APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Operator Licensing Examination Report No. 50-458/OL 92-01

Operating License No. NPF-47

Licensee: Gulf States Utilities
Senior Vice President (RBNG)
P.O. Box 220
St. Francisville, Louisiana 70775

Examinations at: River Bend Station

Examinations Conducted: July 21 and 22, 1992

Chief Examiner: J. Pellet

Approved by: John Pellet 7/30/92
J. L. Pellet, Chief, Date
Operator Licensing Section
Division of Reactor Safety

Summary

NRC Administered Examinations Conducted During the Week of July 20, 1992 (Examination Report 50-458/OL 92-01)

NRC administered examinations to two reactor operator applicants and one senior reactor operator applicant. All applicants passed all portions of the examination and have been issued the appropriate licenses. Two requalification reexaminations were also administered. Both examinees passed the reexaminations and have been so informed by letter.

DETAILS

1. PERSONS EXAMINED

		SRO	RO	Total
Licensee Examinations:	Pass -	1	2	3
	Fail -	0	0	0
Requalification Examinations:	Pass -	1	1	2
	Fail -	0	0	0

2. EXAMINERS

J. Pellet, Chief Examiner
L. Miller
M. Parrish
D. Prawdzik
C. McGuffey (Observer)

3. EXAMINATION REPORT

Performance results for individual examinees are not included in this report as it will be placed in the NRC Public Document Room and these results are not subject to public disclosure.

3.1 Examination Review Comment/Resolution

In general, editorial comments or changes made as a result of facility reviews prior to the examination, during the examination, or subsequent grading reviews are not addressed by this resolution section. This section reflects resolution of substantive comments submitted to the NRC by the facility licensee after the examination. The facility licensee post-examination comments, less the supporting documentation, are included in the report immediately following the master examination key. All facility licensee comments were incorporated into the master examination key.

3.2 Site Visit Summary

The facility licensee was provided a copy of the examination and answer key for the purpose of commenting on the examination content validity. The facility licensee was informed that examination results could be expected within 30 days of the completion of the examination. Comments on the examination were received before leaving the site.

The NRC met with members of the licensee's training staff and summarized the team's observations during the examinations as presented in this report. The following personnel were present:

NRC	FACILITY
J. Pellet	R. Thurow
E. Ford	R. Jackson
L. Miller	J. McGhee

3.3 General Comments

3.3.1 Written Examination

The applicant's overall performance on the written examination was acceptable. Post-examination grading review indicated that the following questions, by reactor operator (RO) question number, were incorrectly answered by at least two of the three examinees: 3, 19, 34, 54, 66, 69, 75, 83, and 89.

3.3.2 Operating Examination

The applicants' overall performance on the operating test was acceptable. All of the applicants had difficulty with and incorrectly responded to several Job Performance Measure questions, but not to the extent to support a failure. Three performance weaknesses were observed during the operating test that appeared to be generic, as described below.

- When the emergency operating procedures were entered before completing the abnormal procedures required for a reactor scram, then the abnormal procedures were not used or verified as complete. It is unclear from the governing procedures what priority verification of the abnormal procedures has during implementation of emergency operating procedures

- RO applicants appeared to be unfamiliar with administrative procedures such as temporary modifications or response to an inoperable alarm.

- RO applicants appeared not to verify successful completion of actions they had initiated. In one case, the RO pushed the buttons to insert the source range monitors, but was unaware until specifically questioned by the examiner after the scenario that the detectors had never moved.

3.3.3 Conclusion

The overall applicant performance on these examinations was acceptable. Use of the abnormal procedures during implementation of the emergency operating procedure has been noted during previous examinations.

3.4 Master Examination and Answer Key

A master cop_ of the written examination and answer key is attached. The facility licensee post-examination comments are incorporated into the answer key.

3.5 Facility Post-Examination Review Comments

The facility post-examination review comments regarding the written examination are attached following the master examination key. All facility licensee comments were incorporated into the master examination key.

3.6 Simulation Facility Report

All items on the attached Simulation Facility Report have been discussed with the facility personnel.

SIMULATION FACILITY REPORT

Licensee: Gulf States Utilities

Docket No: 50-458

Operating Tests Administered at: River Bend

Operating Tests Administered: Week of July 20, 1992

This report does not constitute an audit or inspection and is not, without further verification and review, indicative of noncompliance with 10 CFR Part 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the operating examinations identified above, the following items were observed:

- The Division 2 RHR Keep Fill Pump trip malfunction did not work. The Division 1 pump was substituted.

Memo

To: John Pellet

From: Ron Thurow
NT-4119

Subject: River Bend Training Department's review of NRC examination administered July 21, 1992

Date: *July 22, 1992*

Enclosed is a copy of River Bend Training Department's review comments concerning the RO and SRO written examinations which were administered July 21, 1992.

Thank you for your assistance and consideration in this matter. Should you have any questions or need further assistance, please contact Rick Jackson at the River Bend Training Center, (504) 381-4211.

Ronald P. Thurow

Ronald P. Thurow
Director-Nculear Training

RPT/RNJ/jt

Attachment

cc: h . Suhrke
R. .I. Jackson

RO 001 COMMENT

ADM–0020 section 5.1.2 specifically addresses keys issued by the Shift Supervisor/COF. These keys are checked out on a shift basis. "Security" keys are controlled by PSP–4–302, "Operations (Lock and Key Control)." This procedure details the lock and key control and the "security" key control. Operations SS/COF authorizes the key issue, but security Shift Supervisor will issue and control "security" keys. These keys are assigned using the individual's key card at the key issue terminal. PSP–4–302 does not specify a time frame for checkout, but the individual's key card will not "card out" of the protected area until the key is returned. The computer system is used to track the key.

Security keys must be returned prior to leaving the protected area. The procedure states the keys should be returned as soon as the task is completed.

RESOLUTION

Change answer key to item "C."

RO 037 COMMENT
SRO 039

Answer key is not correct. Red light on vertical section (B) of 1H13*P601 is the acoustic monitor light. NRC reference is correct.

RESOLUTION

Change answer key to item "A".

RO 060 COMMENT
SRO 056

Thermal detectors utilized in the Main Control Room Halon 1301 automatically actuate to release Halon on two signals.

- temperature of 140° F, or
- rate of rise of 15°F per minute

Page 16 of LOTM Chapter 73 (exam reference) is attached.

RESOLUTION

Accept both "C" and "D" as correct response.

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
SENIOR OPERATOR LICENSE
REGION 4

CANDIDATE'S NAME: ______________

FACILITY: River Bend 1

REACTOR TYPE: BWR-GE6

DATE ADMINISTERED: 92/07/20

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	______ FINAL GRADE	___ %	TOTALS

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

____
Candidate's Signature

ANSWER SHEET

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001	a	b	c	d	____
002	a	b	c	d	____
003	a	b	c	d	____
004	a	b	c	d	____
005	a	b	c	d	____
006	a	b	c	d	____
007	a	b	c	d	____
008	a	b	c	d	____
009	a	b	c	d	____
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011	a	b	c	d	____
012	a	b	c	d	____
013	a	b	c	d	____
014	a	b	c	d	____
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031	a	b	c	d	____
032	a	b	c	d	____
033	a	b	c	d	____
034	a	b	c	d	____
035	a	b	c	d	____
036	a	b	c	d	____
037	a	b	c	d	____
038	a	b	c	d	____
039	a	b	c	d	____
040	a	b	c	d	____
041	a	b	c	d	____
042	a	b	c	d	____
043	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 ____

047 a b c d ____

048 a b c d ____

049 a b c d ____

050 a b c d ____

051 MATCHING

a ____

b ____

c ____

d ____

MULTIPLE CHOICE

052 a b c d ____

053 a b c d ____

054 a b c d ____

055 a b c d ____

056 a b c d ____

057 a b c d ____

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069 a b c d ____

070 a b c d ____

071 a b c d ____

072 a b c d ____

073 a b c d ____

074 a b c d ____

075 a b c d ____

076 a b c d ____

077 a b c d ____

078 a b c d ____

079 a b c d ____

080 a b c d ____

081 a b c d ____

082 a b c d ____

083 a b c d ____

084 a b c d ____

085 a b c d ____

086 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.

087	a	b	c	d	___
088	a	b	c	d	___
089	a	b	c	d	___
090	a	b	c	d	___
091	a	b	c	d	___
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	___

(********** 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)

The Shift Supervisor approves a "One Time Change" Change Notice (CN) to a System Operating Procedure (SOP) on August 3, 1992.

When is this "One Time Change" CN no longer effective?

This "One Time Change" CN is no longer effec ive:

a. automatically on August 14, 1992.

b. after a revision of the SOP on August 7, 1992.

c. when the evolution covered by the CN is completed.

d. if the Independent Review is not completed within 48 hours.

QUESTION: 002 (1.00)

Who controls the actual distribution and issuing of keys for access to plant Very High Radiation Areas?

a. The on-shift Senior Radiation Protection Technician

b. The Shift Supervisor/Control Operating Foreman

c. The Security Shift Supervisor/Designee

d. The Director-Radiological Programs

QUESTION: 003 (1.00)

Under what plant conditions is the Administrative Control Operating Foreman (Admin COF) REQUIRED to be stationed?

The Admin COF must be stationed:

a. prior to the first control rod withdrawal and remain stationed until 25% reactor power.

b. prior to the first control rod withdrawal and remain stationed until all Feedwater Regulating Valves are in service.

c. by reactor criticality and remain stationed until reactor power is at least 25%.

d. by reactor criticality and remain stationed until the third Feedwater Regulating Valve is in service.

QUESTION: 004 (1.00)

IDENTIFY the appropriate conditions allowing the use of a Human Tag to prevent operation of plant equipment.

A Human Tag may be used:

a. for en equipment test planned to be completed in 45 minutes.

b. only if the person stationed as the Human Tag is from Operations.

c. with the sole permission of the Foreman supervising that job.

d. only on Non-Safety Related plant equipment.

QUESTION: 005 (1.00)

Which set of conditions REQUIRE double valve protection when isolating a system for maintenance?

Double valve protection is required if:

a. failure of a single isolation valve has the potential for flooding plant areas.

b. one of the two isolation valves is a "fail open" air operated valve.

c. the system normal operating temperature is 185 degrees F.

d. the system normal operating pressure is 625 psig.

QUESTION: 006 (1.00)

The plant is making preparations for a Drywell entry in accordance with RSP-0212, "Drywell Entry". Drywell conditions are as follows:

Drywell oxygen concentration:	21.0%
Drywell hydrogen concentration:	1.0%
Drywell temperature:	125.0 degrees F
Drywell has been vented for:	45 minutes

Which Drywell condition must be waived by the Plant Manager/Designee to allow the entry to proceed?

a. Drywell oxygen concentration

b. Drywell hydrogen concentration

c. Drywell temperature

d. Drywell venting time

QUESTION: 007 (1.00)

As directed in OSP-0003, "Logs and Records", who is NOT one of the people (by position) to be informed of an out of specification reading recorded on the Turbine Building Nuclear Equipment Operator logsheets?

a. Shift Supervisor (SS)

b. Control Operating Foreman (COF)

c. Unit Operator (UO)

d. At-The-Controls Operator (ATC)

QUESTION: 008 (1.00)

SELECT the plant conditions REQUIRING performance of OSP-0017, "Normal Control Board Lineups for Safety Related Systems".

OSP-0017 must be performed:

a. after placing the Mode Switch in "Startup/Hot Standby".

b. after placing the Mode Switch in "Run".

c. prior to entering Mode 4 from Mode 5.

d. prior to entering Mode 2 from Mode 4.

QUESTION: 009 (1.00)

-- The Shift Supervisor approved a Hot Work Permit at 2:00pm, Tuesday August 4, 1992 for a job in the Turbine Building.
-- The plant is at 100% power.

What is the LATEST time this Hot Work Permit can be in effect?

a. Until 2:00pm, Wednesday August 5, 1992.

b. Until 10:00pm, Tuesday August 4, 1992.

c. Until the job is completed, 6:00pm, Wednesday, August 5, 1992.

d. Until the end the shift, 6:00pm, Tuesday, August 4, 1992.

QUESTION: 010 (1.00)

SELECT the MAXIMUM exposure an operator could receive in an accessible area posted "Caution - High Radiation Area" in 51 minutes.

a. 999 mrem

b. 849 mrem

c. 515 mrem

d. 85 mrem

QUESTION: 011 (1.00)

The following plant conditions exist:

-- A General Emergency has been declared.

SELECT the MINIMUM offsite protective action recommendation to be made for the above condition?

a. -- Shelter 2 mile radius
   -- Shelter 5 miles downwind

b. -- Evacuate 2 mile radius
   -- Shelter 5 miles in potentially affected sectors

c. -- Evacuate 5 mile radius
   -- Shelter 10 miles in potentially affected sectors

d. -- Shelter 5 mile radius
   -- Shelter 10 miles downwind

QUESTION: 012 (1.00)

The following are current plant conditions:

-- The plant has experienced a Loss of Coolant Accident.
-- 3 personnel are unaccounted for in the Auxiliary Building.
-- The Emergency Director has directed the Search and Rescue Team to enter the building.
-- Both team members are volunteers and have no current quarterly exposure.
-- Exceeding emergency exposure limits has NOT been authorized.

What is the MAXIMUM whole body exposure each member of the Search and Rescue Team is allowed to receive on this entry?

a. 75 rem

b. 25 rem

c. 12 rem

d. 3 rem

QUESTION: 013 (1.00)

As required by 10 CFR 26, "Fitness for Duty Programs", what is the MINIMUM time an operator must abstain from the consumption of alcohol prior to any SCHEDULED shift?

a. 2 hours

b. 3 hours

c. 5 hours

d. 8 hours

QUESTION: 014 (1.00)

The plant is in an extended maintenance outage. A licensed Reactor Operator has just completed a 12 hour shift out in the plant supporting the outage.

SELECT the required action(s) regarding this operator returning to the Main Control Room and resuming licensed duties.

The Reactor Operator:

a. must have a 12 hour break.

b. must have a 8 hour break.

c. may assume licensed duties for 4 additional hours.

d. may assume licensed duties for 8 additional hours.

QUESTION: 015 (1.00)

Under what conditions may the Shift Supervisor assign the control room command function to one of the Nuclear Control Operators (NCO)?

The NCO may assume the control room command function:

a. if the Shift Technical Advisor and one other NCO are in the Main Control Room.

b. if the plant is shutdown and reactor coolant temperature is at or below 200 degrees F.

c. if the Shift Supervisor remains within the Protected Area no more than 10 minutes from the Main Control Room.

d. if the Shift Supervisor remains on-site and in radio contact with the Main Control Room.

QUESTION: 016 (1.00)

SELECT the statements describing the usage of the term "VERIFY" in the River Bend Emergency Operating Procedures?

VERIFY means:

a. equipment manipulation is neither expected nor intended by that procedural step.

b. equipment manipulation is allowed only after being directed by a Senior Reactor Operator.

c. to take the actions necessary to establish the required condition or position.

d. two (2) separate operators must independently determine the current condition or position

QUESTION: 017 (1.00)

The plant is shutdown and establishing conditions for a refueling outage. At what point is the plant considered to be in Operational Condition 5?

Operational Condition 5 is FIRST entered when:

a. the mode switch is placed in "Refuel".

b. the reactor vessel head bolts are less than fully tensioned.

c. the reactor vessel head is lifted.

d. the first fuel assembly is removed from the core.

