Turbine Steam Inlet Valve(13MOV-131) will close on high level and the high level seal-in is automatically reset to allow 13MOV-131 to reopen at 126.5 inches.

QUESTION: 003 (1.00)

Identify how Standby Liquid Control Storage Tank level is measured.

a. A pressure detector measures pressure at the bottom of the tank.

b. A pressure detector measures back pressure on an air line which is providing flow to the bottom of the tank.

c. A differential pressure detector compares pressure at the bottom of the tank with atmospheric pressure.

d. A differential pressure detector compares air supply pressure with back pressure on an air line which is providing flow to the bottom of the tank.

QUESTION: 004 (1.00)

The following readings exist for the recirculation flow reference units for the Rod Block Monitor.

Flow unit A - 50%
Flow unit C - 55%

What is the High setpoint for the "A" RBM?

a. 87%

b. 78%

c. 75%

d. 69%

QUESTION: 005 (1.00)

The reactor is operating at 100% power. The operator observes that the Group I light on panel 9-5 for RPS A is NOT illuminated. The operator confirms that Group I light is also not illuminated on panel 09-15.

IDENTIFY the effects this condition will have on continued operation.

If a half-scram condition occurs on the:

a. "A" logic; 1/4 of the control rods will scram.

b. "B" logic; 1/4 of the control rods will scram.

c. "A" logic; 1/2 of the control rods will scram.

d. "B" logic; 1/2 of the control rods will scram.

QUESTION: 006 (1.00)

Which of the following will generate a rod block with the Reactor Mode Switch in "Refuel"?

a. The refuel platform is over the fuel pool and is moving a fuel bundle.

b. The refuel platform is over the core, and one control rod is withdrawn to position 24.

c. The refuel platform is over the core and the fuel grapple is not full up.

d. The refuel platform is over the fuel pool and the trolley mounted hoist is loaded.

QUESTION: 007 (1.00)

A failure to scram has occurred and reactor power is approximately 65%.

Identify why the recirculation pump speed is reduced to minimum prior to tripping the recirculation pumps.

a. To avoid tripping the turbine due to high RPV water level.

b. To determine if reducing speed is sufficient to reduce power to < 5% on the APRMs.

c. To limit the rapid power reduction transient due to tripping recirculation pumps from high power.

d. To avoid tripping high pressure injection sources on high RPV water level.

QUESTION: 008 (1.00)

The following conditions exist:

- a failure to scram has occurred
- reactor power is 20%
- a high temperature condition in the secondary containment has occurred due to a fire
- Main Steam Isolation valves have closed
- HPCI is maintaining RPV level
- rods are being inserted using CRD

Which of the following systems should be isolated if they are discharging into the secondary containment?

a. Control Rod Drive

b. Reactor Water Cleanup

c. High Pressure Coolant Injection

d. Fire suppression

QUESTION: 009 (1.00)

The plant is operating at 100% power.

Identify the differential pressure sensed by the core spray sparger break detection system prior to and after a break occurs.

a. Prior - negative differential pressure
   After - zero differential pressure

b. Prior - zero differential pressure
   After - positive differential pressure

c. Prior - negative differential pressure
   After - positive differential pressure

d. Prior - positive differential pressure
   After - negative differential pressure

QUESTION: 010 (1.00)

The main condenser low vacuum MSIV isolation signal will be automatically bypassed by:

a. turbine Stop Valves closed OR the Mode switch out of the RUN position.

b. turbine Bypass Valves closed OR the Mode switch out of the RUN position.

c. turbine Stop Valves closed AND the Mode switch out of the RUN position.

d. reactor pressure greater than 825 psig.

QUESTION: 011 (1.00)

Instrument air pressure is decreasing due to air compressor trips. Loss of Instrument Air AOP-12 has been entered.

Which of the following requires a manual scram?

a. The "Scram Air Header Pressure Low" alarm is received.

b. Instrument air pressure has reached 70 psig.

c. The "Rod Drift" annunciator is in for control rod 40-17, NO other rods have moved.

d. A single Main Steam Line Isolation Valve has closed.

QUESTION: 012 (1.00)

Given the following plant conditions:

- The plant is in a declared Site Area Emergency
- All site and plant emergency facilities required for this emergency classification are operational
- The Control Room has just received a report of a fire in the "A" Diesel Generator
- This fire is unrelated to the Site Area Emergency

Where shall the Fire Brigade assemble for the above conditions?

a. Technical Support Center

b. Operational Support Center

c. Outside the Diesel Generator Building

d. Turbine Building Fire Brigade Locker on the 272' elevation near the Radwaste Building

QUESTION: 013 (1.00)

Automatic Depressurization System Safety Relief Valve (SRV) 02RV-71G is being opened from the Control Room. The "White" light above the control switch is illuminated.

What provides the input signal to this "White" light for that SRV?

The "White" light comes on when:

a. steam flow is sensed in the SRV outlet piping.

b. SRV discharge piping temperature reaches 250 degrees F.

c. the SRV main valve reaches its 98% closed position.

d. the SRV pilot valve solenoid is energized.

QUESTION: 014 (1.00)

A Traversing In-Core Probe (TIP) trace is being taken when an I&C Technician error causes a containment isolation signal.

What is the expected automatic response of the TIP system?

a. The TIP drive shifts into reverse withdrawing the detector into the chamber shield, then the shear valve fires.

b. The TIP drive shifts into reverse withdrawing the detector into the chamber shield, then the ball valve closes.

c. The TIP shear valve fires, cutting the detector cable and sealing the guide tube.

d. The TIP ball valve closes, cutting the detector cable and sealing the guide tube.

QUESTION: 015 (1.00)

Given the following plant conditions:

- The "B" Diesel Generator is running for a surveillance test
- The Auxiliary Operator at the diesel has reported a fire in the generator
- The "B" Diesel Generator output breaker has been opened
- Attempts to stop the diesel with local and control room switches have failed
- The Shift Supervisor has directed the Auxiliary Operator to perform an emergency diesel generator shutdown

Select the method the Auxiliary Operator should use to shutdown the diesel.

a. Push the injector control lever to overspeed the engine.

b. Manually trip the engine fuel racks.

c. Isolate fuel from the day tank to the engine.

d. Deenergize the engine governor solenoid.

QUESTION: 016 (1.00)

Torus water level is increasing due to a break on the reactor recirculation line. The operator has determined that torus level and RPV pressure cannot be maintained below the SRV tail pipe level limit. HPCI is aligned to its normal suction and RCIC is aligned to its alternate suction.

If adequate core cooling can be assured which of the following systems should be secured?

a. Core Spray and Condensate

b. HPCI and Condensate

c. Low Pressure Coolant Injection and CRD

d. RCIC and CRD

QUESTION: 017 (1.00)

A fuel element failure initiated a main steam line isolation and a scram signal. The scram signal failed to insert control rods. Torus cooling was initiated.

The following conditions exist.

- Torus water level = 12.5 feet
- Torus water temperature = 140 degrees F and increasing
- RPV pressure was reduced to 500 psig from 1000 psig 15 minutes ago.

Which of the following actions shall be taken if torus temperature increases to 150 F?

a. Immediately Emergency Depressurize.

b. Reduce RPV pressure to 400 psig in accordance with allowable cooldown rates.

c. Reduce RPV pressure to 400 psig immediately. Cooldown rate limits may be exceeded.

d. Wait until temperature increases to 173 F then Emergency Depressurize.

QUESTION: 018 (1.00)

A failure to scram has occurred. Conditions require the reduction of level to control power per EOP-3, Failure to Scram.

Select the correct actions concerning the Main Steam Line Isolation valves.

a. If the MSIVs are open, then bypass all isolation signals.

b. If the MSIVs are open, then bypass only low level isolation signals.

c. If the MSIVs are closed bypass all signals, then reopen the MSIVs.

d. If the MSIVs are closed bypass all signals except high radiation and high flow, then reopen the MSIVs.

QUESTION: 019 (1.00)

A leak occurred in the RWCU system in the Reactor Building. Reactor Building Ventilation isolated when RPV level decreased below 177 inches.

Which of the following conditions would PROHIBIT restarting Reactor Building Ventilation?

a. RPV level remaining below 177 inches.

b. Drywell pressure increasing to 2.9 psig due to isolation of drywell cooling.

c. Any area radiation monitor in RWCU areas alarming.

d. Reactor Building Ventilation radiation increasing to 11,000 cpm.

QUESTION: 020 (1.00)

During performance of AOP-1, Reactor Scram, the operator attempts to reset the scram. Rod Groups 1 and 4 reset as indicated by the lights on the 09-5 panel but rod groups 2 and 3 will not reset.

Select the effect of continued operation in this condition.

a. Both scram discharge volumes will not drain.

b. A flow path exists from the reactor to the reactor building via the scram discharge volume.

c. Only one scram backup valve will reposition.

d. One scram discharge volume will drain but the other will remain isolated.

QUESTION: 021 (1.00)

Identify the reason reactor water level is lowered to reduce power during a failure to scram (ATWS) event.

a. Lowering level below the moisture separator removes the flowpath thereby minimizing flow through the core.

b. Lowering level reduces the pressure in the core by reducing the head of water above the core.

c. Lowering level decreases the differential pressure between outside the shroud and inside the core.

d. Lowering level reduces power by increasing the subcooling of the water entering the core.

QUESTION: 022 (1.00)

A 26 year old male auxiliary operator has a lifetime total effective dose equivalent of 24.5 rem.

What is the maximum dose the operator could receive before approval from an RP Supervisor is required to access on an Radiation Work Permit?

a. .5 rem

b. 1.3 rem

c. 1.5 rem

d. 2.4 rem

QUESTION: 023 (1.00)

Which of the following would be the maximum dose rate that would NOT require a locked door?

a. 99 mrem/hr

b. 499 mrem/hr

c. 999 mrem/hr

d. 499 rad/hr

QUESTION: 024 (1.00)

Which of the following individuals must authorize entries to Potential Locked High Radiation Areas (PLHRAs)?

a. Shift Supervisor

b. Radiological and Environmental Services (RES) Manager

c. Health Physics General Supervisor

d. Journeyman Radiological Technician

QUESTION: 025 (1.00)

An inadvertent isolation of shutdown cooling occurred and the inboard shutdown cooling suction isolation will not reopen. It has been determined that an electrician needs to enter containment to repair the valve in order to prevent exceeding 212 F without primary containment established. It is estimated that the electrician will receive 3.5 rem to repair the valve.

The entry should be done as:

a. an extension of administrative dose limits with approval by the RESM.

b. a Planned Special Exposure approved by the RESM and Resident Manager.

c. a Planned Special Exposure approved by Resident Manager and Executive Vice President, Nuclear Generation.

d. an emergency exposure approved by the Emergency Director.

QUESTION: 026 (1.00)

A new procedure has been developed. Certain sections meet the requirements to be designated "Continuous Use" while other sections of the same procedure only meet the requirements for "Reference Use."

How is this procedure to be designated?

a. The procedure cover page will be designated with the most restrictive requirement. All sections must be used to this standard.

b. The procedure cover page will be designated "Continuous Use." Sections that are designated for "Reference Use" will be designated prior to those sections.

c. The procedure cover page will designate the sections of the procedure and their required use level.

d. The procedure cover page will be designated "Reference Use." Sections that are designated for "Continuous Use" will be designated prior to those sections.

