U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-282/OL-94-01

Docket Nos. 50-282; 50-306 Licenses No. DPR-42; DPR-60

Licensee: Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

Facility Name: Prairie Island Nuclear Generating Station

Examination Administered At: Prairie Island Site, Red Wing, MN

Examination Conducted: On the week of May 9, 1994

Chief Examiner: D. Shepard 5/7/94
D. Shepard Date

Approved By: T. Burdick 6/7/94
T. Burdick Date

Examination Summary

Examination administered on the week of May 9, 1994 (Report No. 50-282/OL-94-01) Initial written and operating examinations were administered to one reactor operator (RO) and five senior reactor operator (SRO) candidates.

Results: All candidates passed the examinations.

The following is a summary of strengths and weaknesses noted during performance of this examination:

Strengths

- Training staff support during the examination validation and administration (Section 4).
- SROs' Command and Control was very positive during the dynamic simulator. (Section 3)
- SROs had good knowledge of the Emergency Plan classifications. (Section 3).

Weaknesses

- Candidates had some difficulty locating valves and breakers during in-plant Job Performance Measures (JPM). (Section 3).
- Candidates had difficulty verifying the positions of valve positions during in plant JPMs. (Section 3).
- Candidates did not recognize that step 1a of Procedure 1-ES 1.2, "Transfer to Recirculation" required actions in the control room. (Section 3).

REPORT DETAILS

1. Examiners

D. Shepard, NRC, Chief Examiner
K. Faris, PNL
L. Sherfey, PNL

2. Persons Contacted

Licensee Representatives

*M. Wadley, Plant Manager
*P. Anderson, Operations Training
*W. Bodin, Operations
*M. Johnson, Superintendent Simulator Engineering
*M. Lawrence, Operations Training
*D. Reynolds, Superintendent Operations Training
*D. Smith, Operations Training
*J. Sorenson, General Superintendent Plant Operations
*P. Walker, Manager, PI Training Center

U.S. Nuclear Regulatory Commission (NRC)

*R. Bywater, Resident Inspector

* Denotes those present at the May 13, 1994 exit meeting.

3. Initial License Program Observations

The following information is provided for evaluation by the licensee via their Systematic Approach to Training (SAT) based training program. No response is required.

a. Written Examination

Strength

- The examination pre-review conducted by the facility was thorough and considered valuable in the development of a plant specific valid examination. These efforts were reflected by the small number of post examination review comments.

b. Job Performance Measures (JPMs)

Weaknesses

- Candidates had some difficulty locating in-plant valves and breakers during JPM performance using F5 Appendix B, "Control Room Evacuation (Fire)" attachments C and E.

"Isolate Unit 2(1) Steam Generators".

- Candidates had difficulty verifying valve positions during F5 Appendix B attachments C and E. The valves have no valve position indicators or other readily visible valve indication. In one case, a candidate said that a tagged open valve was closed. The valves checked included SG blowdown valves, SG steam to TD AFW pump turbines, Main Steam isolation bypasses, and AFW to SG isolations.

- Candidates did not recognize that step 1a of 1-ES 1.2, "Transfer to Recirculation" required action in the control room. The candidates called out-plant operators to perform step 1 of ES 1.2; however, step 1a required control room operations while the rest of step 1 (steps 1b through 1g) consisted entirely of local actions.

c. Dynamic Simulator Scenarios

Strengths

- The SRO candidates' Command and Control during the dynamic simulator examination was very positive. The SROs utilized some very sophisticated techniques including crew briefs during emergency procedure usage and requesting operator input during complex evolutions. In one instance, the SRO showed excellent restraint in getting an operator to expedite a power reduction.

- The SRO showed good emergency plan classification knowledge during the dynamic simulator examination.

4. Training, Operations, Security, Radiation Protection, Other

Strengths

- The licensee's training staff support and efforts during the dynamic simulator and JPM examination validation and administration was excellent. The support included correctly answering the candidates' unanticipated questions during the simulator examination.

- The examiners received complete cooperation from security and health physics personnel to expedite entrance to the plant. This precluded any unnecessary delays in examination administration.

Weaknesses

- Some procedure deficiencies were identified by the NRC. None of the identified deficiencies precluded successful completion of the related tasks. These deficiencies were identified to the licensee for their evaluation and determination of any corrective actions.

The following are examples of procedure deficiencies identified by the NRC:

1. 1-ES 1.2, "Transfer to Recirculation" step 1a does not give guidance on the required actions to complete the step. The step is "Stop Spent Fuel Ventilation System" and gives no actions to complete the step. In addition, the other substeps (1b through 1g) are all local actions; whereas, step 1a requires actions in the control room.

2. F5 Appendix B, "Control Room Evacuation (Fire)" attachments C and E. "Isolate Unit 2(1) Steam Generators" requires the operators to verify local valve positions; however, there is no direction on how to verify the valve position even though there are no readily identifiable position indications.

5. Written Examination Review

Licensee representatives reviewed the written examination prior to administration and appropriate changes were incorporated into the examinations by the NRC. Following examination administration the facility was given a copy of the RO and SRO examinations and answer keys for review. The licensee's post examination comments and the NRC resolutions are noted in Enclosure 2.

The post examination review of the written examination by the NRC identified the following deficiencies in the candidates' knowledge. A majority of the candidates failed to provide the correct response for each particular knowledge area indicated.

- The function of the red RANGE light on 1R-61 Steam Line Area Radiation Monitor channel. (SRO question 016 / RO question 023)

- The requirements to restore letdown from the Hot Shutdown panel. (SRO question 019 / RO question 027)

- Immediate actions for uncontrolled rod insertion. (SRO question 062 / RO question 070)

- The respiratory requirements for a chlorine leak. (SRO question 090)

- The maximum temperature for entry into a hot area without a cool suit or supplied air hood. (SRO question 091)

7. Simulator Facility Observations

Simulator fidelity discrepancies were identified during the examination and are noted in Enclosure 4.

8. Exit Meeting

An Exit meeting with the Prairie Island management and training staff was held on May 13, 1994. Those attending the meetings are listed in Section 2 of this report. The following items were discussed during the exit meetings:

- Strengths and weaknesses noted in Sections 3 and 4 of this report.
- Simulator items as noted in Enclosure 4.

Enclosure 2

Facility Comments and NRC Resolution of Comments

QUESTION RO 027/SRO 019 (1.00)

The following conditions exist:

1. Operators are attempting to restore letdown from the Hot Shutdown (HSD) Panel following isolation due to the PRZR LOW level interlock.

2. Current pressurizer level indicates 19% on LT-433.

WHICH of the following is the MINIMUM action(s) that must be completed to enable restoration of letdown?

a. Raise pressurizer level to greater than 24.8% as read on LT-433.

b. Depress reset pushbuttons on the side of the HSD Panel for 25 seconds.

c. Isolate Instrument air to the Letdown Isolation valves.

d. Select LOCAL on the Letdown Isolation valve control switches.

*ANSWER
b. [+1.0]

*REFERENCE

1. P8170L-006, "Pressurizer Level Control System", Objective 1, page 26.

2. KA 011000G009 (3.7/3.5)

FACILITY COMMENT

The answer (b) uses the term "reset". In reviewing the logics and the procedure (C1.3 AOI Shutdown From Outside the Control Room), the term "reset" is not used. The pushbuttons provide an open signal to the Letdown Isolation valves. Recommendation is to delete the word "reset" from the answer and reword the answer "Depress the pushbuttons on the side of the Hot Shutdown Panel for 25 seconds". This change will eliminate confusion if the question is used on a future exam.

NRC RESOLUTION

Agree with the facility comment. The question will be changed to delete the word "reset" when it is uploaded to the examination bank.

QUESTION RO 051/ SRO 041 (1.00)

The following conditions exist:

1. Unit 1 Main Turbine Generator has tripped while operating at 100% power.

WHICH ONE (1) of the following conditions will PREVENT the Steam Dumps from actuating?

a. Tavg indicates 535 degrees on Channel 1 and 545 degrees on Channels 2, 3, and 4.

b. One (1) Circulating Water pump breaker is racked in and the pump indicates running, but condenser waterbox inlet pressure indicates 0 psig.

c. "A" and "B" Condenser vacuums indicate 10 inches.

d. The Steam Dump Mode Selector switch is in the Tavg Mode.

*ANSWER
c. [+1.0]

*REFERENCE
1. P8174L-002, "Steam Dump Control System", Objective 3 & 8, page 14.

2. KA 041020A408 (3.0/3.1)

FACILITY COMMENT

Accept both a. and c. Answer a. is also correct since anytime Tavg is less than 547 F following a turbine trip, there will be no steam dump demand and steam dump is prevented from actuating until temperature increases to greater than 547 F.

NRC RESOLUTION

Agree with the facility comment. Accept either a. or c. as a correct answer. Answer key changed to reflect a. or c. as correct answers.

QUESTION RO 079/ SRO 074 (1.00)

WHICH ONE (1) of the following is the PREFERRED method to provide NEGATIVE reactivity should NO boration path be possible while performing 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Stop dumping steam.

b. Actuate Safety Injection (SI).

c. Isolate ALL Feedwater to both Steam generators.

d. Trip BOTH Reactor Coolant pumps.

*ANSWER

a. [+1.0]

*REFERENCE

1. "Background Information For 1FR-S.1, "Response To Nuclear Power Generation/ATWS", Step 12, page 4.

2. P8197L-014, "F/FR Review", Objective 3, 7, & 8.

3. KA 000029K312 (4.4/4.7)

FACILITY COMMENT

Accept both a. and b. and reword the question more clearly for future use. It is not clear which step of FR-S.1 is being referred to. Also, the potential exists to assume the boration path being referred to is CVCS boration, both normal and emergency.

In the Background Information for step 4 of the procedure, actuating Safety Injection is an alternative if boration is not successful. Therefore, b. is correct.

In the Background Information for step 8 it states that stopping steam release will prevent an uncontrolled cooldown which could add positive reactivity. Therefore, b. is correct.

In the Background Information for step 12 it states that allowing the RCS to heatup will add negative reactivity. Therefore, a. is correct.

Thus, depending on the step in procedure, there is more than one method for adding negative reactivity if no boration path is possible.

NRC RESOLUTION

Disagree with the facility comment. The question stated that NO boration path was available. By initiating SI, the procedure assumes that a boration will be started; assuming the NO boration path only includes CVCS is not correct. If no CVCS path was intended it would have been so stated. No candidate asked clarifying questions during the examination on this question. The original answer of a. is retained.

SIMULATION FACILITY REPORT

Facility Licensee: Prairie Island Nuclear Generating Plant

Facility Licensee Docket Nos. 50-282; 50-306

Operating Tests Administered On: Week of May 9, 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.

While conducting the simulator portion of the operating tests, the following items were observed:

ITEM	DESCRIPTION
Diesel Generator D5 response	During slow start of D5 diesel generator; the following deficiencies were found: 1) voltage for phase B of D5 was greater than 100 volts greater than phases A & C; 2) precaution in D5 surveillance states that speed from 950 to 1200 RPM would take approximately 1.75 minutes, in the simulator it took only 10-15 seconds and 3) ERCS display called for in the D5 surveillance was not available on the CRT.

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
SENIOR OPERATOR LICENSE
REGION 3

CANDIDATE'S NAME: _____

FACILITY: Prairie Island 1 & 2

REACTOR TYPE: PWR-WEC2

DATE ADMINISTERED: 94/05/09

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	%	
100.00	_____	___ %	TOTALS
	FINAL GRADE		

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

_____
Candidate's Signature

MASTER COPY

A N S W E R S H E E T

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

A N S W E R S H E E T

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	___

A N S W E R S H E E T

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 sheet provided. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.

7. Before you turn in your examination, consecutively number each answer sheet, including any additional pages inserted when writing your answers on the examination question page.

8. Use abbreviations only if they are commonly used in facility literature. Avoid using symbols such as < or > signs to avoid a simple transposition error resulting in an incorrect answer. Write it out.

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

10. Show all calculations, methods, or assumptions used to obtain an answer to any short answer questions.

11. Partial credit may be given except on multiple choice questions. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWER BLANK.

12. Proportional grading will be applied. Any additional wrong information that is provided may count against you. For example, if a question is worth one point and asks for four responses, each of which is worth 0.25 points, and you give five responses, each of your responses will be worth 0.20 points. If one of your five responses is incorrect, 0.20 will be deducted and your total credit for that question will be 0.80 instead of 1.00 even though you got the four correct answers.

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

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

15. Ensure all information you wish to have evaluated as part of your answer is on your answer sheet. Scrap paper will be disposed of immediately following the examination.

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

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

18. 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 ONE (1) of the following would be lost if the feeder breaker to 480V Bus 130 tripped OPEN?

a. Reactor Pressurizer Proportional Heaters

b. #12 Boric Acid Transfer Pump

c. #11 Motor Driven Cooling Water Pump

d. #11 Rod Drive Motor Generator (MG)

QUESTION: 002 (1.00)

WHICH ONE (1) of the following conditions would allow Seal Water Injection to be ISOLATED to a Reactor Coolant pump (RCP) per C3, "Reactor Coolant Pump"?

a. The PRZR has a bubble and RCS pressure is 490 psig.

b. The PRZR is solid and RCS temperature is 140 degrees F.

c. RCP #1 seal leakoff is five (5) gpm and CC Water flow is 100 gpm to the RCP.

d. RCP #1 seal leakoff is seven (7) gpm and CC Water flow is 200 gpm to the RCP.

QUESTION: 003 (1.00)

The following conditions exist:

1. Unit 1 has just gone critical following a short outage caused by grid electrical problems.
2. 11 Reactor Coolant Pump tripped off due to another power surge in the switch yard.
3. Diesel Generators started due to the surge.
4. The Reactor did NOT trip.

WHICH ONE (1) of the following conditions will prevent the re-start of the 11 RCP?

a. Safeguard buses are being supplied from Emergency Diesel Generators.

b. A boration is in progress to hold power stable due to Xenon decay.

c. The required forty five (45) minute idle time has not elapsed.

d. The reactor is critical.

QUESTION: 004 (1.00)

The following plant conditions exist:

1. Unit 1 is in COLD SHUTDOWN.
2. RCS pressure is floating on the PRT at 6 psig.
3. Operators are attempting to place Letdown in service.
4. Charging pumps have been tagged out to allow inspection of all charging pumps.
5. Pressurizer level indicates 35% on LT-428 (Blue).
6. Pressurizer level transmitter LT-426 (Red) is failed HIGH due to calibrations in progress.
7. PRZR level control selector switch is in position 2-3 (White-Blue).
8. CCW is isolated to the Letdown heat exchanger.

WHICH ONE (1) of the following describes the reason operators are UNABLE to place Letdown in service?

a. Letdown Orifice valves are interlocked CLOSED due to charging pumps being tagged out for maintenance.

b. One (1) Letdown Isolation valve is interlocked CLOSED due to failed Pressurizer level transmitter.

c. Letdown Orifice valves are interlocked CLOSED due to LOW RCS pressure.

d. BOTH Letdown Isolation valves are interlocked CLOSED due to lack of CCW flow to the Letdown heat exchanger.

QUESTION: 005 (1.00)

WHICH ONE (1) of the following is the reason for the MINIMUM pressure limit on the VCT during normal power operation?

a. To ensure adequate hydrogen concentration in the RCS coolant.

b. To ensure adequate flow to the #2 RCP seals.

c. To ensure adequate #1 seal leak off flow.

d. To ensure proper makeup flow during dilution operations.

QUESTION: 006 (1.00)

WHICH ONE (1) of the following Safety Injection Actuation Signals CANNOT be BLOCKED?

a. Steam line low pressure

b. High Containment pressure

c. Low Pressurizer pressure

d. High steam line flow

QUESTION: 007 (1.00)

The following conditions exist:

1. Source Range Instrument N31 is out of service.
2. Source Range Instrument N32 is in service with its associated audible indication in containment OPERABLE.
3. Core alterations are in progress.
4. NFM channels N51 and N52 are out of service.

WHICH ONE (1) of the following Technical Specification Action Statements shall be implemented?

a. Suspend all operations involving fuel movement in the core.

b. Emergency borate the RCS until Keff is less than or equal to 0.90.

c. Immediately evacuate the refueling area until the audible alarm from N31 is returned to service.

d. Establish continuous monitoring of the serviceable N32 detector.

QUESTION: 008 (1.00)

WHICH of the following signals are used by ICCM to determine RCS subcooling?

a. Average of Incore Thermocouples and RCS Wide Range pressure.

b. Average of Incore Thermocouples and RCS Narrow Range pressure.

c. Five (5) HIGHEST Incore Thermocouples and RCS Wide Range pressure.

d. Five (5) HIGHEST Incore Thermocouples and RCS Narrow Range pressure.

QUESTION: 009 (1.00)

WHICH ONE (1) of the following is the MAXIMUM valid core exit temperature capable of being indicated by the core exit thermocouples (T/Cs)?

a. 2000 degrees F.

b. 2300 degrees F.

c. 2600 degrees F.

d. 2900 degrees F.

QUESTION: 010 (1.00)

WHICH ONE (1) of the following conditions will trip ALL Feedwater pumps on Unit 1 while operating at 100% power?

a. Feedwater pump discharge pressure is 1200 psig.

b. Steam Generator level is 65% on 11 Steam Generator.

c. HIGH Condensate Storage Tank level.

d. LO LO Hot Well level.

QUESTION: 011 (1.00)

The following conditions exist:

1. Unit 2 has tripped due to Pressurizer low pressure.
2. Steam Generator high level has caused a Feedwater Isolation.
3. The Steam Generator levels have been returned to their normal band and operators desire to restore feedwater.

WHICH ONE (1) of the following actions is required to OPEN Main Feedwater Regulating Valve (FRV) valves?

a. Open FRV Bypass valves.

b. Re-close Reactor Trip breakers.

c. Depress MANUAL reset pushbuttons for each valve.

d. Block SI actuation.

QUESTION: 012 (1.00)

WHICH ONE (1) of the following will result from CLOSED drain line valves from 1.1 TD AFW Pump Turbine?

a. Thermal stress cracking of pump casing due to buildup of cool condensate.

b. Turbine overspeed due to steam flow replacing condensate flow through the governor valve.

c. Pump failure due to buildup of condensate plugging steam lines.

d. Corrosion of governor parts due to condensate passing through the governor valve.

QUESTION: 013 (1.00)

WHICH ONE (1) of the following Unit 1 Motor Driven Auxiliary Feedwater pump trips can be BYPASSED and how is it be done?

a. Low Discharge pressure by CLOSING knife switch 1 in 4160 volt cubicle 16-1.

b. Low Suction pressure by OPENING knife switch 1 in 4160 volt cubicle 16-1.

c. Low Discharge pressure by OPENING Instrument Air Isolation Valve, AF-292-1.

d. Low Suction pressure by CLOSING Instrument Air Isolation Valve, AF-292-1.

QUESTION: 014 (1.00)

WHICH ONE (1) of the following NORMALLY discharges to the Reactor Coolant Drain Tank (RCDT)

a. RCP #1 Seal leakoff

b. RCP #2 Seal leakoff

c. RHR relief valve discharge

d. Excess Letdown Heat Exchanger discharge

QUESTION: 015 (1.00)

The following condition exist:

1. Unit 1 Waste Gas Decay Tank #127 is being vented to the atmosphere with cooling towers in operation.

WHICH ONE (1) of the following would be considered an UNFAVORABLE wind condition for discharge per Technical Specifications 3.9.B.4, "Gaseous Radwaste Treatment and Ventilation Exhaust Treatment Systems"?

a. 0 degrees at 5 miles per hour.

b. 90 degrees at 20 miles per hour.

c. 180 degrees at 20 miles per hour.

d. 270 degrees at 5 miles per hour.

QUESTION: 016 (1.00)

WHICH ONE (1) of the following is indicated by the red RANGE light being illuminated on 1R-61 Steam Line Area Radiation Monitor channel in the Rod Drive Room?

a. Radiation level exceeds the alarm setpoint.

b. No output is being received from the detector.

c. Check source pushbutton is depressed.

d. Radiation level is less than 0.1 mR/hr.

QUESTION: 017 (1.00)

The following plant conditions exist:

1. Unit 2 has tripped from 100% power.
2. Safety Injection has actuated.
3. Train "A" and "B" Safety Injection have been RESET.
4. BAST level is 10%.
5. RWST level indicates 30%.
6. AUTOMATIC swap over of SI suction to the RWST has NOT occurred.

WHICH ONE (1) of the following is the reason AUTOMATIC swap over of SI suction to the RWST has NOT occurred?

a. RWST level is less than thirty three (33%) percent.

b. Train "A" and "B" Safety Injection have been RESET.

c. CI has not been RESET.

d. BAST level is not less than four (4%) percent.