QUESTION: 018 (1.00)

During a General Emergency who (by TITLE) is responsible for implementation of onsite protective measures?

a. Recovery Manager

b. Emergency Director

c. Shift Supervisor

d. Plant Manager

QUESTION: 019 (1.00)

Following a reactor scram, which one of the Control Rod Drive supplies continues to receive its normal flow rate?

a. Drive flow

b. Cooling water

c. Stabilizing flow

d. Recirculation pump seal purge

QUESTION: 020 (1.00)

During a reactor startup with power at 35%, individual control rod withdrawal is:

a. limited to 1 notch.

b. limited to 2 notches.

c. limited to 4 notches.

d. unlimited between position 12 and 48.

QUESTION: 021 (1.00)

The "SCRAM VALVES" pushbutton on the Rod Control and Information System display is backlit red. The operator depresses and holds the "SCRAM VALVES" pushbutton.

A green status light illuminated on the core matrix for rod 24-29 indicates:

a. the scram valves on rod 24-29 are in different positions.

b. both scram solenoids for rod 24-29 are deenergized.

c. one scram solenoid for rod 24-29 is deenergized.

d. rod 24-29 is full in.

QUESTION: 022 (1.00)

Which of the following describes the expected action(s) when depressing the "DRYWELL PRESSURE TEST" switch for the hydraulic power unit (HPU)?

a. Flow control valve (FCV) motion is inhibited.

b. HPU shifts to the maintenance mode.

c. HPU shifts to the maintenance mode and all loop controllers shift to manual.

d. FCV motion is inhibited and the HPU shifts to the maintenance mode.

QUESTION: 023 (1.00)

Following a Loss of Coolant Accident the following plant parameters exist:

- Reactor pressure is 380 psig and slowly decreasing
- Vessel level is -80 inches and slowly decreasing
- Drywell pressure is 2.2 psig and slowly increasing
- Containment pressure is normal and steady

Which one of the following describes the Low Pressure Coolant Injection mode of the Residual Heat Removal system?

a. Pumps have started, but are not injecting because the injection valves, FO42A,B, and C have not opened.

b. Pumps have started, injection valves FO42A,B, and C have opened, but reactor pressure is too high for injection.

c. Pumps have not started, but injection valves FO42A, B and C are open.

d. Pumps have started, injection valves FO42A, B, and C are open and injection has started.

QUESTION: 024 (1.00)

Failure of the Low Pressure Core Spray (LPCS) discharge line fill pump, 1E21*C002 will:

a. only affect the LPCS system operability.

b. affect both LPCS and RHR loop "A" operability.

c. affect both LPCS and RHR loop "B" operability.

d. affect both LPCS and RHR loop "C" operability.

QUESTION: 025 (1.00)

The Low Pressure Core Spray System LPCS can take suction on the Residual Heat Removal (RHR) system loop "A" suction piping via a spool piece.

The purpose of this lineup is to:

a. provide a backup to the RHR shutdown cooling mode.

b. provide an alternate suction to LPCS in the event of a suction valve failure.

c. allow for LPCS injection to the reactor vessel during surveillance testing.

d. provide a means of injecting service water in the event of a failure of the RHR pumps.

QUESTION: 026 (1.00)

Following an automatic initiation of High Pressure Core Spray (HPCS) the operator manually overrides and closes the HPCS pump injection valve E[illegible]*F004.

Which one of the following describes the action that will reinstate the "automatic opening" feature of the HPCS pump injection valve?

a. The HPCS initiation signal clears and is then received again

b. The "HPCS INITIATION RESET" pushbutton is depressed after the HPCS initiation signal clears

c. The "HPCS INITIATION RESET" pushbutton is depressed while the HPCS initiation signal is sealed in.

d. The HPCS injection valve is manually reopened while the HPCS initiation signal is sealed in.

QUESTION: 027 (1.00)

The reactor water cleanup system (RWCU) automatically isolates when the standby liquid control system is initiated from the main control room.

Which one of the following describes the reason for this automatic action?

a. Reduces the overall volume of the reactor coolant system.

b. Establishes containment integrity.

c. Minimizes positive reactivity addition from cooldown by the non-regenerative heat exchanger.

d. RWCU resin will remove the sodium pentaborate from the reactor coolant system.

QUESTION: 028 (1.00)

The Key Operated Power Selector Switch, C71B-SIB for Reactor Protection System (RPS) bus "B" is selected to "ALTERNATE".

With the Switch selected to "ALTERNATE" the power supply to RPS bus "B" is:

a. 1NHS-MCC10A2.

b. 1NHS-MCC10B.

c. 1EHS*MCC14A.

d. 1EHS*MCC14B.

QUESTION: 029 (1.00)

An ATWS has occurred and the following conditions exist:

- Reactor power 25% on APRMs.
- Reactor water level is 20 inches
- Drywell pressure is 1.1 psig.
- All scram valves are opened
- The SDV vent and drain valves are shut.
- Reactor Mode switch is in "SHUTDOWN"

Which one of the following is correct concerning resetting of the scram?

a. The scram cannot be reset in this condition because the scram condition cannot be cleared.

b. The scram can be reset using the "SCRAM RESET" switches after placing the CRD Scram Discharge Volume keylock switches in "BYPASS".

c. The scram can be reset by placing the reactor mode switch in "RUN" and placing the CRD Scram Discharge Volume keylock switches in "BYPASS".

d. The scram can be reset by placing the reactor mode switch in "STARTUP" and placing the CRD Scram Discharge Volume keylock switches in BYPASS".

QUESTION: 030 (1.00)

Placing the Intermediate Range Monitor (IRM) range selector on "RANGE 1" with the Reactor Mode Switch in "STARTUP" will bypass the rod block from:

a. IRM Hi (UPSCALE)

b. IRM Downscale

c. IRM INOP

d. Detector not full in

QUESTION: 031 (1.00)

Which one of the following conditions will cause the Source Range Monitor (SRM) "RETRACT PERMIT" light to energize?

a. The SRMs are on scale (with IRM overlap) and the IRMs are withdrawn.

b. Both of the associated IRMs are on Range 2 or above.

c. One of the associated IRMs is on Range 3.

d. The SRM count rate is greater than 100 counts per second.

QUESTION: 032 (1.00)

The following SRM indications are recorded prior to commencing a Reactor Startup:

- SRM "A" 5 cps
- SRM "B" 2.2 cps
- SRM "C" 8 cps
- SRM "D" 8 cps

Prior to commencing control rod withdrawal SRM channel "C" fails downscale and is bypassed by the operator.

Which one of the following describes the affect the failure of SRM channel "C" has on the reactor startup?

a. The startup may not commence until SRM channel "C" is repaired.

b. Verify the signal to noise ratio for SRM "B" is greater than or equal to 2 and commence the startup.

c. The startup may commence since channel "B" reads greater than 0.7 cps.

d. The startup may commence since at least one SRM is operable in each RPS Division.

QUESTION: 033 (1.00)

The Local Power Range Monitor (LPRM) upscale high trip setpoint approximates the:

a. licensed thermal power of the reactor.

b. maximum Average Planar Linear Heat Generation Rate (APLHGR).

c. maximum Linear Heat Generation Rate (LHGR).

d. peak fuel enthalpy.

QUESTION: 034 (1.00)

The following chart, (reading across) provides the number of LPRMs that are operable for each LPRM level of APRM "E".

Which one of the following will result in an automatic APRM Inoperative Trip for channel "E"?

	LPRMs Level A	LPRMs Level B	LPRMs Level C	LPRMs Level D
a.	3	3	2	2
b.	4	3	3	1
c.	4	2	2	4
d.	3	2	3	3

QUESTION: 035 (1.00)

Which one of the following Level 8 functions uses wide range level instrument signals?

a. Isolate HPCS injection on a high reactor water level.

b. Initiate a high reactor water level scram.

c. Close the RCIC steam supply valve, 1E51*F045.

d. Trip the feedwater pumps and main turbine on high reactor water level.

Q??? ION: 036 (1.00)

Following shutdown of the RCIC turbine which one of the following prevents drawing water from the suppression pool into the exhaust line as the exhaust steam condenses?

a. RCIC Turbine Exhaust to Suppression Pool valve 1E51*MOVF068 automatically closes when RCIC is shutdown.

b. RCIC Turbine Exhaust Line Check Valve 1E51*VF040 closes.

c. RCIC Turbine Exhaust Vacuum Breaker Check Valves 1E51*VF79 & 81 open.

d. RCIC Turbine Exhause Vacuum Breaker Isolation Valves 1E51*MOVF077 & 78 automatically open.

QUESTION: 037 (1.00)

Following a valid ADS initiation, the operator is directed to close the ADS valves with the initiating signals still present.

Which one of the following operator actions will cause the ADS valves to close?

a. Place the control switches on 1H13P*601 for the ADS valves to the "OFF" position.

b. Place the ADS inhibit switches on 1H13P*601 to the "NORMAL" position.

c. Shutdown all low pressure ECCS systems in either Div. 1 or Div. 2.

d. Depress both "ADS Timer/Level 3 Seal-In Reset" pushbuttons, S13A(B)

QUESTION: 038 (1.00)

Which one of the following ADS actuation setpoint logics has as its bases, protection against a LOCA outside the drywell?

a. Low Reactor water level 1

b. 105 second timer

c. Confirmatory low water level 3

d. Low reactor water level 1 sustained for five minutes

QUESTION: 039 (1.00)

Which one of the following describes the meaning of an illuminated red light on the VERTICAL section of panel 1H13*P601-19B, between the ADS reset and initiation switches?

a. The tailpipe acoustic monitor is alarming

b. The tailpipe thermocouple is alarming

c. The SRV solenoid open limit switch is energized

d. The SRV control switch is in the off position

QUESTION: 040 (1.00)

When reactor power is greater than the Low Power Setpoint, GOP 0001, "Plant Startup," requires all turbine bypass valves to be fully closed when withdrawing control rods.

What is the basis for this requirement?

a. If the bypass valves are open, the APRM indications result in a non-conservative AGAF condition.

b. With the bypass valves open, the RPCS senses Rx power as less than actual and the potential exists for a non-conservative rod withdrawal.

c. Ensures that the peak fuel enthalpy during a control rod drop accident does not exceed 280 cal/gm.

d. Provides the opportunity for reactivity addition by two different means at the same time if a bypass valve were to go closed during rod withdrawal.

QUESTION: 041 (1.00)

Following an automatic initiation of the Standby Gas Treatment (SGT) system the operator stops Train "A" and returns it to "STANDBY" with the initiation signal still present.

Which ONE of the following restores the SGT system to operation if the Train "B" fan motor trips.

a. Train "A" will automatically initiate on low air flow in train "B"

b. Place the SGT DIV II Inoperability switch in "ON" which will automatically initiate SGT train "A"

c. Train "B" must be placed in "LOCKOUT" and train "A" manually initiated

d. Train "A" will automatically initiate on a positive pressure signal in the annulus

QUESTION: 042 (1.00)

The Division I Diesel Generator is started using the local "EMERGENCY START" pushbutton.

Which one of following Diesel Engine shutdown signals is bypassed in this condition?

a. Generator differential current.

b. Low Diesel lube oil pressure.

c. Manual trip/shutdown.

d. Diesel overspeed.

QUESTION: 043 (1.00)

Following a reactor scram from 100% power the "Ball Check Valve" for control rod mechanism 24-29 fails to shift position.

Control rod 24-29 will:

a. complete the scram.

b. only partially scram.

c. complete the scram faster than the remaining rods.

d. not be affected because the scram occurred from operating pressure.

QUESTION: 044 (1.00)

During normal operation, ACTUAL recirculation pump #1 seal cavity pressure is:

a. the same as reactor pressure.

b. the same as the setting of the seal purge pressure reducing valve.

c. greater than reactor pressure.

d. one half of the pressure indicated on seal cavity #2.

QUESTION: 045 (1.00)

Continued reactor operation with a failed Recirculation Jet Pump is not allowed because:

a. the recirculation loop flow mismatch limits can not be met.

b. induced vibration in the remaining jet pumps will cause additional failures.

c. the uneven core flow distribution may result in core power peaking.

d. it reduces the capability to maintain 2/3 core height following a design basis accident.

QUESTION: 046 (1.00)

Over pressure protection of the Reactor Water Cleanup blowdown piping to the main condenser, is provided by:

a. pressure switch PS-N014 set at 140 psig located downstream of flow control valve F033.

b. pressure switch PS-N013 set at 5 psig located upstream of flow control valve F033.

c. interlock between flow control valve F033 and the downstream isolation valve F046.

d. a relief valve which bypasses flow around main condenser isolation valve F046.

QUESTION: 047 (1.00)

Following a control room evacuation Shutdown Cooling (SDC) is being operated from the Remote Shutdown Panel. Reactor vessel water level decreases to +8 inches.

The affect this has on SDC operation is:

a. a complete Residual Heat Removal (RHR) SDC system isolation occurs.

b. SDC isolates and the RHR system realigns to the LPCI injection mode.

c. RHR Shutdown Cooling Outboard Isolation Valve, F008 and RHR Shutdown Cooling Inboard Isolation Valve, F009 close and the operating RHR pump trips.

d. no affect because the reactor vessel level 3 isolation is automatically bypassed when operating SDC from the remote shutdown panel.

QUESTION: 048 (1.00)

While operating the Residual Heat Removal System in the Suppression Pool Cooling Mode the operator simultaneously closes RHR HX BYPASS valve, 1E12*F048B and RHR A HX OUTLET valve, 1E12*F003B.

Which one of the following actions should be taken to restore flow through RHR heat exchanger "B"?

a. Open 1E12*F048B first to reduce the differential pressure across 1E12*F003B, then throttle open 1E12*F003B

b. Immediately reopen 1E12*F003B

c. Shutdown the RHR pump prior to opening either 1E12*F003B or 1E12*F048B.

d. Verify that the minimum flow valve 1E12*F064B is fully open and reopen either 1E12*F003B or 1E12*F0048B.

QUESTION: 049 (1.00)

Which one of the following is a design function of the main steam line flow restrictors?

a. Provide a steam flow signal for the feedwater level control system

b. Limit maximum flow to prevent excessive d/p from being exerted on MSIVs during a downstream rupture

c. Limit coolant loss on a complete main steam line break prior to the MSIV closure

d. Limit maximum steam flow to allow for testing of main steam isolation valves while operating at power

QUESTION: 050 (1.00)

The configuration of the power supply of the two solenoids for each Main Steam Isolation Valve (MSIV) is:

a. both solenoids are powered from 120 volt AC.

b. both solenoids are powered from 125 volt DC.

c. the inboards are powered from 120 volt AC the outboards are powered from 125 volt DC.

d. each MSIV has one solenoid powered from 120 volt AC and one powered from 125 volt DC.

QUESTION: 051 (2.00)

Match the main condenser vacuum setpoints in column B with the actuation in column A.

The items from column B may be used once, more than once, or not at all and a only a single answer may occupy one answer space.

COLUMN A (Actuation)	COLUMN B (Vacuum Setpoints)
a. "CONDENSER VACUUM LOW" annunciator	1. 5 inches Hg
b. turbine bypass valves close	2. 8.5 inches Hg
c. main steam isolation valve close	3. 9 inches Hg
d. main turbine trip	4. 15 inches Hg
	5. 20 inches Hg
	6. 22.3 inches Hg
	7. 25 inches Hg

QUESTION: 052 (1.00)

A valid LOCA signal is received with offsite power still available.