QUESTION: 027 (1.00)

Which of the following is a direct responsibility of the Shift Supervisor concerning protective tagging?

a. Ensuring instrumentation drained for maintenance or testing is filled and vented prior to being returned to service.

b. Determining if the individual accepting the Protective Tagging is an authorized Tag Holder.

c. Ensuring the authorized Tag Holder is knowledgeable of system impact.

d. Determining if the tagged devices will provide adequate protection of equipment and personnel for the work to be performed.

QUESTION: 028 (1.00)

A differential pressure cell that measures main steam line flow is required to be isolated for protective tagging. The cell provides input to PCIS.

Select the personnel who should conduct the valve positioning and the independent verification.

a. A Journeyman Operator or Licensed Operator should reposition the valves ONLY after consulting Instrumentation and Control personnel. A Licensed Operator is required to perform the independent verification.

b. A Journeyman Operator or Licensed Operator should reposition the valves ONLY after consulting Instrumentation and Control Personnel. Either a Licensed Operator or Journeyman Operator is required to perform the independent verification.

c. A Licensed Operator should reposition the valves. A Licensed Operator is required to perform the independent verification.

d. Instrumentation and Control Personnel should reposition the valves. A Licensed Operator or Journeyman Operator is required to perform the independent verification.

QUESTION: 029 (1.00)

Valve lineups are being performed following a refueling outage. A manual valve is located in a 200 mrem/hr area. It is estimated that it will take 5 minutes verify the valve's position. The valve is in a system requiring independent verification.

Select the correct method for performing the independent verification of this valve.

a. Perform a review of all Protective Tagging Records (PTRs) for the outage. If the valve was not manipulated waive the valve lineup.

b. With the Operations Managers approval waive the independent verification.

c. Perform a "Dual Concurrent Verification" instead of an independent verification.

d. Perform the independent verification of the valve position.

QUESTION: 030 (1.00)

An operator was on jury duty from March 1 to June 22. The operator's license was in an active status prior to the jury duty.

Select the MINIMUM number of shifts that the operator will have to stand and the date by which those watches must be completed.

a. The operator will have to stand 5 eight hour shifts prior to July 1.

b. The operator will have to stand 7 eight hour shifts prior to July 1.

c. A 25% grace period is allowed so the operator will have until July 22 to complete 5 eight hour shifts.

d. A 25% grace period is allowed so the operator will have until July 22 to complete 7 eight hour shifts.

QUESTION: 031 (1.00)

During plant operations on the weekend, oscillations are experienced in the turbine control system. Instrumentation and Control personnel working on the system have requested the system engineer be called in. You, as Shift Supervisor, call the system engineer who indicates she has ingested two glasses of wine four hours ago but does not consider herself impaired.

Select the required actions for callout of the system engineer.

a. Do not call out the individual.

b. Call out the individual but require continuous escort by security personnel while the person is on-site.

c. Call out the individual and notify security that the individual is being called out.

d. Call out the individual; access will only be granted following a breath test.

deleted

QUESTION: 032 (1.00)

An individual has been seriously injured and is contaminated. The individual will have to be transferred off-site.

Select who will notify Oswego Hospital of a contaminated injured person.

a. Shift Supervisor

b. Safety Supervisor.

c. Radiological Emergency Physician.

d. Oswego County Fire Coordinator.

QUESTION: 033 (1.00)

A fire has occurred in cable room, requiring a scram and entry into EOPs.

Who is to assume the duty of the Fire Brigade Leader? (Assume all potential Fire Brigade Leaders are qualified)

a. Station Fire Chief

b. Senior Nuclear Operator

c. Assistant Shift Supervisor

d. Nuclear Control Operator

QUESTION: 034 (1.00)

HPCI Outboard Steam Supply Isolation Valve, 23MOV16, has valve packing leakage which is causing increased local temperatures.

In order to minimize leakage, the valve:

a. should be electrically backseated as this is preferable to manual backseating.

b. should be manually backseated as this is preferable to electrical backseating.

c. should be electrically backseated because manual backseating of containment isolation valves is prohibited.

d. should be electrically backseated because of personnel danger associated with attempting to manual backseat.

QUESTION: 035 (1.00)

Instrumentation and Control (I&C) technicians will be performing a surveillance that will result in inserting and resetting half-scrams. An I&C technician will be on the phones in front of the 9-5 panel.

Identify any restrictions placed on the I&C technician resetting the half-scrams.

a. The Assistant Shift Supervisor (ASS) may grant the I&C technician permission to reset all half-scrams that are caused by the task.

b. I&C technicians are not authorized to manipulate controls at anytime.

c. The I&C technician is required to obtain permission from the NCO each time prior to resetting the half-scram.

d. When the Shift Supervisor signs the work authorization the I&C technician is granted permission to reset the half-scrams when the procedure specifically requires them to be reset.

QUESTION: 036 (1.00)

The following conditions exist:

- A vented gaseous release has occurred.
- Wind direction is oscillating from 235 to 245.
- Release rates exceeded some GREEN values on Table 4.1.1 of Figure EAP 4.1 for a period of 15 minutes.
- No RED values on Table 4.1.1. have been exceeded.
- Currently no EPIC RRC display alarm setpoints are exceeded.

Select the required protective action recommendation.

NOTE: Figure EAP 4.1 provided.

a. Evacuate ERPAs 1, 2, 3, 26, 27 and shelter ERPA 7.

b. Evacuate ERPAs 1, 2, 4, 7, 27 and shelter remaining ERPAs.

c. Evacuate ERPAs 1, 2, 3, 4, 7, 26, 27 and shelter remaining ERPAs.

d. Evacuate ERPAs 1, 2, 3, 14, 15, 26, 27, 29 and shelter remaining ERPAs.

QUESTION: 037 (1.00)

During plant shutdown torus water level increases to 14.2 feet.

Select the criteria used to determine if EOP-4, Primary Containment Control, is required to be entered during shutdown conditions.

a. RPV temperature is greater than 212 F.

b. Shutdown cooling has NOT been put in service.

c. Fuel in the vessel.

d. Shift Supervisor has discretion on use of EOPs when the mode switch is out of RUN.

QUESTION: 038 (1.00) deleted

The plant is operating at 11% power with the mode switch in STARTUP. The following is a status of LPRM inputs and indicated reactor power for each APRM:

	APRM A	APRM B	APRM C	APRM D	APRM E	APRM F
D LPRMs	3	2	4	3	4	3
C LPRMs	3	2	4	2	4	3
B LPRMs	3	3	4	4	4	4
A LPRMs	3	3	3	4	4	4
Indicated Power	12%	11%	11%	10%	16%	13%

Based on the above status, what signal/signals, if any, would be going to the reactor manual controls system and RPS system?

a. No scram signal, no rod withdrawal block signal.

b. No scram signal, rod withdrawal block signal.

c. Half-scram signal, rod withdrawal block signal.

d. Full-scram signal.

QUESTION: 039 (1.00)

Operation with 03HCU-102 (CRD withdraw line isolation valve) closed and 03HCU-101 (CRD insert line isolation valve) open is cautioned against.

Select the reason for this caution.

a. Long scram times could result if a scram occurs.

b. Damage to the CRD can occur if an insert signal is applied.

c. Rod drift can occur with this condition.

d. Damage to the CRD can occur on a scram.

QUESTION: 040 (1.00)

A scram discharge volume differential pressure cell, DPT-231G, has been determined to be inoperable. Select the required action(s) per Technical Specifications. Drawing FM-27B is provided.

a. Only a control rod block must be inserted.

b. Only a half scram must be inserted.

c. Both a half scram and control rod block must be inserted.

d. All operable control rods must be inserted within 4 hours.

QUESTION: 041 (1.00)

Which of the following features of Reactor Manual Control System will prevent continuous withdrawal of a control rod due to a failure of the sequence timer?

a. A timer will remove all output signals from the sequence timer if a withdrawal signal is applied for two seconds.

b. The control rod will be deselected if a withdrawal signal is applied for two seconds.

c. A rod block will be generated if Rod Position Indicating System determines that the rod has withdrawn past its desired position.

d. The control rod will be deselected if the complete timer sequence exceeds 8.0 seconds.

QUESTION: 042 (1.00)

The reactor is operating at 48% power when an instrumentation technician causes a low feedwater flow signal to be sensed by the recirculation water flow control system. The shift supervisor directs the instrumentation technician to remove the cause of the low feedwater flow signal.

Select the response of the initial low flow signal and the response when the signal is removed.

a. Initially recirculation will runback to 44%. When the signal is removed recirculation pumps will return to the original speed.

b. Initially recirculation will runback to 44%. When the signal is removed recirculation pumps will remain at 44% until the RWR MG RUNBACK pushbuttons are depressed.

c. Initially recirculation will runback to 26%. When the signal is removed recirculation pumps will return to the original speed.

d. Initially recirculation will runback to 26%. When the signal is removed recirculation pumps will remain at 26% until the RECIRC MG RUNBACK pushbuttons are depressed.

QUESTION: 043 (1.00)

The reactor is operating at 92%. Due to flow oscillations the operator has just locked the scoop tube on the "A" recirculation pump per OP-27, Recirculation System.

A 44% runback has been initiated due to a loss of a reactor feed pump.

Select the status of the "A" Recirculation Pump and what action would be required (if any).

a. Recirculation pump "A" speed would be automatically reduced to 44%.

b. Speed would be at original value and operator would have to trip the "A" recirculation pump.

c. Speed would be at original value and the operator would have to use the Manual Speed Controller on the "A" Manual/Automatic Controller to reduce speed.

d. Speed would be at original value and the operator would have to reset the scoop tube lock to reduce speed.

QUESTION: 044 (1.00)

Which of the following components must be tagged in the closed position in order to prevent inadvertent draining of the reactor to the torus during shutdown cooling loop A operation?

a. 10MOV-13A, Torus Suction Valve.

b. 10MOV-16A, RHR Pump Minimum Flow Valve.

c. 10MOV-34A, Torus Return Valve

d. 10MOV-38A, Torus Spray Valve

QUESTION: 045 (1.00)

Emergency Operating Procedures have directed termination or prevention of RPV injection. AOP-52 requires that LPCI Outboard Injection Valves 10MOV-27A and B be closed to complete this action.

Which of the following signals would have to be defeated to close these valves?

a. High Drywell Pressure

b. Low-Low-Low Reactor Water Level

c. RHR Injection Valve Open Permissive Pressure

d. Five Minute Timer

QUESTION: 046 (1.00)

A LPCI signal has occurred due to high drywell pressure.

Select the condition that will close AC INPUT BREAKER 1CB1 in the LPCI MOV power supply.

a. The control room operator places LPCI MOV A PWR SUPP switch to "ISOLATE."

b. Local toggle switch for 1CB1 is placed to "CLOSE."

c. Low battery voltage on the respective battery.

d. LPCI MOV A PWR SUPP switch is placed to "BYPASS" and ten minutes have elapsed since LPCI signal.

QUESTION: 047 (1.00)

The following conditions exist:

- Drywell pressure = 1.8 psig
- RPV level = 30 inches TAF
- Containment spray control in MANUAL spring return to NORMAL.

Which of the following valves can be operated?

a. Torus Spray valve 10MOV-38A

b. Outboard Containment Spray valve 10MOV-26A

c. Inboard Containment Spray valve 10MOV-31A

d. Torus Cooling/Full Flow Test Isolation 10MOV-34A

QUESTION: 048 (1.00)

HPCI was in operation with level at 115 inches. The operator inadvertently depresses the Manual Isolation switch.