QUESTION: 018 (1.00)

WHICH ONE (1) of the following "11" Accumulator parameters needs to be corrected prior to declaring the "11" Accumulator OPERABLE while the reactor is operating at 100% power?

a. Water Volume is 1255 cubic feet.

b. Boric acid concentration is 1910 ppm.

c. Pressure is 705 psig.

d. Outlet Isolation valve is OPEN and the control switch RED indicating light is NOT LIT.

QUESTION: 019 (1.00)

The following conditions exist:

1. Operators are attempting to restore letdown from the Hot Shutdown (HSD) Panel following isolation due to the PRZR LOW level interlock.
2. Current pressurizer level indicates 19% on LT-433.

WHICH of the following is the MINIMUM action(s) that must be completed to enable restoration of letdown?

a. Raise pressurizer level to greater than 24.8% as read on LT-433.

b. Depress ~~reset~~ pushbuttons on the side of the HSD Panel for 25 seconds.

c. Isolate Instrument air to the Letdown Isolation valves.

d. Select LOCAL on the Letdown Isolation valve control switches.

QUESTION: 020 (1.00)

The following conditions exist:

1. Unit 1 is at 100% power.
2. The controlling Pressurizer Level Channel has failed HIGH.

WHICH ONE (1) of the following will result from this failure? Assume NO operator actions.

a. Actual Pressurizer level will increase due to MAXIMUM charging flow and the Reactor will trip on HIGH Pressurizer level.

b. Actual Pressurizer level will decrease due to reduced charging flow and the Reactor will trip on LOW Pressurizer pressure.

c. Actual Pressurizer level will initially decrease, then increase until the Reactor trips on HIGH Pressurizer level.

d. Actual Pressurizer level will initially increase until PORVs open, then decrease due to loss of RCS inventory until the Reactor trips on LOW Pressurizer pressure.

QUESTION: 021 (1.00)

The following conditions exist:

1. Unit 1 is operating at 100% power.
2. Pressurizer Level Control Transfer switch is in Position 1-3 (Red-Blue).
3. Pressurizer Level transmitter LT-428 (Blue) has failed HIGH.
4. Actual pressurizer level decreases from 20% to 13% on LT-426 (Red) and LT-427 (White).

WHICH ONE (1) of the following describes the expected condition of the Letdown Isolation valves?

	LCV-427	LCV-428
a.	OPEN	OPEN
b.	CLOSED	CLOSED
c.	OPEN	CLOSED
d.	CLOSED	OPEN

QUESTION: 022 (1.00)

WHICH ONE (1) of the following Reactor Protection System trip functions is AUTOMATICALLY blocked as Reactor Power decreases from 50% to 5%?

a. Pressurizer HIGH level

b. Power Range Hi Flux Hi Setpoint

c. Pressurizer HIGH pressure

d. Power Range Hi Flux positive rate

QUESTION: 023 (1.00)

The following conditions exist:

1. Unit 1 is operating at 100% power.
2. RCS pressure is increased from 2185 psig to 2235 psig.

WHICH ONE (1) of the following conditions will result from this INCREASE in RCS pressure?

a. OP Delta T Reactor Trip setpoint will INCREASE.

b. OP Delta T Reactor Trip setpoint will DECREASE.

c. OT Delta T Reactor Trip setpoint will INCREASE.

d. OT Delta T Reactor Trip setpoint will DECREASE.

QUESTION: 024 (1.00)

The following condition exists:

1. Unit 1 is at 20% power and INCREASING load.

WHICH ONE (1) of the following Control Rods should be considered INOPERABLE per Technical Specifications 3.10.G., "Control Rod Operability Limitations"?

a. Control Rod K-7 Bank "D" rod bottom light remains LIT even though actual control rod K-7 withdrawal occurred.

b. One Control Bank "C" RPI has been out of service for the past forty five (45) minutes.

c. For the past twenty four (24) hours the Bank "D" step counter has indicated 0 steps while one CB D rod was at 20 steps.

d. For the past nine (9) hours the Control Bank "C" step counters has indicated 100 steps while one CB C rod was at 115 steps.

QUESTION: 025 (1.00)

The following conditions exist:

1. Unit 2 is at 100% power.
2. One (1) rod position indicator (RPI) channel is INOPERABLE.

WHICH ONE (1) of the following is used to determine the position of the non-indicating rod per Technical Specification 3.10.F, "Inoperable Rod Position Indicator Channels"?

a. Group Step counter

b. Voltage measurement of the coils on the CRDM

c. RIL monitor

d. Incore detectors

QUESTION: 026 (1.00)

WHICH ONE (1) of the following RVLIS readings indicates core voiding?

a. The Full Range reading 98% with NO RCPs running.

b. The Upper Range reading 98% with NO RCPs running.

c. The Dynamic Range reading 65% with ONE RCP running.

d. The Dynamic Range reading 95% with BOTH RCPs running.

QUESTION: 027 (1.00)

The following conditions exist:

1. Loop A Tavg meters indicate 560 degrees F.
2. Loop B Tavg meter indicates 605 degrees F.
3. Loop A Delta T meters indicate 100%.
4. Loop B Delta T meter indicate 0%.

WHICH ONE (1) of the following is the cause of these indications?

a. Loop B Tcold failed LOW.

b. Loop B Tcold failed HIGH.

c. Loop B Thot failed LOW.

d. Loop B Thot failed HIGH.

QUESTION: 028 (1.00)

The following conditions exist:

1. A large earthquake has occurred.
2. The Spent Fuel Pool level is decreasing.
3. A station blackout condition exists.

WHICH ONE (1) of the following sources should be used to supply makeup to the Spent Fuel Pool?

a. CVCS Holdup tanks

b. RWST

c. CVCS BA blender

d. Fire Water hose stations

QUESTION: 029 (1.00)

WHICH ONE (1) of the following is the reason the Spent Fuel Pool (SFP) heat exchanger outlet valves are required to be manually throttled?

a. To prevent over cooling the SFP.

b. To prevent tube vibration in the SFP heat exchanger.

c. To provide adequate delta P for SFP purification.

d. To minimize leakage resulting from a pipe break.

QUESTION: 030 (1.00)

WHICH ONE (1) of the following Steam Generator Level Control System signals uses an Arbitrator Signal Selection (ASS)?

a. Narrow range level

b. Feedwater flow

c. Feedwater pressure

d. Steam pressure

QUESTION: 031 (1.00)

WHICH ONE (1) of the following is NOT a source of power for the 4160 VAC Safeguards Bus 15?

a. 1R Transformer Y winding

b. Bus 26

c. CT-11 Transformer

d. D1

QUESTION: 032 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to a large break LOCA.
2. SI has actuated.
3. Offsite power has been lost and Diesel Generator #1 has failed to start.

WHICH ONE (1) of the following pieces of equipment will be the FIRST to be AUTOMATICALLY restored following restoration of power to Bus 15?

a. 11 SI pump

b. 11 RHR pump

c. 11 CC pump

d. 11 FCU

QUESTION: 033 (1.00)

WHICH ONE (1) of the following is the reason for having an Automatic Bus Transfer switch (ABT) for DC control power to Electrical Buses 11 and 12?

a. Ensures control power is available to trip RCPs.

b. Ensures Emergency Lighting is available for switchgear rooms.

c. Ensures power is maintained to all Post Accident Monitoring equipment during accident conditions.

d. Ensures power is maintained to all Appendix "R" equipment during accident conditions.

QUESTION: 034 (1.00)

WHICH ONE (1) of the following is the "Droop" setting for D1 Diesel Generator while in a Safeguards lineup and the reason for this setting?

a. Zero (0) speed droop to allow the diesel to remain at a constant speed (frequency) while varying the load.

b. Zero (0) speed droop to allow the diesel to remain at a constant load while varying the frequency.

c. Forty (40) speed droop to allow the diesel to remain at a constant speed (frequency) while varying the load.

d. Forty (40) speed droop to allow the diesel to remain at a constant load while varying the frequency.

QUESTION: 035 (1.00)

WHICH ONE (1) of the following methods is normally used to flash the field of D1 Diesel Generator when started LOCALLY?

a. The field is flashed AUTOMATICALLY by the 125 VDC System.

b. The field must be MANUALLY flashed by depressing the Voltage Reset pushbutton on the Engine-Generator Panel.

c. The field must be MANUALLY flashed by adjusting the Exciter-Voltage Regulator.

d. The field must be MANUALLY flashed by depressing the Field Flash pushbutton on the Engine-Generator Panel.

QUESTION: 036 (1.00)

WHICH ONE (1) of the following will AUTOMATICALLY close the 11 Steam Generator Blow Down Control valve CV-31414?

a. LOW level in the Steam Generator Blowdown (SGB) flash tank.

b. HIGH temperature on the outlet of the SGB flash tank.

c. Steam Generator HIGH activity as indicated on Radiation Monitor R-19.

d. Trip of either the MD or the TD Auxiliary Feedwater pump.

QUESTION: 037 (1.00)

WHICH ONE (1) of the following provides backup water to the Fire Protection System?

a. The Potable Water System.

b. The Cooling Water System.

c. The Filtered Water System.

d. The Circulating Water System.

QUESTION: 038 (1.00)

The following plant conditions exist:

1. Cooldown is in progress on Unit 1.
2. Operators are attempting to warm up the RHR System.
3. RHR Heat Exchanger 11 is in service.
4. RCS temperature is 340 degrees F.
5. RCS pressure is 450 psig.
6. RHR flow to RCS can NOT be established.

WHICH ONE (1) of the following could PREVENT RHR flow to the RCS?

a. A disconnected electrical lead in the RHR to CVCS Isolation Valve Actuator has caused the valve to fail CLOSED.

b. RHR Return to Loop B Cold Leg Isolation Valve is interlocked CLOSED.

c. A broken air line to the 11 RHR Heat Exchanger Outlet Valve has caused the valve to fail CLOSED.

d. RHR Reactor Vessel Injection Valves are interlocked CLOSED.

QUESTION: 039 (1.00)

WHICH ONE (1) of the following leaking components would result in an INCREASE in the Component Cooling System surge tank level?

a. Excess Letdown heat exchanger

b. Containment chiller

c. Regenerative heat exchanger

d. RCP Seal Water heat exchanger

QUESTION: 040 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to a LOCA.
2. Inadequate core cooling has resulted in a Containment hydrogen concentration of 9%.

WHICH ONE (1) of the following reactions would result if the Hydrogen Recombiners were placed in service with this hydrogen concentration?

a. The Hydrogen Recombiners would trip on excessive Containment pressure.

b. The Hydrogen Recombiners would trip on high current.

c. Hydrogen burn could occur causing an excessive Containment pressure increase.

d. Ineffective hydrogen removal due to insufficient oxygen concentration.

QUESTION: 041 (1.00)

The following conditions exist:

1. Unit 1 Main Turbine Generator has tripped while operating at 100% power.

WHICH ONE (1) of the following conditions will PREVENT the Steam Dumps from actuating?

a. Tavg indicates 535 degrees on Channel 1 and 545 degrees on Channels 2, 3, and 4.

b. One (1) Circulating Water pump breaker is racked in and the pump indicates running, but condenser waterbox inlet pressure indicates 0 psig.

c. "A" and "B" Condenser vacuums indicate 10 inches.

d. The Steam Dump Mode Selector switch is in the Tavg Mode.

QUESTION: 042 (1.00)

WHICH ONE (1) of the following Main Generator trips does NOT actuate the 861G or 861GT relays?

a. Under frequency

b. Neutral ground

c. Turbine trip

d. 1 M Transformer over current

QUESTION: 043 (1.00)

The following conditions exist:

1. Unit 1 is operating at 100% power.
2. Unit 1 Instrument Air pressure is 79 psig and DECREASING slowly.
3. Unit 2 Instrument Air pressure is 83 psig and DECREASING slowly.
4. ALL compressors are RUNNING.

WHICH ONE (1) of the following AUTOMATIC actions should have occurred?

a. Service Air Header Isolation valve (MV-32318) OPENS to supply air from the Service Air System to Instrument Air system.

b. Unit 1 Instrument Air Header Isolation valve (MV-32314) CLOSES to isolate Unit 1 and Unit 2 air headers.

c. Unit 2 Instrument Air Header Isolation valve (MV-32315) CLOSES to isolate Unit 1 and Unit 2 air headers.

d. Filter Bypass valves (MV-32362 and MV-32363) OPEN to allow a higher flow rate to both unit air headers.

QUESTION: 044 (1.00)

The following conditions exist:

1. Turbine load is being decreased from 100% power.
2. Rod Control is in AUTOMATIC.

WHICH ONE (1) of the following IMMEDIATE actions should be taken if control rods fail to move in BOTH automatic and manual control?

a. Continue Turbine load reduction to 10% power and maintain Tavg equal to Tref using the Steam Dump System.

b. Stop Turbine load reduction and maintain Tavg equal to Tref using boration until repairs can be made.

c. Adjust Turbine load to maintain Tavg equal to Tref until repairs can be made.

d. Immediately trip the reactor and enter E-0, "Reactor Trip or Safety Injection".

QUESTION: 045 (1.00)

WHICH ONE (1) of the following is NOT a reason for Rod Insertion Limits per Technical Specification Bases 3.10.D, "Rod Insertion Limits"?

a. To assure trip reactivity.

b. To limit the consequences of a loss of primary coolant accident.

c. To assure meeting power distribution limits.

d. To limit the consequences of a rod ejection accident.

QUESTION: 046 (1.00)

The following conditions exist:

1. Unit 1 is operating at 100% power.
2. 11 RCP Seal Leakoff flow indicates 0.3 gpm.
3. 11 RCP Standpipe High Level alarm is LIT.

WHICH ONE (1) of the following is the malfunction indicated by these conditions and the FIRST required action to be taken to mitigate the condition?

a. RCP #1 seal failure requires the #1 seal Leakoff Isolation valve to be closed within five (5) minutes.

b. RCP #1 seal failure requires the Reactor to be tripped within thirty (30) minutes following adjustment of Component Cooling Water flow.

c. RCP #2 seal failure requires the #1 seal Leakoff Isolation valve to be closed within five (5) minutes.

d. RCP #2 seal failure requires increased monitoring of the 11 RCP parameters.

QUESTION: 047 (1.00)

WHICH ONE (1) of the following is an indication that natural circulation exists per 1ES-0.1, "Reactor Trip Recovery?

	RCS Subcooling	S/G pressure	Cold Leg Temperature
a.	15 degrees F	400 psig	440 degrees F
b.	20 degrees F	500 psig	475 degrees F
c.	35 degrees F	600 psig	490 degrees F
d.	40 degrees F	700 psig	550 degrees F

QUESTION: 048 (1.00)

The following condition exist:

1. Unit 1 conditions require Emergency Boration of the RCS.

WHICH ONE (1) of the following is the MAXIMUM amount of concentrated boric acid that is allowed to be supplied to the Charging Pump suction and the reason for this limitation?

a. 50% of the total charging flow to prevent plugging seal injection throttle valves.

b. 50% of the total charging flow to prevent runout of the BA transfer pump.

c. 75% of the total charging flow to prevent plugging seal injection throttle valves.

d. 75% of the total charging flow to prevent runout of the BA transfer pump.

QUESTION: 049 (1.00)

WHICH ONE (1) of the following is an ALTERNATE method to accomplish EMERGENCY BORATION should the Boric Acid filter on the discharge line from the Boric Acid Transfer pump become plugged while performing 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Open charging pump suction from the RWST.

b. Initiate Normal Boration of RCS at MAXIMUM rate.

c. Align Boric Acid Transfer pump discharge to Charging pump discharge.

d. Align Boric Acid Transfer pump discharge to the VCT via the blender.

QUESTION: 050 (1.00)

WHICH ONE (1) of the following sets of conditions describes the expected response if controlling Pressurizer Pressure channel PT-429 fails HIGH?

	Heaters	Spray Valves	PCV-430 PORV	PCV-431 PORV
a.	ON	OPEN	OPEN	OPEN
b.	OFF	CLOSED	OPEN	CLOSED
c.	ON	CLOSED	CLOSED	OPEN
d.	OFF	OPEN	CLOSED	CLOSED

QUESTION: 051 (1.00)

WHICH ONE (1) of the following is the reason for isolating all feedwater flow to a faulted Steam Generator?

a. To minimize possibility of a Steam Generator tube rupture in the faulted loop.

b. To maximize the cooldown capability of the non-faulted loop.

c. To prevent Steam Generator overfill and safety valve actuation in the faulted loop.

d. To minimize the temperature differential across the Steam Generator tubes in the non-faulted loop.

QUESTION: 052 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to two (2) faulted Steam Generators.
2. Condensate Storage Tank (CST) level is ten (10) feet and decreasing rapidly.

WHICH ONE (1) of the following is the basis for establishing an alternate AFW pump suction source per 1ECA-2.1, "Uncontrolled Depressurization Of Both Steam Generators"?

a. AFW pumps may trip due to inadequate suction pressure at a CST level of six (6) feet.

b. The AFW pump suction line tap is designed to maintain a MINIMUM CST level of two (2) feet.

c. The AFW pump suction line tap is designed to maintain a MINIMUM CST inventory of 100,000 gallons.

d. AFW pumps may trip due to inadequate suction pressure at a CST inventory of 5000 gallons.

QUESTION: 053 (1.00)

The following conditions exist:

1. Unit 1 is operating at 80% power.
2. Condenser vacuum is DECREASING.

WHICH ONE (1) of the following is the MAXIMUM Condenser differential pressure allowed prior to manually tripping the Main Turbine?

a. 1.6 inches Hg

b. 2.1 inches Hg

c. 2.6 inches Hg

d. 3.1 inches Hg

QUESTION: 054 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to a loss of offsite power.
2. All Diesel Generators have failed to start.
3. Operators are currently performing 1ECA-0.0, "Loss Of All AC Power".
4. The SM reports the status of the Critical Safety Function Status Trees as follows:

   * Heat Sink - Red
   * Subcriticality - Orange
   * Containment - Green
   * Inventory - Yellow
   * Core Cooling - Red
   * Integrity - Green

WHICH ONE (1) of the following procedures should now be used to mitigate this event?

a. 1FR-C.1, "Response To Inadequate Core Cooling"

b. 1FR-S.1, "Response To Nuclear Power Generation/ ATWS"

c. 1FR-H.1, "Response To Loss Of Secondary Heat Sink"

d. 1ECA-0.0, "Loss Of All AC Power"

QUESTION: 055 (1.00)

WHICH ONE (1) of the following is the reason for closing the RCP Seal Injection Throttle valves (VC-14-1 and VC-14-2) during a loss of ALL AC power?

a. To prevent runout of the charging pumps when the pumps are started following power restoration.

b. To prevent thermal shock to RCP shaft and seals when charging pumps are started following power restoration.

c. To prevent overfilling the VCT from backflow of RCS water.

d. To prevent steam binding of charging pumps due to backflow of RCS water flashing to steam in the low pressure lines.

QUESTION: 056 (1.00)

The following condition exists:

1. Panel 114 Instrument Bus IV (Yellow) inverter has FAILED.

WHICH ONE (1) of the following can provide a BACKUP power source for the Yellow Bus?

a. MCC 1AC 1 through Inverter 11

b. MCC 1AC 2 through Inverter 12

c. MCC 1AC 1 through Interruptible Bus Panel 117

d. MCC 1AC 2 through Non-Interruptible Bus Panel 116

QUESTION: 057 (1.00)

On WHICH ONE (1) of the following types of fires is it permissible to use a Pressurized Water Extinguisher to extinguish the flames?

a. Cardboard fire

b. Gasoline fire

c. Electrical fire

d. Metal fire

QUESTION: 058 (1.00)

WHICH ONE (1) of the following equipment could be adversely affected by a fire in Zone 74 (Screenhouse)?

a. Backwash Receiving Pump

b. 122 Demin Degassifier Pump

c. 121 Cooling Tower Pump

d. 122 Diesel Fire Pump

QUESTION: 059 (1.00)

The following conditions exist:

1. The Control Room is being evacuated due to a fire.
2. Operators inadvertently skip the procedural steps associated with shutdown of the Instrument Air Compressors and depressurization of their associated air receivers.

WHICH ONE (1) of the following plant conditions could result from this oversight?

a. The Instrument Air compressors could be damaged from overheating due to loss of cooling water.

b. Degraded air lines in the vicinity of the fire could make extinguishing the fire more difficult.

c. Pressurizer Spray valves could close causing RCS overpressurization.

d. MSIVs may remain open causing an overcooling transient.