Which one of the following describes the resultant load shedding and sequencing which occurs on the standby busses?

a. Both 480 volt AC load centers and 4.16 KV loads are load shed and sequenced back on

b. No load shedding occurs, the 4.16 KV loads are sequenced on

c. No load shedding or load sequencing occurs

d. Only the 480 Volt AC load centers are load shed and sequenced back on

QUESTION: 053 (1.00)

The 125 volt DC supply from ENB*SWG1A to the Division 1 Standby Diesel Generator trips.

What is the effect on the control logic if the diesel was running loaded at the time of the trip?

a. The generator output breaker trip open, the engine continues to run unloaded.

b. The generator output breaker trips open, the engine trips.

c. The engine trips with the generator output breaker remaining closed.

d. The engine will continue to run loaded without any tripping ability.

QUESTION: 054 (1.00)

The plant is operating at 85% power with the Offgas Treatment Mode Switch in "AUTO". In the control room the operator observes the closure of the following valves:

- 1N64-F060 OFF GAS DISCHARGE VENT VALVE
- 1N64-F054 PRE FILTER INLET DRAIN VALVE
- 1N64-F034A COOLER CONDENSER A DRAIN VALVE
- 1N64-F023 HOLDUP LINE DRAIN VALVE

Which one of the following could cause all these valves to close simultaneously?

a. Main steam line high radiation trip

b. Main plant exhaust duct high radiation trip

c. Offgas pre-treatment high radiation trip

d. Offgas post-treatment high, high, high radiation trip

QUESTION: 055 (1.00)

During a plant startup with both mechanical vacuum pumps operating the mode switch for Main Steam Line Radiation Monitor, channel "B" is inadvertently taken out of "OPERATE".

The affect this has on the mechanical vacuum pumps is:

a. Trips only the "A" pump

b. Trips only the "B" pump

c. Trips both pumps

d. Does not trip any pumps

QUESTION: 056 (1.00)

A Main Control Room Halon 1301 Fire Zone will automatically actuate on:

a. smoke.

b. open flames.

c. temperature.

d. rate of temperature increase.

QUESTION: 057 (1.00)

Operation with reactor vessel level below the low level alarm setpoint will cause excessive "steam carryunder"

Which one of the following is a result of "steam carryunder"?

a. Increase in moisture carryover in the steam

b. Increase in core flow

c. Decrease in recirculation pump net positive suction head

d. Decrease in core inlet temperature

QUESTION: 058 (1.00)

SELECT the plant condition that will NOT cause a direct Main Turbine trip. (Assume the plant is at 100% power.)

a. Emergency Trip System fluid pressure has decreased to 400 psig due to a leak.

b. The Reactor Core Isolation Cooling (RCIC) system has been manually initiated via the pushbutton.

c. Turbine bearing oil pressure is 11 psig and slowly decreasing.

d. The Main Generator has experienced a reverse power condition.

QUESTION: 059 (1.00)

Following a turbine trip when does AOP-GJ02, "Main Turbine and Generator Trips", DIRECT the operator to break condenser vacuum?

Condenser vacuum shall be broken:

a. if turbine vibration levels are steady above 8 mils and turbine speed is less than 1200 rpm.

b. if turbine vibration levels are spiking above 10 mils with turbine speed above 1200 rpm.

c. anytime turbine vibration levels are spiking above 12 mils.

d. anytime turbine vibration levels are steady above 15 mils.

QUESTION: 060 (1.00)

Due to a toxic gas problem in the Control Room plant control has been transferred to the remote shutdown panel (RSP).

IDENTIFY the Reactor Core Isolation Cooling (RCIC) system interlock remaining active after control has been established at the RSP.

a. Gland seal compressor automatic start.

b. RCIC turbine trip on overspeed.

c. Automatic suction transfer to the suppression pool on high level.

d. RCIC turbine lube oil cooling water supply valve (F046) automatic opening.

QUESTION: 061 (1.00)

The Shift Supervisor has directed a Control Room evacuation.

IDENTIFY the operator whose duties DO NOT allow him to be used to implement AOP-0031 "Shutdown From Outside Main Control Room".

a. Reactor Building Nuclear Equipment Operator

b. Turbine Building Nuclear Equipment Operator

c. Auxiliary Control Room Nuclear Equipment Operator

d. At-The-Controls Nuclear Control Operator

QUESTION: 062 (1.00)

The plant has experienced a loss of off-site power with all required equipment actuations and diesel engine starts occurring as required. Off-site power has now been restored and it is desired to enable all of the "A" Diesel Generator automatic shutdowns (trips).

SELECT the method required to restore all "A" Diesel Generator automatic trips to service.

The "A" Diesel Generator:

a. must be unloaded and shutdown.

b. RHR DIV 2 Initiation Reset pushbutton must be depressed.

c. Emergency Start Reset pushbutton must be depressed.

d. LPCS/RHR DIV 1 Initiation Reset pushbutton must be depressed.

QUESTION: 063 (1.00)

Given the following plant conditions:

-- Reactor power is 100%
-- All four Circulating Water Pumps are running.
-- Normal Service Water Pumps 1A and 1C are running

A bus fault results in the loss of 1NNS-SWG2A and a lowering main condenser vacuum. What are the required IMMEDIATE operator actions.

a. Manually scram the reactor if vacuum drops to less than 25" Hg and power is above turbine bypass design.

b. Begin a controlled reactor and plant shutdown as directed by GOP-0002, "Power Decrease/Plant Shutdown".

c. Trip the main turbine if vacuum is less than 26" Hg and load is less than 310 MWe.

d. Reduce power to less than 60% as rapidly as possible with Recirc Flow Control.

QUESTION: 064 (1.00)

Given the following plant conditions:

-- A plant startup is in progress
-- Recirculation pumps are in slow speed with the flow control valves full open
-- The main generator output breaker is closed
-- Reactor power is 17%

A simultaneous trip of both Reactor Recirc Pumps occurs. What IMMEDIATE operator actions are required?

a. Monitor APRMs for indications of thermal-hydraulic instabilities.

b. Insert control rods in reverse order to less than the 80% rod line.

c. Verify the plant is not in Region "A" of the Power/Flow Graph.

d. Arm and depress the Manual Scram Pushbuttons.

QUESTION: 065 (1.00)

What is the MINIMUM rated core flow at which the plant can operate and still be assured of avoiding thermal-hydraulic instabilities?

a. 35%

b. 40%

c. 45%

d. 50%

QUESTION: 066 (1.00)

Following a complete Loss of Shutdown Cooling, temperature readings indicate a 1 degree F increase in bulk water temperature every 10 minutes. Assume the reactor vessel head is ON, no other parameters change and current temperature is 164 degrees F.

How m[illegible] TIME is allowed before primary containment integrity MUST be established?

a. 480 minutes

b. 360 minutes

c. 260 minutes

d. 160 minutes

QUESTION: 067 (1.00)

What is the minimum emergency classification that must be made for a high off-site release rate (that requires entry into EOP-3, "Radioactive Release Control").

a. General Emergency

b. Site Area Emergency

c. Alert

d. Notification of Unusual Event

QUESTION: 068 (1.00)

The reactor has automatically scrammed due to high reactor pressure. The highest recorded reactor pressure was 1118 psig.

How many Safety Relief Valves (SRVs) would have been expected to OPEN?

a. 14

b. 9

c. 7

d. 5

QUESTION: 069 (1.00)

In accordance with River Bend Tech Spec 3.6.3.1, the reactor was depressurized due to suppression pool water temperature being greater than 120 degrees F.

SELECT the CONDITIONS allowing a reactor startup.

Suppression pool temperature must be less than or equal to:

a. 120 degrees F for 24 hours.

b. 110 degrees F prior to exceeding 1% power.

c. 105 degrees F prior to opening the MSIVs.

d. 100 degrees F before changing Operational Conditions.

QUESTION: 070 (1.00)

While operating in EOP-2, "Containment Control", the operator is directed to perform an emergency RPV depressurization when plant conditions cannot "be maintained in the safe zone of the Heat Capacity Temperature Limit (HCTL)".

What are the TWO plant conditions that must be evaluated to make this decision?

a. RPV pressure and suppression pool temperature

b. Suppression pool water level and Delta T hc

c. Drywell pressure and average drywell temperature

d. Suppression pool water level and containment pressure

QUESTION: 071 (1.00)

Given the following plant conditions:

- -- The plant is shutdown with fuel movement in progress
- -- The fuel transfer cart is loaded with 2 spent fuel assemblies and in route to the Fuel Building pools
- -- The fuel transfer tube bottom valve and flap valve are both closed

Due to a mechanical problem and a power failure, the fuel transfer cart cannot be moved.

SELECT the required actions for the above conditions.

a. The spent fuel assemblies must be removed from the tube within 15 minutes.

b. The spent fuel assemblies must be removed from the tube within 30 minutes.

c. A source of make up water must be started to the fuel transfer tube within 15 minutes.

d. A source of make up water must be started to the fuel transfer tube within 30 minutes.

QUESTION: 072 (1.00)

Which one of the following describes the method of monitoring reactor power with the Intermediate Range (IRM) nuclear instrumentation following a reactor scram?

a. Insert the IRM detectors after power is below any expected Reactor Protective System actuation setpoints for Range 5.

b. Insert the IRM detectors after all APRM downscale lights are confirmed and down range once power is below Range 5.

c. Select IRM Range 10 immediately after the scram, insert the detectors and down range to follow power.

d. Fully insert the IRM detectors into the core and then down range as required to follow the power decrease.

QUESTION: 073 (1.00)

Given Table 2 from EOP-1A, "RPV Control - ATWS" as a reference and at least one injection system running and slowly injecting into the RPV.

	Number of Open SRVs	RPV Pressure Minus CTMT Pressure
	7	109 psig
TABLE 2 --	6	130 psig
Minimum Alternate	5	159 psig
RPV Flooding	4	202 psig
Pressure (MARFP)	3	274 psig
	2	418 psig
	1	851 psig

IDENTIFY the plant conditions that will CONFIRM adequate core cooling.

a. 1 SRV open
RPV pressure minus CTMT pressure is 760 psig

b. 2 SRVs open
RPV pressure minus CTMT pressure is 300 psig

c. 5 SRVs open
RPV pressure minus CTMT pressure is 325 psig

d. 6 SRVs open
RPV pressure minus CTMT pressure is 100 psig

QUESTION: 074 (1.00)

While operating in the Drywell Temperature Control leg of EOP-2, "Containment Control", the drywell temperature cannot be maintained below 330 degrees F, requiring Emergency RPV Depressurization.

What is the MINIMUM number of safety relief valves (SRV) that must be opened to meet the requirements for emergency RPV depressurization.

NOTE: This is NOT necessarily the number that the EOP directs be opened.

a. 4

b. 5

c. 6

d. 7

QUESTION: 075 (1.00)

While operating at 100% power, a valid high steam flow signal is sensed in the "B" main steam line.

SELECT the expected automatic response of the main steam system to this event?

a. Only the "B" steam line inboard and outboard MSIVs will close.

b. A full Group 6 containment isolation signal will result.

c. A Half Group 6, (Division II) containment isolation logic actuation will result.

d. One solenoid on all 8 MSIVs will de-energize, but no valve actuation will occur.

QUESTION: 076 (1.00)

The plant is in a condition requiring a full automatic Main Steam Isolation Valve (MSIV) closure. The outboard MSIVs failed to close.

SELECT the Containment & Reactor Vessel Isolation Control System (CRVICS) manual initiation pushbuttons that must be armed and depressed to complete ONLY the MSIV closure.

Arm and depress the:

a. "A" and "C" pushbuttons

b. "C" and "D" pushbuttons

c. "A" and "D" pushbuttons

d. "B" and "C" pushbuttons

QUESTION: 077 (1.00)

Given the following plant conditions:

-- The plant is at 65% power
-- The "A" Control Rod Drive (CRD) Pump is tagged for maintenance.
-- The Reactor Building Operator is recharging control rod 32-33 HCU accumulator due to low pressure.

The "B" CRD Pump trips due a breaker fault.

At what point is the operator REQUIRED to enter and carry out the actions of AOP-0001, "Reactor Scram"?

a. 10 minutes have passed with no CRD flow/pressure available.

b. 5 control rod drive temperatures are above 275 degrees F.

c. Control rod 52-29 HCU accumulator pressure is 1680 psig.

d. Control rod 16-41 HCU accumulator water level is 100 cc.

QUESTION: 078 (1.00)

EOP-3 "Secondary Containment Control" directs the operator to enter EOP-1 "RPV Control" at Step 1, and place the mode switch to shutdown, if secondary containment parameters cannot be maintained below their max safe operating values

The reason for this step is to:

a. limit the radiation release from secondary containment.

b. reduce the amount of energy being discharged into secondary containment.

c. allow personnel access to the auxiliary building.

d. avoid the need for an emergency depressurization.

QUESTION: 079 (1.00)

EOP-3, "Secondary Containment and Radioactivity Release Control", must be entered if the Secondary Containment differential pressure is above the maximum normal operating differential pressure.

The basis for this entry condition is:

a. a significant steam leak into the secondary containment is indicated.

b. a significant water leak from primary system may be discharging radioactivity directly to the secondary containment.

c. a potential for the loss of secondary containment integrity is indicated.

d. an increase in the unmonitored ground level radioactive release due to leakage through secondary containment is indicated.

QUESTION: 080 (1.00)

During a plant transient the following plant conditions exist:

- Secondary Containment area temperatures are increasing
- Secondary Containment area radiation monitors are increasing
- All Safety Relief Valves are closed

Which one of the following plant conditions would require the Control Operating Foreman to direct Emergency Depressurization of the reactor?

a. RHR "A" and "B" equipment room water levels have reached 2 inches above the floor and slowly increasing due to fire suppression system operation.

b. RHR "B" and equipment room water level has reached 6 inches above the floor due to a primary system discharging into the Auxiliary Building.

c. The RCIC equipment area temperature indicates 250 degrees F. due to a fire in the Auxiliary Building.

d. The LPCS equipment room area radiation monitor indicates 1E+05 mr/hr and RHR equipment room "A" area radiation monitor indicates 9.8E+05 mr/hr due to a LOCA outside primary containment.

QUESTION: 081 (1.00)

EOP-1, "RPV Control", was entered due to low RPV water level. Five minutes later, while still in EOP-1, drywell pressure rises to 2.0 psig.

SELECT the statement below that describes the required actions.

a. Enter EOP-2 and continue on in EOP-1.

b. Reenter EOP-1 at the beginning and enter EOP-2.

c. Exit EOP-1 and enter EOP-2.

d. Reenter EOP-1 at the beginning.

QUESTION: 082 (1.00)

The plant has experienced a loss of coolant accident. Drywell and containment pressures are increasing and the Control Operating Foreman (COF) is directing actions in accordance with EOP-2, "Containment Control".

When is containment venting REQUIRED regardless of off-site release rates?

The containment must be vented when pressure cannot be maintained below:

a. 20 psig

b. [illegible] psig

c. 5 psig

d. 2 psig

QUESTION: 083 (1.00)

Following a loss of coolant accident, when can the Hydrogen Purge System be used to begin reducing Containment hydrogen concentration?

The Hydrogen Purge System may be used:

a. before Containment hydrogen concentration reaches 6%.

b. after Containment hydrogen concentration is less than 9%.

c. 10 hours after the loss of coolant accident occurs.

d. within 30 minutes of the loss of coolant accident.