Select the condition(s) that must be met for HPCI to be returned to service.

a. Release the Manual Isolation switch.

b. Release the Manual Isolation switch then depress the Isolation Reset Pushbutton.

c. Release the Manual Isolation switch then depress Turbine Trip Reset.

d. Release the Manual Isolate switch then depress the Isolation and Turbine Trip Resets.

QUESTION: 049 (1.00)

Select the number of starts allowed in an hour for DC motor operated valve(MOV) in the HPCI system and the definition of a MOV start.

a. 3 per hour. Any application of an open or closed signal.

b. 3 per hour. Any complete opening or closing of the valve.

c. 5 per hour. Any application of an open or closed signal.

d. 5 per hour. Any complete opening or closing of the valve.

QUESTION: 050 (1.00)

Following a reactor scram the "SDV A or B Hi Level" annunciator is illuminated. In order to perform AOP-34, Backup Control Rod Insertion, operators are required override the reactor scram signal if necessary to reset the scram.

Which of the following conditions would require the operators to override the reactor scram?

a. Reactor pressure is 700 psig.

b. Main Steam Line Isolation valves are shut.

c. Reactor power is 17%.

d. Intermediate range A and B fail upscale after driving the detectors in. All APRMs indicate downscale.

QUESTION: 051 (1.00) deleted

On which of the following RPV level instruments will indicated level decrease due to a heatup from cold shutdown to normal operating temperature? Assume actual level remains constant.

a. Narrow range

b. Wide range

c. Refueling

d. Fuel Zone

QUESTION: 052 (1.00)

EPIC displays plant heatup and cooldown rates. Variable "B" displays the RPV temperature change over the previous 60 minutes.

Select the setpoint at which Variable "B" will change from green to red.

a. 30 F/hr

b. 60 F/hr

c. 90 F/hr

d. 100 F/hr

QUESTION: 053 (1.00)

A loss of reactor feed has resulted in a reactor scram and automatic initiation of HPCI and RCIC.

Which of the following conditions would prevent using RCIC in the pressure control mode?

a. RCIC tripped on high RPV water level but level has decreased to 150 inches.

b. Low CST level.

c. HPCI automatic initiation condition is present.

d. Torus cooling cannot be initiated.

QUESTION: 054 (1.00)

What is the effect of loss of 125 V DC "B" on operation of the Automatic Depressurization System?

a. The Channel "B" logic will be lost preventing operation of ADS valves B, D, F, and H on an ADS signal.

b. Power will be lost to ADS valves B, D, F, and H preventing their operation on an ADS signal.

c. Manual operation of ADS valves from remote panel 02ADS-71 would be lost.

d. The Channel "B" logic will be lost preventing operation of all ADS valves on an ADS signal.

QUESTION: 055 (1.00)

Reactor is operating at 94% with feedwater level control selected to "A" level instrument. The operator observes level instruments 52A and 52C decreasing.

Select the cause for this indication and the response of feedwater level control.

a. A leak in the variable leg for level instruments 52A and 52C. Actual RPV level will increase until a reactor feed pump trip occurs.

b. A leak in the reference leg for level instruments 52A and 52C. Actual RPV level will decrease until a reactor scram occurs.

c. A leak in the variable leg for level instruments 52A and 52C. Actual RPV level will increase. A reactor feed pump trip will not occur.

d. A leak in the reference leg for level instruments 52A and 52C. Actual RPV level will increase until a reactor feed pump trip occurs.

QUESTION: 056 (1.00)

Select the basis for waiting until the mode switch is in RUN before opening Reactor Feed Pump Discharge valves, 34MOV-100A or B.

a. The capacity of the reactor feed pump could quickly overfill the vessel.

b. A reactor scram from IRM Hi-Hi could occur due to cooler moderator being injected.

c. Level control with the reactor feed pump is difficult below 10% power.

d. Instabilities between the low flow valve and the reactor feed pump could occur.

QUESTION: 057 (1.00)

Select the expected response of the fire system to a high temperature in the "B" Standby Gas Treatment Train.

a. High temperature will initiate fire protection and standby gas treatment will shutdown automatically.

b. High temperature will shutdown the affected standby gas treatment train but the operator will have to manually initiate fire protection.

c. High temperature will initiate the fire protection but the operator will have to manually shutdown SGT.

d. High temperature will cause an alarm on the fire panel (Panel FPP). The operator will have to shutdown SGT and initiate fire protection.

QUESTION: 058 (1.00)

The following conditions exist following a loss of offsite power.

- EDG "A" operating with its output breaker 10502 closed.
- EDG "C" operating with its output breaker 10512 open.
- The tie breaker 10504 is open.

Select the condition that would cause these conditions.

a. EDG "A" achieved rated voltage and speed 5 seconds prior to EDG "C".

b. EDG "A" achieved 400 rpm 5 seconds prior to EDG "C".

c. EDG "A" closed to the bus first locking out EDG "C" output breaker.

d. EDG "A" achieved 4000 volts 5 seconds prior to EDG "C".

QUESTION: 059 (1.00)

During a reactor shutdown with reactor power at 5% the operator selects a rod in a rod group below the current Rod Worth Minimizer (RWM) rod group.

Select the response of the RWM.

a. A select error will be received and the rod cannot be moved.

b. A select error will be received but the rod will be able to be moved. Upon movement an insert error will be received but no insert block.

c. A select error will be received but the rod will be able to be moved. No insert error will be received when the rod is moved.

d. A select error and insert error will be received when the rod is selected but the rod will be able to be moved.

QUESTION: 060 (1.00)

Which of the power supply transfers for the Uninteruptible Power Supply can ONLY occur manually?

a. AC Motor to MCC 252.

b. AC Motor to DC Motor.

c. DC Motor to MCC 252.

d. MCC 252 to DC Motor.

QUESTION: 061 (1.00)

Which of the following areas protected by Water Spray is automatically initiated?

a. Reactor Feed Pump Turbine

b. Generator Hydrogen Seal Oil

c. Standby Gas Treatment

d. RCIC Area

QUESTION: 062 (1.00)

A loss of offsite power has occurred and a high drywell pressure signal is generated. Diesel generator "C" fails to start.

Select the effect on automatic loading on bus 10500.

a. The first RHR pump will not automatically start.

b. The second RHR pump will not automatically start.

c. The starting of the second RHR pump will be delayed by 5 seconds.

d. The starting of each load will be delayed by 7 seconds.

QUESTION: 063 (1.00)

A surveillance is being performed which requires the operator to operate the test pushbutton for the Main Steam Isolation Valves. The operator fails to release the test pushbutton.

Select the response of the Main Steam Isolation Valve.

a. When the valve reaches 90% it will reopen.

b. When the valve reaches 90% it will stop closing and remain at 90% as long as the switch is depressed.

c. The valve will fast close once the 90% closure point is passed.

d. The valve will continue to slow close as long as the pushbutton is depressed.

QUESTION: 064 (1.00)

Which of the following conditions would prevent use of the Main Steam Leak Collection System?

a. Steam header pressure = 25 psig.

b. A main steam line outboard isolation valve fails to close.

c. Blowdown valve to radwaste from the Main Steam Line Collection System is closed.

d. Standby gas treatment started on a high reactor building radiation signal.

QUESTION: 065 (1.00)

The Control Room and Relay ventilation system are operating with the "A" train components in service when a loss of off-site power occurs.

Select the expected complete lineup for control room ventilation when power is restored from the Emergency Diesel Generators.

a. The system operates in the "Isolate" mode with ONLY the "A" train in operation.

b. The system operates in the "Auto" mode with both trains operating.

c. The system operates in the "Auto" mode with ONLY the "A" train in operation.

d. The system operates in the "Isolate" mode with both trains operating.

QUESTION: 066 (1.00)

During operation at 100% power a differential pressure cell for measuring High Flow in the Main Steam Line is determined to be inoperable. The differential pressure cell is located on the "B" Main Steam Line.

Select the required action, if any.

a. Insert a trip on the affected PCIS trip channel.

b. Reduce power and isolate the main steam lines within 8 hours.

c. Reduce power to less than 60% and isolate the "B" steam line.

d. Continued operation is allowed at this power provided all other differential pressure cells in this line are operable.

QUESTION: 067 (1.00)

Reactor power is at 100% power. A reactor shutdown is planned.

Deinerting of the containment is allowed to begin 24 hours prior to the projected time:

a. the power decrease is to commence.

b. the mode switch will be taken out of run.

c. reactor pressure will be less than 100 psig.

d. the reactor will be in cold shutdown.

QUESTION: 068 (1.00)

Following a loss of DC Power System "A" the operator is instructed to close the Main Steam Isolation Valves (MSIVs).

Select the reason for closing the MSIVs.

a. The "A" reactor feed pump will not trip on high water level.

b. HPCI turbine will not trip on high water level.

c. Prevent rapid cooldown from the turbine bypass valves failing open.

d. Due to the inability to trip the turbine from the control room.

QUESTION: 069 (1.00)

A trip of a reactor recirculation pump has resulted in operation at 45% power and 38% flow.

The power to flow map is provided.

Select the acceptable method for exiting the region.

a. Restart the tripped reactor recirculation pump.

b. Raise flow of operating recirculation pump but only if flow can be raised. Region C is exited.

c. Insert control rods using the normal insertion sequence until power is out of the region.

d. Raise flow of the operating recirculation pump until region B is exited even if operations in C will occur.

QUESTION: 070 (1.00)

A loss of all service water pumps has occurred. Emergency Service Water pump "A" failed to start.

During efforts to supply Reactor Building Closed Loop Cooling Loads and Drywell cooling the operator is specifically directed to monitor temperature in which of the following components or areas?

a. Crescent Areas

b. Control Room

c. Emergency Diesel Generator

d. Control Rod Drive Pump

QUESTION: 071 (1.00)

A loss of all Reactor Building Closed Loop Cooling Water pumps has occurred.

Select the status of Emergency Service Water availability to drywell cooling.

a. ESW is automatically aligned to drywell coolers.

b. The supply valves to drywell cooling must be energized and opened.

c. ESW will be supplied to drywell cooling only if ESW pressure is greater than service water pressure.

d. The operator must open cooling water supply valves from 09-75 panel.

QUESTION: 072 (1.00)

A loss of the UPS has occurred. The operator observes both reactor recirculation pumps starting to run back.

Select the required operator action.

a. Lock the scoop tubes on both recirculation pumps. Place both reactor feed pumps in manual to control level.

b. Lock the scoop tubes on both recirculation pumps. Trip one reactor feed pump. Take manual control of other feed pump with the motor speed changer.

c. Allow both recirculation pumps to run back. Place both reactor feed pumps in manual to control level.

d. Allow both recirculation pumps to runback. Trip one reactor feed pump. Take manual control of the other feed pump with the motor speed changer

QUESTION: 073 (1.00)

A loss of shutdown cooling has occurred due to isolation of shutdown cooling.

Select the condition that requires starting recirculation pumps.

a. Level cannot be maintained greater than 234.5 inches.

b. Shutdown cooling is projected to be lost for 45 minutes.

c. Indications of thermal stratification exist.

d. Reactor coolant temperature cannot be maintained below 140 F.