QUESTION: 060 (1.00)

WHICH ONE (1) of the following constitutes a LOSS of containment integrity per Technical Specifications 3.6, "Containment System"?

a. While at 10% power, equipment hatch is found improperly sealed during an inspection.

b. While performing an operability test of two normally open, redundant Containment isolation valves at 100% power, one of the valves fails to CLOSE.

c. While in COLD SHUTDOWN, the outer Containment airlock door is blocked OPEN with scaffolding.

d. While in HOT SHUTDOWN the Auxiliary Building Special Vent Zone (ABSVZ) door is OPEN with an operator standing by.

QUESTION: 061 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due small break LOCA and subsequent loss of offsite power.
2. Operators are monitoring the Critical Safety Function Trees.
3. Core Exit T/Cs indicate 730 degrees F.
4. RCS pressure is 2300 psig.
5. Pressurizer level indicates 0%.
6. RVLIS Full Range indicates 35%.
7. Feedwater flow to the Steam generators indicates 250 gpm.
8. Containment pressure indicate 35 psig.

WHICH ONE (1) of the following RED path conditions exist per 1F-0, "Critical Safety Function Trees"?

a. Heat Sink

b. Containment

c. Integrity

d. Core Cooling

QUESTION: 062 (1.00)

The following conditions exist:

1. Turbine load is being decreased from 50% power.
2. Control Rods are inserting in AUTOMATIC with no demand.

WHICH ONE (1) of the following IMMEDIATE actions should be taken if control rods continue to move after placing rod control in MANUAL?

a. De-energize 480V Bus 110 to de-energize Power Cabinets and cause Urgent Failure alarm.

b. Place the Bank Selector switch in the CBD position.

c. Open lift coil disconnect switches for CBD and consider the rods inoperable.

d. Trip the reactor and enter 1E-0, "Reactor Trip or Safety Injection".

QUESTION: 063 (1.00)

The following conditions exist:

1. The Reactor tripped from 100% power.
2. 1E-0, "Reactor Trip Or Safety Injection" has been entered.
3. The turbine did NOT trip as expected.
4. MANUAL turbine trip is unsuccessful.

WHICH ONE (1) of the following is the NEXT action that should be IMMEDIATELY performed per 1E-0?

a. Manually close MSIVs and Bypass valves.

b. Manually close turbine control valves.

c. Manually trip the generator exciter breaker.

d. Locally trip the Turbine from the turbine pedestal.

QUESTION: 064 (1.00)

WHICH ONE (1) of the following Critical Safety Function conditions has the HIGHEST order of priority?

a. Wide range levels in "A" and "B" steam generators are 40% and 48% respectively with total feedwater flow at 250 gpm.

b. Core exit T/Cs are 750 degrees F and RVLIS full range level is 65%.

c. Containment pressure is 47 psig.

d. Log Power Range 1E-6 % and Log Power Range SUR +0.2 DPM.

QUESTION: 065 (1.00)

The following conditions exist:

1. Operators are responding to a small break LOCA in accordance with 1E-1, "Loss of Reactor or Secondary Coolant".
2. RCS pressure is DECREASING.
3. Pressurizer level is INCREASING.
4. All RCPs are operating.

WHICH ONE (1) of the following leak locations is consistent with these plant conditions?

a. Weld failure on RCP #12 discharge piping.

b. Failure of Pressurizer PORV in the intermediate position.

c. Failure of the Charging header connection.

d. Weld failure on the Pressurizer liquid space sample line.

QUESTION: 066 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to a small break LOCA.
2. Containment pressure is 10 psig.
3. Containment radiation levels are 2.3E3 R/hr.
4. SI has actuated and all equipment is operating as required.
5. RCS pressure is 1600 psig and decreasing.
6. Core Exit T/Cs indicate 560 degrees F. and increasing.

WHICH ONE (1) of the following additional conditions would require tripping BOTH Reactor Coolant pumps?

a. RCS pressure decreases to 1521 psig.

b. RCS subcooling decreases to 50 degrees F.

c. Pressurizer level decreases to 4%.

d. Containment pressure increases to 23 psig.

QUESTION: 067 (1.00)

The following conditions exist:

1. Unit 2 has tripped from 100% due to a small break LOCA.
2. Conditions have stabilized and operators are determining the need to terminate SI.
3. Adverse Containment conditions do NOT exist.

WHICH ONE (1) of the following conditions would PREVENT SI termination per 1E-1, "Loss Of Reactor Or Secondary Coolant"?

a. Steam Generator levels indicate 5% NR and AFW flow of 50 gpm to each SG.

b. Pressurizer level indicates 10%.

c. Core Exit T/Cs indicate 550 degrees F.

d. Pressurizer pressure is 2050 psig.

QUESTION: 068 (1.00)

The following condition exists:

1. During performance of 1FR-C.1, "Response to Inadequate Core Cooling", you observe that the CORE COOLING status tree has changed from a RED to a YELLOW condition, while you identify a RED path on the CONTAINMENT status tree.

WHICH ONE (1) of the following is the proper procedural transition, and why?

a. Complete 1FR-C.1; since it was entered due to a RED path, it must be completed unless a higher priority path occurs.

b. Immediately transition to 1FR-Z.1, "Response to Containment High Pressure", since the containment RED path is a higher priority than the core cooling yellow path.

c. Complete 1FR-C.1; since once a Functional Recovery Procedure is entered, it must be completed before ANY other transition can be made.

d. Immediately transition to 1FR-Z.1, but continue to perform the subsequent actions of 1FR-C.1 simultaneously.

QUESTION: 069 (1.00)

WHICH ONE (1) of the following is the reason for isolating and venting the accumulators during a Post-LOCA cooldown and depressurization?

a. Nitrogen causes voids in the core which degrades heat transfer.

b. Nitrogen in the RCS causes an insurge of RCS coolant into the pressurizer causing it to go solid.

c. Nitrogen entering the Reactor Vessel becomes activated forming N-16 causing extremely high radiation levels.

d. Nitrogen in the RCS causes gas binding in the Steam Generator tubes which degrades natural circulation.

QUESTION: 070 (1.00)

The following conditions exist:

1. Unit 1 is in COLD SHUTDOWN.
2. The RCS is in a Reduced Inventory Condition.
3. RHR pumping capability has been lost and CANNOT be restored.
4. Core Exit T/Cs indicate 160 degrees F. and increasing.

WHICH of the following procedures should be used to address these conditions?

a. 1E-1, "Loss of Reactor or Secondary Coolant"

b. 1E-4, "Core Cooling Following Loss of RHR Flow"

c. 1E-0.0, "Rediagnosis"

d. 1FR-C.2, "Response To Degraded Core Cooling"

QUESTION: 071 (1.00)

The following conditions exist:

1. The reactor has been shutdown for 48 hours.
2. The RCS temperature is 140 degrees F.
3. The RCS is at mid-loop.
4. A total loss of RHR occurs.
5. No core cooling is re-established.

WHICH ONE (1) of the following is the MINIMUM time required for the RCS to reach saturation?

a. 10 minutes

b. 45 minutes

c. 120 minutes

d. 180 minutes

QUESTION: 072 (1.00)

WHICH ONE (1) of the following accidents provides the basis for requiring that the turbine be tripped within thirty (30) seconds while performing 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Turbine overspeed

b. Continuous rod withdrawal

c. Steam line break

d. Loss of main feedwater

QUESTION: 073 (1.00)

The following conditions exist:

1. Unit 1 has just received a Reactor Protection System input which requires a Reactor Trip.
2. The Reactor has NOT tripped.
3. The MANUAL Reactor Trip switches fail to actuate a Reactor Trip.

WHICH ONE (1) of the following should be the FIRST method of negative reactivity used to shutdown the Reactor per 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Initiate Emergency Boration.

b. Manually insert control rods.

c. Trip the Motor Generator (MG) set output breakers.

d. Trip the Main Turbine.

QUESTION: 074 (1.00)

WHICH ONE (1) of the following is the PREFERRED method to provide NEGATIVE reactivity should NO boration path be possible while performing 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Stop dumping steam.

b. Actuate Safety Injection (SI).

c. Isolate ALL Feedwater to both Steam generators.

d. Trip BOTH Reactor Coolant pumps.

QUESTION: 075 (1.00)

WHICH ONE (1) of the following will be lost due to the failure of Instrument Bus 112 (red)?

a. Source Range Detector N31

b. Intermediate Detector N36

c. Power Range Detector N43

d. Power Range Detector N44

QUESTION: 076 (1.00)

WHICH ONE (1) of the following describes the effect of a loss of Compensating Voltage to the Intermediate Range Nuclear Detector N35?

a. Both N31 AND N32 Source Range detectors will automatically energize at a HIGHER power level on decreasing power.

b. ONLY N31 Source Range detector will automatically energize at a HIGHER power level on decreasing power.

c. Both N31 AND N32 Source Range detectors will FAIL to automatically energize on decreasing power.

d. ONLY N31 Source Range detector will FAIL to automatically energize on decreasing power.

QUESTION: 077 (1.00)

WHICH ONE (1) of the following is an IDENTIFYING characteristic of a RUPTURED Steam Generator per 1E-3, "Steam Generator Tube Rupture"?

a. Level is INCREASING with MINIMUM feedwater flow.

b. Level is STABLE with Blowdown isolated.

c. Feedwater flow DECREASES when Blowdown is isolated.

d. Feedwater flow GREATER than steam flow.

QUESTION: 078 (1.00)

WHICH ONE (1) of the following is most likely to occur during a Steam Generator Tube Rupture with both Reactor Coolant pumps tripped?

a. Overfilling of the intact Steam Generator.

b. PTS event.

c. Opening of the ruptured Steam Generator safety valve.

d. High RCS to ruptured SG pressure.

QUESTION: 079 (1.00)

The following conditions exist:

1. A Steam Generator Tube leak has been confirmed in Steam Generator "B".
2. Steam Generator "A" pressure is 500 psig.
3. Steam Generator "B" pressure is 700 psig.

WHICH ONE (1) of the following is the MAXIMUM RCS temperature that should be maintained in the RCS following the RCS cooldown to assure a 20 degrees F. subcooling margin after RCS depressurization per 1E-3 "Steam Generator Tube Rupture"?

a. 505 degrees F.

b. 465 degrees F.

c. 440 degrees F.

d. 400 degrees F.

QUESTION: 080 (1.00)

WHICH ONE (1) of the following conditions would require establishing RCS cooling by bleed and feed per 2FR-H.1, "Response To Loss of Secondary Heat Sink"? (Assume NO Adverse Containment conditions.)

a. RCS Subcooling Margin is 20 degrees F with Core Exit T/Cs INCREASING.

b. RCS pressure increasing to 2350 psig with cold leg temperatures INCREASING.

c. ONE SG WR level is less than 7% with 0 psig.

d. RCS hot leg temperature INCREASING to 620 degrees F with NO RCPs running.

QUESTION: 081 (1.00)

WHICH ONE (1) of the following describes the plant response to a loss of the "A" Train DC power (battery and its associated battery charger) during operation at 100% power?

a. D1 Diesel Generator output breaker fails CLOSED.

b. BOTH Main Generator output breakers fail to OPEN automatically.

c. ALL "A" Train 4160V breakers fail CLOSED.

d. ALL "A" Train 480V breakers OPEN automatically.

QUESTION: 082 (1.00)

The following conditions exist:

1. Unit 2 is in REFUELING.
2. An irradiated fuel assembly is suspended from the Spent Fuel Handling Crane when a LOW level alarm (SPENT FUEL PIT LO LVL) sounds.
3. Spent Fuel Pool level is DECREASING.

WHICH ONE (1) of the following is the PREFERRED location for storage of the irradiated fuel assembly in the Spent Fuel Handling Crane?

a. SFP upender

b. Floor of the Transfer Canal

c. Nearest SFP rack location

d. New Fuel elevator

QUESTION: 083 (1.00)

WHICH ONE (1) of the following is a plant response to a complete loss of pressure in the Instrument Air System?

a. Running charging pumps fail to MAXIMUM speed.

b. Pressurizer Spray valves fail OPEN.

c. MSIVs fail OPEN.

d. Main Feedwater Regulating Valves fail CLOSED.

QUESTION: 084 (1.00)

WHICH ONE (1) of the following individuals should be DENIED access to the protected area at Prairie Island Nuclear Generating Plant per 5ACD 3.18, "Fitness For Duty Program"?

a. An employee that consumed two (2) cans of beer at a picnic at 10 am prior to reporting to work at 4 pm.

b. A employee that shared a bottle of wine with his wife at a 6 pm dinner party prior to being called in for unscheduled repair work at 10 pm.

c. An employee called in for emergency maintenance at 11 pm that notified security that he had been to happy hour at his hotel until 5 pm.

d. An employee that was prescribed a codeine based cough syrup.

QUESTION: 085 (1.00)

WHICH ONE (1) of the following is defined as "Critical Work" per 5ACD 3.2, "Work Control"?

a. Adjustment of the relief setting on the Instrument Air Receiver #123 relief valve.

b. Adjustments to the Pressurizer PORV, PCV-430, which do NOT take the valve out of service.

c. Replacement of a Fire Sprinkler System valve in the Unit 1 Electrical Penetration Area PA-3.

d. Lubricate packing on a CVCS Divert Valve CV-31205.

QUESTION: 086 (1.00)

The following condition exists:

1. The Shift Supervisor has assigned two (2) control room operators a task that includes entry into a contaminated confined space.

WHICH ONE (1) of the following individuals by "title" is responsible generating the Confined Space Entry Permit?

a. Shift Supervisor

b. Superintendent Radiation Protection

c. Site Safety Administrator

d. General Superintendent Plant Operations

QUESTION: 087 (1.00)

WHICH ONE (1) of the following is suitable for UNRESTRICTED entry per F1, "Confined Space Entry"?

a. Area "A" is inside containment on the UPPER level and has an Oxygen reading of 20.2% and a combustible gas reading of 4%.

b. Area "B" is in the Auxiliary Building on the LOWER level and has an Oxygen reading of 18.3% and a combustible gas reading of 2%.

c. Area "C" is in the Turbine Building in a SEALED room and has an oxygen reading of 25.1% and a combustible gas reading of 2%.

d. Area "D" is in the Water Treatment Plant with the Exhaust fan secured and has an oxygen reading of 22% and a combustible gas reading of 10%.

QUESTION: 088 (1.00)

WHICH ONE (1) of the following conditions would prohibit entry into the Containment for a system walkdown to find a RCS pipe leak?

a. The Shield Building Ventilation System is secured for maintenance.

b. Approach to criticality is in progress.

c. No one is assigned to guard the entrance to Containment.

d. Containment temperature is 110 degrees F.

QUESTION: 089 (1.00)

An eighteen (18) year old new employee has the following exposure:

1. 50 mRem for the present quarter.
2. 1250 mRem for the calendar year.

WHICH ONE (1) of the following is the MAXIMUM exposure the new employee may receive without PI management permission?

a. None

b. 700 mRem

c. 1200 mRem

d. 3700 mRem

QUESTION: 090 (1.00)

WHICH ONE (1) of the following is the MINIMUM approved respiratory protection when locating Chlorine leaks?

a. MSA Clear-Vue equipped with a chemical cartridge

b. MSA Ulta-Vue equipped with an acid gas cartridge

c. Airline respirator

d. Self-contained breathing apparatus

QUESTION: 091 (1.00)

WHICH ONE (1) of the following is the MAXIMUM temperature where entry into a hot area can be approved WITHOUT a cool suit or supplied air hood?

a. 105 degrees F.

b. 120 degrees F.

c. 135 degrees F.

d. 150 degrees F.

QUESTION: 092 (1.00)

WHICH ONE (1) of the following is the MINIMUM approval needed for entry into the Incore Thimble Chase Area for a routine inspection during power operation?

a. Shift Supervisor

b. Superintendent Radiation Protection Group

c. Plant Manager

d. General Manager Nuclear Plants

QUESTION: 093 (1.00)

WHICH ONE (1) of the following is the CORRECT color tag used to identify equipment that has been "conditionally" released from the Controlled Area to the Clean Area?

a. yellow and magenta tag.

b. orange tag.

c. white tag.

d. green tag.

QUESTION: 094 (1.00)

WHICH ONE (1) of the following individuals by title NORMALLY assumes the duty of Fire Brigade Chief for a fire in a "Controlled Area"?

a. Shift Manager (SM)

b. Auxiliary Building APEO

c. Unit 1 Turbine Building Assistant Plant Operator (APEO)

d. APA for the affected building

QUESTION: 095 (1.00)

WHICH ONE (1) of the following is an approved method of independently verifying the correct position of a THROTTLED valve?

a. Close and re-open the valve the prescribed number of turns.

b. Observe the original operator position the valve.

c. Open and re-close the valve the prescribed number of turns.

d. Observe chain and lock position on the valve.

QUESTION: 096 (1.00)

WHICH ONE (1) of the following defines the use of a "SECURE CARD"?

a. An orange on white card used to maintain equipment position when human life or injury is NOT involved.

b. An orange on white card used to maintain equipment position when human life or injury is involved.

c. A red on white card used to maintain equipment position when human life or injury is NOT involved.

d. A red on white card used to maintain equipment position when human life or injury is involved.

QUESTION: 097 (1.00)

WHICH ONE (1) of the following individuals can AUTHORIZE temporarily removal of a HOLD card for equipment testing?

a. Worker for whom tag is hung

b. Supervisor of work being performed

c. Shift Supervisor (SS)

d. LPEO

QUESTION: 098 (1.00)

WHICH ONE (1) of the following is the LATEST time allowed to report to the NRC an UPGRADE from an ALERT to a GENERAL EMERGENCY which occurred at 1100?

a. 1115

b. 1130

c. 1145

d. 1200

QUESTION: 099 (1.00)

The following conditions exist:

1. The Shift Supervisor needs a control room operator for the upcoming night shift at 1800 Thursday night to replace a crew member who called in sick.

WHICH ONE (1) of the following is the PREFERRED operator to fill this vacancy?

a. Operator "A", who has the day off, is willing to work the night shift but he states that this would be his first one day off in the past two (2) weeks.

b. Operator "B", who has worked his day relief shift (8 hours) Thursday, is willing to return at 1800 Thursday for the night shift.

c. Operator "C", who completed a dayshift run (3 days) Wednesday, is willing to work the night shift 1800 Thursday but states he is scheduled to work overtime nights 1800 Friday and 1800 Saturday.

d. Operator "D", who just completed midnight run (4 nights), is willing to come in and work one more night shift, but states he held over from his last shift for a one (1) hour training class.

QUESTION: 100 (1.00)

WHICH ONE (1) of the following states the significance of lettered EOP Action Substeps?

a. Steps are "Immediate Action" steps.

b. Steps should be completed in order.

c. Steps need NOT be completed prior to proceeding.

d. Steps are "Continuous Action" steps.

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

ANSWER: 001 (1.00)

d. [+1.0]

REFERENCE:

1. P8184L-005, "Rod Control & Rod Position Indication", Objective 5, page 58.
2. KA 001050K202 (3.1/3.5)

001050K202 ..(KA's)

ANSWER: 002 (1.00)

b. [+1.0]

REFERENCE:

1. C3, "Reactor Coolant Pump", page 3.
2. P8170L-002, "Reactor Coolant Pumps", Objective 5.
3. KA 003000G005 (3.4/3.8), 003000G010 (3.3/3.6)

003000G010 003000G005 ..(KA's)

ANSWER: 003 (1.00)

d. [+1.0]

REFERENCE:

1. P8170L-002, "Reactor Coolant Pumps", Objective 11.
2. C3, "Reactor Coolant Pump", pages 3 & 4.
3. KA 003000G010 (3.3/3.6)

003000G010 ..(KA's)

ANSWER: 004 (1.00)

a. [+1.0]

REFERENCE:

1. P8172L-001, "CVCS", Objective 3, page 26
2. KA 004010A402 (3.6/3.1)

004010A402 ..(KA's)

ANSWER: 005 (1.00)

b. [+1.0]

REFERENCE:

1. P8170L-002, "Reactor Coolant Pumps", Objective 4, page 39.
2. KA 004000K304 (3.7/3.9), 004000K104 (3.4/3.8)

004000K104 004000K304 ..(KA's)

ANSWER: 006 (1.00)

b. [+1.0]

REFERENCE:

1. P8180L-006, "Engineered Safeguards System", Objective 5, page 22.
2. KA 013000K412 (3.7/3.9)

013000K412 ..(KA's)

ANSWER: 007 (1.00)

a. [+1.0]

REFERENCE:

1. Technical Specifications 3.8, "Refueling and Fuel Handling", page 3.8-1.
2. P8184L-002, "Nuclear Instrumentation System", Objective 18.
3. KA 015000K303 (2.7/3.4)

015000K303 ..(KA's)

ANSWER: 008 (1.00)

a. [+1.0]

REFERENCE:

1. P8170L-001A, "ICCM".
2. P8184L-001, "Nuclear Instrumentation Incore".
3. KA 017020K401 (3.4/3.7)

017020K401 ..(KA's)

ANSWER: 009 (1.00)

b. [+1.0]

REFERENCE:

1. P8170L-001A, "ICCM", Objective 2 & 6, page 33.
2. KA 017020A401 (3.8/4.1)

017020A401 ..(KA's)

ANSWER: 010 (1.00)

d. [+1.0]

REFERENCE:

1. P8174L-003, "Condensate and Feedwater", Objective 4, pages 23-24.
2. KA 056000K103 (2.6/2.6)

056000K103 ..(KA's)

ANSWER: 011 (1.00)

b. [+1.0]

REFERENCE:

1. P8174L-003, "Condensate and Feedwater", Objective 6, page 28.
2. KA 059000A411 (3.1/3.3)

059000A411 ..(KA's)

ANSWER: 012 (1.00)

b. [+1.0]

REFERENCE:

1. P8180L-007, "Auxiliary Feedwater System", Objective 3, page 15.
2. KA 061000K105 (2.6/2.8)

061000K105 ..(KA's)

ANSWER: 013 (1.00)

b. [+1.0]

REFERENCE:

1. P8180L-007, "Auxiliary Feedwater System", Objective 7, page 21.
2. C28.1, "Auxiliary Feedwater System", page 22.
3. KA 061000G009 (3.8/3.9)

061000G009 ..(KA's)

ANSWER: 014 (1.00)

b. [+1.0]

REFERENCE:

1. System Description B21B, "Liquid Waste System", page 34.
2. KA 068000K107 (2.7/2.9)
3. NOTE: No learning objective is given for this question due to lack of lesson plan for subject area.