QUESTION: 084 (1.00)

River Bend is in an ATWS condition and has deliberately lowered RPV water level to -100". The Level/Power Control leg of EOP-1A, "RPV Control - ATWS", directs the operator to slowly inject water to maintain RPV level between this level (-100") and -193".

The basis for maintaining this level band is that additional level reductions below this band will:

a. NOT decrease the natural circulation core flow any further.

b. require extreme operator attention to level control.

c. cause significant power oscillations.

d. adversely affect adequate core cooling.

QUESTION: 085 (1.00)

What is the MINIMUM RPV water level at which the core is adequately cooled with NO injection systems operating?

a. -205 inches

b. -193 inches

c. -162 inches

d. -100 inches

QUESTION: 086 (1.00)

The Cold Shutdown Boron Weight (CSBW) is the amount of boron that will maintain the reactor shutdown under all conditions with the following assumptions:

-- all rods are fully withdrawn
-- no Xenon in the core
-- no voids in the core
-- all Shutdown Cooling is in service

SELECT the RPV water level assumed for CSBW.

a. The low water level scram setpoint.

b. The Top of Active Fuel (TAF).

c. The high level trip setpoint.

d. 2/3 core height.

QUESTION: 087 (1.00)

A failure to scram has occurred and reactor power is approximately 35%. SELECT the reason for running the Recirc Flow Control Valves to minimum position and transferring the recirculation pumps to slow speed prior to tripping the pumps.

a. It reduces the possibility of a turbine trip resulting from the rapid power reduction.

b. It allows time to determine if the recirc flow reduction is sufficient to reduce power.

c. It will limit the power reduction pressure transient to below the SRV lifting setpoints.

d. It prevents a possible main generator output breaker trip on reverse power.

QUESTION: 088 (1.00)

Given the following conditions:

- -- A scram condition exists but the reactor did not shutdown
- -- Reactor power is 45%
- -- The Main Steam Isolation Valves are shut
- -- Core cooling is adequate

IDENTIFY the component(s) being most severely challenged for these conditions.

a. Fuel cladding

b. Primary containment

c. Reactor vessel

d. Injection systems

QUESTION: 089 (1.00)

The plant is in an ATWS condition and is operating in EOP-1A, "RPV Control - ATWS". The operator is directed to "Maintain RPV water level between -162 in. and 51 in." using ONLY the following systems:

- -- Condensate/Feedwater
- -- CRD
- -- RCIC
- -- RHR (through shutdown cooling)

Why are these systems specifically designated for use in these conditions?

a. These systems all have a reactor grade water source to inject into the reactor.

b. At this point in the ATWS, reactor pressure precludes use of other systems.

c. Their point of injection into the reactor provides some "pre-heating" of the water.

d. They provide the operator with much more precise level control during the ATWS.

QUESTION: 090 (1.00)

While operating in the Suppression Pool Water Level Control leg of EOP-2, "Containment Control", two conditions require manually scramming the reactor. One of these conditions is that "suppression pool water level cannot be maintained in the safe zone of the Heat Capacity Level Limit (HCLL)".

The other is that suppression pool water level cannot be maintained:

a. below 21 feet.

b. above 19 feet 6 inches.

c. in the safe zone of the Heat Capacity Temperature Limit curve.

d. in the safe zone of the Maximum CTMT Water Level Limit curve.

QUESTION: 091 (1.C0)

SELECT the basis for the Primary Containment average temperature Limiting Condition for Operation (LCO).

The Primary Containment average temperature LCO is based on:

a. minimizing temperature related failures of mechanical equipment in the containment.

b. limiting peak temperatures to less than the design temperature during a loss of coolant accident.

c. minimizing temperature related insulation breakdown on electrical components in the containment.

d. allowing operator access to the safety related equipment in the containment with minimal risk of heat stress.

QUESTION: 092 (1.00)

EOP-1A, "RPV Control-ATWS" requires the operator to inhibit ADS prior to Boron injection.

The bases for inhibiting ADS under these conditions is to prevent:

a. lowering RPV level below the top of active fuel (TAF).

b. a rapid injection of cold, unborated water resulting in a rapid increase in power.

c. removing boron from the core.

d. an increase in core flow resulting in decreased voiding and an increase in power.

QUESTION: 093 (1.00)

While reducing reactor power following a loss of feedwater heating the operator inadvertently enters "Region C" of the power to flow map.

The action which can be taken to exit "Region C" is:

a. withdraw control rods in the reverse order in which they were inserted.

b. shift recirculation pumps to fast speed if in slow.

c. restart a tripped recirculation pump if the trip was the reason for entering "Region C".

d. increase recirculation flow by opening the flow control valves.

QUESTION: 094 (1.00)

Concerning the Meteorological Tower, gaseous releases from the plant are most quickly dispersed and diluted when:

a. ambient temperature is lower at the 30 ft. level.

b. ambient temperature is lower at the 150 ft. level

c. ambient temperature is the same at both the 30 ft. and 150 ft. levels.

d. the combination of wind speed and temperature differential characterize a Class "D" day.

QUESTION: 095 (1.00)

In addition to dewpoint what are ALL of the other parameters monitored at BOTH the 30 ft. and 150 ft. elevations on the Meteorological Tower?

a. Wind Speed and wind direction.

b. Wind Speed, wind direction and relative humidity.

c. Wind Speed, wind direction, and precipitation.

d. Wind speed, wind direction and temperature.

QUESTION: 096 (1.00)

Following a reactor scram from 100% power, Reactor Water Cleanup (RWCU) is rejecting to the condenser to lower RPV water level.

The parameter which limits the RWCU reject flow rate is:

a. nonregenerative heat exchanger outlet temperature.

b. regenerative heat exchanger outlet temperature.

c. nigh pressure downstream of reject Flow Control Valve, G33-F033.

d. high filter-demineralizer differential pressure.

QUESTION: 097 (1.00)

A RPV level 8 signal initiates a reactor scram if the Reactor Mode Switch is in "RUN".

The reason for this scram is:

a. to serve as a backup to the turbine trip scram.

b. anticipatory to reduce the transient caused by MSIV closure.

c. to rapidly shrink RPV level to reduce moisture carryover.

d. to mitigate the consequences of a positive reactivity addition from cold feedwater addition.

QUESTION: 098 (1.00)

Following a reactor scram from 100% power the following plant conditions exist:

- Reactor power 4%
- Reactor water level 12 inches
- Reactor pressure 1060 psig
- Suppression pool water level 19'8"
- Drywell temperature 135 degrees F.
- Suppression pool temperature 95 degrees F.
- Containment temperature 95 degrees F.

Which one of the following sets of EOP'S must be entered?

a. EOP 1 only

b. EOP 1 and EOP 2

c. EOP 2 only

d. EOP 1A and EOP 2

QUESTION: 099 (1.00)

EOP-2, "Containment Control" requires an Emergency RPV Depressurization, if Drywell temperature cannot be maintained below 330 degrees F.

Which one of the following is the Bases for this temperature limit?

a. This is the maximum temperature indication which is available in the control room

b. Above this temperature the torus to drywell vacuum breakers cannot keep up with the depressurization from steam condensation.

c. This is the drywell design temperature.

d. This is the maximum temperature to which the automatic depressurization valves (ADS) are qualified to.

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

ANSWER: 001 (1.00)

b.

REFERENCE:

ADM-0003, "Development, Control and Use of Procedures", Rev. 18, Page 12 & 24 of 58

HLO-202-3, L.O. - 5

[2.9/3.4]

294001A101 ..(KA's)

ANSWER: 002 (1.00)

a.

REFERENCE:

ADM-0020, "Plant Key Control", Rev. 5, Page 3 of 6

HLO-212-4, L.O. - 2

[3.2/3.7]

294001K105 ..(KA's)

ANSWER: 003 (1.00)

d.

REFERENCE:

ADM-0022, "Conduct of Operations", Rev. 12H, Page 13 of 42

HLO-206-6, L.O. - 5

[3.3/4.2]

294001A109 ..(KA's)

ANSWER: 004 (1.00)

a.

REFERENCE:

ADM-0027, "Protective Tagging", Rev. 9E, Page 7A of 49

HLO-201-4, L.O. - 5

[3.9/4.5]

294001K102 ..(KA's)

ANSWER: 005 (1.00)

d.

REFERENCE:

ADM-0027, "Protective Tagging", Rev. 9E, Page 7A of 49

HLO-201-4, L.O. - 5

[3.4/3.8]

294001K109 ..(KA's)

ANSWER: 006 (1.00)

c.

REFERENCE:

RSP-0212, "Drywell Entry", Rev. 5, Page 5 of 12

HLO-222-1, L.O. - 3

[3.1/3.4]

294001K108 ..(KA's)

ANSWER: 007 (1.00)

a.

REFERENCE:

OSP-0003, "Logs and Records", Rev. 6, Page 4 of 9

HLO-211-3, L.O. - 6

[3.4/3.6]

294001A106 ..(KA's)

ANSWER: 008 (1.00)

d.

REFERENCE:

OSP-0017, "Normal Control Board Lineups for Safety Related Systems", Rev. 3, Page 3 of 118

No Learning Objective Identified

[4.5/4.3]

294001A113 ..(KA's)

ANSWER: 009 (1.00)

a.

REFERENCE:

FPP-0060, "Hot Work Permit", Rev. 6A, Page 4 of 6

HLO-223-2, L.O. - 4a

[3.5/3.8]

294001K116 ..(KA's)

ANSWER: 010 (1.00)

b.

REFERENCE:

RPP-0005, "Posting of Radiologically Controlled Areas", Rev. 9A, Page 3 of 30

HLO-209-2, L.O. - 2d

[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 011 (1.00)

a.

REFERENCE:

EIP-2-005, "General Emergency", Rev. 10, Page 7 of 18

No Learning Objective Identified

[2.9/4.7]

294001A116 ..(KA's)

ANSWER: 012 (1.00)

d.

REFERENCE:

EIP-2-008, "Search and Rescue", Rev. 6, Page 3 of 9

No Learning Objective Identified

[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 013 (1.00)

c.

REFERENCE:

10 CFR 26.20, "Written Policy and Procedures"

[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 014 (1.00)

a.

REFERENCE:

ADM-0022, "Conduct of Operations", Rev. 12H, Page 17 of 42

HLO-206-6, L.O. - 18

[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 015 (1.00)

b.

REFERENCE:

River Bend Tech Spec Table 6.2.2-1, Page 6-5 and Table 1.2, Page 1-11

HLO-415-1, L.O. - 1 and 3

[3.3/4.3]

294001A111 ..(KA's)

ANSWER: 016 (1.00)

c.

REFERENCE:

OSP-0009, "Author's Guide/Control and Use of Emergency Operating Procedures", Rev. 5B, Page 39 of 47

HLO-218-3, L.O. - 1b

[4.2/4.2]

294001A102 ..(KA's)

ANSWER: 017 (1.00)

b.

REFERENCE:

River Bend Tech Spec Table 1.2, Page 1-11

FHP-0001, "Control of Fuel Handling and Refueling Operations", Rev. 7, Page9 of 34

HLO-225-1, L.O. - 4

[3.6/4.2]

294001A110 ..(KA's)

ANSWER: 018 (1.00)

b.

REFERENCE:

EIP-2-007, "Protective Action Recommendation Guidelines", Rev. 10, Page 3 of 20

No Learning Objective Identified

[2.9/4.7]

294001A116 ..(KA's)

ANSWER: 019 (1.00)

d.

REFERENCE:

LOTM-5-4 CRDH page 5. L.O.-9

[3.1/3.1]

201001K103 ..(KA's)

ANSWER: 020 (1.00)

c.

REFERENCE:

LOTM-6-4, RCIS page 40.

[3.5/3.5]

201005K405 ..(KA's)

ANSWER: 021 (1.00)

a.

REFERENCE:

LOTM-6-4 RCIS page 36. L.O.-8.b.

[3.5/3.5]

201005A301 ..(KA's)

ANSWER: 022 (1.00)

a.

REFERENCE:

LOTM-8-4 Recirculation Flow Control page 10. L.O.-3.a-b.-c.

[3.4/3.4]

202002A106 ..(KA's)

ANSWER: 023 (1.00)

b.

REFERENCE:

LOTM-19-4, Residual Heat Removal System pages 3 and 9. HLO-021-6 L.O.-11

[3.9/4.0]

203000A102 ..(KA's)

ANSWER: 024 (1.00)

b.

REFERENCE:

LOTM-19-4, Residual Heat Removal page 4. HLO-021-6 L.O.-12a

[3.3/3.5]

203000K605 ..(KA's)

ANSWER: 025 (1.00)

c.

REFERENCE:

LOTM-17-4, Low Pressure Core Spray page 3. HLO-020-6 L.O.-10.f

[2.8/3.0]

209001K407 ..(KA's)

ANSWER: 026 (1.00)

b.

REFERENCE:

LOTM-18-4, High Pressure Core Spray page 11. HLO-019-5 L.O.-5.b

[3.8/3.8]

209002A403 ..(KA's)

ANSWER: 027 (1.00)

d.

REFERENCE:

LOTM-16-4 Standby Liquid Control System page 7. HLO-016-3 L.O.-8.a

[3.4/3.6]

211000K105 ..(KA's)

ANSWER: 028 (1.00)

d.

REFERENCE:

LOTM-15-4, Reactor Protection System page 4. HLO-061 L.O.-4.e

[3.2/3.3]

212000K201 ..(KA's)

ANSWER: 029 (1.00)

a.

REFERENCE:

LOTM-15-4, Reactor Protection System page 3. HLO-061 L.O.-4.a&d and 7.

[3.9/3.9]

212000A404 ..(KA's)

ANSWER: 030 (1.00)

b.

REFERENCE:

LOTM-10-4, IRMs page 10. HLO-52-3 L.O.-10

[3.7/3.7]

215003K401 ..(KA's)

ANSWER: 031 (1.00)

d.

REFERENCE:

LOTM-9-4, SRMs page 14. HLO-051-3 L.O.-5

[3.7/3.7]

215004K401 ..(KA's)

ANSWER: 032 (1.00)

b.

REFERENCE:

Technical Specification 3.3.7.6.c. HLO-051-3 L.O.-7.a

[2.7/3.4]

215004G011 ..(KA's)

ANSWER: 033 (1.00)

c.

REFERENCE:

LOTM-11-4, LPRMs page 7. HLO-053 L.O.-3.

[3.4/3.4]

215005G010 ..(KA's)

ANSWER: 034 (1.00)

a.

REFERENCE:

LOTM-12-4, APRMs page 6. HLO-053 L.O.-8

[3.1/3.3]

215005K603 ..(KA's)

ANSWER: 035 (1.00)

a.

REFERENCE:

LOTM-3-4, Nuclear Boiler Process Instrumentation System pages 3 and 5.
HLO-056-4 L.O.-6.e

[3.9/4.0]

216000K104 ..(KA's)

ANSWER: 036 (1.00)

c.

REFERENCE:

LOTM-20-4, RCIC page 7. HLO-017-4 L.O.-5.g

[3.0/3.1]

217000K404 ..(KA's)

ANSWER: 037 (1.00)

d.

REFERENCE:

LOTM-21-4, ADS page 4 HLO-64 L.O.-7

[3.8/3.8]

218000K501 ..(KA's)

ANSWER: 038 (1.00)

d.

REFERENCE:

LOTM-21-4 ADS page 3. HLO-64 L.O.-2

[4.1/4.2]

218000A309 ..(KA's)

ANSWER: 039 (1.00)

~~d.~~ C

REFERENCE:

LOTM-24, Main Steam Page 6 and Figure 21. HLO-007-6 L.O.-10.a

[3.6/3.7]

239002A304 ..(KA's)

ANSWER: 040 (1.00)

b.