QUESTION: 074 (1.00)

A loss of shutdown cooling has occurred and is unable to be reestablished with RPV temperature at 126 F and the vessel head removed.

As temperature increases the reactor building is required to be evacuated and secondary containment is required to be established before RPV temperature reaches:

a. 130 F

b. 160 F

c. 200 F

d. 212 F

QUESTION: 075 (1.00)

The operator observes that power has decreased from 98% to 91%. The cause cannot be readily determined. Total core flow has increased.

Select the required immediate action.

a. Insert CRAM rods then other rods until power is less than 50%. Then reduce recirculation flow to minimum.

b. Insert control rods using normal sequence until power is less than 50%. Then reduce recirculation flow to minimum.

c. Reduce power using recirculation to less than 45% flow then insert CRAM rods until power is less than 50%.

d. Reduce recirculation flow to minimum then scram the reactor.

QUESTION: 076 (1.00)

Toxic fumes have required a control room evacuation.

Which of the following is an immediate action of the Assistant Shift Supervisor (ASS)?

a. Start the "B" Emergency Service Water pump.

b. Open 10MOV-16B, RHR Minimum Flow Valve.

c. Place the isolation switches located at panel 25ASP-4 (300" Admin Building Hallway).

d. Start "B" and "D" Emergency Diesel Generators.

QUESTION: 077 (1.00)

Select the effect a loss of DC system "A" will have on operation of the HPCI system.

a. HPCI will NOT start due to loss of power to level instruments.

b. HPCI will NOT increase speed above minimum due to loss of power to speed control system.

c. HPCI will NOT automatically transfer to the suppression pool when required.

d. HPCI will NOT trip on high vessel water level.

QUESTION: 078 (1.00)

A station blackout has occurred. HPCI and RCIC initiated on low RPV level.

Select the PREFERRED method of level control.

a. Allow HPCI to cycle from the initiation setpoint to the high level setpoint.

b. Use HPCI but attempt to control injection rate to avoid HPCI from starting and stopping.

c. Allow RCIC to cycle from the initiation to the high level setpoint.

d. Use RCIC but attempt to control injection rate to avoid RCIC from starting and stopping.

QUESTION: 079 (1.00)

The plant was operating at 89% power and 100% rod line when a loss of feedwater heating occurred. Power increased to 94% due to the loss of feedwater heating.

Power is required to be reduced by:

a. driving CRAM rods until power is below 89%. Then reduce power using recirculation flow until power is less than 69%.

b. reducing recirculation flow until power is less than 74% then driving CRAM rods until power is below the 100% rod line.

c. reducing recirculation flow until power is less than 69% then driving CRAM rods until power is below the 100% rod line.

d. driving CRAM rods and reducing recirculation flow until power is below 69% and the 80 % rod line.

QUESTION: 080 (1.00)

A scram has occurred and the following control rods have remained at the following positions:

Rod	Position
22-47	32
22-31	24
34-19	08
18-35	48

Select the sequence in which the control rods are to be inserted.

a. Starting at the outside insert rods in a spiral direction inward.

b. Starting at the inside insert rods in a spiral direction outward.

c. Starting with the rod at 48 insert rods based on how far the rod is withdrawn.

d. Starting with the rod at 08 insert rods based on how far the rod is inserted.

QUESTION: 081 (1.00)

A complete loss of the UPS has occurred. During shutdown a main steam isolation occurs.

Identify how it would be determined that a safety relief valve had opened.

a. Use white light by SRV switch. Annunciator power is lost.

b. Use tail pipe temperature due to loss of acoustic monitor.

c. Use annunciator or white light due to loss of tailpipe temperature recorder.

d. Monitor pressure to ensure cycling as would be expected for SRV's cycling. The acoustic monitor and tailpipe temperature recorder are lost.

QUESTION: 082 (1.00)

EOP-3, Failure to Scram, has been entered and rod insertion efforts have been implemented. Boron has NOT been injected.

Which of the following conditions would allow the SRO to make the determination that the "Reactor will remain shutdown under all conditions?"

a. One control rod remains withdrawn at 48.

b. Power is in the source range and decreasing on all channels.

c. The only rods that remain withdrawn are at position 04 or 02.

d. No more than one rod remains withdrawn in any 5 x 5 array.

QUESTION: 083 (1.00)

Interlocks may be defeated in order to perform which of the following actions in EOP-2, RPV control.

a. Rapidly depressurize the RPV using bypass valves because emergency depressurization is anticipated.

b. Aligning the suction of HPCI to the CST to augment RPV pressure control.

c. Aligning the suction of HPCI to the CST for level control.

d. Opening Main Steam Line Isolation valves in order to provide other systems for pressure control.

QUESTION: 084 (1.00)

A failure of rods to insert on a scram has occurred. Standby Liquid Control was initiated with an initial storage tank level of 85%. RPV water level has been decreased to +31 inches in order to reduce power.

Identify the SLC tank level at which restoration of RPV water level may be attempted.

a. 27%

b. 40%

c. 45%

d. 58%

QUESTION: 085 (1.00)

The following plant conditions exist:

- The plant has experienced a fuel leak.
- The Main Steam Line Isolation Valves (MSIVs) have received an isolation signal due to high radiation from the fuel leak.
- Both MSIVs in the "A" line did not close, all others closed.
- The reactor successfully scrammed.
- Turbine building Effluent monitors (17RIS-431 and 17RIS-432) are inoperable.
- There is an unisolatable steam leak in the turbine building.
- Turbine Building Ventilation was isolated but the isolation was defeated and ventilation was restarted.

Select the condition that would require Emergency Depressurization.

a. Turbine building exhaust radiation reaches 500,000 cpm.

b. Annunciator 09-4-0-09 "TURB BLDG HI RANGE EFF MON A OR B FAIL OR ALERT" is received.

c. Annunciator 09-4-0-10 "TURB BLD HI RANGE EFF MON A HI-HI" is received.

d. Annunciator 09-4-0-25 "STACK HI RANGE EFF MON B FAIL OR ALERT" is received.

QUESTION: 086 (1.00)

Following a major accident EPIC is out of service and these conditions exist:

- Torus pressure 2.5 psig
- Torus water level 10 ~~inches~~ ~~ft~~.
- Torus temperature 215 deg F

Select the MAXIMUM Core Spray Pump flow limit.

Note: Figure 2.1 and 2.2 of EOP-2 is provided.

a. 5000 gpm

b. 5500 gpm

c. 6000 gpm

d. 6500 gpm

QUESTION: 087 (1.00)

A high reactor building temperature alarm in which of the following areas would indicate a potential problem with RPV level instrumentation accuracy?

a. Reactor building 272 ft elevation.

b. Reactor building 300 ft elevation.

c. Reactor building 369 ft elevation.

d. RWCU heat exchanger room.

QUESTION: 088 (1.00)

Torus level is decreasing due to a leak on an RHR suction line.

As torus level decreases what is the first level that requires a scram?

a. 13.88 feet.

b. 10.75 feet.

c. 9.58 feet.

d. 5.5 feet.

QUESTION: 089 (1.00)

A loss of coolant accident has occurred inside the drywell. Spraying the drywell or torus was delayed due to RHR pumps being required to provided adequate core cooling.

Torus pressure is now 19.2 psig and RHR is no longer needed for adequate core cooling. Drywell temperature is 290 F.

The operator should initiate:

a. torus spray then initiate drywell spray to reduce primary containment pressure.

b. torus spray because it would be more effective than drywell spray in reducing primary containment pressure.

c. drywell spray because initiating torus spray could result in "chugging" at the drywell to torus downcomer outlet.

d. drywell spray because torus spray would not be effective in reducing primary containment pressure.

QUESTION: 090 (1.00)

A reactor startup is in progress with the following conditions:

- RPV pressure = 600 psig
- "B" CRD pump is operating and "A" is in standby.
- A loss of rod position indication has occurred on rod 42-15.

A loss of the "B" CRD pump occurs on low suction and "A" CRD pump fails to start. The Auxiliary Operator is investigating.

Which of the following actions is required?

a. An immediate scram is required due to the loss of indication on rod 42-15.

b. A scram would be required if any additional rod in the 5 x 5 array containing rod 42-15 became inoperable for any reason.

c. A scram would be required ONLY if an additional rod in the 5 X 5 array containing rod 42-15 became inoperable due to low accumulator pressure.

d. A scram would be required ONLY if two additional rods in the 5 x 5 array containing rod 42-15 became inoperable due to low accumulator pressure.

QUESTION: 091 (1.00)

An unisolatable leak on the RWCU system has caused radiation levels to increase in the Reactor Building to a level that prohibits personnel from entering the Reactor Building. All radiation levels except "RWCU PUMP AREA" are below Maximum Safe Levels. Multiple areas indicate radiation readings above Maximum Normal. SPDS is inoperable.

Which of the following lists ALL required actions and the basis for those actions?

a. Enter EOP-2, RPV Control, due to one area being greater than Maximum Safe Temperature.

b. Perform an Emergency Depressurization and enter EOP-2, RPV Control, based on the potential of exceeding Maximum Safe Radiation in two areas.

c. Perform an Emergency Depressurization and enter EOP-2, RPV Control, due to having to assume that both Crescent Water levels are greater than 18".

d. Attempt to isolate the leak and enter EOP-2, RPV Control, due to one area being greater than Maximum Safe Temperature and a primary system discharging into the secondary containment.

QUESTION: 092 (1.00)

A main steam line isolation and scram have occurred.

What is the maximum pressure that should be maintained and the reason for this maximum pressure?

a. Below 1000 psig in order to be in the normal range.

b. Below 1045 psig in order to be able to reset the scram.

c. Below 1090 to avoid having the SRV's with the lowest setpoints continuously opening.

d. Below 1120 in order to be able to reset ARI.

QUESTION: 093 (1.00)

Following a phone call which indicated that a bomb had been placed on a Main Steam Line in the turbine building, a loud noise is heard in the area of the main turbine. The following conditions exist:

- Main Steam Line Isolation occurred on High Steam Flow
- Both the inboard and outboard MSIVs on main steam line "C" indicate intermediate.
- The reactor has depressurized to 550 psig.
- HPCI and RCIC are injecting at rated flow causing an increase in level.
- The lowest RPV level reached was +115 inches.
- Turbine building ventilation has isolated on high radiation.
- A sample of the RCS indicates 325 microcuries/gm equivalent of Iodine.

Select the correct classification.

a. Unusual Event

b. Alert

c. Site Area Emergency

d. General Emergency

QUESTION: 094 (1.00)

The following events occurred in the following order:

- During operation at 92% power all turbine bypass valves failed open.
- At 725 psig the reactor operator inserted a scram then placed the mode switch to shutdown. All rods inserted.
- At 675 psig the reactor operator manually isolated the Main Steam lines.

Select the correct classification.

a. None

b. Unusual Event

c. Alert

d. Site Emergency

QUESTION: 095 (1.00)

An irradiated fuel bundle was being removed from the core when it was dropped, resulting in the bundle lying across the top of the core. Reactor building ventilation has isolated.

Identify the area or areas the Refuel Floor Supervisor is required to evacuate personnel from.

a. Refuel Floor only.

b. Refuel Floor and Drywell.

c. Drywell and Reactor Building.

d. Reactor Building including the refuel floor.

QUESTION: 096 (1.00)

A Main Steam Line Isolation has occurred. HPCI and RCIC initiated and are maintaining level. SRV's are being opened by the operator to control pressure. Torus water level is decreasing due to a leak in a core spray suction line.