068000K107 ..(KA's)

ANSWER: 015 (1.00)

a. [+1.0]

REFERENCE:

1. Technical Specifications 3.9.B.4, "Gaseous Radwaste Treatment and Ventilation Exhaust Treatment Systems", page TS.3.9-5.
2. KA 071000G011 (2.4/3.1)
3. NOTE: No learning objective is given for this question due to lack of lesson plan for subject area.

071000G011 ..(KA's)

ANSWER: 016 (1.00)

d. [+1.0]

REFERENCE:

1. System Description B11, "Radiation Monitoring", page 36.
2. P8182L-002, "Radiation Monitoring", Objective 4.
3. KA 072000G012 (3.4/3.4)

072000G012 ..(KA's)

ANSWER: 017 (1.00)

d. [+1.0]

REFERENCE:

1. P8180L-004, "Safety Injection System & Accumulators", Objective 9, page 49.
2. KA 006000K409 (3.8/4.1)

006000K409 ..(KA's)

ANSWER: 018 (1.00)

c. [+1.0]

REFERENCE:

1. P8180L-004, "Safety Injection System & Accumulators", Objective 12, page 62.
2. Technical Specification 3/3.A.1.b, "Accumulators", page 3.3-1.
3. KA 006000G005 (3.5/4.2), 006000G011 (3.6/4.2)

006000G011 006000G005 ..(KA's)

ANSWER: 019 (1.00)

b. [+1.0]

REFERENCE:

1. P8170L-006, "Pressurizer Level Control System", Objective 1, page 26.
2. KA 011000G009 (3.7/3.5)

011000G009 ..(KA's)

ANSWER: 020 (1.00)

c. [+1.0]

REFERENCE:

1. P8170L-006, "Pressurizer Level Control System", Objective 6, page 24.
2. KA 011000A101 (3.5/3.6)

011000A101 ..(KA's)

ANSWER: 021 (1.00)

d. [+1.0]

REFERENCE:

1. P8170L-006, "Pressurizer Level Control", Objective 3, pages 18-19.
2. KA 000028G011 (3.5/3.7)

000028G011 ..(KA's)

ANSWER: 022 (1.00)

a. [+1.0]

REFERENCE:

1. P8184L-004, "Reactor Protection", Objective 7, pages 26 and 36.
2. KA 012000K406 (3.2/3.5)

012000K406 ..(KA's)

ANSWER: 023 (1.00)

c. [+1.0]

REFERENCE:

1. P8184L-003, "Reactor Process Instrumentation System", Objective 8, page 19.
2. KA 012000K611 (2.9/2.9)

012000K611 ..(KA's)

ANSWER: 024 (1.00)

d. [+1.0]

REFERENCE:

1. P8184L-005, "Rod Control & Rod Position Indication", Objective 9.
2. Technical Specifications 3.10.G., "Control Rod Operability Limitations", page 3.10-7.
3. KA 014000G011 (3.0/3.9)

014000G011 ..(KA's)

ANSWER: 025 (1.00)

d. [+1.0]

REFERENCE:

1. Technical Specification 3.10.F, "Inoperable Rod Position Indicator Channels", page 3.10-6.
2. P8184L-005, "Rod Control & Rod Position Indication", Objective 9.
3. KA 014000G005 (3.1/3.7)

014000G005 ..(KA's)

ANSWER: 026 (1.00)

d. [+1.0]

REFERENCE:

1. FR-I.3, "Response To Voids In Reactor Vessel", pages 5-6.
2. System Description, "Reactor Vessel Level Instrumentation System", page 7.
3. P8170L-001A, "ICCM", Objective 4.
4. KA 016000G015 (3.6/3.8), 016000K101 (3.4/3.4)

016000K101 016000G015 ..(KA's)

ANSWER: 027 (1.00)

b. [+1.0]

REFERENCE:

1. P8184L-003, "Reactor Process Instrumentation System", Objective 4, page 14.
2. KA 016000A201 (3.0/3.1)

016000A201 ..(KA's)

ANSWER: 028 (1.00)

d. [+1.0]

REFERENCE:

1. C16 AOP1, "Loss Of SFP Inventory", page 4.
2. P8182L-004, "Spent Fuel Pool Cooling System", Objective 5, page 19.
3. KA 033000A203 (3.1/3.5)

033000A203 ..(KA's)

ANSWER: 029 (1.00)

c. [+1.0]

REFERENCE:

1. P8182L-004, "Spent Fuel Pool Cooling System", Objective 4, page 17.
2. KA 033000K402 (2.5/2.7)

033000K402 ..(KA's)

ANSWER: 030 (1.00)

c. [+1.0]

REFERENCE:

1. P8174L-006, "Steam Generator Level Control System", Objective 5, page 15.
2. KA 035010K401 (3.6/3.8)

035010K401 ..(KA's)

ANSWER: 031 (1.00)

b. [+1.0]

REFERENCE:

1. P8186L-008, "4160, 480, 120 VAC Instrument Safeguards Distribution", Objective 3.
2. C20.5 AOP1.
3. KA 062000K407 (2.7/3.1)

062000K407 ..(KA's)

ANSWER: 032 (1.00)

a. [+1.0]

REFERENCE:

1. P8186L-008, "4160, 480, 120 VAC Instrument Safeguards Distribution", Objective 9, pages 20 & 21.
2. KA 000056A106 (3.6/3.6)

000056A106 ..(KA's)

ANSWER: 033 (1.00)

a. [+1.0]

REFERENCE:

1. P8186L-005, "DC Distribution", Objective 5, page 21.
2. KA 063000G007 (3.0/3.2)

063000G007 ..(KA's)

ANSWER: 034 (1.00)

a. [+1.0]

REFERENCE:

1. P8186L-004, "Diesel Generator", Objective 7, page 19.
2. KA 064000A202 (2.7/2.9)

064000A202 ..(KA's)

ANSWER: 035 (1.00)

d. [+1.0]

REFERENCE:

1. P8186L-004, "Diesel Generators", Objective 7, page 30.
2. KA 064000A401 (4.0/4.3)

064000A401 ..(KA's)

ANSWER: 036 (1.00)

c. [+1.0]

REFERENCE:

1. System Description B21B, "Liquid Waste System", page 21.
2. P8182L-002, "Radiation Monitoring System", Objective 5, page 32.
3. KA 073000K401 (4.0/4.3)

073000K401 ..(KA's)

ANSWER: 037 (1.00)

b. [+1.0]

REFERENCES:

1. P8178L-002, "Fire Protection System", Objective 2 & 7.
2. System Description B-31A, "Fire Protection System", page 6.
3. KA 086000G004 (3.1/3.3)

086000G004 ..(KA's)

ANSWER: 038 (1.00)

b. [+1.0]

REFERENCE:

1. P8180L-003, "Residual Heat Removal System", Objective 6, pages 35.
2. KA 005000K407 (3.2/3.5)

005000K407 ..(KA's)

ANSWER: 039 (1.00)

a. [+1.0]

REFERENCE:

1. 2C14.2 AOP, "Leakage Into The Component Cooling System", Table 1, page 5.
2. P8172L-002, "Component Cooling", Objective 6.
3. KA 000026A201 (2.9/3.5)

000026A201 ..(KA's)

ANSWER: 040 (1.00)

c. [+1.0]

REFERENCE:

1. P8180L-008, "Containment Hydrogen Control", Objectives 3 & 4, page 13.
2. KA 028000K502 (3.4/3.9)

028000K502 ..(KA's)

ANSWER: 041 (1.00)

c. [+1.0]

REFERENCE:

1. P8174L-002, "Steam Dump Control System", Objective 3 & 8, page 14.
2. KA 041020A408 (3.0/3.1)

041020A408 ..(KA's)

ANSWER: 042 (1.00)

a. [+1.0]

REFERENCE:

1. P8186L-001, "Main Generator and 20 KV Disconnects", Objective 3, page 30.
2. KA 045000A304 (3.4/3.6)

045000A304 ..(KA's)

ANSWER: 043 (1.00)

b. [+1.0]

REFERENCE:

1. C34 AOP1, "Loss Of Instrument Air", page 2.
2. P8178L-005, "Instrument And Station Air", Objective 3.
3. KA 078000K303 (3.0/3.4)

078000K303 ..(KA's)

ANSWER: 044 (1.00)

c. [+1.0]

REFERENCE:

1. C5, "Control Rod Drive System", page 13.
2. P8184L-005, "Rod Control & Rod Position Indication", Objective 12.
3. KA 000005A203 (3.5/4.4)

000005A203 ..(KA's)

ANSWER: 045 (1.00)

b. [+1.0]

REFERENCE:

1. Technical Specification Bases 3.10.D, "Rod Insertion Limits", page B.3.10-8.
2. KA 000005K302 (3.6/4.2)

000005K302 ..(KA's)

ANSWER: 046 (1.00)

d. [+1.0]

REFERENCE:

1. 1C3.1, "Reactor Coolant Pump Emergency Operation", page 10.
2. P8170L-002, "Reactor Coolant Pumps", Objective 6.
3. KA 000015A122 (4.0/4.2)

000015A122 ..(KA's)

ANSWER: 047 (1.00)

c. [+1.0]

REFERENCE:

1. 1ES-0.1, "Reactor Trip Recovery, Attachment "A".
2. P8197L-011, "E-0 Review", Objective C.11.
3. KA 000015A121 (4.4/4.5)

000015A121 ..(KA's)

ANSWER: 048 (1.00)

c. [+1.0]

REFERENCE:

1. C12.5 AOP 1, "Emergency Boration Of The Reactor Coolant System", page 2.
2. P8172L-001A, "CVCS", Objective 8.
3. KA 000024K302 (4.2/4.4)

000024K302 ..(KA's)

ANSWER: 049 (1.00)

a. [+1.0]

REFERENCE:

1. 1FR-S.1, "Response To Nuclear Power Generation/ATWS", page 4.
2. P8197L-014, "F/FR Review", Objective 6.
3. KA 000024A202 (3.9/4.4)

000024A202 ..(KA's)

ANSWER: 050 (1.00)

d. [+1.0]

REFERENCE:

1. P8170L-005, "Pressurizer Pressure Control", Objective 4, page 30.
2. KA 000027A101 (4.0/3.9)

000027A101 ..(KA's)

ANSWER: 051 (1.00)

b. [+1.0]

REFERENCE:

1. "Background Information For E-2, Faulted Steam Generator Isolation", page 1.
2. P8197L-012, "E-1/E-2 Review", Objective 23.
3. KA 000040K304 (4.5/4.7)

000040K304 ..(KA's)

ANSWER: 052 (1.00)

d. [+1.0]

REFERENCE:

1. 1ECA-2.1, "Uncontrolled Depressurization Of Both Steam Generators", page 5.
2. "Background Information For Uncontrolled Depressurization Of Both Steam Generators", page 3.
3. P8197L-012, "E-1/E-2 Review", Objective 22.
4. KA 000040G007 (3.3/3.6)

Note: Reference material gives this information in both feet and gallons depending on the source. This question is designed to determine candidate's knowledge of this limit, the reason for the limit, and how the indications are read to determine if the limit has been exceeded.

000040G007 ..(KA's)

ANSWER: 053 (1.00)

b. [+1.0]

REFERENCE:

1. Figure C1-20, "Allowable Back Pressure Operating Region".
2. Annunciator Response Procedure C47008-0209, "Condenser Hi Pressure".
3. P8174L-005, "Main Turbine", Objectives 5 & 6.
4. KA 000051A202 (3.9/4.1)

000051A202 ..(KA's)

ANSWER: 054 (1.00)

d. [+1.0]

REFERENCE:

1. 1ECA-0.0, "Loss Of All AC Power", page 3.
2. P8197L-011, "E-0 Review", Objective 19.
3. KA 000055G011 (4.1/4.1)

000055G011 ..(KA's)

ANSWER: 055 (1.00)

b. [+1.0]

REFERENCE:

1. P8197L-011, "E-0 Review", Objective 22.
2. "Background Information For 1ECA-0.0, "Loss Of All AC Power", page 5.
3. KA 000055K302 (4.3/4.6)

000055K302 ..(KA's)

ANSWER: 056 (1.00)

c. [+1.0]

REFERENCE:

1. System Description B20.8, "Instrument AC Distribution System", Figure B20.8-1.
2. P8186L-008, "4160, 480, 120 VAC Instrument Safeguard Dist.", Objective 15.
3. KA 000057A214 (3.2/3.6)

000057A214 ..(KA's)

ANSWER: 057 (1.00)

a. [+1.0]

REFERENCE:

1. F5, "Fire Fighting", page 5.
2. P8178L-002, "Fire Protection System", Objective 5.
3. KA 000067K102 (3.1/3.9)

000067K102 ..(KA's)

ANSWER: 058 (1.00)

d. [+1.0]

REFERENCE:

1. Facility Exam Bank Question Tab #91, page 3.
2. F5, "Fire Fighting", Appendix D, page 16.
3. KA 000067A204 (3.1/4.3)

000067A204 ..(KA's)

ANSWER: 059 (1.00)

d. [+1.0]

REFERENCE:

1. Facility Exam Bank Question Tab #91, page 1.
2. F5, "Fire Fighting", Appendix B, page 30.
3. KA 000068K318 (4.2/4.5)

000068K318 ..(KA's)

ANSWER: 060 (1.00)

a. [+1.0]

REFERENCE:

1. Technical Specification 3.6, "Containment System", page 3.6-1.
2. P8180L-001, "Containment System", Objective 2.
3. KA 000069A201 (3.7/4.3)

000069A201 ..(KA's)

ANSWER: 061 (1.00)

d. [+1.0]

REFERENCE:

1. 1F-0.2, "Core Cooling", page 1.
2. P8197L-014, "F/FR Review", Objective 9.
3. KA 000074G011 (4.5/4.6)

000074G011 ..(KA's)

ANSWER: 062 (1.00)

d. [+1.0]

REFERENCE:

1. C5, "Control Rod Drive System", page 19.
2. P8184L-005, "Rod Control & Rod Position Indication", Objective 12.
3. KA 000001G010 (3.9/4.0)

000001G010 ..(KA's)

ANSWER: 063 (1.00)

b. [+1.0]

REFERENCE:

1. 1E-0, "Reactor Trip Or Safety Injection", page 3.
2. P8197L-011, "E-0 Review", Objective A.3.
3. KA 000007K301 (4.0/4.6), 000007A202 (4.3/4.6)

000007A202 000007K301 ..(KA's)

ANSWER: 064 (1.00)

c. [+1.0]

REFERENCE:

1. EOP-0, "Reactor Trip Or Safety Injection", Information page.
2. P8197L-014, "F/FR Review", Objective 15.
3. KA 000007G012 (3.8/3.9)

000007G012 ..(KA's)

ANSWER: 065 (1.00)

b. [+1.0]

REFERENCE:

1. Facility Exam Bank Question Tab #93, page 1.
2. "Background Information For 1E-0, "Reactor Trip Or Safety Injection", Step 15, page 4.
3. KA 000008A220 (3.4/3.6)

000008A220 ..(KA's)

ANSWER: 066 (1.00)

a. [+1.0]

REFERENCE:

1. 1E-1, "Loss Of Reactor Or Secondary Coolant", Information Page.
2. P8197L-012, "E-1/E-2 Review", Objective 5.
3. KA 000009A215 (3.3/3.4)

000009A215 ..(KA's)

ANSWER: 067 (1.00)

a. [+1.0]

REFERENCE:

1. 1E-1, "Loss Of Reactor Or Secondary Coolant", Information Page.
2. P8197L-011, "E-0 Review", Objective 12.
3. KA 000009A234 (3.6/4.2)

000009A234 ..(KA's)

ANSWER: 068 (1.00)

a. [+1.0]

REFERENCE:

1. P8197L-014, "F/FR Review", Objective 10.
2. P8197L-010, "EOP Intro-Procedure Review", Objective 4, page 21.
3. KA 000011G012 (4.0/4.1)

000011G012 ..(KA's)

ANSWER: 069 (1.00)

d. [+1.0]

REFERENCE:

1. Facility Exam Bank Tab #93, page 22.
2. "Background Information For 1ES-1.1, page 6.
3. KA 000011K312 (4.4/4.6)

000011K312 ..(KA's)

ANSWER: 070 (1.00)

b. [+1.0]

REFERENCE:

1. 1E-4, "Core Cooling Following Loss of RHR Flow", pages 2 & 3.
2. P9170L-001, "RCS Reduced Inventory Operation", pages 46 & 47.
3. KA 000025G011 (3.6/3.9)

000025G011 ..(KA's)

ANSWER: 071 (1.00)

a. [+1.0]

REFERENCE:

1. P9170L-001, "RCS Reduced Inventory Operation", Objective 3.
2. Fig C1-31, "Boiling Curve".

   Note: This question reveals if the candidate is sufficiently sensitive to the issue of loss of RHR, and the very short time frame available to respond to same. Industry events have occurred where RHR has been lost at reduced inventory, and one key issue is the operators were often not aware how little time was available until saturation was reached in the core. The question does not require detailed knowledge of the saturation vs. time curve due to the very large time frame of the incorrect distractors....
3. KA 000025K101 (3.9/4.3)

000025K101 ..(KA's)

ANSWER: 072 (1.00)

d. [+1.0]

REFERENCE:

1. "Background Information For 1FR-S.1, Response To Nuclear Power Generation/ATWS", page 1.
2. P8197L-014, "F/FR Review", Objective 7.
3. KA 000029K306 (4.2/4.3)

000029K306 ..(KA's)

ANSWER: 073 (1.00)

b. [+1.0]

REFERENCE:

1. 1FR-S.1, "Response To Nuclear Power Generation/ATWS", page 3.
2. P8197L-014, "F/FR Review", Objective 6.
3. KA 000029A114 (4.2/3.9)

000029A114 ..(KA's)

ANSWER: 074 (1.00)

a. [+1.0]

REFERENCE:

1. "Background Information For 1FR-S.1, "Response To Nuclear Power Generation/ATWS", Step 12, page 4.
2. P8197L-014, "F/FR Review", Objective 3, 7, & 8.
3. KA 000029K312 (4.4/4.7)

Note: This question is designed to determine if the candidate knows that RCS heatup is the final option available if all other methods of reactivity control is NOT available. Distractor "a" is the only viable option without severely impacting recovery actions.