REFERENCE:

GOP-0001 "Plant Startup" Precaution 3.3 page 3. HLO-007-6 L.O. 16-C.

[3.0/3.2]

241000G010 ..(KA's)

ANSWER: 041 (1.00)

a.

REFERENCE:

LOTM-64-4, SBGT page 15. HLO-033 L.O.17

[3.2/3.1]

261000A302 ..(KA's)

ANSWER: 042 (1.00)

b.

REFERENCE:

LOTM-58-4, Standby Diesel Generator and Auxiliaries page 25 HLO-037-4 L.O.-5

[4.0/4.2]

264000K402 ..(KA's)

ANSWER: 043 (1.00)

a.

REFERENCE:

LOTM-4-4, Control Rod and Drive Mechanisms page 6. HLO-003-5 L.O.-3.q.

[3.6/3.7]

201003K404 ..(KA's)

ANSWER: 044 (1.00)

c.

REFERENCE:

LOTM-7-4, Reactor Recirculation System page 5 HLO-005-5 L.O.-13

[3.3/3.3]

202001A109 ..(KA's)

ANSWER: 045 (1.00)

d.

REFERENCE:

Technical Specification Bases 3/4.4.1 HLO-005-5 L.O.-3.h.

[3.9/3.9]

202001K401 ..(KA's)

ANSWER: 046 (1.00)

a.

REFERENCE:

LOTM-14-4, RWCU page 7. HLO-006-4 L.O.-4.b.

[3.4/3.5]

204000A304 ..(KA's)

ANSWER: 047 (1.00)

d.

REFERENCE:

SOP-0031, "Residual Heat Removal" page 3 step 2.10. HLO-021-6 L.O.-11

[3.6/3.6]

205000K604 ..(KA's)

ANSWER: 048 (1.00)

c.

REFERENCE:

SOP-0031, "Residual Heat Removal" page 3 step 2.16. HLO-021-6 L.O.-11

[3.1/3.2]

219000A203 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

LOTM-24-4, Main Steam page 6. HLO-007-6 L.O.3.g

[3.4/3.5]

239001K404 ..(KA's)

ANSWER: 050 (1.00)

a.

REFERENCE:

LOTM-24-4, Main Steam figure 16. HLO-007-6 L.O.-11.B

[3.2/3.3]

239001K201 ..(KA's)

ANSWER: 051 (2.00)

a. 7

b. 2

c. 2

d. 6

REFERENCE:

LOTM-29-4, Condenser Air Removal, page 11. HLO-025-3 L.O.-7
ARP-680-07, p. 30 of 34

[3.5/3.6]

245000A203 ..(KA's)

ANSWER: 052 (1.00)

b.

REFERENCE:

LOTM-56-4, AC Distribution page 9. HLO-034-4 L.O.3.a.

[3.4/3.5]

262001A303 ..(KA's)

ANSWER: 053 (1.00)

d.

REFERENCE:

LOTM-58-4, Standby Diesel Generators page 25. HLO-037-4 L.O.-10.b.

[3.4/3.8]

263000K301 ..(KA's)

ANSWER: 054 (1.00)

d.

REFERENCE:

LOTM-30-4, Offgas System page 41. HLO-047-3 L.O.-11

[3.1/3.3]

271000K408 ..(KA's)

ANSWER: 055 (1.00)

d.

REFERENCE:

LOTM-66-4, Process Radiation Monitoring System page 3.
HLO-068-2 L.O.-10

[3.5/3.7]

272000K305 ..(KA's)

ANSWER: 056 (1.00)

d. OR C

REFERENCE:

LOTM-73-4, Fire Detection and Protection page 16. HLO-032-4 L.O.-5

[3.2/3.3]

286000A304 ..(KA's)

ANSWER: 057 (1.00)

c.

REFERENCE:

LOTM-3-4, Nuclear Boiler Process Instrumentation System page 26
HLO-001-4 L.O-7.b

[3.2/3.4]

290002G010 ..(KA's)

ANSWER: 058 (1.00)

a.

REFERENCE:

AOP-0002, "Main Turbine and Generator Trips", Rev. 6, Page 2a of 5

HLO-086-6, L.O. - 7b

[3.1/3.1]

295005A203 ..(KA's)

ANSWER: 059 (1.00)

d.

REFERENCE:

AOP-0002, "Main Turbine and Generator Trips", Rev. 6, Page 2a of 5

HLO-025-3, L.O. - 9

[3.1/3.3]

295005G007 ..(KA's)

ANSWER: 060 (1.00)

b.

REFERENCE:

AOP-0031, "Shutdown From Outside Main Control Room", Rev. 7A, Page 24 of 75

HLO-066-3, L.O. - 7 & 8

[4.0/4.1]

295016A106 ..(KA's)

ANSWER: 061 (1.00)

c.

REFERENCE:

AOP-0031, "Shutdown From Outside Main Control Room", Rev. 7A, Page 4 of 75

No Learning Objective Identified

[3.5/4.2]

295016G012 ..(KA's)

ANSWER: 062 (1.00)

c.

REFERENCE:

SOP-0053, "Standby Diesel Generator and Auxiliaries", Rev. 6E, Page 4 of 64

HLO-037-4, L.O. - 7g

[4.1/4.2]

295003K202 ..(KA's)

ANSWER: 063 (1.00)

a.

REFERENCE:

AOP-0005, "Loss of Main Condenser Vacuum/Trip of Circulating Water Pump", Rev. 6, Page 2 of 5

HLO-024, L.O. - 11

[3.8/3.7]

295002G010 ..(KA's)

ANSWER: 064 (1.00)

d.

REFERENCE:

AOP-0024, "Core Thermal Hydraulic Instability", Rev. 5B, Page 3 of 6

HLO-005-5, L.O. - 12

[3.3/3.3]

295001A102 ..(KA's)

ANSWER: 065 (1.00)

c.

REFERENCE:

AOP-0024, "Core Thermal Hydraulic Instability", Rev. 5B, Page 6 of 6

NRC Bulletin No. 88-07, "Power Oscillations in BWRs"

HLO-005-5, L.O. - 13

[3.5/3.8]

295001A201 ..(KA's)

ANSWER: 066 (1.00)

b.

REFERENCE:

River Bend Tech Spec Table 1.2, Page 1-11

River Bend Tech Spec 3.6.1.1, Page 3/4 6-1

HLO-047-1, L.O. - 1

[3.5/3.6]

295021A201 ..(KA's)

ANSWER: 067 (1.00)

c.

REFERENCE:

EOP-3, "Radioactive Release Control", Entry Conditions

HLO-515-0, L.O. - 4

[3.7/4.7]

295038K205 ..(KA's)

ANSWER: 068 (1.00)

b.

REFERENCE:

LOTM-24-4, "Main Steam", Pages 5, 6 & 17 of 21

HLO-007-6, L.O. - 4b & c

[3.9/4.1]

295007A104 ..(KA's)

ANSWER: 069 (1.00)

d.

REFERENCE:

River Bend Tech Spec 3.6.3.1, Pages 3/4 6-26 & 6-27

River Bend Tech Spec 3.0.4, Page 3/4 0-1

[3.3/4.2]

295013G003 ..(KA's)

ANSWER: 070 (1.00)

a.

REFERENCE:

EOP-2, "Containment Control", Step 29 and Figure 2

HLO-514-0, L.O. - 3

[3.9/4.0]

295026A203 ..(KA's)

ANSWER: 071 (1.00)

d.

REFERENCE:

AOP-0027, "Fuel Handling Mishaps", Rev. 7, Page 3A of 5

HLO-510, L.O. - 5

[3.3/3.7]

295023K201 ..(KA's)

ANSWER: 072 (1.00)

d.

REFERENCE:

AOP-0001, "Reactor Scram", Rev. 8, Page 4 of 8

HLO-510, L.O. - 1 & 5

[4.2/4.2]

295006A105 ..(KA's)

ANSWER: 073 (1.00)

c.

REFERENCE:

EOP-1A, "RPV Control - ATWS", Rev. 10, Table 2

HLO-513-1, L.O. - 3

[4.0/4.3]

295031K304 ..(KA's)

ANSWER: 074 (1.00)

a.

RFFERENCE:

EOP-1, "RPV Control", Rev. 10, Step 16

EPSTG*0002-1, Appendix "A", Page 32 of 41

HLO-512-1, L.O. - 2 & 3

[3.6/3.9]

295028K301 ..(KA's)

ANSWER: 075 (1.00)

b.

REFERENCE:

LOTM-51-4, "Containment and Reactor Vessel Isolation Control System", Pages 4, 8, 26 and 32 of 58

HLO-062-4, L.O. - 9

[3.6/3.7]

295020K201 ..(KA's)

ANSWER: 076 (1.00)

b.

REFERENCE:

LOTM-51-4, "Containment and Reactor Vessel Isolation Control System", Page 37 of 58 and Figure 13

HLO-062-4, L.O. - 11a

[3.6/3.6]

295020A101 ..(KA's)

ANSWER: 077 (1.00)

d.

REFERENCE:

ARP-680-07, Rev. 6, Page 16 of 39

ARP-601-22, Rev. 4, Page 2 of 23

HLO-003-5, L.O. - 5a

[3.6/3.6]

295022A102 ..(KA's)

ANSWER: 078 (1.00)

b.

REFERENCE:

EOP-3, "Secondary Containment and Radioactive Release Control" Appendix "B" page 260. HLO-515-0 L.O.-3.

[3.6/3.8]

295032K302 ..(KA's)

ANSWER: 079 (1.00)

c.

REFERENCE:

EOP-3, "Secondary Containment and Radioactive Release Control" Appendix "B" page 260. HLO-515-0 L.O.-3.

[3.9/4.2]

295035K102 ..(KA's)

ANSWER: 080 (1.00)

d.

REFERENCE:

EOP-3, "Secondary Containment and Radioactive Release Control"
Appendix "B" page 260. HLO-515-0 L.O.-1.

[3.1/3.4]

295036A104 ..(KA's)

ANSWER: 081 (1.00)

d.

REFERENCE:

EOP-1, "RPV Control", Flowchart Entry Conditions

EPSTG*0002-1, Appendix "B", Page 23 of 269

HLO-512-1, L.O. - 4

[3.8/4.4]

295010G012 ..(KA's)

ANSWER: 082 (1.00)

a.

REFERENCE:

EOP-2, "Containment Control", Steps 20 & 21

LOTM-45-4, "Primary Containment", Page 2 of 19

HLO-013-4, L.O. - 3

[4.0/4.1]

295024A209 ..(KA's)

ANSWER: 083 (1.00)

c.

REFERENCE:

SOP-0040, "Hydrogen Mixing, Purge, Recombiners, and Ignitors", Rev. 6A, Page 5 of 28

LOTM-48-4, "Combustible Gas Control", Page 7 of 14

No Lesson Plan or Learning Objective Identified

[3.7/4.0]

295031G007 ..(KA's)

ANSWER: 084 (1.00)

d.

REFERENCE:

EOP-1A, "RPV Control - ATWS", Rev. 10, Step 70

EPSTG*0002-1, Appendix "B", Page 171 of 269

HLO-513-1, L.O. -

[4.6/4.7]

295031K101 ..(KA's)

ANSWER: 085 (1.00)

a.

REFERENCE:

EPSTG*0002-1, Appendix "A", Page 36 of 41

EPSTG*0002-1, Appendix "B", Pages 7 & 8 of 269

HLO-511-4, L.O. - 3

[4.2/4.2]

295009A201 ..(KA's)

ANSWER: 086 (1.00)

c.

REFERENCE:

EPSTG*0002-1, Appendix "A", Page 7 of 41

HLO-513-1, L.O. - 3

[3.4/3.6]

295037K105 ..(KA's)

ANSWER: 087 (1.00)

a.

REFERENCE:

EPSTG*0002-1, Appendix "B", Page 131 of 269

HLO-513-1, L.O. - 2

[4.1/4.2]

295037K301 ..(KA's)

ANSWER: 088 (1.00)

b.

REFERENCE:

EPSTG*0002-1, Appendix "B", Page 133 of 269

HLO-513-1, L.O. - 3

[3.8/3.8]

295015K104 ..(KA's)

ANSWER: 089 (1.00)

c.

REFERENCE:

EOP-1A, "RPV Control - ATWS", Rev. 10, Step 50

HLO-513-1, L.O. - 3

[4.0/4.2]

295037K209 ..(KA's)

ANSWER: 090 (1.00)

a.

REFERENCE:

EOP-2, "Containment Control", Rev. 8, Steps 42 and 43

HLO-514-0, L.O. - 2

HLO-512-1, L.O. - 4

[3.7/4.4]

295030G012 ..(KA's)

ANSWER: 091 (1.00)

b.

REFERENCE:

River Bend Tech Spec 3.6 1.8 Bases, Page B3/4 6-2

HLO-407-1, L.O. - 2

[3.0/4.1]

295027G004 ..(KA's)

ANSWER: 092 (1.00)

b.

REFERENCE:

EOP-1A, Appendix "B" page 130 step 15. HLO-513-1 L.O.-3

[4.0/4.1]

295014A107 ..(KA's)

ANSWER: 093 (1.00)

d.

REFERENCE:

AOP-0024, "Core Thermal Hydraulic Instability" page 3A. HLO-510 L.O.-5.

[3.6/3.8]

295014A102 .(KA's)

ANSWER: 094 (1.00)

b.

REFERENCE:

LOTM-74-4, Meteorological Tower page 5.

No Learning Objective Identified
[2.5/3.8]

295017A205 ..(KA's)

ANSWER: 095 (1.00)

d.

REFERENCE:

LOTM-74-4, Meteorological Tower page 2. HLO-70-3 L.O.-3

[2.5/3.9]

295017A112 ..(KA's)

ANSWER: 096 (1.00)

a.

REFERENCE:

LOTM-14-4, RWCU page 14. SOP-0090, "Reactor Water Cleanup" page 34. HLO-006-4 L.O.-6

[3.3/3.3]

295008A109 ..(KA's)

ANSWER: 097 (1.00)

d.

REFERENCE:

LOTM-3-4, Nuclear Boiler Process Instrumentation System page 4.
HLO-056-4 L.O.-12
[3.6/3.9]

295008K302 ..(KA's)

ANSWER: 098 (1.00)

c.

REFERENCE:

EOP 1, 1A and 2 Entry Conditions. HLO-514-0 L.O.-4

[4.0/4.4]

295011G011 ..(KA's)

ANSWER: 099 (1.00)

c.