Select the component that becomes uncovered at 9.58 ft thereby requiring emergency depressurization.

a. HPCI exhaust line

b. RCIC exhaust line

c. Drywell-Torus downcomers

d. SRV tailpipes

QUESTION: 097 (1.00)

A loss of main condenser vacuum is occurring.

Select the condition that would PROHIBIT use of the condenser air removal pumps in attempting to maintain vacuum.

a. Off-gas isolated due to high radiation.

b. Off-gas isolated due to a hydrogen ignition.

c. Main steam line radiation at the high alarm level.

d. Reactor power at 4%.

QUESTION: 098 (1.00)

A fire occurred in the control room requiring evacuation before any control room actions could be performed.

Select the method used for closing the outboard Main Steam Line Isolation Valves from outside the control room.

a. Remove AC power to the MSIV solenoids.

b. Remove DC power to the MSIV solenoids.

c. Isolate and vent instrument air to the outboard MSIVs.

d. Place the control switches in 25ASP-4 (300' Admin Building Hallway) to local.

QUESTION: 099 (1.00)

Toxic gas in the control room has resulted in control room evacuation. Following a report that the reactor has been scrammed the SS will control RPV pressure and level.

Which of the following describe how level and pressure are controlled?

a. Use HPCI to control level 177 to 222.5 inches. Use SRVs to cooldown at less than 100 F/hr.

b. Use HPCI and RCIC to control level 177 to 222.5 inches. Use SRVs to cooldown at less than 100 F/hr.

c. Rapidly depressurize using SRVs, then use LPCI and/or Core Spray to recover level to 177 to 222.5 inches. Place shutdown cooling in service.

d. Rapidly depressurize using SRVs, then use LPCI to flood the vessel.

QUESTION: 100 (1.00)

A loss of nitrogen to the drywell has occurred. Operators are unable to align instrument air to the drywell.

What is the minimum expected number of SRVs cycles using nitrogen stored in the accumulators?

a. 2 cycles

b. 4 cycles

c. 6 cycles

d. 8 cycles

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

ANSWER: 001 (1.00)

c.

REFERENCE:

SDLP-94C, EHC Logic, pages 18-20, rev 5, LO 1.05.a.

[3.5/3.7]

295007K201 ..(KA's)

ANSWER: 002 (1.00)

d.

REFERENCE:

SDLP-13, Reactor Core Isolation Cooling, page 46, rev. 7, LO 1.05.2.3.

[3.4/3.6]

295008K206 ..(KA's)

ANSWER: 003 (1.00)

b.

REFERENCE:

SDLP-11, Standby Liquid Control, page 23, rev 8. LO 1.05.a.10.

[3.0/3.2]

211000K506 ..(KA's)

ANSWER: 004 (1.00)

c.

REFERENCE:

SDLP-07C, Power Range Neutron Monitoring Systems (LPRM, APRM, RBM), page 46, figure 8, LO 1.05.a

[3.6/3.5]

215002A304 ..(KA's)

ANSWER: 005 (1.00)

b.

REFERENCE:

SLDP-05, Reactor Protection System, page 22 and figure 05-5A, LO 1.05.a.6

[3.8/3.9]

212000A219 ..(KA's)

ANSWER: 006 (1.00)

c.

REFERENCE:

SDLP-08b, Refueling Interlocks, page 11, rev. 3, LO 1.05.b.

[3.1/3.7]

234000A302 ..(KA's)

ANSWER: 007 (1.00)

a.

REFERENCE:

MIT 301.11D, Failure to Scram, page 6, rev.3, LO 3.07.

[4.1/4.2]

295037K301 ..(KA's)

ANSWER: 008 (1.00)

b.

REFERENCE:

EOP-5, Secondary Containment Control.

[3.7/3.9]

295032A105 ..(KA's)

ANSWER: 009 (1.00)

c.

REFERENCE:

SDLP-14, Core Spray System, page 22, revision 7. LO 1.05.a.13.
NOTE: SDLP-14 indicates that the this information was to be covered but the document does not include this information. A LO exists that states the trainee should know the information.

[3.0/3.2]

209001K404 ..(KA's)

ANSWER: 010 (1.00)

c.

REFERENCE:

SDLP-29, Main Steam, page 27, rev 6, LO 1.05.c.1.

[4.2/4.1]

239001A301 ..(KA's)

ANSWER: 011 (1.00)

c.

REFERENCE:

AOP-12, Loss of Instrument Air, Page 7, Rev 10.
SDLP-39, Instrument, Breathing Service Air, rev 8, LO 1.15.

[3.7/3.4]

295019G010 ..(KA's)

ANSWER: 012 (1.00)

b.

REFERENCE:

EAP-3, "Fire", Section 4.4.4 Rev. 15, Page 4
Learning Objective LP 10-12.5.4.2 TO 6.0.
CAF for closest fire brigade locker.
[3.5/3.8]

294001K116 ..(KA's)

ANSWER: 013 (1.00)

a.

REFERENCE:

SDLP-02J, "Automatic Depressurization System", Rev. 9, Pages 25,
LOR-1.05.a.5

[3.7/3.8]

239002A102 ..(KA's)

ANSWER: 014 (1.00)

b.

REFERENCE:

SLDP-07F, "Traversing In-Core Probe System", Rev. 6, Page 17, LOR-1.10d

[3.4/3.5]

215001K401 ..(KA's)

ANSWER: 015 (1.00)

a.

REFERENCE:

OP-22, "Diesel Generator Emergency Power", Rev. 28, Page 75
SDLP-93, "Emergency AC Power System", Rev. 6, LO1.05.c.1.g

[3.6/3.7]

264000G014 ..(KA's)

ANSWER: 016 (1.00)

b.

REFERENCE:

EOP-4 Primary Containment Control
MIT 301.11E, EOP-4 Primary Containment Control, page 8, LO 4.0.

[3.7/4.4]

295029G012 ..(KA's)

ANSWER: 017 (1.00)

c.

REFERENCE:

EOP-2, RPV Control.
EOP-3, Failure to Scram.

[3.8/4.5]

295026G012 ..(KA's)

ANSWER: 018 (1.00)

b.

REFERENCE:

EOP 3, Failure to scram.

[3.8/4.1]

295037K305 ..(KA's)

ANSWER: 019 (1.00)

d.

REFERENCE:

EOP-5, Secondary Containment Control.

MIT 301.11F, EOP 5 Secondary Containment Control, page 7, rev. 3, TO 5.0.

[4.0/3.9]

295034A103 ..(KA's)

ANSWER: 020 (1.00)

b.

REFERENCE:

AOP-1, Reactor Scram, page 8, rev. 21.

[3.5/3.6]

295006A106 ..(KA's)

ANSWER: 021 (1.00)

c.

REFERENCE:

MIT 301.11D, EOP-3 Failure to Scram, page 25, rev. 3, LO 3.07.

[3.7/4.1]

295031K103 ..(KA's)

ANSWER: 022 (1.00)

b.

REFERENCE:

Radiation Protection Program Manual section 6.6.2 and 6.6.3.a)
No Facility Learning Objective Identified
[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 023 (1.00)

c.

REFERENCE:

Radiation Protection Program Manual section 6.7.5.
Learning Objective LPAP-6.11 1.10, 1.02 & 1.05
[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 024 (1.00)

a.

REFERENCE:

AP-07.11, High Radiation Area Access and Radiological Key Use, section 6.1.1.
Learning Objective LPAP 6.11 1.01 & 1.02

[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 025 (1.00)

c.

REFERENCE:

Radiation Protection Program Manual, section 6.6.7.
Learning Objective LPAP-12.02 1.05.
[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 026 (1.00)

c.

REFERENCE:

AP-02.06, Procedure Use and Adherence, section 8.1.4, page 7, revision 3.
Learning Objective LPAP-02 06 1.04

[4.2*/4.2*]

294001A102 ..(KA's)

ANSWER: 027 (1.00)

a.

REFERENCE:

AP-12.01, Equipment and Personnel Protective Tagging, section 6.2, page 14, revision 3.
Learning Objective LPAP-10.01, 1.10.

[3.9/4.5*]

294001K102 ..(KA's)

ANSWER: 028 (1.00)

d.

REFERENCE:

AP-12.01, Equipment and Personnel Protective Tagging, sections 7.1.6 and 7.1.22, pages 23 and 29, Revision 3.
Learning Objective ODSO-18 1.01

[3.7/3.7]

294001K101 ..(KA's)

ANSWER: 029 (1.00)

b.

REFERENCE:

ODSO-18, Equipment Status Control, section 7.10.2, page 16.
Learning Objective ODSO-18, EO 1.02
[3.7/3.7]

294001K101 ..(KA's)

ANSWER: 030 (1.00)

b.

REFERENCE:

ODSO-30, NRC License Maintenance, section 5.2 and 7.1, pages 5 and 8.
Learning Objective ODSO-30 1.01
[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 031 (1.00)

c.

REFERENCE:

WACP 10.1.26, Fitness for Duty Program, Attachment 9, page 45. rev 9.
No Facility Specific Learning Objective Identified.
[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 032 (1.00) deleted

d.

REFERENCE:

EAP-2, Personnel Injury, Section 4.2.2.3, page 3, rev. 11.
Learning Objective LP 10-12..5.4.2 TO 5.0.

[2.9*/4.7*]

294001A116 ..(KA's)

ANSWER: 033 (1.00)

c.

REFERENCE:

ODSO-1, Operating Staff Responsibilities and Authorities, section 6.6.9, page 15, rev 23.
Learning Objective ODSO-01 1.01.e & 1.02.c

[3.5/3.8]

294001K116 ..(KA's)

ANSWER: 034 (1.00)

c.

REFERENCE:

ODSO-27, Administrative Control for Electrically Backseating Motor Operated Valves, section 7.1, page 4, rev 3.
Learning Objective ODSO-27 1.01
[3.7/3.7]

294001K101 ..(KA's)

ANSWER: 035 (1.00)

c.

REFERENCE:

ODSO-2, Operating Principles and Philosophy, section 7.8.1, page 17, rev. 10.
Learning Objective ODSO-2 1.06
[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 036 (1.00)

c.

REFERENCE:

EAP 4.1, Initial Protective Actions
LP 10-12.5.4.2, pg 7, EO 10.02

[2.9/4.7]

294001A116 ..(KA's)

ANSWER: 037 (1.00)

a.

REFERENCE:

ODSO-32, Shutdown Procedure, page 7, rev. 1.

[4.2*/4.2*]

294001A102 ..(KA's)

ANSWER: 038 (1.00) deleted

d.

REFERENCE:

SDLP-07C, Power Range Monitoring, page 29, 30, & 31. LO 1.05.3.c.
ARP 9-5-2-54 APRM TRIP SYSTEM A INOP OR UPSCALE TRIP
ARP 9-5-2-55 APRM TRIP SYSTEM B INOP OR UPSCALE TRIP

[4.1*/4.2]

215005K402 ..(KA's)

ANSWER: 039 (1.00)

d.

REFERENCE:

OP-25, Control Rod Drive Hydraulic System, section C.2, page 11, revision 44.

[3.2/3.3]

201001G010 ..(KA's)

ANSWER: 040 (1.00)

a.

REFERENCE:

Technical Specifications Tables 3.1.1 and 3.2.3.