000029K312 ..(KA's)

ANSWER: 075 (1.00)

a. [+1.0]

REFERENCE:

1. P8184L-002, "Nuclear Instrumentation System", Objective 6, page 15.
2. KA 000032K201 (2.7/3.1)

000032K201 ..(KA's)

ANSWER: 076 (1.00)

c. [+1.0]

REFERENCE:

1. P8184L-002, "Nuclear Instrumentation", Objective 16, page 55.
2. KA 000033A211 (3.1/3.4), 000033G009 (2.9/3.0)

000033G009 000033A211 ..(KA's)

ANSWER: 077 (1.00)

a. [+1.0]

REFERENCE:

1. 1E-3, "Steam Generator Tube Rupture", page 3.
2. P8197L-013, "E-3 Series Review", Objective 1 & 6.
3. KA 000037A203 (4.4/4.6)

000037A203 ..(KA's)

ANSWER: 078 (1.00)

b. [+1.0]

REFERENCE:

1. P8197L-013, "E-3 Series Review", Objective 7, page 19.
2. KA 000038G007 (3.6/3.8)

000038G007 ..(KA's)

ANSWER: 079 (1.00)

b. [+1.0]

REFERENCE:

1. 1E-3 "Steam Generator Tube Rupture", page 8.
2. P8197L-013, "E-3 Series Review", Objective 6.
3. KA 000038A136 (4.3/4.5)

000038A136 ..(KA's)

ANSWER: 080 (1.00)

b. [+1.0]

REFERENCE:

1. P8197L-014, "F/FR Review", Objective 16.
2. 2FR-H.1, "Response To Loss of Secondary Heat Sink", pages 3 & 8.
3. KA 000054G011 (3.4/3.3)

000054G011 ..(KA's)

ANSWER: 081 (1.00)

b. [+1.0]

REFERENCE:

1. C20.9 AOP2, "Loss Of One Train Of DC", page 3.
2. P8186L-005, "DC Distribution", Objective 7.
3. KA 000058G006 (3.4/3.8), 000058A203 (3.5/3.9)

000058A203 000058G006 ..(KA's)

ANSWER: 082 (1.00)

c. [+1.0]

REFERENCE:

1. Facility Exam Bank Question Tab #41, page 4.
2. D5.2 AOP3, "Decreasing Refueling Water Level During Refueling", page 3.
3. KA 000036G010 (3.7/3.8)

000036G010 ..(KA's)

ANSWER: 083 (1.00)

d. [+1.0]

REFERENCE:

1. C34 AOP1, "Loss Of Instrument Air", page 7.
2. P8178L-005, "Instrument And Station Air", Objective 2.
3. KA 000065A208 (2.9/3.3)

000065A208 ..(KA's)

ANSWER: 084 (1.00)

b. [+1.0]

REFERENCE:

1. 5ACD 3.18, "Fitness For Duty Program", page 20.
2. KA 194001K105 (3.1/3.4)

194001K105 ..(KA's)

ANSWER: 085 (1.00)

c. [+1.0]

REFERENCE:

1. 5ACD, "Work Control", page 3.
2. KA 194001A110 2.9/3.9)

194001A110 ..(KA's)

ANSWER: 086 (1.00)

a. [+1.0]

REFERENCE:

1. F1, "Confined Space Entry", page 4.
2. KA 194001K114 (3.3/3.6)

194001K114 ..(KA's)

ANSWER: 087 (1.00)

a. [+1.0]

REFERENCE:

1. F1, "Confined Space Entry", page 27.
2. KA 194001K113 (3.3/3.6)

194001K113 ..(KA's)

ANSWER: 088 (1.00)

b. [+1.0]

REFERENCE:

1. F2, "Radiation Safety", page 42.
2. KA 194001A112 (3.1/4.1)

194001A112 ..(KA's)

ANSWER: 089 (1.00)

b. [+1.0]

REFERENCE:

1. F2, "Radiation Safety", page 18.
2. KA 194001K103 (2.8/3.4)

194001K103 ..(KA's)

ANSWER: 090 (1.00)

d. [+1.0]

REFERENCE:

1. "Prairie Island Nuclear Generating Plant Safety Manual", page 48.
2. KA 194001K111 (3.4/3.5)

194001K111 ..(KA's)

ANSWER: 091 (1.00)

c. [+1.0]

REFERENCE:

1. "Prairie Island Nuclear Generating Plant Safety Manual", page 65.
2. KA 194001K108 (3.5/3.4)

194001K108 ..(KA's)

ANSWER: 092 (1.00)

c. [+1.0]

REFERENCE:

1. F2, "Radiation Safety", page 16.
2. KA 194001K104 (3.3/3.5)

194001K104 ..(KA's)

ANSWER: 093 (1.00)

c. [+1.0]

REFERENCE:

1. F2, "Radiation Safety", page 24.
2. KA 194001K104 (3.3/3.5), 194001K103 (2.8/3.4)

194001K103 194001K104 ..(KA's)

ANSWER: 094 (1.00)

c. [+1.0]

REFERENCE:

1. F5, "Fire Fighting", page 12.
2. KA 194001K116 (3.5/4.2)

194001K116 ..(KA's)

ANSWER: 095 (1.00)

b. [+1.0]

REFERENCE:

1. P9150L-007, "Independent Verification", Objective 4, page 16.
2. KA 194001K101 (3.6/3.7)

194001K101 ..(KA's)

ANSWER: 096 (1.00)

a. [+1.0]

REFERENCE:

1. P9150L-006, "Tagging", Objective 2, page 16.
2. KA 194001K102 (3.7/4.1)

194001K102 ..(KA's)

ANSWER: 097 (1.00)

c. [+1.0]

REFERENCE:

1. P9150L-006, "Tagging", Objective 6, page 28.
2. KA 194001K102 (3.7/4.1)

194001K102 ..(KA's)

ANSWER: 098 (1.00)

d. [+1.0]

REFERENCE:

1. P9150L-011, "Reporting", Objective 5, page 24.
2. KA 194001A116 (3.1/4.4)

194001A116 ..(KA's)

ANSWER: 099 (1.00)

c. [+1.0]

REFERENCE:

1. P9159L-004, "Plant & Shift Organization", Objective 5, page 28-29.
2. KA 194001A103 (2.5/3.4)

194001A103 ..(KA's)

ANSWER: 100 (1.00)

b. [+1.0]

REFERENCE:

1. P8197L-010, "EOP Intro-Procedure Review", Objective 2, page 15.
2. KA 194001A102 (4.1/3.9)

194001A102 ..(KA's)

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

A N S W E R K E Y

MULTIPLE CHOICE

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

A N S W E R K E Y

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

A N S W E R K E Y

092 c

093 c

094 c

095 b

096 a

097 c

098 d

099 c

100 b

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

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
REACTOR OPERATOR LICENSE
REGION 3

CANDIDATE'S NAME: _____

FACILITY: Prairie Island 1 & 2

REACTOR TYPE: PWR-WEC2

DATE ADMINISTERED: 94/05/09

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	%
100.00	_____	___ % TOTALS

FINAL GRADE

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

_____
Candidate's Signature

MASTER COPY

A N S W E R S H E E T

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

A N S W E R S H E E T

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	___

A N S W E R S H E E T

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 sheet provided. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.

7. Before you turn in your examination, consecutively number each answer sheet, including any additional pages inserted when writing your answers on the examination question page.

8. Use abbreviations only if they are commonly used in facility literature. Avoid using symbols such as < or > signs to avoid a simple transposition error resulting in an incorrect answer. Write it out.

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

10. Show all calculations, methods, or assumptions used to obtain an answer to any short answer questions.

11. Partial credit may be given except on multiple choice questions. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWER BLANK.

12. Proportional grading will be applied. Any additional wrong information that is provided may count against you. For example, if a question is worth one point and asks for four responses, each of which is worth 0.25 points, and you give five responses, each of your responses will be worth 0.20 points. If one of your five responses is incorrect, 0.20 will be deducted and your total credit for that question will be 0.80 instead of 1.00 even though you got the four correct answers.

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

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

15. Ensure all information you wish to have evaluated as part of your answer is on your answer sheet. Scrap paper will be disposed of immediately following the examination.

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

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

18. 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)

At 100% power in Unit 1, Tref has FAILED to 547 degrees F, WHICH ONE (1) of the following failures would be the cause?

a. Loop A T hot RTD has an open circuit.

b. Loop A T hot RTD has a short circuit.

c. First stage turbine pressure transmitter (PT-485) fails to 600 psig.

d. First stage turbine pressure detector (PT-485) sensing line is sheared.

QUESTION: 002 (1.00)

The following conditions exist:

1. Unit 1 is at 100% power.
2. Control rods are in AUTOMATIC control.

WHICH ONE (1) of the following will prevent automatic OUTWARD movement of Bank "D" rods?

a. Turbine Impulse pressure channel (PT-485) fails to 0 psig.

b. Control Bank "D" rods are at 210 steps.

c. Two (2) highest NIs indicate 102% power.

d. Loop "B" Thot fails to 620 degrees F.

QUESTION: 003 (1.00)

WHICH ONE (1) of the following would be lost if the feeder breaker to 480V Bus 130 tripped OPEN?

a. Reactor Pressurizer Proportional Heaters

b. #12 Boric Acid Transfer Pump

c. #11 Motor Driven Cooling Water Pump

d. #11 Rod Drive Motor Generator (MG)

QUESTION: 004 (1.00)

WHICH ONE (1) of the following conditions would allow Seal Water Injection to be ISOLATED to a Reactor Coolant pump (RCP) per C3, "Reactor Coolant Pump"?

a. The PRZR has a bubble and RCS pressure is 490 psig.

b. The PRZR is solid and RCS temperature is 140 degrees F.

c. RCP #1 seal leakoff is five (5) gpm and CC Water flow is 100 gpm to the RCP.

d. RCP #1 seal leakoff is seven (7) gpm and CC Water flow is 200 gpm to the RCP.

QUESTION: 005 (1.00)

The following plant conditions exist:

1. The reactor is at 18% power.
2. RCP #11 has the following parameters:

   * Vibration is 3.5 mils.
   * Lower Radial bearing water temperature is 205 degrees F.
   * Seal injection flow is 9 gpm.
   * #1 Seal outlet temperature is 215 degrees F.
   * #1 seal delta-p greater than 400 psid.
   * #1 seal leakoff flow is 5.8 gpm.
   * Thermal barrier cooling flow is 40 gpm.
   * VCT pressure is 20 psig.

WHICH ONE (1) of the following actions is the FIRST corrective action per applicable plant procedures?

a. Trip the Reactor.

b. Increase seal injection flow.

c. Increase CC Water flow.

d. Close 11 RCP #1 seal leakoff isolation valve.

QUESTION: 006 (1.00)

The following conditions exist:

1. Unit 1 is in COLD SHUTDOWN at 165 degrees F.
2. Both RCPs are stopped.
3. The RCS is water solid at 385 psig.

WHICH ONE (1) of the following conditions would PREVENT starting the RCPs?

a. The RCS temperature is 40 degrees F lower than 11 and 12 SG temperatures.

b. 11 and 12 RCP #1 seal leakoff flows are 0.5 gpm.

c. RCP #1 seal injection flow of 6 gpm was initiated one (1) hour ago when pressurizing the RCS.

d. #1 RCP seal differential pressure is 340 psig.

QUESTION: 007 (1.00)

The following plant conditions exist:

1. Unit 1 is in COLD SHUTDOWN.
2. RCS pressure is floating on the PRT at 6 psig.
3. Operators are attempting to place Letdown in service.
4. Charging pumps have been tagged out to allow inspection of all charging pumps.
5. Pressurizer level indicates 35% on LT-428 (Blue).
6. Pressurizer level transmitter LT-426 (Red) is failed HIGH due to calibrations in progress.
7. PRZR level control selector switch is in position 2-3 (White-Blue).
8. CCW is isolated to the Letdown heat exchanger.

WHICH ONE (1) of the following describes the reason operators are UNABLE to place Letdown in service?

a. Letdown Orifice valves are interlocked CLOSED due to charging pumps being tagged out for maintenance.

b. One (1) Letdown Isolation valve is interlocked CLOSED due to failed Pressurizer level transmitter.

c. Letdown Orifice valves are interlocked CLOSED due to LOW RCS pressure.

d. BOTH Letdown Isolation valves are interlocked CLOSED due to lack of CCW flow to the Letdown heat exchanger.

QUESTION: 008 (1.00)

WHICH ONE (1) of the following is the reason for the MINIMUM pressure limit on the VCT during normal power operation?

a. To ensure adequate hydrogen concentration in the RCS coolant.

b. To ensure adequate flow to the #2 RCP seals.

c. To ensure adequate #1 seal leak off flow.

d. To ensure proper makeup flow during dilution operations.

QUESTION: 009 (1.00)

The following conditions exist:

1. Unit 1 has tripped due to a spurious SI actuation.
2. RCS pressure is 2100 psig.

WHICH ONE (1) of the following is used to allow another automatic SI actuation following the MANUAL reset of an automatic SI?

a. Manually blocking SI from the control board.

b. Placing the SI actuation trains in the TEST position.

c. Reset the Reactor Trip breakers.

d. The "seal-in" feature of the reset circuitry.

QUESTION: 010 (1.00)

WHICH ONE (1) of the following Safety Injection Actuation Signals CANNOT be BLOCKED?

a. Steam line low pressure

b. High Containment pressure

c. Low Pressurizer pressure

d. High steam line flow

QUESTION: 011 (1.00)

The following conditions exist:

1. Source Range Instrument N31 is out of service.
2. Source Range Instrument N32 is in service with its associated audible indication in containment OPERABLE.
3. Core alterations are in progress.
4. NFM channels N51 and N52 are out of service.

WHICH ONE (1) of the following Technical Specification Action Statements shall be implemented?

a. Suspend all operations involving fuel movement in the core.

b. Emergency borate the RCS until Keff is less than or equal to 0.90.

c. Immediately evacuate the refueling area until the audible alarm from N31 is returned to service.

d. Establish continuous monitoring of the serviceable N32 detector.

QUESTION: 012 (1.00)

WHICH ONE (1) of the following systems receives an input from the Power Range Nuclear Instrumentation?

a. Feedwater Isolation Signal

b. P-6 Permissive

c. Steam Generator Water Level Control System

d. P-10 Permissive

QUESTION: 013 (1.00)

WHICH of the following signals are used by ICCM to determine RCS subcooling?

a. Average of Incore Thermocouples and RCS Wide Range pressure.

b. Average of Incore Thermocouples and RCS Narrow Range pressure.

c. Five (5) HIGHEST Incore Thermocouples and RCS Wide Range pressure.

d. Five (5) HIGHEST Incore Thermocouples and RCS Narrow Range pressure.

QUESTION: 014 (1.00)

WHICH ONE (1) of the following is the MAXIMUM valid core exit temperature capable of being indicated by the core exit thermocouples (T/Cs)?

a. 2000 degrees F.

b. 2300 degrees F.

c. 2600 degrees F.

d. 2900 degrees F.

QUESTION: 015 (1.00)

WHICH ONE (1) of the following supplies cooling to the Containment Fan Coil Units during accident conditions following a SI signal?

a. Chilled Water System

b. Component Cooling Water System

c. Circulating Water System

d. Cooling Water System

QUESTION: 016 (1.00)

WHICH ONE (1) of the following conditions will prevent the start of a Main Feedwater pump?

a. Lube oil pressure is 15 psig.

b. Suction pressure is 250 psig.

c. Recirculation valve is FULL open.

d. NO Condensate pumps are running.

QUESTION: 017 (1.00)

The following conditions exist:

1. Unit 2 has tripped due to Pressurizer low pressure.
2. Steam Generator high level has caused a Feedwater Isolation.
3. The Steam Generator levels have been returned to their normal band and operators desire to restore feedwater.

WHICH ONE (1) of the following actions is required to OPEN Main Feedwater Regulating Valve (FRV) valves?

a. Open FRV Bypass valves.

b. Re-close Reactor Trip breakers.

c. Depress MANUAL reset pushbuttons for each valve.

d. Block SI actuation.

QUESTION: 018 (1.00)

WHICH ONE (1) of the following conditions will AUTOMATICALLY close Main Feedwater Pump #11 Discharge Motor Operated (MOV) valve (MV-32324)?

a. Steam generator NR level is 65% in "A" Steam Generator and MV-32324 control switch in LOCAL.

b. 11 Main Feedwater Pump seal water pressure is 295 psig and MV-32324 control switch in REMOTE.

c. 11 Main Feedwater Pump feeder breaker OPENS and MV-32324 control switch is in REMOTE.

d. 11 Main Feedwater Pump suction pressure is 218 psig and MV-32324 control switch is in LOCAL.

QUESTION: 019 (1.00)

WHICH ONE (1) of the following will result from CLOSED drain line valves from 11 TD AFW Pump Turbine?

a. Thermal stress cracking of pump casing due to buildup of cool condensate.

b. Turbine overspeed due to steam flow replacing condensate flow through the governor valve.

c. Pump failure due to buildup of condensate plugging steam lines.

d. Corrosion of governor parts due to condensate passing through the governor valve.

QUESTION: 020 (1.00)

WHICH ONE (1) of the following Unit 1 Motor Driven Auxiliary Feedwater pump trips can be BYPASSED and how is it be done?

a. Low Discharge pressure by CLOSING knife switch 1 in 4160 volt cubicle 16-1.

b. Low Suction pressure by OPENING knife switch 1 in 4160 volt cubicle 16-1.

c. Low Discharge pressure by OPENING Instrument Air Isolation Valve, AF-292-1.

d. Low Suction pressure by CLOSING Instrument Air Isolation Valve, AF-292-1.

QUESTION: 021 (1.00)

WHICH ONE (1) of the following NORMALLY discharges to the Reactor Coolant Drain Tank (RCDT)

a. RCP #1 Seal leakoff

b. RCP #2 Seal leakoff

c. RHR relief valve discharge

d. Excess Letdown Heat Exchanger discharge

QUESTION: 022 (1.00)

The following condition exists:

1. Unit 1 Waste Gas Decay Tank #127 is being vented to the atmosphere.

WHICH ONE (1) of the following will AUTOMATICALLY close Waste Gas flow control valve CV-31271?

a. BOTH Sample Room Exhaust Fans #121 and #122 trip.

b. BOTH Waste Gas Compressors #121 and #122 trip.

c. Rad Waste Building Radiation Monitor R-35 HIGH alarm trip.

d. Waste Gas High Level Loop Monitor R-41 HIGH alarm trip.

QUESTION: 023 (1.00)

WHICH ONE (1) of the following is indicated by the red RANGE light being illuminated on 1R-61 Steam Line Area Radiation Monitor channel in the Rod Drive Room?

a. Radiation level exceeds the alarm setpoint.

b. No output is being received from the detector.

c. Check source pushbutton is depressed.

d. Radiation level is less than 0.1 mR/hr.

QUESTION: 024 (1.00)

WHICH ONE (1) of the following RCS penetrations is in the Loop "B" Cold Leg?

a. Pressurizer surge line

b. RHR suction line

c. Pressurizer spray line

d. Excess letdown line

QUESTION: 025 (1.00)

At 100% power, WHICH of the following off scale values of RVLIS would be expected?

	Full Range	Upper Range
a.	LOW	LOW
b.	LOW	HIGH
c.	HIGH	LOW
d.	HIGH	HIGH

QUESTION: 026 (1.00)

The following plant conditions exist:

1. Unit 2 has tripped from 100% power.
2. Safety Injection has actuated.
3. Train "A" and "B" Safety Injection have been RESET.
4. BAST level is 10%.
5. RWST level indicates 30%.
6. AUTOMATIC swap over of SI suction to the RWST has NOT occurred.

WHICH ONE (1) of the following is the reason AUTOMATIC swap over of SI suction to the RWST has NOT occurred?

a. RWST level is less than thirty three (33%) percent.

b. Train "A" and "B" Safety Injection have been RESET.

c. CI has not been RESET.

d. BAST level is not less than four (4%) percent.

QUESTION: 027 (1.00)

The following conditions exist:

1. Operators are attempting to restore letdown from the Hot Shutdown (HSD) Panel following isolation due to the PRZR LOW level interlock.
2. Current pressurizer level indicates 19% on LT-433.

WHICH of the following is the MINIMUM action(s) that must be completed to enable restoration of letdown?

a. Raise pressurizer level to greater than 24.8% as read on LT-433.

b. Depress ~~reset~~ pushbuttons on the side of the HSD Panel for 25 seconds.

c. Isolate Instrument air to the Letdown Isolation valves.

d. Select LOCAL on the Letdown Isolation valve control switches.

QUESTION: 028 (1.00)

The following conditions exist:

1. Unit 1 is at 100% power.
2. The controlling Pressurizer Level Channel has failed HIGH.

WHICH ONE (1) of the following will result from this failure? Assume NO operator actions.

a. Actual Pressurizer level will increase due to MAXIMUM charging flow and the Reactor will trip on HIGH Pressurizer level.

b. Actual Pressurizer level will decrease due to reduced charging flow and the Reactor will trip on LOW Pressurizer pressure.

c. Actual Pressurizer level will initially decrease, then increase until the Reactor trips on HIGH Pressurizer level.

d. Actual Pressurizer level will initially increase until PORVs open, then decrease due to loss of RCS inventory until the Reactor trips on LOW Pressurizer pressure.