REFERENCE:

Technical Specification Bases 3/4.6.2.6, Drywell Average Air Temperature.
HLO-514-0 L.O.-3

[2.9/3.8]

295012G004 ..(KA's)

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

A N S W E R   K E Y

MULTIPLE CHOICE

001 b

002 a

003 d

004 a

005 d

006 c

007 a

008 d

009 a

010 b

011 a

012 d

013 c

014 a

015 b

016 c

017 b

018 b

019 d

020 c

021 a

022 a

023 b

024 b

025 c

026 b

027 d

028 d

029 a

030 b

031 d

032 b

033 c

034 a

035 a

036 c

037 d

038 d

039 ~~d~~ c

040 b

041 a

042 b

043 a

044 c

045 d

ANSWER KEY

046 a

047 d

048 c

049 c

050 a

051 MATCHING

a 7

b 2

c 2

d 6

MULTIPLE CHOICE

052 b

053 d

054 d

055 d

056 d or C

057 c

058 a

059 d

060 b

061 c

062 c

053 a

064 d

065 c

066 b

067 c

068 b

069 d

070 a

071 d

072 d

073 c

074 a

075 b

076 b

077 d

078 b

079 c

080 d

081 d

082 a

083 c

084 d

085 a

086 c

ANSWER KEY

087	a
088	b
089	c
090	a
091	b
092	b
093	d
094	b
095	d
096	a
097	d
098	c
099	c

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

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
REACTOR OPERATOR LICENSE
REGION 4

CANDIDATE'S NAME: ____________________

FACILITY: River Bend 1

REACTOR TYPE: BWR-GE6

DATE ADMINISTERED: 92/07/20

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	______ FINAL GRADE	___ %	TOTALS

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

____
Candidate's Signature

A N S W E R   S H E E T

Multiple Choice (Circle or X your chcice)

If you change your answer, write your selection in the blank.

MULTIPLE CHOICE

001 a b c d ____
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043 a b c d ____
044 a b c d ____
045 a b c d ____

ANSWER SHEET

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

046	a	b	c	d	___	064	a	b	c	d	___
047	a	b	c	d	___	065	a	b	c	d	___
048	a	b	c	d	___	066	a	b	c	d	___
049	a	b	c	d	___	067	a	b	c	d	___
050	a	b	c	d	___	068	a	b	c	d	___
051	a	b	c	d	___	069	a	b	c	d	___
052	MATCHING					070	a	b	c	d	___
	a ___					071	a	b	c	d	___
	b ___					072	a	b	c	d	___
	c ___					073	a	b	c	d	___
	d ___					074	a	b	c	d	___
MULTIPLE CHOICE						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	___

ANSWER SHEET

Multiple Choice (Circle or X your choice)

If you change your answer, write your selection in the blank.

087 a b c d ____

088 a b c d ____

089 a b c d ____

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094 a b c d ____

095 a b c d ____

096 a b c d ____

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098 a b c d ____

099 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)

A Nuclear Control Operator (NCO) has checked out a security key 2 hours into his assigned shift.

For a non-emergency situation, what is the MAXIMUM time the NCO is allowed to keep this key on his person?

The NCO may keep the key:

a. until he has completed using it.

b. until one half hour before shift turnover.

c. until exiting the primary access point.

d. until one half hour after shift turnover.

QUESTION: 002 (1.00)

SELECT the position ALLOWED to be a member of the Fire Brigade.

a. The "At-the-Controls" Nuclear Control Operator

b. The Senior Reactor Operator for Refueling

c. The Administrative Control Operating Foreman

d. The Shift Technical Advisor

QUESTION. 003 (1.00)

IDENTIFY the appropriate conditions allowing the use of a Human Tag to prevent operation of plant equipment.

A Human Tag may be used:

a. for en equipment test planned to be completed in 45 minutes.

b. only if the person stationed as the Human Tag is from Operations.

c. with the sole permission of the Foreman supervising that job.

d. only on Non-S.fety Related plant equipment.

QUESTION: 004 (1.00)

Which set of conditions REQUIRE double valve protection when isolating a system for maintenance?

Double valve protection is required if:

a. failure of a single isolation valve has the potential for flooding plant areas.

b. one of the two isolation valves is a "fail open" air operated valve.

c. the system normal operating temperature is 185 degrees F.

d. the system normal operating pressure is 625 psig.

QUESTION: 005 (1.00)

As directed in OSP-0003, "Logs and Records", who is NOT one of the people (by position) to be informed of an out of specification reading recorded on the Turbine B ilding Nuclear Equipment Operator logsheets?

a. Shift Supervisor (SS)

b. Control Operating Foreman (COF)

c. Unit Operator (UO)

d. At-The-Controls Operator (ATC)

QUESTION: 006 (1.00)

The plant is in an emergency requiring use of the Emergency Operating Procedures (EOPs).

IDENTIFY the position directing the EOP actions for the Nuclear Equipment Operator (NEO).

a. Shift Supervisor

b. Control Operating Foreman

c. Plant Operating Foreman

d. Nuclear Control Operator

QUESTION: 007 (1.00)

SELECT the plant conditions REQUIRING performance of OSP-0017, "Normal Control Board Lineups for Safety Related Systems".

OSP-0017 must be performed:

a. after placing the Mode Switch in "Startup/Hot Standby".

b. after placing the Mode Switch in "Run".

c. prior to entering Mode 4 from Mode 5.

d. prior to entering Mode 2 from Mode 4.

QUESTION: 008 (1.00)

SELECT the MAXIMUM exposure an operator could receive in an accessible area posted "Caution - High Radiation Area" in 51 minutes.

a. 999 mrem

b. 849 mrem

c. 515 mrem

d. 85 mrem

QUESTION: 009 (1.00)

The following are current plant conditions:

-- The plant has experienced a Loss of Coolant Accident.
-- 3 personnel are unaccounted for in the Auxiliary Building.
-- The Emergency Director has directed the Search and Rescue Team to enter the building.
-- Both team members are volunteers and have no current quarterly exposure.
-- Exceeding emergency exposure limits has NOT been authorized.

What is the MAXIMUM whole body exposure each member of the Search and Rescue Team is allowed to receive on this entry?

a. 75 rem

b. 25 rem

c. 12 rem

d. 3 rem

QUESTION: 010 (1.00)

As required by 10 CFR 26, "Fitness for Duty Programs", what is the MINIMUM time an operator must abstain from the consumption of alcohol prior to any SCHEDULED shift?

a. 2 hours

b. 3 hours

c. 5 hours

d. 8 hours

QUESTION: 011 (1.00)

The plant is in an extended maintenance outage. A licensed Reactor Operator has just completed a 12 hour shift out in the plant supporting the outage.

SELECT the required action(s) regarding this operator returning to the Main Control Room and resuming licensed duties.

The Reactor Operator:

a. must have a 12 hour break.

b. must have a 8 hour break.

c. may assume licensed duties for 4 additional hours.

d. may assume licensed duties for 8 additional hours.

QUESTION: 012 (1.00)

Under what conditions may the Shift Supervisor assign the control room command function to one of the Nuclear Control Operators (NCO)?

The NCO may assume the control room command function:

a. if the Shift Technical Advisor and one other NCO are in the Main Control Room.

b. if the plant is shutdown and reactor coolant temperature is at or below 200 degrees F.

c. if the Shift Supervisor remains within the Protected Area no more than 10 minutes from the Main Control Room.

d. if the Shift Supervisor remains on-site and in radio contact with the Main Control Room.

QUESTION: 013 (1.00)

SELECT the statements describing the usage of the term "VERIFY" in the River Bend Emergency Operating Procedures?

VERIFY means:

a. equipment manipulation is neither expected nor intended by that procedural step.

b. equipment manipulation is allowed only after being directed by a Senior Reactor Operator.

c. to take the actions necessary to establish the required condition or position.

d. two (2) separate operators must independently determine the current condition or position

QUESTION: 014 (1.00)

When the Rod Control and Information System initiates a control rod withdrawal signal, flow through the stabilizing valves portion of the Control Rod Drive hydraulic system is:

a. 2 gpm.

b. 8 gpm.

c. 14 gpm.

d. 16 gpm.

QUESTION: 015 (1.00)

Select the condition which will actuate an automatic Control Rod Drive pump trip.

a. Suction pressure 20 inches Hg absolute

b. Oil pressure 3.0 psig

c. Suction filter differential pressure 9.0 psid

d. Discharge filter differential pressure 20 psig

QUESTION: 016 (1.00)

Following a reactor scram, which one of the Control Rod Drive supplies continues to receive its normal flow rate?

a. Drive flow

b. Cooling water

c. Stabilizing flow

d. Recirculation pump seal purge

QUESTION: 017 (1.00)

Which one of the following actions does NOT utilize the "settle function" of the control rod motion sequence?

a. Continuous depressing of the "INSERT" pushbutton

b. Depressing the "CONT WITHDRAW" pushbutton

c. Continuous depressing of the ""WITHDRAW" and "CONT WITHDRAW" pushbuttons

d. Depressing th "IN TIMER SKIP" pushbutton.

QUESTION: 018 (1.00)

The Low Power Setpoint utilized by the Rod Control and Information System is sensed by measuring:

a. steam flow.

b. feed flow.

c. turbine first stage pressure.

d. reactor power from APRMs.

QUESTION: 019 (1.00)

Which of the following describes the expected action(s) when depressing the "DRYWELL PRESSURE TEST" switch for the hydraulic power unit (HPU)?

a. Flow control valve (FCV) motion is inhibited.

b. HPU shifts to the maintenance mode.

c. HPU shifts to the maintenance mode and all loop controllers shift to manual.

d. FCV motion is inhibited and the HPU shifts to the maintenance mode.

QUESTION: 020 (1.00)

The power supply to Residual Heat Removal Pump "C" is:

a. 1ENS*SWG1A

b. 1ENS*SWG1B

c. 1ENS*SWG3A

d. 1ENS*SWG3B

QUESTION: 021 (1.00)

The Residual Heat Removal pump suppression pool suction valves, E12*F004A(B) are equipped with 3/4 inch lines routed to the suppression pool.

The purpose of these lines is to:

a. prevent air from accumulating in the suction piping.

b. flush corrosion products from the suction piping.

c. prevent pressure locking of F004A(B) in the closed position.

d. provide a minimum flow path during shutdown cooling.

QUESTION: 022 (1.00)

The Low Pressure Core Spray (LPCS) injection line break detection system senses differential pressure:

a. on the LPCS injection line inside and outside the shroud.

b. between the LPCS injection line and the "A" RHR LPCI injection line.

c. between the LPCS injection line and the high pressure core spray injection line.

d. between the LPCS injection line and the standby liquid control injection line.

QUESTION: 023 (1.00)

The quarterly Low Pressure Core Spray (LPCS) System operability test is in progress with the Suppression Pool Test Return Valve, E21*F012, fully open when a loss of coolant accident (LOCA) occurs.

Plant conditions are as follows:

- Reactor vessel water level is -160 inches, decreasing
- Reactor pressure is 450 psig, decreasing
- The Test Return Valve E21*F012 fails to close on the LPCS initiation signal

Which one of the following describes the response of the LPCS system to these conditions?

a. The Injection Valve, E21*F005, opens and LPCS flow indicator reads approximately 5000 gpm.

b. The Injection Valve, E21*F005, opens and LPCS flow indicator reads full scale, 8000 gpm.

c. The Injection Valve, E21*F005, remains closed and LPCS flow indicator reads 875 gpm.

d. The Injection Valve, E21*F005, remains closed and LPCS flow indicator reads approximately 3500 gpm.

QUESTION: 024 (1.00)

Following an automatic High Pressure Core Spray (HPCS) actuation the injection valve, E22*F004 closed on an RPV Level 8 signal?

After RPV level decreases to 30 inches, which one of the following actions will reopen the HPCS injection valve, E22*F004?

a. Taking the handswitch to open

b. Depressing the "HPCS INITIATION RESET" pushbutton and taking the handswitch to open

c. Arming and depressing the "HPCS MANUAL INITIATION" pushbutton

d. Depressing the "HPCS HIGH WATER LEVEL RESET" pushbutton and taking the handswitch to open

QUESTION: 025 (1.00)

When the standby liquid control "Squib Continuity" White indicating lights, C41-F004A(B) are illuminated they indicate:

a. the valves have lost power.

b. the squibs have been fired.

c. continuity and power are available.

d. the squibs have fired and the valves are open.

QUESTION: 026 (1.00)

The Key Operated Power Selector Switch, C71B-SIB for Reactor Protection System (RPS) bus "B" is selected to "ALTERNATE".

With the Switch selected to "ALTERNATE" the power supply to RPS bus "B" is:

a. 1NHS-MCC10A2.

b. 1NHS-MCC10B.

c. 1EHS*MCC14A.

d. 1EHS*MCC14B.

QUESTION: 027 (1.00)

Which one of the following describes the affect a trip of Reactor Protection System bus "A" (half scram) will have on the backup scram valves, SOV F110A and SOV F110B?

a. SOV 110A will energize

b. SOV 110A will deenergize

c. Both valves will remain energized

d. Both valves will remain deenergized

QUESTION: 028 (1.00)

With the Reactor Mode Switch in "STARTUP" the "MODE/TEST" switch on IRM channel "D" drawer is inadvertently taken out of "OPERATE".

This will result in a:

a. trip of RPS "B" logic only.

b. rod withdraw block only.

c. trip of RPS "B" logic and a rod withdrawal block.

d. full reactor scram if any other IRM is bypassed.

QUESTION: 029 (1.00)

During a reactor startup the "UP RANGE" light for IRM channel "D" illuminates with the IRM on range 2. The operator inadvertently increases the IRM to range 4.

IRM channel "D" will now indicate:

a. 0/125

b. 0.75/125

c. 7.5/125

d. 75/125

QUESTION: 030 (1.00)

Which one of the following conditions will cause the Source Range Monitor (SRM) "RETRACT PERMIT" light to energize?

a. The SRMs are on scale (with IRM overlap) and the IRMs are withdrawn.

b. Both of the associated IRMs are on Range 2 or above.

c. One of the associated IRMs is on Range 3.

d. The SRM count rate is greater than 100 counts per second.

QUESTION: 031 (1.00)

Which one of the following describes the function of the shorting links used in Reactor Protection System (RPS)?

a. Installation of the shorting links activates the SRM Scrams and bypasses the IRM and APRM scrams.

b. Removal of the shorting links activates the SRM scrams in a coincidence of one-out-of-two-twice logic scheme.

c. Installation of the shorting links activates the SRM, IRM AND APRM scrams in coincident logic schemes.

d. Removal of the shorting links activates the SRM, IRM and APRM scrams in non-coincident logic schemes.

QUESTION: 032 (1.00)

The following chart, (reading across) provides the number of LPRMs that are operable for each LPRM level of APRM "E".

Which one of the following will result in an automatic APRM Inoperative Trip for channel "E"?

	LPRMs Level A	LPRMs Level B	LPRMs Level C	LPRMs Level D
a.	3	3	2	2
b.	4	3	3	1
c.	4	2	2	4
d.	3	2	3	3

QUESTION: 033 (1.00)

With two recirculation pumps running, the maximum APRM Upscale Thermal Power Trip Scram setpoint is:

a. 108.7 % power.

b. 111 % power.

c. 114 % power.

d. 118% power.

QUESTION: 034 (1.00)

Which one of the following Level 8 functions uses wide range level instrument signals?

a. Isolate HPCS injection on a high reactor water level.

b. Initiate a high reactor water level scram.

c. Close the RCIC steam supply valve, 1E51*F045.

d. Trip the feedwater pumps and main turbine on high reactor water level.

QUESTION: 035 (1.00)

Following shutdown of the RCIC turbine which one of the following prevents drawing water from the suppression pool into the exhaust line as the exhaust steam condenses?

a. RCIC Turbine Exhaust to Suppression Pool valve 1E51*MOVF068 automatically closes when RCIC is shutdown.

b. RCIC Turbine Exhaust Line Check Valve 1E51*VF040 closes.

c. RCIC Turbine Exhaust Vacuum Breaker Check Valves 1E51*VF79 & 81 open.

d. RCIC Turbine Exhause Vacuum Breaker Isolation Valves 1E51*MOVF077 & 78 automatically open.