SLDP-03C, Control Rod Hydraulic System, Learning Objective 1.18.

[3.3/3.9*]

201001G005 ..(KA's)

ANSWER: 041 (1.00)

b.

REFERENCE:

SLDP-03F, Reactor Manual Control System, page 19, revision 6. LO 1.05.b.3.

[2.7/2.7]

201002K401 ..(KA's)

ANSWER: 042 (1.00)

c.

REFERENCE:

SDLP-02I, Recirculation Flow Control, pages 12-14, Revision 7, LO 1.05.b.1)

[3.2/3.2]

202002A101 ..(KA's)

ANSWER: 043 (1.00)

a. or d.

REFERENCE:

SDLP-02I, Recirculation Flow Control, page 15, revision 7. LO 1.14.
AOP-42, Feedwater Malfunction (Lowering Feedwater Flow), section B, Rev. 6.

[3.2/3.3]

202002K305 ..(KA's)

ANSWER: 044 (1.00)

b.

REFERENCE:

SDLP-10, Residual Heat Removal, page 41, rev. 6, LO 1.05.a.4.g.

[3.2/3.2]

205000A405 ..(KA's)

ANSWER: 045 (1.00)

d.

REFERENCE:

AOP-52, Termination or Prevention of RPV Injection when directed by EOPs, revision 8. LO 1.05.a.1.c.
Facility - Provide best description of Low Reactor Level
[4.1*/4.1*]

203000A402 ..(KA's)

ANSWER: 046 (1.00)

d.

REFERENCE:

SDLP-10, Residual Heat Removal System, page 33, Rev. 6, LO 105.a.1.e.
Facility: Unable to locate the operating procedure to obtain names of components.

[2.5*/2.7*]

203000K202 ..(KA's)

ANSWER: 047 (1.00)

d.

REFERENCE:

SDLP-10, Residual Heat Removal, page 35, 37, and 38, LO 1.05.a.2.b.
Note: Facility needs to verify that the ability to open either 26 or 31 with the other one closed is NOT in effect with a LPCI signal present.

[3.7*/3.5]

219000A402 ..(KA's)

ANSWER: 048 (1.00)

a.

REFERENCE:

SDLP-23, High Pressure Coolant Injection System, page 44, LO 1.05.a.16

[3.9/4.0]

206000K402 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

OP-15, High Pressure Coolant Injection, page 15.

[3.9*/3.8*]

206000G010 ..(KA's)

ANSWER: 050 (1.00)

c.

REFERENCE:

SLDP-05, Reactor Protection System, Table VII, LO 1.07.a

[3.9/4.1]

212000K412 ..(KA's)

deleted

ANSWER: 051 (1.00)

b.

REFERENCE:

SDLP-02B, Reactor Vessel Level Instrumentation, page 26, LO 1.06.b, LO 1.05.a.1.

[3.1/3.3]

216000K510 ..(KA's)

ANSWER: 052 (1.00)

b.

REFERENCE:

SDLP-02C, Reactor Vessel Temperature Instrumentation, page 15, revision 5, LO 1.05.a.6

[3.0/3.1]

216000A403 ..(KA's)

ANSWER: 053 (1.00)

c.

REFERENCE:

OP-19, Reactor Core Isolation Cooling System, section D.2, page 18, Rev 29.
SLDP-13, Reactor Core Isolation Cooling System, page 42, Rev. 7, LO 1.13.

[3.4/3.5]

217000G010 ..(KA's)

ANSWER: 054 (1.00)

c.

REFERENCE:

SDLP-02J, Automatic Depresurization System, page 36, rev 9, LO 1.04, LO 1.10.d.

[3.1*/3.3*]

218000K201 ..(KA's)

ANSWER: 055 (1.00)

c.

REFERENCE:

SDLP-06, Feed Water Level Control, figures 4 and 3, rev 6, LO 1.10.
SDLP-02B, Reactor Vessel Level Instrumentation, page 20, rev. 9, LO 1.10.

[3.5/3.5]

259002K605 ..(KA's)

ANSWER: 056 (1.00)

b. or c.

REFERENCE:

SDLP-06, Feedwater Level Control, page 20, rev. 6, LO 1.13.

[3.3/3.4]

259002G010 ..(KA's)

ANSWER: 057 (1.00)

d.

REFERENCE:

OP-20, Standby Gas Treatment System, page 20, rev 18.
SLDP-01B, Standby Gas Treatment System, page 30, rev 7, LO 1.14.

[2.9/3.2]

261000A203 ..(KA's)

ANSWER: 058 (1.00)

b.

REFERENCE:

SDLP-93, Emergency AC Power System, page 42, rev 7, LO 1.05.b.1.

[3.8/3.7]

264000K408 ..(KA's)

ANSWER: 059 (1.00)

b.

REFERENCE:

SDLP-03D, Rod Worth Minimizer, page 15, rev 5, LO 1.05.b.

[3.3/3.4]

201006K403 ..(KA's)

ANSWER: 060 (1.00)

d.

REFERENCE:

SDLP-71A, AC Electrical Distribution, page 89, rev 3, LO 1.05.c

[3.1/3.4]

262002K401 ..(KA's)

ANSWER: 061 (1.00)

d.

REFERENCE:

SDLP-76, Fire Protection System, page 28, rev. 7, LO 1.05.a.5.

[3.2/3.3]

286000A304 ..(KA's)

ANSWER: 062 (1.00)

b.

REFERENCE:

SDLP-93, Emergency AC Power System, page 44-45, rev. 7, LO 1.05.b.2.

[3.4/3.6]

262001A304 ..(KA's)

ANSWER: 063 (1.00)

d.

REFERENCE:

SDLP-29, Main Steam, page 30, rev 6, LO 1.05.a.1.a)

[4.2*/4.0]

239001A401 ..(KA's)

ANSWER: 064 (1.00)

a.

REFERENCE:

SDLP-29, Main Steam, rev. 6, page 33,

[2.8/3.0]

239003A209 ..(KA's)

ANSWER: 065 (1.00)

b.

REFERENCE:

SDLP-70, Control/Relay Room HVAC, page 70, rev. 4, LO 1.10

[3.3/3.5]

290003A301 ..(KA's)

ANSWER: 066 (1.00)

a.

REFERENCE:

Technical Specification table 3.2.1.
SDLP-29, Main Steam, LO 1.18.c.

[3.2/4.1]

239001G005 ..(KA's)

ANSWER: 067 (1.00)

b.

REFERENCE:

Technical Specification 3.7.A.6.B, Amend. 181, page 180.
Technical Specification Interpretation 08.
SDLP-16A, Primary and Secondary Containment Systems, rev. 7. LO 1.18.

[3.3/4.1]

223001G005 ..(KA's)

ANSWER: 068 (1.00)

a.

REFERENCE:

AOP-45, Loss of DC Power System A, page 2, rev. 3.
SDLP-71B, DC Electrical Systems, rev. 4, LO 1.14.c.

[3.4/3.8]

263000K303 ..(KA's)

ANSWER: 069 (1.00)

d.

REFERENCE:

AOP-8, Loss of Reactor Coolant Flow, page 6, rev. 11.
SDLP-02H, Reactor Recirculation, rev. 7, LO 1.15.a.

[3.3/3.3]

295001A105 ..(KA's)

ANSWER: 070 (1.00)

a.

REFERENCE:

AOP-11, Loss of Reactor Building Closed Loop Cooling, page 5, rev 5.
SDLP-15, Reactor Building Closed Loop Cooling, rev. 6, LO 1.15.a.

[3.3/3.4]

295018A201 ..(KA's)

ANSWER: 071 (1.00)

b.

REFERENCE:

SDLP-15, Reactor Building Closed Loop Cooling System, page 23, rev 6, LO 1.05 c.5

[3.3/3.4]

295018A101 ..(KA's)

ANSWER: 072 (1.00)

d.

REFERENCE:

AOP-21, Loss of UPS, rev 9, page 5.
SDLP-71A, AC Electrical Distribution, rev 3, LO 1.14.

[3.9*/4.1*]

295003G010 ..(KA's)

ANSWER: 073 (1.00)

a.

REFERENCE:

AOP-30, Loss of Shutdown Cooling, page 5, rev 4.
SDLP-10, Residual Heat Removal System, rev 6, LO 1.15.a.

[3.0/3.0]

295021A105 ..(KA's)

ANSWER: 074 (1.00)

a. or d.

REFERENCE:

AOP-30, Loss of Shutdown Cooling, page 7.
SDLP-10, Residual Heat Removal, LO 1.15.

[3.1/3.2]

295021G007 ..(KA's)

ANSWER: 075 (1.00)

a.

REFERENCE:

AOP-32, Unexplained Reactivity Change, page 6, rev 3.

[3.8*/3.7*]

295001G010 ..(KA's)

ANSWER: 076 (1.00)

a.

REFERENCE:

AOP-43, Plant Shutdown from outside the Control Room, page 7, rev 16.

[3.8*/3.6*]

295016G010 ..(KA's)

ANSWER: 077 (1.00)

d.

REFERENCE:

AOP-45, Loss of DC Power System A, page 3, rev. 3.
SDLP-71B, DC Electrical Systems, rev. 4, LO 1.14.c.

[3.3/3.3]

295004K203 ..(KA's)

ANSWER: 078 (1.00)

d.

REFERENCE:

AOP-49, Station Blackout, page 3, rev. 2.
SDLP-71A, AC Electrical Distribution, rev 3, LO 1.14.h.

[4.4*/4.4*]

295003A103 ..(KA's)

ANSWER: 079 (1.00)

c.

REFERENCE:

AOP-62, Loss of Feedwater Heating, page 5, rev. 1.

[3.6/3.8]

295014A102 ..(KA's)

ANSWER: 080 (1.00)

a.

REFERENCE:

AOP-1, Reactor Scram, Attachment I, rev 21.

[4.1*/4.2*]

295015A202 ..(KA's)

ANSWER: 081 (1.00)

b.

REFERENCE:

AOP-21, Loss of UPS, page 7, rev. 9.
SDLP-71A, AC Electrical Distribution, rev 3, LO 1.14.

[3.9/4.1*]

295007A104 ..(KA's)

ANSWER: 082 (1.00)

a.

REFERENCE:

ODSO-28, EOP Entry and Use, page 9, rev. 4.
MIT 301.11C, EOP-2 RPV Control, LO 2.03.

[4.4*/4.7*]

295037G011 ..(KA's)

ANSWER: 083 (1.00)

c.

REFERENCE:

EOP-2, RPV Control, rev. 0.
MIT 301.11C, EOP-2 RPV Control, page 20, rev. 3.

[3.8/3.9]

295031A108 ..(KA's)

ANSWER: 084 (1.00)

d.

REFERENCE:

EOP 3, Failure to Scram.
MIT 301.11D, EOP-3 Failure to Scram, page 30, rev. 3, TO 3.0.

[3.4/3.6]

295037K101 ..(KA's)

ANSWER: 085 (1.00)

c.

REFERENCE:

EOP-6 Radioactivity Control
IAP-2.2.
Note: Is bypassing the isolation interlocks considered a failure to isolate?

[3.9/4.5]

295038G012 ..(KA's)

ANSWER: 086 (1.00)

a.