QUESTION: 029 (1.00)

The following conditions exist:

1. Unit 1 is operating at 100% power.
2. Pressurizer Level Control Transfer switch is in Position 1-3 (Red-Blue).
3. Pressurizer Level transmitter LT-428 (Blue) has failed HIGH.
4. Actual pressurizer level decreases from 20% to 13% on LT-426 (Red) and LT-427 (White).

WHICH ONE (1) of the following describes the expected condition of the Letdown Isolation valves?

	LCV-427	LCV-428
a.	OPEN	OPEN
b.	CLOSED	CLOSED
c.	OPEN	CLOSED
d.	CLOSED	OPEN

QUESTION: 030 (1.00)

WHICH ONE (1) of the following Reactor Protection System trip functions is AUTOMATICALLY blocked as Reactor Power decreases from 50% to 5%?

a. Pressurizer HIGH level

b. Power Range Hi Flux Hi Setpoint

c. Pressurizer HIGH pressure

d. Power Range Hi Flux positive rate

QUESTION: 031 (1.00)

The following conditions exist:

1. Unit 1 is operating at 100% power.
2. RCS pressure is increased from 2185 psig to 2235 psig.

WHICH ONE (1) of the following conditions will result from this INCREASE in RCS pressure?

a. OP Delta T Reactor Trip setpoint will INCREASE.

b. OP Delta T Reactor Trip setpoint will DECREASE.

c. OT Delta T Reactor Trip setpoint will INCREASE.

d. OT Delta T Reactor Trip setpoint will DECREASE.

QUESTION: 032 (1.00)

WHICH ONE (1) of the following results from RCS pressure INCREASING to 2390 psig?

a. The HIGH Pressurizer pressure setpoint of the RPS is reached and Reactor Trip and Bypass Breakers will OPEN to de-energize the control rod assembly coils.

b. The HIGH Pressurizer pressure setpoint of AMSAC is reached de-energizing the trip coil to open a contact interrupting output power from both Motor Generator (MG) sets.

c. The HIGH Pressurizer pressure setpoint of the RPS is reached and the MG set 480 VAC supply breakers will OPEN to de-energize the control rod assembly coils.

d. The HIGH Pressurizer pressure setpoint of AMSAC is reached energizing the trip coil to open a contact interrupting output power from both Motor Generator (MG) sets.

QUESTION: 033 (1.00)

The following condition exists:

1. Unit 1 is at 20% power and INCREASING load.

WHICH ONE (1) of the following Control Rods should be considered INOPERABLE per Technical Specifications 3.10.G., "Control Rod Operability Limitations"?

a. Control Rod K-7 Bank "D" rod bottom light remains LIT even though actual control rod K-7 withdrawal occurred.

b. One Control Bank "C" RPI has been out of service for the past forty five (45) minutes.

c. For the past twenty four (24) hours the Bank "D" step counter has indicated 0 steps while one CB D rod was at 20 steps.

d. For the past nine (9) hours the Control Bank "C" step counters has indicated 100 steps while one CB C rod was at 115 steps.

QUESTION: 034 (1.00)

The following conditions exist:

1. Loop A Tavg meters indicate 560 degrees F.
2. Loop B Tavg meter indicates 605 degrees F.
3. Loop A Delta T meters indicate 100%.
4. Loop B Delta T meter indicate 0%.

WHICH ONE (1) of the following is the cause of these indications?

a. Loop B Tcold failed LOW.

b. Loop B Tcold failed HIGH.

c. Loop B Thot failed LOW.

d. Loop B Thot failed HIGH.

QUESTION: 035 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% due to a large break LOCA.
2. Containment pressure is 25 psig.
3. 11 CS Pump is RUNNING.
4. 12 CS Pump has NOT started.

WHICH ONE (1) of the following is the expected position of the Containment Spray pump motor operated discharge valves (MV-32103/32105)?

	11 CS discharge	12 CS discharge
a.	OPEN	OPEN
b.	OPEN	CLOSED
c.	CYCLING	CYCLING
d.	OPEN	CYCLING

QUESTION: 036 (1.00)

The following conditions exist:

1. Unit 1 is in COLD SHUTDOWN.
2. Operators are preparing to start a Containment purge.
3. The "Containment Purge" selector switch on the Containment Purge Control Panel is in the CONTAINMENT PURGE position.

WHICH ONE (1) of the following is the MINIMUM interlock condition that must be satisfied to START the Containment Purge exhaust fan?

a. The Containment Purge Supply fan breaker is "racked in".

b. The Containment Purge Supply fan is running.

c. The #22 Auxiliary Building Makeup Air fan is off.

d. The Containment Purge Exhaust Isolation damper is open.

QUESTION: 037 (1.00)

WHICH ONE (1) of the following provides the MAXIMUM flowrate (gpm) of makeup to the Spent Fuel Pool (SFP)?

a. CVCS BA Blender

b. RWST

c. Fire Hose Stations

d. CVCS HUTs

QUESTION: 038 (1.00)

WHICH ONE (1) of the following Steam Generator Level Control System signals uses an Arbitrator Signal Selection (ASS)?

a. Narrow range level

b. Feedwater flow

c. Feedwater pressure

d. Steam pressure

QUESTION: 039 (1.00)

WHICH ONE (1) of the following is NOT a source of power for the 4160 VAC Safeguards Bus 15?

a. 1R Transformer Y winding

b. P' 6

c. C1 Transformer

d. D1

QUESTION: 040 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to a large break LOCA.
2. SI has actuated.
3. Offsite pc has been lost and Diesel Generator #1 has failed to start.

WHICH ONE (1) of the following pieces of equipment will be the FIRST to be AUTOMATICALLY restored following restoration of power to Bus 15?

a. 11 SI pump

b. 11 RHR pump

c. 11 CC pump

d. 11 FCU

QUESTION: 041 (1.00)

WHICH ONE (1) of the following is the reason for having an Automatic Bus Transfer switch (ABT) for DC control power to Electrical Buses 11 and 12?

a. Ensures control power is available to trip RCPs.

b. Ensures Emergency Lighting is available for switchgear rooms.

c. Ensures power is maintained to all Post Accident Monitoring equipment during accident conditions.

d. Ensures power is maintained to all Appendix "R" equipment during accident conditions.

QUESTION: 042 (1.00)

WHICH ONE (1) of the following is an indication of a NEGATIVE ground on a Safeguards 125 VDC bus?

a. Both ground lights are brightly lit.

b. Both ground lights are dimly lit.

c. The negative ground light is dimly lit and the positive ground light is brightly lit.

d. The negative ground light is brightly lit and the positive ground light is dimly lit.

QUESTION: 043 (1.00)

WHICH ONE (1) of the following is the "Droop" setting for D1 Diesel Generator while in a Safeguards lineup and the reason for this setting?

a. Zero (0) speed droop to allow the diesel to remain at a constant speed (frequency) while varying the load.

b. Zero (0) speed droop to allow the diesel to remain at a constant load while varying the frequency.

c. Forty (40) speed droop to allow the diesel to remain at a constant speed (frequency) while varying the load.

d. Forty (40) speed droop to allow the diesel to remain at a constant load while varying the frequency.

QUESTION: 044 (1.00)

WHICH ONE (1) of the following methods is normally used to flash the field of D1 Diesel Generator when started LOCALLY?

a. The field is flashed AUTOMATICALLY by the 125 VDC System.

b. The field must be MANUALLY flashed by depressing the Voltage Reset pushbutton on the Engine-Generator Panel.

c. The field must be MANUALLY flashed by adjusting the Exciter-Voltage Regulator.

d. The field must be MANUALLY flashed by depressing the Field Flash pushbutton on the Engine-Generator Panel.

QUESTION: 045 (1.00)

WHICH ONE (1) of the following will AUTOMATICALLY close the 11 Steam Generator Blow Down Control valve CV-31414?

a. LOW level in the Steam Generator Blowdown (SGB) flash tank.

b. HIGH temperature on the outlet of the SGB flash tank.

c. Steam Generator HIGH activity as indicated on Radiation Monitor R-19.

d. Trip of either the MD or the TD Auxiliary Feedwater pump.

QUESTION: 046 (1.00)

WHICH of the following are the expected valve positions following the loss of instrument air to Residual Heat Removal System equipment?

	RHR Heat Exchanger Outlet FCV	RHR Heat Exchanger Bypass FCV
a.	OPEN	CLOSED
b.	CLOSED	OPEN
c.	OPEN	OPEN
d.	CLOSED	CLOSED

QUESTION: 047 (1.00)

WHICH ONE (1) of the following discharges DIRECTLY to the Pressurizer Relief Tank (PRT)?

a. RCP #1 Seal Water Return Header Relief Valve

b. Charging Pump Relief Valve

c. SI Accumulator Vent Valve

d. Reactor Vessel Flange Leakoff

QUESTION: 048 (1.00)

The following conditions exist:

1. Unit 2 is initially operating at 85% power.
2. RCS pressure decreases to 1806 psig.

WHICH ONE (1) of the following Component Cooling Water valves will AUTOMATICALLY close?

a. CC Surge Tank Vent valve (MV-32088)

b. RHR HX CC Inlet valve (MV-32093)

c. CC HX Crossover Isolation valve (MV-32120)

d. RCP Thermal Barrier Outlet valve (CV-31245)

QUESTION: 049 (1.00)

WHICH ONE (1) of the following leaking components would result in an INCREASE in the Component Cooling System surge tank level?

a. Excess Letdown heat exchanger

b. Containment chiller

c. Regenerative heat exchanger

d. RCP Seal Water heat exchanger

QUESTION: 050 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to a LOCA.
2. Inadequate core cooling has resulted in a Containment hydrogen concentration of 9%.

WHICH ONE (1) of the following reactions would result if the Hydrogen Recombiners were placed in service with this hydrogen concentration?

a. The Hydrogen Recombiners would trip on excessive Containment pressure.

b. The Hydrogen Recombiners would trip on high current.

c. Hydrogen burn could occur causing an excessive Containment pressure increase.

d. Ineffective hydrogen removal due to insufficient oxygen concentration.

QUESTION: 051 (1.00)

The following conditions exist:

1. Unit 1 Main Turbine Generator has tripped while operating at 100% power.

WHICH ONE (1) of the following conditions will PREVENT the Steam Dumps from actuating?

a. Tavg indicates 535 degrees on Channel 1 and 545 degrees on Channels 2, 3, and 4.

b. One (1) Circulating Water pump breaker is racked in and the pump indicates running, but condenser waterbox inlet pressure indicates 0 psig.

c. "A" and "B" Condenser vacuums indicate 10 inches.

d. The Steam Dump Mode Selector switch is in the Tavg Mode.

QUESTION: 052 (1.00)

The following condition exists:

1. Unit 1 has tripped from 100% power due to a loss of offsite power.

WHICH ONE (1) of the following temperatures will be maintained in the RCS with the Steam Dump System in the STEAM PRESSURE mode with a set point of 1005 psig?

a. Thot of 547 degrees F.

b. Tavg of 541 degrees F.

c. Tcold of 547 degrees F.

d. Exit T/Cs of 543 degrees F.

QUESTION: 053 (1.00)

WHICH ONE (1) of the following Main Generator trips does NOT actuate the 861G or 861GT relays?

a. Under frequency

b. Neutral ground

c. Turbine trip

d. 1 M Transformer over current

QUESTION: 054 (1.00)

The following conditions exist:

1. Unit 1 is operating at 100% power.
2. Unit 1 Instrument Air pressure is 79 psig and DECREASING slowly.
3. Unit 2 Instrument Air pressure is 83 psig and DECREASING slowly.
4. ALL compressors are RUNNING.

WHICH ONE (1) of the following AUTOMATIC actions should have occurred?

a. Service Air Header Isolation valve (MV-32318) OPENS to supply air from the Service Air System to Instrument Air system.

b. Unit 1 Instrument Air Header Isolation valve (MV-32314) CLOSES to isolate Unit 1 and Unit 2 air headers.

c. Unit 2 Instrument Air Header Isolation valve (MV-32315) CLOSES to isolate Unit 1 and Unit 2 air headers.

d. Filter Bypass valves (MV-32362 and MV-32363) OPEN to allow a higher flow rate to both unit air headers.

QUESTION: 055 (1.00)

The following conditions exist:

1. Turbine load is being decreased from 100% power.
2. Rod Control is in AUTOMATIC.

WHICH ONE (1) of the following IMMEDIATE actions should be taken if control rods fail to move in BOTH automatic and manual control?

a. Continue Turbine load reduction to 10% power and maintain Tavg equal to Tref using the Steam Dump System.

b. Stop Turbine load reduction and maintain Tavg equal to Tref using boration until repairs can be made.

c. Adjust Turbine load to maintain Tavg equal to Tref until repairs can be made.

d. Immediately trip the reactor and enter E-0, "Reactor Trip or Safety Injection".

QUESTION: 056 (1.00)

The following conditions exist:

1. Unit 1 is operating at 100% power.
2. 11 RCP Seal Leakoff flow indicates 0.3 gpm.
3. 11 RCP Standpipe High Level alarm is LIT.

WHICH ONE (1) of the following is the malfunction indicated by these conditions and the FIRST required action to be taken to mitigate the condition?

a. RCP #1 seal failure requires the #1 seal Leakoff Isolation valve to be closed within five (5) minutes.

b. RCP #1 seal failure requires the Reactor to be tripped within thirty (30) minutes following adjustment of Component Cooling Water flow.

c. RCP #2 seal failure requires the #1 seal Leakoff Isolation valve to be closed within five (5) minutes.

d. RCP #2 seal failure requires increased monitoring of the 11 RCP parameters.

QUESTION: 057 (1.00)

WHICH ONE (1) of the following is an indication that natural circulation exists per 1ES-0.1, "Reactor Trip Recovery?

	RCS Subcooling	S/G pressure	Cold Leg Temperature
a.	15 degrees F	400 psig	440 degrees F
b.	20 degrees F	500 psig	475 degrees F
c.	35 degrees F	600 psig	490 degrees F
d.	40 degrees F	700 psig	550 degrees F

QUESTION: 058 (1.00)

The following condition exist:

1. Unit 1 conditions require Emergency Boration of the RCS.

WHICH ONE (1) of the following is the MAXIMUM amount of concentrated boric acid that is allowed to be supplied to the Charging Pump suction and the reason for this limitation?

a. 50% of the total charging flow to prevent plugging seal injection throttle valves.

b. 50% of the total charging flow to prevent runout of the BA transfer pump.

c. 75% of the total charging flow to prevent plugging seal injection throttle valves.

d. 75% of the total charging flow to prevent runout of the BA transfer pump.

QUESTION: 059 (1.00)

WHICH ONE (1) of the following is an ALTERNATE method to accomplish EMERGENCY BORATION should the Boric Acid filter on the discharge line from the Boric Acid Transfer pump become plugged while performing 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Open charging pump suction from the RWST.

b. Initiate Normal Boration of RCS at MAXIMUM rate.

c. Align Boric Acid Transfer pump discharge to Charging pump discharge.

d. Align Boric Acid Transfer pump discharge to the VCT via the blender.

QUESTION: 060 (1.00)

WHICH ONE (1) of the following sets of conditions describes the expected response if controlling Pressurizer Pressure channel PT-429 fails HIGH?

	Heaters	Spray Valves	PCV-430 PORV	PCV-431 PORV
a.	ON	OPEN	OPEN	OPEN
b.	OFF	CLOSED	OPEN	CLOSED
c.	ON	CLOSED	CLOSED	OPEN
d.	OFF	OPEN	CLOSED	CLOSED

QUESTION: 061 (1.00)

WHICH ONE (1) of the following is the reason for isolating all feedwater flow to a faulted Steam Generator?

a. To minimize possibility of a Steam Generator tube rupture in the faulted loop.

b. To maximize the cooldown capability of the non-faulted loop.

c. To prevent Steam Generator overfill and safety valve actuation in the faulted loop.

d. To minimize the temperature differential across the Steam Generator tubes in the non-faulted loop.

QUESTION: 062 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to two (2) faulted Steam Generators.
2. Condensate Storage Tank (CST) level is ten (10) feet and decreasing rapidly.

WHICH ONE (1) of the following is the basis for establishing an alternate AFW pump suction source per 1ECA-2.1, "Uncontrolled Depressurization Of Both Steam Generators"?

a. AFW pumps may trip due to inadequate suction pressure at a CST level of six (6) feet.

b. The AFW pump suction line tap is designed to maintain a MINIMUM CST level of two (2) feet.

c. The AFW pump suction line tap is designed to maintain a MINIMUM CST inventory of 100,000 gallons.

d. AFW pumps may trip due to inadequate suction pressure at a CST inventory of 5000 gallons.

QUESTION: 063 (1.00)

The following conditions exist:

1. Unit 1 is operating at 80% power.
2. Condenser vacuum is DECREASING.

WHICH ONE (1) of the following is the MAXIMUM Condenser differential pressure allowed prior to manually tripping the Main Turbine?

a. 1.6 inches Hg

b. 2.1 inches Hg

c. 2.6 inches Hg

d. 3.1 inches Hg

QUESTION: 064 (1.00)

WHICH ONE (1) of the following is the reason for closing the RCP Seal Injection Throttle valves (VC-14-1 and VC-14-2) during a loss of ALL AC power?

a. To prevent runout of the charging pumps when the pumps are started following power restoration.

b. To prevent thermal shock to RCP shaft and seals when charging pumps are started following power restoration.

c. To prevent overfilling the VCT from backflow of RCS water.

d. To prevent steam binding of charging pumps due to backflow of RCS water flashing to steam in the low pressure lines.

QUESTION: 065 (1.00)

The following condition exists:

1. Panel 114 Instrument Bus IV (Yellow) inverter has FAILED.

WHICH ONE (1) of the following can provide a BACKUP power source for the Yellow Bus?

a. MCC 1AC 1 through Inverter 11

b. MCC 1AC 2 through Inverter 12

c. MCC 1AC 1 through Interruptible Bus Panel 117

d. MCC 1AC 2 through Non-Interruptible Bus Panel 116

QUESTION: 066 (1.00)

On WHICH ONE (1) of the following types of fires is it permissible to use a Pressurized Water Extinguisher to extinguish the flames?

a. Cardboard fire

b. Gasoline fire

c. Electrical fire

d. Metal fire

QUESTION: 067 (1.00)

The following conditions exist:

1. The Control Room is being evacuated due to a fire.
2. Operators inadvertently skip the procedural steps associated with shutdown of the Instrument Air Compressors and depressurization of their associated air receivers.

WHICH ONE (1) of the following plant conditions could result from this oversight?

a. The Instrument Air compressors could be damaged from overheating due to loss of cooling water.

b. Degraded air lines in the vicinity of the fire could make extinguishing the fire more difficult.

c. Pressurizer Spray valves could close causing RCS overpressurization.

d. MSIVs may remain open causing an overcooling transient.

QUESTION: 068 (1.00)

WHICH ONE (1) of the following constitutes a LOSS of containment integrity per Technical Specifications 3.6, "Containment System"?

a. While at 10% power, equipment hatch is found improperly sealed during an inspection.

b. While performing an operability test of two normally open, redundant Containment isolation valves at 100% power, one of the valves fails to CLOSE.

c. While in COLD SHUTDOWN, the outer Containment airlock door is blocked OPEN with scaffolding.

d. While in HOT SHUTDOWN the Auxiliary Building Special Vent Zone (ABSVZ) door is OPEN with an operator standing by.

QUESTION: 069 (1.00)

WHICH ONE (1) of the following is monitored for indication of inadequate core cooling per Critical Safety Function Tree 1F-0.2, "Core Cooling"?

a. RCS subcooling

b. Steam Generator level

c. Feedwater flow to the Steam Generators

d. Pressurizer level

QUESTION: 070 (1.00)

The following conditions exist:

1. Turbine load is being decreased from 50% power.
2. Control Rods are inserting in AUTOMATIC with no demand.

WHICH ONE (1) of the following IMMEDIATE actions should be taken if control rods continue to move after placing rod control in MANUAL?

a. De-energize 480V Bus 110 to de-energize Power Cabinets and cause Urgent Failure alarm.

b. Place the Bank Selector switch in the CBD position.

c. Open lift coil disconnect switches for CBD and consider the rods inoperable.

d. Trip the reactor and enter 1E-0, "Reactor Trip or Safety Injection".

QUESTION: 071 (1.00)

The following conditions exist:

1. The Reactor tripped from 100% power.
2. 1E-0, "Reactor Trip Or Safety Injection" has been entered.
3. The turbine did NOT trip as expected.
4. MANUAL turbine trip is unsuccessful.

WHICH ONE (1) of the following is the NEXT action that should be IMMEDIATELY performed per 1E-0?

a. Manually close MSIVs and Bypass valves.

b. Manually close turbine control valves.

c. Manually trip the generator exciter breaker.

d. Locally trip the Turbine from the turbine pedestal.