QUESTION: 036 (1.00)

Following a valid ADS initiation, the operator is directed to close the ADS valves with the initiating signals still present.

Which one of the following operator actions will cause the ADS valves to close?

a. Place the control switches on 1H13P*601 for the ADS valves to the "OFF" position.

b. Place the ADS inhibit switches on 1H13P*601 to the "NORMAL" position.

c. Shutdown all low pressure ECCS systems in either Div. 1 or Div. 2.

d. Depress both "ADS Timer/Level 3 Seal-In Reset" pushbuttons, S13A(B)

QUESTION: 037 (1.00)

Which one of the following describes the meaning of an illuminated red light on the VERTICAL section of panel 1H13*P601-19B, between the ADS reset and initiation switches?

a. The tailpipe acoustic monitor is alarming

b. The tailpipe thermocouple is alarming

c. The SRV solenoid open limit switch is energized

d. The SRV control switch is in the off position

QUESTION: 038 (1.00)

When reactor power is greater than the Low Power Setpoint, GOP 0001, "Plant Startup," requires all turbine bypass valves to be fully closed when withdrawing control rods.

What is the basis for this requirement?

a. If the bypass valves are open, the APRM indications result in a non-conservative AGAF condition.

b. With the bypass valves open, the RPCS senses Rx power as less than actual and the potential exists for a non-conservative rod withdrawal.

c. Ensures that the peak fuel enthalpy during a control rod drop accident does not exceed 280 cal/gm.

d. Provides the opportunity for reactivity addition by two different mear , at the same time if a bypass valve were to go closed during rod withdrawal.

QUESTION: 039 (1.00)

During operation at 100% power Reactor Feedwater Pump "B" trips. All automatic systems function as designed.

Which one of the following describes the expected plant response?

a. Reactor scram on low vessel water level

b. Feedwater pumps "A" and "C" will maintain level with pump amps at "runout" conditions

c. Reactor Recirculation pumps shift to slow speed

d. Recirculation flow control valve runback to approximately 60% drive flow position

QUESTION: 040 (1.00)

During operation at 100% power, one of the steam flow inputs to the feedwater level control system fails to zero. The feedwater level system functions as designed in automatic control.

Reactor vessel water level will:

a. initially increase and stabilize at a higher level then before the failure.

b. initially decrease and then increase and stabilize at a lower level than before the failure.

c. increase until the level 8 trip setpoint is reached.

d. decrease until the low vessel water level scram setpoint is reached.

QUESTION: 041 (1.00)

Following an automatic initiation of the Standby Gas Treatment (SGT) system the operator stops Train "A" and returns it to "STANDBY" with the initiation signal still present.

Which ONE of the following restores the SGT system to operation if the Train "B" fan motor trips.

a. Train "A" will automatically initiate on low air flow in train "B"

b. Place the SGT DIV II Inoperability switch in "ON" which will automatically initiate SGT train "A"

c. Train "B" must be placed in "LOCKOUT" and train "A" manually initiated

d. Train "A" will automatically initiate on a positive pressure signal in the annulus

QUESTION: 042 (1.00)

Which one of the following Diesel Generator stop signals "seals in" such that the "STOP RESET" pushbutton must be depressed as ONE of the actions required to reset the diesel?

a. Low-Low lube oil pressure

b. High jacket water temperature

c. Generator "86" relay accuation

d. Engine overspeed

QUESTION: 043 (1.00)

The "A" loop of the Residual Heat Removal System is preferred for Shutdown Cooling (SDC) because:

a. the SDC suction is from the "A" recirculation loop.

b. the SDC return is via the "A" feedwater line.

c. part of the return flow can be diverted to the RCIC head spray line.

d. the "A" loop heat exchanger has demonstrated a higher heat removal capacity.

QUESTION: 044 (1.00)

Five minutes after an automatic initiation of the Residual Heat Removal (RHR) system it is desired to place the "B" loop in the Suppression Pool Cooling mode.

Which one of the following is required before that lineup can be completed?

a. Wait five minutes to remove the open signal to the heat exchanger bypass valve, 1E12*MOVF048B.

b. Immediately override and close the heat exchanger bypass valve, 1E12*MOVF048B.

c. Depress the DIV 2 "RHR INITIATION RESET" pushbutton and close the heat exchanger bypass valve, 1E12*MOVF048B.

d. Immediately override and close injection valve F042B then close the heat exchanger bypass valve, 1E12*MOVF048B.

QUESTION: 045 (1.00)

When performing a control rod coupling check at position 48 an uncoupled control rod is indicated by:

a. Rod position display does not change from position 48 and CONTROL ROD DRIFT annunciator alarms.

b. Rod position display indicates blank and red backlighting on full core display extinguishes.

c. Rod position display indicates blank and ROD OVERTRAVEL annunciator alarms.

d. Rod position display indicates blank and CONTROL ROD DRIFT annunciator alarms.

QUESTION: 046 (1.00)

During operation at 100% power the following panel indications for recirculation pump "B" are noted:

- Seal cavity #1 pressure reads 920 psig
- Seal cavity #2 pressure reads 420 psig
- Annunciator "RECIRC PUMP B OUTER SEAL HIGH LEAKAGE" (P680-4A-D11) is alarming
- Annunciator "RECIRC PUMP B SEAL STAGING HIGH/LOW FLOW" (P680-4A-E11) is alarming

This indicates that:

a. the seal staging line isolation valve has failed closed.

b. the seal purge pressure reducing valve has failed.

c. both #1 and #2 seals have failed.

d. only #2 seal has failed

QUESTION: 047 (1.00)

If reactor power is greater than 40% and a turbine trip occurs, the Reactor Recirculation Pump Trip (RPT) interlock will:

a. trip all power to the recirculation pumps.

b. shift the recirculation pumps to slow speed.

c. runback the recirculation flow control valves to 60% drive flow.

d. runback the recirculation flow control valves to minimum position.

QUESTION: 048 (1.00)

A low suction flow of 70 gpm, sensed by FE-N035 will trip the Reactor Water Cleanup (RWCU) pump.

The reason for this is to protect against a:

a. suction valve failing closed.

b. plugged filter demineralizer outlet strainer.

c. leak on the suction piping.

d. low flow condition resulting in a loss of demineralizer precoat.

QUESTION: 049 (1.00)

The operators are aligning RHR Loop B for Shutdown Cooling (SDC). The SDC suction valves (F008 and F009) from the reactor vessel are OPEN.

Which one of the following inadvertent operator actions would result in draining the reactor vessel to the suppression pool?

a. The operator attempts to open RHR Suppression Pool Suction, F004B with RHR Pump SDC Suction, F006B open.

b. The operator attempts to open RHR Pump SDC Suction, F006B prior to closing RHR Suppression Pool Suction, F004B.

c. The operator attempts to open RHR Pump SDC Suction, F006B with RHR Suppression Pool Suction, F004B closed and RHR Test Return to Suppression Pool, F024B open.

d. The operator attempts to open RHR Test Return to Suppression Pool, F024B after RHR Suppression Pool Suction, F004B is closed and RHR Pump SDC Suction, F006B is opened.

QUESTION: 050 (1.00)

The configuration of the power supply of the two solenoids for each Main Steam Isolation Valve (MSIV) is:

a. both solenoids are powered from 120 volt AC.

b. both solenoids are powered from 125 volt DC.

c. the inboards are powered from 120 volt AC the outboards are powered from 125 volt DC.

d. each MSIV has one solenoid powered from 120 volt AC and one powered from 125 volt DC.

QUESTION: 051 (1.00)

Following a reactor scram and main steam line isolation reactor pressure increases to the liftpoint of the lowest set Safety Relief Valve (SRV) F051D (1103 psig).

Which one of the following describes the response of the SRVs?

a. F051D will lift, another SRV will NOT lift until the next liftpoint threshold is reached at 1113 psig

b. F051D lifting will actuate the low-low set logic and all five valves with associated with low-low set will lift

c. F051D and F051C will both lift and cycle on low-low set between 926 psig and 1073 psig

d. F051D will actuate the low-low set logic which will also cause F051C to lift

QUESTION: 052 (2.00)

Match the main condenser vacuum setpoints in column B with the actuation in column A.

The items from column B may be used once, more than once, or not at all and a only a single answer may occupy one answer space.

COLUMN A (Actuation)	COLUMN B (Vacuum Setpoints)
a. "CONDENSER VACUUM LOW" annunciator	1. 5 inches Hg
b. turbine bypass valves close	2. 8.5 inches Hg
c. main steam isolation valve close	3. 9 inches Hg
d. main turbine trip	4. 15 inches Hg
	5. 20 inches Hg
	6. 22.5 inches Hg
	7. 25 inches Hg

QUESTION: 053 (1.00)

With the reactor operating at 100% power a bus fault trips 1NPS-SWG1B.

Which one of the following will be the OPERATING condensate and feedwater pump configuration after the trip of bus 1NPS-SWG1B?

a. Condensate pumps "A" and "C" Feedwater pumps "A" and "C"

b. Condensate Pump "A" and "C" Feedwater pump "A"

c. Condensate pump "C" and Feedwater pump "A"

d. Condensate pump "B" and Feedwater pumps "B" and "C"

QUESTION: 054 (1.00)

A valid LOCA signal is received with offsite power still available.

Which one of the following describes the resultant load shedding and sequencing which occurs on the standby busses?

a. Both 480 volt AC load centers and 4.16 KV loads are load shed and sequenced back on

b. No load shedding occurs, the 4.16 KV loads are sequenced on

c. No load shedding or load sequencing occurs

d. Only the 480 Volt AC load centers are load shed and sequenced back on

QUESTION: 055 (1.00)

Each 120 volt uninterruptible power supply bus has a primary, backup and alternate power supply.

The backup source to the primary power supply is:

a. 125 volt DC from the station battery.

b. 250 volt DC from the station battery.

c. 480 volt AC through a rectifier.

d. 480 Volt AC through a voltage regulating transformer.

QUESTION: 056 (1.00)

The 125 volt DC supply from ENB*SWG1A to the Division 1 Standby Diesel Generator trips.

What is the effect on the control logic if the diesel was running loaded at the time of the trip?

a. The generator output breaker trip open, the engine continues to run unloaded.

b. The generator output breaker trips open, the engine trips.

c. The engine trips with the generator output breaker remaining closed.

d. The engine will continue to run loaded without any tripping ability.

QUESTION: 057 (1.00)

The Division I and II vital batteries are designed to supply all loads not tripped under LOCA conditions for:

a. 2 hours.

b. 4 hours.

c. 8 hours.

d. 12 hours.

QUESTION: 058 (1.00)

The plant is operating at 85% power with the Offgas Treatment Mode Switch in "AUTO". In the control room the operator observes the closure of the following valves:

- 1N64-F060 OFF GAS DISCHARGE VENT VALVE
- 1N64-F054 PRE FILTER INLET DRAIN VALVE
- 1N64-F034A COOLER CONDENSER A DRAIN VALVE
- 1N64-F023 HOLDUP LINE DRAIN VALVE

Which one of the following could cause all these valves to close simultaneously?

a. Main steam line high radiation trip

b. Main plant exhaust duct high radiation trip

c. Offgas pre-treatment high radiation trip

d. Offgas post-treatment high, high, high radiation trip

QUESTION: 059 (1.00)

During a plant startup with both mechanical vacuum pumps operating the mode switch for Main Steam Line Radiation Monitor, channel "B" is inadvertently taken out of "OPERATE".

The affect this has on the mechanical vacuum pumps is:

a. Trips only the "A" pump

b. Trips only the "B" pump

c. Trips both pumps

d. Does not trip any pumps

QUESTION: 060 (1.00)

A Main Control Room Halon 1301 Fire Zone will automatically actuate on:

a. smoke.

b. open flames.

c. temperature.

d. rate of temperature increase.

QUESTION: 061 (1.00)

Which one the following describes a MISORIENTED fuel bundle?

a. Orientation boss on fuel bundle bail points toward the center of the control cell.

b. The channel spacer buttons are adjacent to the control blade and adjacent to each other.

c. Serial number on bail is readable as viewed from the center of the control cell.

d. Channel fasteners are located on outside edge 180 degrees away from fuel cell center.

QUESTION: 062 (1.00)

The inboard Main Steam Isolation Valve (MSIV) Positive Leakage Control System (PLCS) initiation switch is placed in "OPERATE"?

Which one of the following conditions must be met to enable automatic operation to begin?

a. 5 minute post LOCA timer timed out.

b. Penetration valve leakage control pressure to each PLCS subsystem greater than 35 psig

c. Main steam line pressure less than 50 psig

d. Reactor pressure less than 25 psig

QUESTION: 063 (1.00)

Operation with reactor vessel level below the low level alarm setpoint will cause excessive "steam carryunder"

Which one of the following is a result of "steam carryunder"?

a. Increase in moisture carryover in the steam

b. Increase in core flow

c. Decrease in recirculation pump net positive suction head

d. Decrease in core inlet temperature

QUESTION: 064 (1.00)

The Reactor Mode Switch is in "REFUEL" and the refuel platform grapple is in the fully raised position.

Which one of the following will generate a rod block?

a. The refuel platform is positioned over the vessel and the fuel grapple is unloaded.

b. The refuel platform is positioned over the fuel pool and the fuel grapple is unloaded.

c. The refuel platform is positioned over the vessel and the fuel grapple is loaded.

d. The refuel platform is positioned over the fuel pool and the fuel grapple is loaded.

QUESTION: 065 (1.00)

SELECT the plant condition that will NOT cause a direct Main Turbine trip. (Assume the plant is at 100% power.)

a. Emergency Trip System fluid pressure has decreased to 400 psig due to a leak.

b. The Reactor Core Isolation Cooling (RCIC) system has been manually initiated via the pushbutton.

c. Turbine bearing oil pressure is 11 psig and slowly decreasing.

d. The Main Generator has experienced a reverse power condition.

QUESTION: 066 (1.00)

Following a turbine trip when does AOP-0002, "Main Turbine and Generator Trips", DIRECT the operator to break condenser vacuum?

Condenser vacuum shall be broken:

a. if turbine vibration levels are steady above 8 mils and turbine speed is less than 1200 rpm.

b. if turbine vibration levels are spiking above 10 mils with turbine speed above 1200 rpm.

c. anytime turbine vibration levels are spiking above 12 mils.

d. anytime turbine vibration levels are steady above 15 mils.

QUESTION: 067 (1.00)

Due to a toxic gas problem in the Control Room plant control has been transferred to the remote shutdown panel (RSP).

IDENTIFY the Reactor Core Isolation Cooling (RCIC) system interlock remaining active after control has been established at the RSP.

a. Gland seal compressor automatic start.

b. RCIC turbine trip on overspeed.

c. Automatic suction transfer to the suppression pool on high level.

d. RCIC turbine lube oil cooling water supply valve (F046) automatic opening.

QUESTION: 068 (1.00)

After a control room evacuation, how many Safety Relief Valves may be operated from the Remote Shutdown Panel?

a. 3

b. 5

c. 7

d. 16

QUESTION: 069 (1.00)

The plant has experienced a loss of off-site power with all required equipment actuations and diesel engine starts occurring as required. Off-site power has now been restored and it is desired to enable all of the "A" Diesel Generator automatic shutdowns (trips).

SELECT the method required to restore all "A" Diesel Generator automatic trips to service.

The "A" Diesel Generator:

a. must be unloaded and shutdown.

b. RHR DIV 2 Initiation Reset pushbutton must be depressed.

c. Emergency Start Reset pushbutton must be depressed.

d. LPCS/RHR DIV 1 Initiation Reset pushbutton must be depressed.