REFERENCE:

MIT 301.11B pgs 4 & 5 and EOP-2
MIT 301.11C, EO 2.06
TO=TP+.4(TL-3.8)=2.5+.4(10-3.8)=5, actual limit based on Temp

[3.4/3.8]

295026G007 ..(KA's)

ANSWER: 087 (1.00)

b.

REFERENCE:

MIT 301.11f, pg 8, item 2.d
EOP-5, table 5.1
EO 5.06

[3.3/3.5]

295032A203 ..(KA's)

ANSWER: 088 (1.00)

c.

REFERENCE:

EOP-4, Primary Containment Control
MIT 301.11E, EOP-4 Primary Containment Control, LO 4.03.

[3.7/4.4*]

295030G012 ..(KA's)

ANSWER: 089 (1.00)

a.

REFERENCE:

MIT 301.11B, Figures and Cautions, page 17, rev 3.
MIT 301.11E, EOP-4 Primary Containment Control, page 12, rev 3, TO 4.0.

[3.6/4.0]

295024K301 ..(KA's)

ANSWER: 090 (1.00)

b.

REFERENCE:

ARP- 09-5-1-30, CRD PUMP 3P-16B SUCT PRESS LO, rev 4.
SDLP-03C, Control Rod Drive Hydraulic System, rev. 7, LO 1.14.

[3.1/3.2]

295022G007 ..(KA's)

ANSWER: 091 (1.00)

c.

REFERENCE:

EOP-5, Secondary Containment Control.
ODSO-28, EOP Entry and Use, page 14, rev 4.
MIT 301.11F, EOP-5 Secondary Containment Control, TO 5.0.

[3.1/3.1]

295036A202 ..(KA's)

ANSWER: 092 (1.00)

b.

REFERENCE:

EOP-3, Failure to Scram.
EOP-2, RPV Control
MIT 301.11C, EOP-2 RPV Control, page 13, rev. 3, LO 2.07.

[3.5/3.7]

295025G007 ..(KA's)

ANSWER: 093 (1.00)

d.

REFERENCE:

IAP 2, Classification of Emergency Conditions, Event Categories 1, 2, & 3.
Learning Objective LP 10-12.5.4.2, 6.01.

[3.1*/4.6*]

295031G002 ..(KA's)

ANSWER: 094 (1.00)

~~b.~~ C

REFERENCE:

IAP 2, Classification of Emergency Conditions, Event Categories 1, 2, 3 & 4.
Learning Objective LP 10-12.5.4.2, 6.01.

[3.8/4.4*]

295006G003 ..(KA's)

ANSWER: 095 (1.00)

a.

REFERENCE:

AOP-44, Dropped Fuel Assembly, page 2, rev. 1.

[3.3/4.2]

295023G001 ..(KA's)

ANSWER: 096 (1.00)

c.

REFERENCE:

MIT 301.11E, EOP-4 Primary Containment Control, page 8, rev. 3, LO 4.05.

[3.5/3.8]

295030K207 ..(KA's)

ANSWER: 097 (1.00)

b.

REFERENCE:

AOP-31, Loss of Condenser Vacuum, page 5, rev. 6.

[3.2/3.2]

295002G007 ..(KA's)

ANSWER: 098 (1.00)

d.

REFERENCE:

AOP-43, Plant Shutdown from Outside the Control Room, page 10, rev 16.

[4.2*/4.3*]

295016A107 ..(KA's)

ANSWER: 099 (1.00)

d.

REFERENCE:

AOP-43, Plant Shutdown from Outside the Control Room, page 37, rev. 16.

[3.8*/3.6*]

295016G010 ..(KA's)

ANSWER: 100 (1.00)

b.

REFERENCE:

SDLP-29, Main Steam, page 22, rev. 6, LO 1.05.a.4.f.

[3.4/3.4]

295019K205 ..(KA's)

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

ANSWER KEY

MULTIPLE CHOICE

001 c
002 d
003 b
004 c
005 b
006 c
007 a
008 b
009 c
010 c
011 c
012 b
013 a
014 b
015 a
016 b
017 c
018 b
019 d
020 b
021 c
022 b
023 c
024 a
025 c
026 c
027 a
028 d
029 b
030 b
031 c
~~032 d~~ deleted
033 c
034 c
035 c
036 c
037 a
~~038 d~~ deleted
039 d
040 a
041 b
042 c
043 a or d
044 b
045 d

ANSWER KEY

046	d	069	d
047	d	070	a
048	a	071	b
049	c	072	d
050	c	073	a
~~051 b~~	deleted	074	a or d
052	b	075	a
053	c	076	a
054	c	077	d
055	c	078	d
056	b or c	079	c
057	d	080	a
058	b	081	b
059	b	082	a
060	d	083	c
061	d	084	d
062	b	085	c
063	d	086	a
064	a	087	b
065	b	088	c
066	a	089	a
067	b	090	b
068	a	091	c

ANSWER KEY

092 b

093 d

094 ~~d~~ C

095 a

096 c

097 b

098 d

099 d

100 b

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

ATTACHMENT 3

FACILITY COMMENTS (W/O REFERENCES)

Attachment 3

James A. FitzPatrick
Nuclear Power Plant
P.O. Box 41
Lycoming, New York 13093
315 342-3840

New York Power Authority

Harry P. Salmon, Jr.
Resident Manager

May 4, 1994
JAFP-94-0250

United States Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

Attention: Ms. Tracy Walker, Lead Examiner

SUBJECT: WRITTEN EXAMINATION COMMENTS

Dear Ms. Walker:

I would like to acknowledge and thank you for the professional and positive attitude portrayed by the examiners during the recent exam visit.

During the post-examination review some comments were noted. These comments with supporting references are enclosed. Your attention to this matter is greatly appreciated.

Very truly yours,

for

HARRY P. SALMON, JR.

HPS/JEM/rlw

Enclosures (9)
1. Facility Comments on Question RO-37 / SRO-38
2. Facility Comments on Question RO-43 / SRO-43
3. Facility Comments on Question RO-51 / SRO-51
4. Facility Comments on Question RO-56 / SRO-56
5. Facility Comments on Question RO-72
6. Facility Comments on Question RO-77 / SRO-69
7. Facility Comments on Question RO-82 / SRO-74
8. Facility Comments on Question SRO-32
9. Facility Comments on Question SRO-94

cc w/o enc:
M. Colomb/General Manager/Support Services/JAF
R. Barrett/General Manager/Operations/JAF
G. Meyer/Chief BWR Section/NRC Region 1
J. Gray/Nuclear Generation/WPO
RMS/JAF
File

FACILITY COMMENTS FOR
QUESTION NUMBER RO - 037
SRO - 038

KEY ANSWER: d

COMMENT: Both answers C and D are correct.

RECOMMENDATION Accept both C and D as correct answers.

A formatting error occurred during the printing of the examination which caused some of the data for APRM E to be aligned under the column for APRM F. At least one candidate indicated that he eliminated answer D due to the formatting error, a review of his examination revealed a notation in the margin showing he had determined that a half-scram would exist because APRM F was greater than 15%. If the candidate believed the 16% value was associated with APRM F, then the inoperable APRM (B) and the HI-FLUX APRM (F) were on the same side of RPS and answer c is the correct answer. If the candidate believed the 16% value was associated with APRM E then the inoperable APRM (B) and the HI-FLUX APRM (E) were on opposite sides of RPS and answer d is the correct answer.

The same formatting error was also present during the examination review and it was specifically requested that it be corrected prior to the final written examination. It was not corrected.

ATTACHMENTS:

1. REACTOR OPERATOR EXAMINATION, Page 25, QUESTION 37
2. SENIOR REACTOR OPERATOR EXAMINATION, Page 25, QUESTION 38
3. Copy of candidates exam indicating that APRM F would cause a half-scram because it was greater than 15%.

FACILITY COMMENTS FOR
QUESTION NUMBER: RO - 043 (1.00)
SRO - 043 (1.00)

The reactor is operating at 92%. Due to flow oscillations the operator has just locked the scoop tube on the "A" recirculation pump per OP-27, Recirculation System.

A 44% runback has been initiated due to a loss of a reactor feed pump.

Select the status of the "A" Recirculation Pump and what action would be required (if any).

a. Recirculation pump "A" speed would be automatically reduced to 44%.

b. Speed would be at original value and operator would have to trip the "A" recirculation pump.

c. Speed would be at original value and the operator would have to use Manual Speed Controller on the "A" Manual/Automatic Controller to reduce speed.

d. Speed would be at original value and the operator would have to reset the scoop tube lock to reduce speed.

KEY ANSWER: a

COMMENT: Question has an alternate correct answer based on assumptions made.

RECOMMENDATION: Also accept D as a correct answer.

The effect of the stated transient on recirculation pump speed is dependent on the status of the Scoop Tube Auto Unlock circuit and that status is not provided in the question. The only other method available to the candidate would be memorization of a portion of the special (i.e. infrequent) procedure section of OP-27, Recirculation System*. OP-27 is a 'Reference Use' procedure and is required by AP-02.06, Procedure Use and Adherence*, section 8.3.1, to be reviewed prior to use and to be present at the work site. However, the wording of the question, ...*has just* locked the scoop tube..., does not make it clear if the entire section of the procedure has been completed. If the entire procedural section has been completed, then the Scoop Tube Auto Unlock switch is ON. If the operator *has just* locked the scoop tube, i.e. the Scoop Tube Control switch *was just* placed in TRIP, then the Auto Unlock switch would still be in OFF. The correct response to the question would be dependent on which of the two valid assumptions the candidate choose.

During the facility examination review, addition of the clarifying phrase (the scoop tube auto unlock is "on") was discussed but not pursued. In retrospect that would have been a prudent clarification.

If the candidate assumed that the auto-unlock switch was ON, then A would be the correct answer. If the candidate assumed that the auto-unlock switch was OFF then D is the correct answer.

ATTACHMENTS:
1. AP-02.06, PROCEDURE USE AND ADHERENCE*, rev. 3, Page 9 of 14.
2. OP-27, RECIRCULATION SYSTEM, rev. 36, Page 1 of 140.
3. OP-27, RECIRCULATION SYSTEM, rev. 36, Page 59 of 140.

FACILITY COMMENTS FOR
QUESTION NUMBER: RO - 051 (1.00)
SRO - 051 (1.00)

On which of the following RPV level instruments will indicated level decrease due to heatup from cold shutdown to normal operating temperature? Assume actual level remains constant.

a. Narrow range

b. Wide range

c. Refueling

d. Fuel Zone

KEY ANSWER: b

COMMENT: Both answers B and D are correct

RECOMMENDATION: Accept both B and D as correct answers

The Fuel Zone instruments are cold calibrated and the Wide Range instruments are hot calibrated. However, the level indicated by both of these instruments will decrease as RPV temperature is increased from the cold condition to normal operating temperature. This is supported by the graph of "LEVEL INSTRUMENT RESPONSE DURING HEATUP - May 30-31, 1993" which is attached. This graph was supplied with the reference material as Figure 21 to SDLP-02B.

ATTACHMENTS: 1. SDLP-02B Figure 21, LEVEL INSTRUMENT RESPONSE DURING HEATUP.

FACILITY COMMENTS FOR
QUESTION NUMBER RO - 056 (1.00)
SRO - 056 (1.00)

Select the basis for waiting until the mode switch is in RUN before opening Reactor Feed Pump Discharge valves 34MOV-100A or B.

a. The capacity of the reactor feed pump could quickly overfill the vessel.

b. A reactor scram from IRM Hi-Hi could occur due to cooler moderator being injected.

c. Level control with the reactor feed pump is difficult below 10% power.

d. Instabilities between the low flow control valve and the reactor feed pump could occur.