QUESTION: 072 (1.00)

WHICH ONE (1) of the following Critical Safety Function conditions has the HIGHEST order of priority?

a. Wide range levels in "A" and "B" steam generators are 40% and 48% respectively with total feedwater flow at 250 gpm.

b. Core exit T/Cs are 750 degrees F and RVLIS full range level is 65%.

c. Containment pressure is 47 psig.

d. Log Power Range 1E-6 % and Log Power Range SUR +0.2 DPM.

QUESTION: 073 (1.00)

The following conditions exist:

1. Operators are responding to a small break LOCA in accordance with 1E-1, "Loss of Reactor or Secondary Coolant".
2. RCS pressure is DECREASING.
3. Pressurizer level is INCREASING.
4. All RCPs are operating.

WHICH ONE (1) of the following leak locations is consistent with these plant conditions?

a. Weld failure on RCP #12 discharge piping.

b. Failure of Pressurizer PORV in the intermediate position.

c. Failure of the Charging header connection.

d. Weld failure on the Pressurizer liquid space sample line.

QUESTION: 074 (1.00)

The following conditions exist:

1. Unit 1 has tripped from 100% power due to a small break LOCA.
2. Containment pressure is 10 psig.
3. Containment radiation levels are 2.3E3 R/hr.
4. SI has actuated and all equipment is operating as required.
5. RCS pressure is 1600 psig and decreasing.
6. Core Exit T/Cs indicate 560 degrees F. and increasing.

WHICH ONE (1) of the following additional conditions would require tripping BOTH Reactor Coolant pumps?

a. RCS pressure decreases to 1521 psig.

b. RCS subcooling decreases to 50 degrees F.

c. Pressurizer level decreases to 4%.

d. Containment pressure increases to 23 psig.

QUESTION: 075 (1.00)

The following conditions exist:

1. Unit 2 has tripped from 100% due to a small break LOCA.
2. Conditions have stabilized and operators are determining the need to terminate SI.
3. Adverse Containment conditions do NOT exist.

WHICH ONE (1) of the following conditions would PREVENT SI termination per 1E-1, "Loss Of Reactor Or Secondary Coolant"?

a. Steam Generator levels indicate 5% NR and AFW flow of 50 gpm to each SG.

b. Pressurizer level indicates 10%.

c. Core Exit T/Cs indicate 550 degrees F.

d. Pressurizer pressure is 2050 psig.

QUESTION: 076 (1.00)

The following conditions exist:

1. The reactor has been shutdown for 48 hours.
2. The RCS temperature is 140 degrees F.
3. The RCS is at mid-loop.
4. A total loss of RHR occurs.
5. No core cooling is re-established.

WHICH ONE (1) of the following is the MINIMUM time required for the RCS to reach saturation?

a. 10 minutes

b. 45 minutes

c. 120 minutes

d. 180 minutes

QUESTION: 077 (1.00)

WHICH ONE (1) of the following accidents provides the basis for requiring that the turbine be tripped within thirty (30) seconds while performing 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Turbine overspeed

b. Continuous rod withdrawal

c. Steam line break

d. Loss of main feedwater

QUESTION: 078 (1.00)

The following conditions exist:

1. Unit 1 has just received a Reactor Protection System input which requires a Reactor Trip.
2. The Reactor has NOT tripped.
3. The MANUAL Reactor Trip switches fail to actuate a Reactor Trip.

WHICH ONE (1) of the following should be the FIRST method of negative reactivity used to shutdown the Reactor per 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Initiate Emergency Boration.

b. Manually insert control rods.

c. Trip the Motor Generator (MG) set output breakers.

d. Trip the Main Turbine.

QUESTION: 079 (1.00)

WHICH ONE (1) of the following is the PREFERRED method to provide NEGATIVE reactivity should NO boration path be possible while performing 1FR-S.1, "Response To Nuclear Power Generation/ATWS"?

a. Stop dumping steam.

b. Actuate Safety Injection (SI).

c. Isolate ALL Feedwater to both Steam generators.

d. Trip BOTH Reactor Coolant pumps.

QUESTION: 080 (1.00)

WHICH ONE (1) of the following will be lost due to the failure of Instrument Bus 112 (red)?

a. Source Range Detector N31

b. Intermediate Detector N36

c. Power Range Detector N43

d. Power Range Detector N44

QUESTION: 081 (1.00)

WHICH ONE (1) of the following describes the effect of a loss of Compensating Voltage to the Intermediate Range Nuclear Detector N35?

a. Both N31 AND N32 Source Range detectors will automatically energize at a HIGHER power level on decreasing power.

b. ONLY N31 Source Range detector will automatically energize at a HIGHER power level on decreasing power.

c. Both N31 AND N32 Source Range detectors will FAIL to automatically energize on decreasing power.

d. ONLY N31 Source Range detector will FAIL to automatically energize on decreasing power.

QUESTION: 082 (1.00)

WHICH ONE (1) of the following is an IDENTIFYING characteristic of a RUPTURED Steam Generator per 1E-3, "Steam Generator Tube Rupture"?

a. Level is INCREASING with MINIMUM feedwater flow.

b. Level is STABLE with Blowdown isolated.

c. Feedwater flow DECREASES when Blowdown is isolated.

d. Feedwater flow GREATER than steam flow.

QUESTION: 083 (1.00)

WHICH ONE (1) of the following is most likely to occur during a Steam Generator Tube Rupture with both Reactor Coolant pumps tripped?

a. Overfilling of the intact Steam Generator.

b. PTS event.

c. Opening of the ruptured Steam Generator safety valve.

d. High RCS to ruptured SG pressure.

QUESTION: 084 (1.00)

WHICH ONE (1) of the following is the reason for tripping BOTH Reactor Coolant Pumps (RCPs) during FR-H.1, "Loss of Secondary Heat Sink"?

a. To reduce heat input into the Reactor Coolant System.

b. To reduce Reactor Coolant System pressure.

c. To reduce the possibility of an SGTR.

d. To reduce decay heat input into the steam generators.

QUESTION: 085 (1.00)

WHICH ONE (1) of the following describes the plant response to a loss of the "A" Train DC power (battery and its associated battery charger) during operation at 100% power?

a. D1 Diesel Generator output breaker fails CLOSED.

b. BOTH Main Generator output breakers fail to OPEN automatically.

c. ALL "A" Train 4160V breakers fail CLOSED.

d. ALL "A" Train 480V breakers OPEN automatically.

QUESTION: 086 (1.00)

The following conditions exist:

1. Unit 2 is in REFUELING.
2. An irradiated fuel assembly is suspended from the Spent Fuel Handling Crane when a LOW level alarm (SPENT FUEL PIT LO LVL) sounds.
3. Spent Fuel Pool level is DECREASING.

WHICH ONE (1) of the following is the PREFERRED location for storage of the irradiated fuel assembly in the Spent Fuel Handling Crane?

a. SFP upender

b. Floor of the Transfer Canal

c. Nearest SFP rack location

d. New Fuel elevator

QUESTION: 087 (1.00)

WHICH ONE (1) of the following is a plant response to a complete loss of pressure in the Instrument Air System?

a. Running charging pumps fail to MAXIMUM speed.

b. Pressurizer Spray valves fail OPEN.

c. MSIVs fail OPEN.

d. Main Feedwater Regulating Valves fail CLOSED.

QUESTION: 088 (1.00)

The following condition exists:

1. A security key was issued to the position of "Duty Aux Building APEO" at 2300 hours to complete a tag out that will carry over into the next shift.

WHICH ONE (1) of the following actions should be taken by the APEO at the end of his shift with regard to control of the security key?

a. Turn over the key to the oncoming Duty Aux Building APEO.

b. Turn over the key to the oncoming Duty Aux Building APEO only if the oncoming Aux Building APEO initials the attached signout card.

c. Return the key to the key cabinet to be reissued for the next shift since keys must be in the key cabinet for inventory by the Shift Supervisor at the beginning of each shift.

d. Return the key to the key cabinet to be reissued for the next shift since ALL keys must be signed for by the person using the key.

QUESTION: 089 (1.00)

WHICH ONE (1) of the following is an INCORRECT method of handling a compressed gas cylinder?

a. Oxygen cylinders are stored in the same storage room as Acetylene bottles with thirty (30) feet of separation.

b. Compressed air cylinders without pressure reducing regulators are connected to a manifold.

c. Empty gas cylinders are stored in a vertical position secured by one two (2) inch nylon rope.

d. Compressed gas cylinders are transported in an approved rack in the back of an open pickup truck.

QUESTION: 090 (1.00)

WHICH ONE (1) of the following is the MINIMUM required eye protection when completing electrical switching on 4160V circuits?

a. Safety glasses

b. Safety glasses with side shields

c. Cover-all goggles

d. Full-length face shield and safety glasses

QUESTION: 091 (1.00)

WHICH ONE (1) of the following is the MINIMUM approved respiratory protection when locating Chlorine leaks?

a. MSA Clear-Vue equipped with a chemical cartridge

b. MSA Ulta-Vue equipped with an acid gas cartridge

c. Airline respirator

d. Self-contained breathing apparatus

QUESTION: 092 (1.00)

WHICH ONE (1) of the following is the CORRECT color tag used to identify equipment that has been "conditionally" released from the Controlled Area to the Clean Area?

a. yellow and magenta tag.

b. orange tag.

c. white tag.

d. green tag.

QUESTION: 093 (1.00)

WHICH ONE (1) of the following individuals by title NORMALLY assumes the duty of Fire Brigade Chief for a fire in a "Controlled Area"?

a. Shift Manager (SM)

b. Auxiliary Building APEO

c. Unit 1 Turbine Building Assistant Plant Operator (APEO)

d. APA for the affected building

QUESTION: 094 (1.00)

WHICH ONE (1) of the following is an approved method of independently verifying the correct positioning of a MANUAL rising stem valve which is in the CLOSED position?

a. Turn valve handwheel two (2) turns in the counterclockwise direction, then return it to its original position.

b. Attempt to turn valve handwheel in the clockwise direction.

c. Observe the original operator position the valve.

d. Observe the stem position to be above the handwheel.

QUESTION: 095 (1.00)

WHICH ONE (1) of the following defines the use of a "SECURE CARD"?

a. An orange on wnite card used to maintain equipment position when human life or injury is NOT involved.

b. An orange on white card used to maintain equipment position when human life or injury is involved.

c. A red on white card used to maintain equipment position when human life or injury is NOT involved.

d. A red on white card used to maintain equipment position when human life or injury is involved.

QUESTION: 096 (1.00)

WHICH ONE (1) of the following individuals can AUTHORIZE temporarily removal of a HOLD card for equipment testing?

a. Worker for whom tag is hung

b. Supervisor of work being performed

c. Shift Supervisor (SS)

d. LPEO

QUESTION: 097 (1.00)

WHICH ONE (1) of the following states the significance of lettered EOP Action Substeps?

a. Steps are "Immediate Action" steps.

b. Steps should be completed in order.

c. Steps need NOT be completed prior to proceeding.

d. Steps are "Continuous Action" steps.

QUESTION: 098 (1.00)

The following conditions exist:

1. Operators are performing an approved procedure.
2. Step 23 of the procedure, which has been recently changed, requires Valve "A" to be throttled open to obtain a flow rate of 200 gpm.
3. This 200 gpm flow rate is greater than the design limit specified in the Precautions and Limitations Sections.

WHICH ONE (1) of the following actions should be taken with regard to performing Step 23?

a. Preform the step as written and submit a request for procedure change to modify the Precautions and Limitations Sections.

b. Perform the step as written and have the Shift Supervisor initial the step.

c. Do not perform the step until two (2) Licensed Senior Reactor Operators review and approve a procedure deviation.

d. Do not perform the step, procedure deviations which change the intent or scope are not permitted.

QUESTION: 099 (1.00)

WHICH ONE (1) of the following is the significance of an ORANGE sticker placed beside a Procedural Step?

a. The step has Technical Specification implications.

b. The step is superseded by a Temporary Memo.

c. The step requires independent verification by another Licensed Operator.

d. The step requires independent verification by a Senior Licensed Operator.

QUESTION: 100 (1.00)

The following conditions exist:

1. Operator "A" is working in the Control Room on 6/9/94.
2. He realizes he made an error in his log entry the previous day, 6/8/94.

WHICH ONE (1) of the following methods should Operator "A" use to correct this error?

a. Draw one line and initial through the incorrect information on 6/8/94. Enter the correct information at the bottom of the same page.

b. Cross out the incorrect information on 6/8/94. Insert the correct information in the space above the incorrect information.

c. Draw one line and initial through the incorrect information on 6/8/94. Enter the correct information in the log for 6/9/94 referencing the page and line number of the incorrect entry.

d. Leave the incorrect entry as-is. Enter the correct information in the log for 6/9/94 referencing the page and line number of the incorrect entry.

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

ANSWER: 001 (1.00)

d. [+1.0]

REFERENCE:

1. P8184L-005, "Rod Control & Rod Position Indication", Objective 1, page 22.
2. P8184L-005, "Rod Control & Rod Position Indication", Rod Control Block Diagram, CR-7.
3. KA 001000K602 (2.8/3.3), 001000A102 (3.1/3.4), 045000G007 (2.6/2.8)

045000G007 001000A102 001000K602 ..(KA's)

ANSWER: 002 (1.00)

a. [+1.0]

REFERENCE:

1. P8184L-005, "Rod Control & Rod Position Indication", Objective 2, pages 28-29.
2. KA 001000K407 (3.7/3.8)

001000K407 ..(KA's)

ANSWER: 003 (1.00)

d. [+1.0]

REFERENCE:

1. P8184L-005, "Rod Control & Rod Position Indication", Objective 5, page 58.
2. KA 001050K202 (3.1/3.5)

001050K202 ..(KA's)

ANSWER: 004 (1.00)

b. [+1.0]

REFERENCE:

1. C3, "Reactor Coolant Pump", page 3.
2. P8170L-002, "Reactor Coolant Pumps", Objective 5.
3. KA 003000G005 (3.4/3.8), 003000G010 (3.3/3.6)

003000G010 003000G005 ..(KA's)

ANSWER: 005 (1.00)

a. [+1.0]

REFERENCE:

1. C3.1, "Reactor Coolant Pump Emergency Operation", page 6.
2. P8170L-002, "Reactor Coolant Pumps", Objective 5.
3. KA 003000A202 (3.7/3.9)

003000A202 ..(KA's)

ANSWER: 006 (1.00)

c. [+1.0]

REFERENCE:

1. C3, "Reactor Coolant Pump".
2. P8170L-002, "Reactor Coolant Pumps", Objective 5.
3. KA 003000A402 (2.9/2.9)

003000A402 ..(KA's)

ANSWER: 007 (1.00)

a. [+1.0]

REFERENCE:

1. P8172L-001, "CVCS", Objective 3, page 26.
2. KA 004010A402 (3.6/3.1)

004010A402 ..(KA's)

ANSWER: 008 (1.00)

b. [+1.0]

REFERENCE:

1. P8170L-002, "Reactor Coolant Pumps", Objective 4, page 39.
2. KA 004000K304 (3.7/3.9), 004000K104 (3.4/3.8)

004000K104 004000K304 ..(KA's)

ANSWER: 009 (1.00)

c. [+1.0]

REFERENCE:

1. P8180L-006, "Engineered Safeguards System", Objective 6, page 30.
2. KA 013000K409 (2.7/3.1)

013000K409 ..(KA's)

ANSWER: 010 (1.00)

b. [+1.0]

REFERENCE:

1. P8180L-006, "Engineered Safeguards System", Objective 5, page 22.
2. KA 013000K412 (3.7/3.9)

013000K412 ..(KA's)

ANSWER: 011 (1.00)

a. [+1.0]

REFERENCE:

1. Technical Specifications 3.8, "Refueling and Fuel Handling", page 3.8-1.
2. P8184L-002, "Nuclear Instrumentation System", Objective 18.
3. KA 015000K303 (2.7/3.4)

015000K303 ..(KA's)

ANSWER: 012 (1.00)

d. [+1.0]

REFERENCE:

1. P8184L-002, "Nuclear Instrumentation System", Objectives 13 & 14, Diagram B9A-10.
2. KA 015000G007 (3.3/3.4)

015000G007 ..(KA's)

ANSWER: 013 (1.00)

a. [+1.0]

REFERENCE:

1. P8170L-001A, "ICCM".
2. P8184L-001, "Nuclear Instrumentation Incore".
3. KA 017020K401 (3.4/3.7)

017020K401 ..(KA's)

ANSWER: 014 (1.00)

b. [+1.0]

REFERENCE:

1. P8170L-001A, "ICCM", Objective 2 & 6, page 33.
2. KA 017020A401 (3.8/4.1)

017020A401 ..(KA's)

ANSWER: 015 (1.00)

d. [+1.0]

REFERENCE:

1. P8180L-001, "Containment System", Objective 5, page 31.
2. System Description, "Containment Systems", page 47.
3. KA 022000K104 (2.9/2.9)

022000K104 ..(KA's)

ANSWER: 016 (1.00)

d. [+1.0]

REFERENCE:

1. P8174L-003, "Condensate and Feedwater", Objective 4, page 23.
2. KA 056000K103 (2.6/2.6)

056000K103 ..(KA's)

ANSWER: 017 (1.00)

b. [+1.0]

REFERENCE:

1. P8174L-003, "Condensate and Feedwater", Objective 6, page 28.
2. KA 059000A411 (3.1/3.3)

059000A411 ..(KA's)

ANSWER: 018 (1.00)

c. [+1.0]

REFERENCE:

1. P8174L-003, "Condensate and Feedwater", Objective 4 & 7, page 16.
2. KA 059000K419 (3.2/3.4)

059000K419 ..(KA's)

ANSWER: 019 (1.00)

b. [+1.0]

REFERENCE:

1. P8180L-007, "Auxiliary Feedwater System", Objective 3, page 15.
2. KA 061000K105 (2.6/2.8)

061000K105 ..(KA's)

ANSWER: 020 (1.00)

b. [+1.0]

REFERENCE:

1. P8180L-007, "Auxiliary Feedwater System", Objective 7, page 21.
2. C28.1, "Auxiliary Feedwater System", page 22.
3. KA 061000G009 (3.8/3.9)

061000G009 ..(KA's)

ANSWER: 021 (1.00)

b. [+1.0]

REFERENCE:

1. System Description B21B, "Liquid Waste System", page 34.
2. KA 068000K107 (2.7/2.9)
3. NOTE: No learning objective is given for this question due to lack of lesson plan for subject area.

068000K107 ..(KA's)

ANSWER: 022 (1.00)

a. [+1.0]

REFERENCE:

1. System Description B21A, "Waste Gas System", page 19.
2. KA 071000K404 (2.9/3.4)
3. NOTE: No learning objective is given for this question due to lack of lesson plan for subject area.

071000K404 ..(KA's)

ANSWER: 023 (1.00)

d. [+1.0]

REFERENCE:

1. System Description B11, "Radiation Monitoring", page 36.
2. P8182L-002, "Radiation Monitoring", Objective 4.
3. KA 072000G012 (3.4/3.4)

072000G012 ..(KA's)

ANSWER: 024 (1.00)

c. [+1.0]

REFERENCE:

1. P8170-003, "Reactor Coolant System", Objective 4, page 18.
2. KA 002000K109 (4.1/4.1)

002000K109 ..(KA's)

ANSWER: 025 (1.00)

c. [+1.0]

REFERENCE:

1. P8170L-001A, "Inadequate Core Cooling Monitor System", Objective 4, pages 18-20.
2. KA 002000K107 (3.5/3.7)

002000K107 ..(KA's)

ANSWER: 026 (1.00)

d. [+1.0]

REFERENCE:

1. P8180L-004, "Safety Injection System & Accumulators", Objective 9, page 49.
2. KA 006000K409 (3.8/4.1)

006000K409 ..(KA's)

ANSWER: 027 (1.00)

b. [+1.0]

REFERENCE:

1. P8170L-006, "Pressurizer Level Control System", Objective 1, page 26.
2. KA 011000G009 (3.7/3.5)

011000G009 ..(KA's)

ANSWER: 028 (1.00)

c. [+1.0]

REFERENCE:

1. P8170L-006, "Pressurizer Level Control System", Objective 6, page 24.
2. KA 011000A101 (3.5/3.6)

011000A101 ..(KA's)

ANSWER: 029 (1.00)

d. [+1.0]

REFERENCE:

1. P8170L-006, "Pressurizer Level Control", Objective 3, pages 18-19.
2. KA 000028G011 (3.5/3.7)

000028G011 ..(KA's)

ANSWER: 030 (1.00)

a. [+1.0]

REFERENCE:

1. P8184L-004, "Reactor Protection", Objective 7, pages 26 and 36.
2. KA 012000K406 (3.2/3.5)

012000K406 ..(KA's)

ANSWER: 031 (1.00)

c. [+1.0]

REFERENCE:

1. P8184L-003, "Reactor Process Instrumentation System", Objective 8, page 19.
2. KA 012000K611 (2.9/2.9)

012000K611 ..(KA's)

ANSWER: 032 (1.00)

a. [+1.0]

REFERENCE:

1. P8184L-004, "Reactor Protection", Objective 8, page 36.
2. KA 012000K201 (3.3/3.7), 012000K107 (3.2/3.2)
   012000K103 (3.7/3.8) 012000A407 (3.9/3.9)

012000A407 012000K103 012000K107 012000K201 ..(KA's)

ANSWER: 033 (1.00)

d. [+1.0]

REFERENCE:

1. P8184L-005, "Rod Control & Rod Position Indication", Objective 9.
2. Technical Specifications 3.10.G., "Control Rod Operability Limitations", page 3.10-7.
3. KA 014000G011 (3.0/3.9)

014000G011 ..(KA's)

ANSWER: 034 (1.00)

b. [+1.0]

REFERENCE:

1. P8184L-003, "Reactor Process Instrumentation System", Objective 4, page 14.
2. KA 016000A201 (3.0/3.1)

016000A201 ..(KA's)

ANSWER: 035 (1.00)

d. [+1.0]

REFERENCE:

1. P8180L-002, "Containment Spray System", Objective 4, page 33.
2. KA 026000A301 (4.3/4.5)

026000A301 ..(KA's)

ANSWER: 036 (1.00)

b. [+1.0]

REFERENCE:

1. System Description, "Containment Systems", page 33.
2. P8180L-001, "Containment System", Objective 1.
3. KA 029000G009 (2.9/3.1)

029000G009 ..(KA's)

ANSWER: 037 (1.00)

d. [+1.0]

REFERENCE:

1. P8182L-004, "Spent Fuel Pool Cooling System", Objective 5, page 19.
2. KA 033000A203 (3.1/3.5)

033000A203 ..(KA's)

ANSWER: 038 (1.00)

c. [+1.0]

REFERENCE:

1. P8174L-006, "Steam Generator Level Control System", Objective 5, page 15.
2. KA 035010K401 (3.6/3.8)

035010K401 ..(KA's)

ANSWER: 039 (1.00)

b. [+1.0]

REFERENCE:

1. P8186L-008, "4160, 480, 120 VAC Instrument Safeguards Distribution", Objective 3.
2. C20.5 AOP1.
3. KA 062000K407 (2.7/3.1)

062000K407 ..(KA's)

ANSWER: 040 (1.00)

a. [+1.0]

REFERENCE:

1. P8186L-008, "4160, 480, 120 VAC Instrument Safeguards Distribution", Objective 9, pages 20 & 21.
2. KA 000056A106 (3.6/3.6)

000056A106 ..(KA's)

ANSWER: 041 (1.00)

a. [+1.0]

REFERENCE:

1. P8186L-005, "DC Distribution", Objective 5, page 21.
2. KA 063000G007 (3.0/3.2)

063000G007 ..(KA's)

ANSWER: 042 (1.00)

c. [+1.0]

REFERENCE:

1. P8186L-005, "DC Distribution", Objective 6, page 24.
2. KA 063000G011 (3.0/3.7), 063000A201 (2.5/3.2)

063000A201 063000G011 ..(KA's)

ANSWER: 043 (1.00)

a. [+1.0]

REFERENCE:

1. P8186L-004, "Diesel Generator", Objective 7, page 19.
2. KA 064000A202 (2.7/2.9)

064000A202 ..(KA's)

ANSWER: 044 (1.00)

d. [+1.0]

REFERENCE:

1. P8186L-004, "Diesel Generators", Objective 7, page 30.
2. KA 064000A401 (4.0/4.3)

064000A401 ..(KA's)

ANSWER: 045 (1.00)

c. [+1.0]

REFERENCE:

1. System Description B21B, "Liquid Waste System", page 21.
2. P8182L-002, "Radiation Monitoring System", Objective 5, page 32.
3. KA 073000K401 (4.0/4.3)

073000K401 ..(KA's)

ANSWER: 046 (1.00)

a. [+1.0]

REFERENCE:

1. P8180L-003, "Residual Heat Removal System", Objective 9, pages 31-32.
2. KA 005000K410 (3.1/3.1)

005000K410 ..(KA's)

ANSWER: 047 (1.00)

a. [+1.0]

REFERENCE:

1. System Description B-4A, "RCS", page 30.
2. P8170L-003, "Reactor Coolant System", Objective 2c.
3. KA 007000A301 (2.7/2.9)

007000A301 ..(KA's)

ANSWER: 048 (1.00)

c. [+1.0]

REFERENCE:

1. P8172L-002, "Component Cooling", Objective 5, page 23.
2. KA 008030A304 (3.6/3.7)

008030A304 ..(KA's)

ANSWER: 049 (1.00)

a. [+1.0]

REFERENCE:

1. 2C14.2 AOP, "Leakage Into The Component Cooling System", Table 1, page 5.
2. P8172L-002, "Component Cooling", Objective 6.
3. KA 000026A201 (2.9/3.5)

000026A201 ..(KA's)

ANSWER: 050 (1.00)

c. [+1.0]

REFERENCE:

1. P8180L-008, "Containment Hydrogen Control", Objectives 3 & 4, page 13.
2. KA 028000K502 (3.4/3.9)

028000K502 ..(KA's)

ANSWER: 051 (1.00)

a. OR b.

c. [+1.0]

REFERENCE:

1. P8174L-002, "Steam Dump Control System", Objective 3 & 8, page 14.
2. KA 041020A408 (3.0/3.1)

041020A408 ..(KA's)

ANSWER: 052 (1.00)

c. [+1.0]

REFERENCE:

1. P8174L-002, "Steam Dump System", Objective 8, page 38.
2. KA 041020K502 (2.5/2.8), 041020A404 (2.7/2.7)

Note: With RCPs off Steam Dumps in the STEAM PRESSURE mode will maintain Tc at 547 degrees F. Tave will be above 547 degrees sufficiently to maintain natural circulation. Manual action is required to lower the auto setpoint to maintain 547 degrees F.

041020A404 041020K502 ..(KA's)

ANSWER: 053 (1.00)

a. [+1.0]

REFERENCE:

1. P8186L-001, "Main Generator and 20 KV Disconnects", Objective 3, page 30.
2. KA 045000A304 (3.4/3.6)

045000A304 ..(KA's)

ANSWER: 054 (1.00)

b. [+1.0]

REFERENCE:

1. C34 AOP1, "Loss Of Instrument Air", page 2.
2. P8178L-005, "Instrument And Station Air", Objective 3.
3. KA 078000K303 (3.0/3.4)

078000K303 ..(KA's)

ANSWER: 055 (1.00)

c. [+1.0]

REFERENCE:

1. C5, "Control Rod Drive System", page 13.
2. P8184L-005, "Rod Control & Rod Position Indication", Objective 12.
3. KA 000005A203 (3.5/4.4)

000005A203 ..(KA's)

ANSWER: 056 (1.00)

d. [+1.0]

REFERENCE:

1. 1C3.1, "Reactor Coolant Pump Emergency Operation", page 10.
2. P8170L-002, "Reactor Coolant Pumps", Objective 6.
3. KA 000015A122 (4.0/4.2)

000015A122 ..(KA's)

ANSWER: 057 (1.00)

c. [+1.0]

REFERENCE:

1. 1ES-0.1, "Reactor Trip Recovery, Attachment "A".
2. P8197L-011, "E-0 Review", Objective C.11.
3. KA 000015A121 (4.4/4.5)

000015A121 ..(KA's)

ANSWER: 058 (1.00)

c. [+1.0]

REFERENCE:

1. C12.5 AOP 1, "Emergency Boration Of The Reactor Coolant System", page 2.
2. P8172L-001A, "CVCS", Objective 8.
3. KA 000024K302 (4.2/4.4)

000024K302 ..(KA's)

ANSWER: 059 (1.00)

a. [+1.0]

REFERENCE:

1. 1FR-S.1, "Response To Nuclear Power Generation/ATWS", page 4.
2. P8197L-014, "F/FR Review", Objective 6.
3. KA 000024A202 (3.9/4.4)

000024A202 ..(KA's)

ANSWER: 060 (1.00)

d. [+1.0]

REFERENCE:

1. P8170L-005, "Pressurizer Pressure Control", Objective 4, page 30.
2. KA 000027A101 (4.0/3.9)

000027A101 ..(KA's)

ANSWER: 061 (1.00)

b. [+1.0]

REFERENCE:

1. "Background Information For E-2, Faulted Steam Generator Isolation", page 1.
2. P8197L-012, "E-1/E-2 Review", Objective 23.
3. KA 000040K304 (4.5/4.7)

000040K304 ..(KA's)

ANSWER: 062 (1.00)

d. [+1.0]

REFERENCE:

1. 1ECA-2.1, "Uncontrolled Depressurization Of Both Steam Generators", page 5.
2. "Background Information For Uncontrolled Depressurization Of Both Steam Generators", page 3.
3. P8197L-012, "E-1/E-2 Review", Objective 22.
4. KA 000040G007 (3.3/3.6)

Note: Reference material gives this information in both feet and gallons depending on the source. This question is designed to determine candidate's knowledge of this limit, the reason for the limit, and how the indications are read to determine if the limit has been exceeded.

000040G007 ..(KA's)

ANSWER: 063 (1.00)

b. [+1.0]

REFERENCE:

1. Figure C1-20, "Allowable Back Pressure Operating Region".
2. Annunciator Response Procedure C47008-0209, "Condenser Hi Pressure".
3. P8174L-005, "Main Turbine", Objectives 5 & 6.
4. KA 000051A202 (3.9/4.1)

000051A202 ..(KA's)

ANSWER: 064 (1.00)

b. [+1.0]

REFERENCE:

1. P8197L-011, "E-0 Review", Objective 22.
2. "Background Information For 1ECA-0.0, "Loss Of All AC Power", page 5.
3. KA 000055K302 (4.3/4.6)

000055K302 ..(KA's)

ANSWER: 065 (1.00)

c. [+1.0]

REFERENCE:

1. System Description B20.8, "Instrument AC Distribution System", Figure B20.8-1.
2. P8186L-008, "4160, 480, 120 VAC Instrument Safeguard Dist.", Objective 15.
3. KA 000057A214 (3.2/3.6)

000057A214 ..(KA's)

ANSWER: 066 (1.00)

a. [+1.0]

REFERENCE:

1. F5, "Fire Fighting", page 5.
2. P8178L-002, "Fire Protection System", Objective 5.
3. KA 000067K102 (3.1/3.9)

000067K102 ..(KA's)

ANSWER: 067 (1.00)

d. [+1.0]

REFERENCE:

1. Facility Exam Bank Question Tab #91, page 1.
2. F5, "Fire Fighting", Appendix B, page 30.
3. KA 000068K318 (4.2/4.5)

000068K318 ..(KA's)

ANSWER: 068 (1.00)

a. [+1.0]

REFERENCE:

1. Technical Specification 3.6, "Containment System", page 3.6-1.
2. P8180L-001, "Containment System", Objective 2.
3. KA 000069A201 (3.7/4.3)

000069A201 ..(KA's)

ANSWER: 069 (1.00)

a. [+1.0]

REFERENCE:

1. P8197L-014, "F/FR Review", Objective 9.
2. 1F-0.2, "Core Cooling", page 1.
3. KA 000074G011 (4.5/4.6)

000074G011 ..(KA's)

ANSWER: 070 (1.00)

d. [+1.0]

REFERENCE:

1. C5, "Control Rod Drive System", page 19.
2. P8184L-005, "Rod Control & Rod Position Indication", Objective 12.
3. KA 000001G010 (3.9/4.0)

000001G010 ..(KA's)

ANSWER: 071 (1.00)

b. [+1.0]

REFERENCE:

1. 1E-0, "Reactor Trip Or Safety Injection", page 3.
2. P8197L-011, "E-0 Review", Objective A.3.
3. KA 000007K301 (4.0/4.6), 000007A202 (4.3/4.6)

000007A202 000007K301 ..(KA's)

ANSWER: 072 (1.00)

c. [+1.0]

REFERENCE:

1. EOP-0, "Reactor Trip Or Safety Injection", Information page.
2. P8197L-014, "F/FR Review", Objective 15.
3. KA 000007G012 (3.8/3.9)

000007G012 ..(KA's)

ANSWER: 073 (1.00)

b. [+1.0]

REFERENCE:

1. Facility Exam Bank Question Tab #93, page 1.
2. "Background Information For 1E-0, "Reactor Trip Or Safety Injection", Step 15, page 4.
3. KA 000008A220 (3.4/3.6)

000008A220 ..(KA's)

ANSWER: 074 (1.00)

a. [+1.0]

REFERENCE:

1. 1E-1, "Loss Of Reactor Or Secondary Coolant", Information Page.
2. P8197L-012, "E-1/E-2 Review", Objective 5.
3. KA 000009A215 (3.3/3.4)

000009A215 ..(KA's)

ANSWER: 075 (1.00)

a. [+1.0]

REFERENCE:

1. 1E-1, "Loss Of Reactor Or Secondary Coolant", Information Page.
2. P8197L-011, "E-0 Review", Objective 12.
3. KA 000009A234 (3.6/4.2)

000009A234 ..(KA's)

ANSWER: 076 (1.00)

a. [+1.0]

REFERENCE:

1. P9170L-001, "RCS Reduced Inventory Operation", Objective 3.
2. Fig C1-31, "Boiling Curve".

   Note: This question reveals if the candidate is sufficiently sensitive to the issue of loss of RHR, and the very short time frame available to respond to same. Industry events have occurred where RHR has been lost at reduced inventory, and one key issue is the operators were often not aware how little time was available until saturation was reached in the core. The question does not require detailed knowledge of the saturation vs. time curve due to the very large time frame of the incorrect distractors....
3. KA 000025K101 (3.9/4.3)

000025K101 ..(KA's)

ANSWER: 077 (1.00)

d. [+1.0]

REFERENCE:

1. "Background Information For 1FR-S.1, Response To Nuclear Power Generation/ATWS", page 1.
2. P8197L-014, "F/FR Review", Objective 7.
3. KA 000029K306 (4.2/4.3)

000029K306 ..(KA's)

ANSWER: 078 (1.00)

b. [+1.0]

REFERENCE:

1. 1FR-S.1, "Response To Nuclear Power Generation/ATWS", page 3.
2. P8197L-014, "F/FR Review", Objective 6.
3. KA 000029A114 (4.2/3.9)

000029A114 ..(KA's)

ANSWER: 079 (1.00)

a. [+1.0]

REFERENCE:

1. "Background Information For 1FR-S.1, "Response To Nuclear Power Generation/ATWS", Step 12, page 4.
2. P8197L-014, "F/FR Review", Objective 3, 7, & 8.
3. KA 000029K312 (4.4/4.7)

Note: This question is designed to determine if the candidate knows that RCS heatup is the final option available if all other methods of reactivity control is NOT available. Distractor "a" is the only viable option without severely impacting recovery actions.

000029K312 ..(KA's)

ANSWER: 080 (1.00)

a. [+1.0]

REFERENCE:

1. P8184L-002, "Nuclear Instrumentation System", Objective 6, page 15.
2. KA 000032K201 (2.7/3.1)

000032K201 ..(KA's)

ANSWER: 081 (1.00)

c. [+1.0]

REFERENCE:

1. P8184L-002, "Nuclear Instrumentation", Objective 16, page 55.
2. KA 000033A211 (3.1/3.4), 000033G009 (2.9/3.0)

000033G009 000033A211 ..(KA's)

ANSWER: 082 (1.00)

a. [+1.0]

REFERENCE:

1. 1E-3, "Steam Generator Tube Rupture", page 3.
2. P8197L-013, "E-3 Series Review", Objective 1 & 6.
3. KA 000037A203 (4.4/4.6)

000037A203 ..(KA's)

ANSWER: 083 (1.00)

b. [+1.0]

REFERENCE:

1. P8197L-013, "E-3 Series Review", Objective 7, page 19.
2. KA 000038G007 (3.6/3.8)

000038G007 ..(KA's)

ANSWER: 084 (1.00)

a. [+1.0]

REFERENCE:

1. "Background Information For FR-H.1, Response To Loss Of Secondary Heat Sink", page 2.
2. P8197L-014, "F/FR Review", Objective 19.
3. KA 000054K304 (4.4/4.6)

000054K304 ..(KA's)

ANSWER: 085 (1.00)

b. [+1.0]

REFERENCE:

1. C20.9 AOP2, "Loss Of One Train Of DC", page 3.
2. P8186L-005, "DC Distribution", Objective 7.
3. KA 000058G006 (3.4/3.8), 000058A203 (3.5/3.9)

000058A203 000058G006 ..(KA's)

ANSWER: 086 (1.00)

c. [+1.0]

REFERENCE:

1. Facility Exam Bank Question Tab #41, page 4.
2. D5.2 AOP3, "Decreasing Refueling Water Level During Refueling", page 3.
3. KA 000036G010 (3.7/3.8)

000036G010 ..(KA's)

ANSWER: 087 (1.00)

d. [+1.0]

REFERENCE:

1. C34 AOP1, "Loss Of Instrument Air", page 7.
2. P8178L-005, "Instrument And Station Air", Objective 2.
3. KA 000065A208 (2.9/3.3)

000065A208 ..(KA's)

ANSWER: 088 (1.00)

a. [+1.0]

REFERENCE:

1. 5ACD 5.3, "Key and Seal Control", page 4.
2. KA 194001K105 (3.1/3.4)

194001K105 ..(KA's)

ANSWER: 089 (1.00)

c. [+1.0]

REFERENCE:

1. "Prairie Island Nuclear Generating Plant Safety Manual", page 24.
2. KA 194001K109 (3.4/3.4)

194001K109 ..(KA's)

ANSWER: 090 (1.00)

d. [+1.0]

REFERENCE:

1. "Prairie Island Nuclear Generating Plant Safety Manual", pages 44 & 61.
2. KA 194001K107 (3.6/3.7)

194001K107 ..(KA's)

ANSWER: 091 (1.00)

d. [+1.0]

REFERENCE:

1. "Prairie Island Nuclear Generating Plant Safety Manual", page 48.
2. KA 194001K111 (3.4/3.5)

194001K111 ..(KA's)

ANSWER: 092 (1.00)

c. [+1.0]

REFERENCE:

1. F2, "Radiation Safety", page 24.
2. KA 194001K104 (3.3/3.5), 194001K103 (2.8/3.4)

194001K103 194001K104 ..(KA's)

ANSWER: 093 (1.00)

c. [+1.0]

REFERENCE:

1. F5, "Fire Fighting", page 12.
2. KA 194001K116 (3.5/4.2)

194001K116 ..(KA's)

ANSWER: 094 (1.00)

b. [+1.0]

REFERENCE:

1. P9150L-007, "Independent Verification", Objective 4, page 11.
2. KA 194001K101 (3.6/3.7)

194001K101 ..(KA's)

ANSWER: 095 (1.00)

a. [+1.0]

REFERENCE:

1. P9150L-006, "Tagging", Objective 2, page 16.
2. KA 194001K102 (3.7/4.1)

194001K102 ..(KA's)

ANSWER: 096 (1.00)

c. [+1.0]

REFERENCE:

1. P9150L-006, "Tagging", Objective 6, page 28.
2. KA 194001K102 (3.7/4.1)

194001K102 ..(KA's)

ANSWER: 097 (1.00)

b. [+1.0]

REFERENCE:

1. P8197L-010, "EOP Intro-Procedure Review", Objective 2, page 15.
2. KA 194001A102 (4.1/3.9)

194001A102 ..(KA's)

ANSWER: 098 (1.00)

d. [+1.0]

REFERENCE:

1. P9150L-003, "Procedures", Objective 5, page 26.
2. KA 194001A102 (4.1/3.9)

194001A102 ..(KA's)

ANSWER: 099 (1.00)

b. [+1.0]

REFERENCE:

1. 9150L-003, "Procedures", Objective 10, page 44.
2. KA 194001A103 (2.5/3.4)

194001A103 ..(KA's)

ANSWER: 100 (1.00)

c. [+1.0]

REFERENCE:

1. P9150L-012, "Records/Logs", Objective 2, page 12.
2. KA 194001A106 (3.4/3.4)

194001A106 ..(KA's)

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

A N S W E R K E Y

MULTIPLE CHOICE

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

A N S W E R K E Y

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

A N S W E R K E Y

092 c

093 c

094 b

095 a

096 c

097 b

098 d

099 b

100 c

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