KEY ANSWER: b

COMMENT: Both answers B and C are correct.

RECOMMENDATION: Accept both B and C as correct answers

The question asks for the basis for not opening the Reactor Feed Pump Discharge valves until the mode switch is in RUN. The correct answer (b. A reactor scram from IRM HI-HI could occur due to cooler moderator being injected.) is consistent with the caution given in the Operating Procedure. This answer in and of itself is not sufficient to answer the question as asked, since the moderator temperature is identical regardless of whether injection is through the Reactor Feed Pump Discharge valves or through the Low Flow Control valve. The other half of the answer is presented in answer c. which states that "Level control with the reactor feed pump is difficult below 10% power." Answer c is in fact the principle causal factor for answer b. LER 90-027 describes an event which occurred at this facility where an *increase in feedwater flow* at low power resulted in a reactor scram. Since unstable level control which results in an increase in feedwater flow supplying cooler moderator at too high a rate can result in IRM HI-HI scrams, both answers should be accepted as being correct.

ATTACHMENTS:
1. OP-2A, FEEDWATER SYSTEM*, rev. 34, Page 34 of 161.
2. LER 90-027, Reactor Scram - Feedwater Flow Control Valve.

FACILITY COMMENTS FOR
QUESTION NUMBER: RO - 072 (1.00)

A Residual Heat Removal pump is operating with only its minimum flow valve open. The MAXIMUM time the pump should run is:

a. 5 minutes

b. 10 minutes

c. 15 minutes

d. 30 minutes

KEY ANSWER: b

COMMENT: Both answers A and B are correct.

RECOMMENDATION: Accept both A and B as correct answers.

The Residual Heat Removal System operating procedure (OP-13), step C.2.6, states that running an RHR pump for more than 10 minutes on minimum flow could damage the pump. The RHR Pump Flow Rate and Inservice Test (IST)*, ST-2A, CAUTION for step 8.2.6, states that running an RHR pump for more than 5 minutes on minimum flow could damage the pump.

Since procedural cautions are not specifically required to be memorized, the candidates may have recalled either the value from the operating procedure or the more limiting value from the surveillance test.

A Procedure Initiation and Revision Form has been submitted to the Responsible Procedure Owner for resolution.

ATTACHMENTS:

1. OP-13, RESIDUAL HEAT REMOVAL SYSTEM*, rev. 71, page 11 of 262
2. ST-2A, RHR PUMP FLOW RATE AND INSERVICE TEST (IST)*, rev. 39, page 15 0f 60
3. PROCEDURE INITIATION AND REVISION FORM

FACILITY COMMENTS FOR
QUESTION NUMBER: RO - 077 (1.00)
SRO - 069 (1.00)

A trip of a reactor recirculation pump has resulted in operation at 45% power and 38% flow.

The power to flow map is provided.

Select the acceptable method for exiting the region.

a. Restart the tripped reactor recirculation pump.

b. Raise flow of the operating recirculation pump but only if flow can be raised until region C is exited.

c. Insert control rods using the normal insertion sequence until power is out of the region.

d. Raise flow of the operating recirculation pump until region B is exited even if operations in region C will occur.

KEY ANSWER: d

COMMENT: The wording of the correct answer misled some candidates.

RECOMMENDATION: Also accept B as a correct answer.

Some candidates inferred from the correct answer (d. Raise flow of the operating recirculation pump until region B is exited even if operations in region C will occur.), that operations would continue in region C which is prohibited by AOP-8, Loss of Reactor Coolant Flow*. This caused them to eliminate this response and find the next best response which was answer b. Answer b is incorrect but is consistent with the step C.10 of the referenced procedure to exit all regions of instability.

ATTACHMENTS: 1. AOP-8, LOSS OF REACTOR COOLANT FLOW*, rev. 11, Page 6 of 9.

FACILITY COMMENTS FOR
QUESTION NUMBER: RO - 082 (1.00)
SRO - 074 (1.00)

A loss of shutdown cooling has occurred and is unable to be reestablished with RPV temperature at 126 F and the vessel head removed.

As temperature increases the reactor building is required to be evacuated and secondary containment is required to be established before RPV temperature reaches:

a. 130 F

b. 160 F

c. 200 F

d. 212 F

KEY ANSWER: a

COMMENT: Both answers A and D are correct.

RECOMMENDATION: Accept both A and D as correct answers.

The question does not reference which of the two applicable requirements is being examined. AOP-30, Loss of Shutdown Cooling, is a reference use procedure. It is required by AP-02.06, Procedure Use and Adherence, to be reviewed prior to use and to be present at the work site. It is not expected that an operator would perform this procedure from memory and consequently, operators are not required to memorize this procedure. Operators however are required to know, from memory, limits associated with the facility Technical Specifications. If the question is answered from the perspective of what an operator is required to recall, then the Technical Specification limit of 212 F would make answer D the correct answer. Since the question did not clearly express which response, Technical Specification or Administrative, was being elicited, both answer A and answer D are correct.

ATTACHMENTS:
1. AP-02.06, PROCEDURE USE AND ADHERENCE*, rev. 3, Page 9 of 14.
2. AOP-30, LOSS OF SHUTDOWN COOLING*, rev. 4, Page 1 of 15.
3. AOP-30, LOSS OF SHUTDOWN COOLING*, rev. 4, Page 7 of 15.
4. JAF Technical Specifications, Page 184.

FACILITY COMMENTS FOR
QUESTION NUMBER: SRO - 032 (1.00)

An individual has been seriously injured and is contaminated. The individual will have to be transferred off-site.

Select who will notify Oswego Hospital of a contaminated injured person.

a. Shift Supervisor

b. Safety Supervisor.

c. Radiological Emergency Physician.

d. Oswego County Fire Coordinator.

KEY ANSWER: d

COMMENT: No correct answer is given.

RECOMMENDATION: Accept answer A as the best answer given.

EAP-2, Personnel Injury*, requires the Shift Supervisor to initiate notification to the Oswego Hospital by first completing form EAP-2.1, "CHECKLIST FOR THE OSWEGO FIRE CONTROL AMBULANCE DISPATCHER", then calling Oswego County Fire Control and providing the information to the Oswego County Fire Control Dispatcher. The Shift Supervisor is then directed to request that the Oswego Fire Control Dispatcher relay the information to the receiving hospital. A NOTE on page 3 of EAP-2 is the only mention of the Fire Coordinator notifying the hospital. All other discussion to notification of the hospital refers to the Oswego County Fire Control Dispatcher. In fact, the Oswego County Fire Coordinator is the manager that oversees the operation of Oswego County Fire Control; the Oswego County Fire Control Dispatcher is an around-the-clock position that would answer incoming phone-calls and make requested notifications.

Since the individual who actually notifies the hospital is not listed as one of the answers, the best answer is the individual that initiates the notification by calling the Oswego County Fire Control Dispatcher and requesting that the hospital be notified. In effect the Shift Supervisor is responsible for notifying the hospital *via* the Oswego County Fire Control Dispatcher.

The wording of the NOTE in EAP-2 which refers to the Fire Coordinator is in error and a Procedure Initiation and Revision Form has been forwarded to the Responsible Procedure Owner.

ATTACHMENTS:

1. EAP-2, PERSONNEL INJURY, rev. 11, Page 3.
2. Form EAP-2.1, CHECKLIST FOR THE OSWEGO FIRE CONTROL AMBULANCE DISPATCHER, rev. 11.
3. PROCEDURE INITIATION AND REVISION FORM.

FACILITY COMMENTS FOR
QUESTION NUMBER: SRO - 094 (1.00)

The following events occurred in the following order:

- During operation at 92% power all turbine bypass valves failed open
- At 725 psig the reactor operator inserted a scram then placed the mode switch to shutdown. All rods inserted.
- At 675 psig the reactor operator manually isolated the Main Steam lines.

Select the correct classification.

a. None

b. Unusual Event

c. Alert

d. Site Emergency

KEY ANSWER: b

COMMENT: Answer C is correct.

RECOMMENDATION: Accept C as the correct answer.

The event described in the question is an ATWS (failure of PCIS to initiate a low pressure isolation and resulting MSIV closure SCRAM) which is terminated by a successful manual scram. As directed by IAP-2, Classification of Emergency Condition*, the Shift Supervisor is required by Step 4.1.2, on page 2 to "...review the initiating conditions, emergency action levels, and the associated emergency classification flowcharts for each emergency class." Step 4.1.3 of the same procedure further directs that "Based on the results of the review in step 4.1.2, the Shift Supervisor shall determine the most severe emergency classification ...". The NOTE preceding step 4.1.4 of this procedure further requires that "An event that occurs and ends in a very short period of time, or an event that occurs and goes unnoticed until after the event has occurred, must still be classified..."

The initiating condition of Alert No. 6a is the failure of the reactor protection system to initiate and complete a scram which brings the reactor subcritical. Although the specific Emergency Action Levels do not describe this event, the Initiating Condition clearly does and facility management expects the Shift Supervisor to classify this event at the Alert level.

ATTACHMENTS: 1. IAP-2, CLASSIFICATION OF EMERGENCY CONDITIONS, Page 2
2. IAP-2, CLASSIFICATION OF EMERGENCY CONDITIONS, Page 56

ATTACHMENT 4

NRC RESOLUTION OF FACILITY COMMENTS

Question #	
RO 37/SRO 38	Comment partially accepted. It is not possible to determine the misinterpretations that could have been made due to the formatting error; therefore, this question was deleted reducing the total exam point values by 1.0.
RO 43/SRO 43	Comment accepted. Because the position of the auto-unlock switch was not specified, items a and d were both accepted as correct answers.
RO 51/SRO 51	Comment partially accepted. Indicated level on the wide-range, fuel zone, and refueling level instruments will decrease as RPV temperature increases from the cold condition to normal operating temperature. The question was deleted because there were three correct answers reducing the total exam point values by 1.0.
RO 56/SRO 56	Comment accepted. Credit was given for both items b and c, based on the information provided by the facility.
RO 72	Comment accepted. Credit was given for both items a and b, based on the information provided by the facility.
RO 77/SRO 69	Comment not accepted. Item b is incorrect because entry into Region C is permitted while taking actions to exit Region B in accordance with AOP-8.
RO 82/SRO 74	Comment accepted. Credit was given for both items a and d, based on the information provided by the facility.
SRO 32	Comment partially accepted. Item a is not a correct answer; therefore, the question was deleted because there was no correct answer reducing the total exam point value by 1.0.
SRO 94	Comment accepted. Item c was accepted as the correct answer, based on the information provided by the facility.

ATTACHMENT 5

SIMULATION FACILITY REPORT

Facility License: DPR-59

Facility Docket No: 50-333

Operating Test Preparation and Administration: April 12 - 14 and 26 - 29, 1994

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information that may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the simulator portion of the operating tests, the following items were observed:

ITEM	DESCRIPTION
Recirc Pump Trip	The B recirculation pump failed to trip when a malfunction was inserted to trip the drive motor breaker.
SRV Tailpipe Break	Approximately five minutes after an SRV opened and its tailpipe broke above the torus water line, primary containment and RPV parameters began to respond erratically. The scenario was ended prematurely because of the simulator fidelity problems.