QUESTION: 070 (1.00)

Given the following plant conditions:

-- Reactor power is 100%
-- All four Circulating Water Pumps are running.
-- Normal Service Water Pumps 1A and 1C are running

A bus fault results in the loss of 1NNS-SWG2A and a lowering main condenser vacuum. What are the required IMMEDIATE operator actions.

a. Manually scram the reactor if vacuum drops to less than 25" Hg and power is above turbine bypass design.

b. Begin a controlled reactor and plant shutdown as directed by GOP-0002, "Power Decrease/Plant Shutdown".

c. Trip the main turbine if vacuum is less than 26" Hg and load is less than 310 MWe.

d. Reduce power to less than 60% as rapidly as possible with Recirc Flow Control.

QUESTION: 071 (1.00)

Given the following plant conditions:

-- A plant startup is in progress
-- Recirculation pumps are in slow speed with the flow control valves full open
-- The main generator output breaker is closed
-- Reactor power is 17%

A simultaneous trip of both Reactor Recirc Pumps occurs. What IMMEDIATE operator actions are required?

a. Monitor APRMs for indications of thermal-hydraulic instabilities.

b. Insert control rods in reverse order to less than the 80% rod line.

c. Verify the plant is not in Region "A" of the Power/Flow Graph.

d. Arm and depress the Manual Scram Pushbuttons.

QUESTION: 072 (1.00)

What is the MINIMUM rated core flow at which the plant can operate and still be assured of avoiding thermal-hydraulic instabilities?

a. 35%

b. 40%

c. 45%

d. 50%

QUESTION: 073 (1.00)

Following a complete Loss of Shutdown Cooling, temperature readings indicate a 1 degree F increase in bulk water temperature every 10 minutes. Assume the reactor vessel head is ON, no other parameters change and current temperature is 164 degrees F.

How much TIME is allowed before primary containment integrity MUST be established?

a. 480 minutes

b. 360 minutes

c. 260 minutes

d. 160 minutes

QUESTION: 074 (1.00)

The plant has experienced a reactor scram on high pressure with a peak pressure of 1145 psig. All automatic actions and systems have operated as designed.

IDENTIFY the energized/de-energized status of the Reactor Protection System (RPS) solenoids and the Alternate Rod Insertion (ARI) solenoids following the scram. (Assume no operator actions have been taken.)

	Scram Pilot Solenoids	Backup Scram Solenoids	ARI Solenoids
a.	De-energized	Energized	Energized
b.	De-energized	Energized	De-energized
c.	Energized	De-energized	Energized
d.	Energized	De-energized	De-energized

QUESTION: 075 (1.00)

The reactor has automatically scrammed due to high reactor pressure. The highest recorded reactor pressure was 1118 psig.

How many Safety Relief Valves (SRVs) would have been expected to OPEN?

a. 14

b. 9

c. 7

d. 5

QUESTION: 076 (1.00)

IDENTIFY the suppression pool temperature REQUIRING the reactor mode switch to be placed in the "Shutdown" position and at least one loop of Residual Heat Removal be placed in Suppression Pool Cooling.

a. 100 degrees F

b. 105 degrees F

c. 110 degrees F

d. 120 degrees F

QUESTION: 077 (1.00)

While operating in EOP-2, "Containment Control", the operator is directed to perform an emergency RPV depressurization when plant conditions cannot "be maintained in the safe zone of the Heat Capacity Temperature Limit (HCTL)".

What are the TWO plant conditions that must be evaluated to make this decision?

a. RPV pressure and suppression pool temperature

b. Suppression pool water level and Delta T hc

c. Drywell pressure and average drywell temperature

d. Suppression pool water level and containment pressure

QUESTION: 078 (1.00)

Given the following plant conditions:

-- The plant is shutdown with fuel movement in progress
-- The fuel transfer cart is loaded with 2 spent fuel assemblies and in route to the Fuel Building pools
-- The fuel transfer tube bottom valve and flap valve are both closed

Due to a mechanical problem and a power failure, the fuel transfer cart cannot be moved.

SELECT the required actions for the above conditions.

a. The spent fuel assemblies must be removed from the tube within 15 minutes.

b. The spent fuel assemblies must be removed from the tube within 30 minutes.

c. A source of make up water must be started to the fuel transfer tube within 15 minutes.

d. A source of make up water must be started to the fuel transfer tube within 30 minutes.

QUESTION: 079 (1.00)

Which one of the following describes the method of monitoring reactor power with the Intermediate Range (IRM) nuclear instrumentation following a reactor scram?

a. Insert the IRM detectors after power is below any expected Reactor Protective System actuation setpoints for Range 5.

b. Insert the IRM detectors after all APRM downscale lights are confirmed and down range once power is below Range 5.

c. Select IRM Range 10 immediately after the scram, insert the detectors and down range to follow power.

d. Fully insert the IRM detectors into the core and then down range as required to follow the power decrease.

QUESTION: 080 (1.00)

Given Table 2 from EOP-1A, "RPV Control - ATWS" as a reference and at least one injection system running and slowly injecting into the RPV.

	Number of Open SRVs	RPV Pressure Minus CTMT Pressure
TABLE 2 -- Minimum Alternate RPV Flooding Pressure (MARFP)	7	109 psig
	6	130 psig
	5	159 psig
	4	202 psig
	3	274 psig
	2	418 psig
	1	851 psig

IDENTIFY the plant conditions that will CONFIRM adequate core cooling.

a. 1 SRV open
RPV pressure minus CTMT pressure is 760 psig

b. 2 SRVs open
RPV pressure minus CTMT pressure is 300 psig

c. 5 SRVs open
RPV pressure minus CTMT pressure is 325 psig

d. 6 SRVs open
RPV pressure minus CTMT pressure is 100 psig

QUESTION: 081 (1.00)

While operating in the Drywell Temperature Control leg of EOP-2, "Containment Control", the drywell temperature cannot be maintained below 330 degrees F, requiring Emergency RPV Depressurization.

What is the MINIMUM number of safety relief valves (SRV) that must be opened to meet the requirements for emergency RPV depressurization.

NOTE: This is NOT necessarily the number that the EOP directs be opened.

a. 4

b. 5

c. 6

d. 7

QUESTION: 082 (1.00)

While operating at 100% power, a valid high steam flow signal is sensed in the "B" main steam line.

SELECT the expected automatic response of the main steam system to this event?

a. Only the "B" steam line inboard and outboard MSIVs will close.

b. A full Group 6 containment isolation signal will result.

c. A Half Group 6, (Division II) containment isolation logic actuation will result.

d. One solenoid on all 8 MSIVs will de-energize, but no valve actuation will occur.

QUESTION: 083 (1.00)

The plant is in a condition requiring a full automatic Main Steam Isolation Valve (MSIV) closure. The outboard MSIVs failed to close.

SELECT the Containment & Reactor Vessel Isolation Control System (CRVICS) manual initiation pushbuttons that must be armed and depressed to complete ONLY the MSIV closure.

Arm and depress the:

a. "A" and "C" pushbuttons

b. "C" and "D" pushbuttons

c. "A" and "D" pushbuttons

d. "B" and "C" pushbuttons

QUESTION: 084 (1.00)

Given the following plant conditions:

-- The plant is at 65% power
-- The "A" Control Rod Drive (CRD) Pump is tagged for maintenance.
-- The Reactor Building Operator is recharging control rod 32-33 HCU accumulator due to low pressure.

The "B" CRD Pump trips due a breaker fault.

At what point is the operator REQUIRED to enter and carry out the actions of AOP-0001, "Reactor Scram"?

a. 10 minutes have passed with no CRD flow/pressure available.

b. 5 control rod drive temperatures are above 275 degrees F.

c. Control rod 52-29 HCU accumulator pressure is 1680 psig.

d. Control rod 16-41 HCU accumulator water level is 100 cc.

QUESTION: 085 (1.00)

EOP-3 "Secondary Containment Control" directs the operator to enter EOP-1 "RPV Control" at Step 1, and place the mode switch to shutdown, if secondary containment parameters cannot be maintained below their max safe operating values

The reason for this step is to:

a. limit the radiation release from secondary containment.

b. reduce the amount of energy being discharged into secondary containment.

c. allow personnel access to the auxiliary building.

d. avoid the need for an emergency depressurization.

QUESTION: 086 (1.00)

EOP-3, "Secondary Containment and Radioactivity Release Control", must be entered if the Secondary Containment differential pressure is above the maximum normal operating differential pressure.

The basis for this entry condition is:

a. a significant steam leak into the secondary containment is indicated.

b. a significant water leak from primary system may be discharging radioactivity directly to the secondary containment.

c. a potential for the loss of secondary containment integrity is indicated.

d. an increase in the unmonitored ground level radioactive release due to leakage through secondary containment is indicated.

QUESTION: 087 (1.00)

EOP-1, "RPV Control", was entered due to low RPV water level. Five minutes later, while still in EOP-1, drywell pressure rises to 2.0 psig.

SELECT the statement below that describes the required actions.

a. Enter EOP-2 and continue on in EOP-1.

b. Reenter EOP-1 at the beginning and enter EOP-2.

c. Exit EOP-1 and enter EOP-2.

d. Reenter EOP-1 at the beginning.

QUESTION: 088 (1.00)

The plant has experienced a loss of coolant accident. Drywell and containment pressures are increasing and the Control Operating Foreman (COF) is directing actions in accordance with EOP-2, "Containment Control".

When is containment venting REQUIRED regardless of off-site release rates?

The containment must be vented when pressure cannot be maintained below:

a. 20 psig

b. 10 psig

c. 5 psig

d. 2 psig

QUESTION: 089 (1.00)

Following a loss of coolant accident, when can the Hydrogen Purge System be used to begin reducing Containment hydrogen concentration?

The Hydrogen Purge System may be used:

a. before Containment hydrogen concentration reaches 6%.

b. after Containment hydrogen concentration is less than 9%.

c. 10 hours after the loss of coolant accident occurs.

d. within 30 minutes of the loss of coolant accident.

QUESTION: 090 (1.00)

River Bend is in an ATWS condition and has deliberately lowered RPV water level to -100". The Level/Power Control leg of EOP-1A, "RPV Control - ATWS", directs the operator to slowly inject water to maintain RPV level between this level (-100") and -193".

The basis for maintaining this level band is that additional level reductions below this band will:

a. NOT decrease the natural circulation core flow any further.

b. require extreme operator attention to level control.

c. cause significant power oscillations.

d. adversely affect adequate core cooling.

QUESTION: 091 (1.00)

What is the MINIMUM RPV water level at which the core is adequately cooled with NO injection systems operating?

a. -205 inches

b. -193 inches

c. -162 inches

d. -100 inches

QUESTION: 092 (1.00)

A failure to scram has occurred and reactor power is approximately 25%. SELECT the reason for running the Recirc Flow Control Valves to minimum position and transferring the recirculation pumps to slow speed prior to tripping the pumps.

a. It reduces the possibility of a turbine trip resulting from the rapid power reduction.

b. It allows time to determine if the recirc flow reduction is sufficient to reduce power.

c. It will limit the power reduction pressure transient to below the SRV lifting setpoints.

d. It prevents a possible main generator output breaker trip on reverse power.

QUESTION: 093 (1.00)

In addition to dewpoint what are ALL of the other parameters monitored at BOTH the 30 ft. and 150 ft. elevations on the Meteorological Tower?

a. Wind Speed and wind direction.

b. Wind Speed, wind direction and relative humidity.

c. Wind Speed, wind direction, and precipitation.

d. Wind speed, wind direction and temperature.

QUESTION: 094 (1.00)

Which one of the following describes the affect that a loss of 125 volt DC has on a 4160 volt AC breaker?

a. Breaker trips open if closed, and cannot be closed remotely

b. Breaker cannot be opened or closed remotely

c. Breaker remains closed or can be closed remotely one time

d. Breaker remains closed and can be tripped open remotely

QUESTION: 095 (1.00)

Following a reactor scram from 100% power, Reactor Water Cleanup (RWCU) is rejecting to the condenser to lower RPV water level.

The parameter which limits the RWCU reject flow rate is:

a. nonregenerative heat exchanger outlet temperature.

b. regenerative heat exchanger outlet temperature.

c. high pressure downstream of reject Flow Control Valve, G33-F033.

d. high filter-demineralizer differential pressure.

QUESTION: 096 (1.00)

Which one of the following describes the affect a change in containment or drywell temperatures will have on indicated reactor vessel level?

a. A decrease in reference leg temperature will cause RPV level to indicate erroneously high.

b. A decrease in variable leg temperature will cause RPV level to indicate erroneously low.

c. An increase in reference leg temperature will cause RPV level to indicate erroneously high.

d. An increase in variable leg temperature will cause RPV level to indicate erroneously high.

QUESTION: 097 (1.00)

A RPV level 8 signal initiates a reactor scram if the Reactor Mode Switch is in "RUN".

The reason for this scram is:

a. to serve as a backup to the turbine trip scram.

b. anticipatory to reduce the transient caused by MSIV closure.

c. to rapidly shrink RPV level to reduce moisture carryover.

d. to mitigate the consequences of a positive reactivity addition from cold feedwater addition.

QUESTION: 098 (1.00)

Following a reactor scram from 100% power the following plant conditions exist:

-	Reactor power	4%
-	Reactor water level	12 inches
-	Reactor pressure	1060 psig
-	Suppression pool water level	19'8"
-	Drywell temperature	135 degrees F.
-	Suppression pool temperature	95 degrees F.
-	Containment temperature	95 degrees F.

Which one of the following sets of EOP'S must be entered?

a. EOP 1 only

b. EOP 1 and EOP 2

c. EO[illegible] only

d. EOP 1A and EOP 2

QUESTION: 099 (1.00)

Following a total loss of Reactor Plant Component Cooling Water (RPCCW) an immediate operator action is:

a. shift both reactor recirculation pumps to slow speed and scram the reactor.

b. scram the reactor and trip both reactor recirculation pumps off.

c. shift both reactor recirculation pumps to slow speed and lineup standby service water to the RPCCW system.

d. scram the reactor, trip both reactor recirculation pumps and control rod drive pumps off and close the main steam isolation valves.

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

ANSWER: 001 (1.00)

~~b.~~ c.

REFERENCE:

ADM-0020, "Plant Key Control", Rev. 5, Pages 3 and 5 of 6

HLO-212-4, L.O. - 5

[3.2/3.7]

294001K105 ..(KA's)

ANSWER: 002 (1.00)

c.

REFERENCE:

ADM-0022, "Conduct of Operations", Rev. 12, Page 12 of 42

HLO-206-6, L.O. - 8

[3.5/3.8]

294001K116 ..(KA's)

ANSWER: 003 (1.00)

a.

REFERENCE:

ADM-0027, "Protective Tagging", Rev. 9E, Page 7A of 49

HLO-201-4, L.O. - 5

[3.9/4.5]

294001K102 ..(KA's)

ANSWER: 004 (1.00)

d.

REFERENCE:

ADM-0027, "Protective Tagging", Rev. 9E, Page 7A of 49

HLO-201-4, L.O. - 5

[3.4/3.8]

294001K109 ..(KA's)

ANSWER: 005 (1.00)

a.

REFERENCE:

OSP-0003, "Logs and Records", Rev. 6, Page 4 of 9

HLO-211-3, L.O. - 6

[3.4/3.6]

294001A106 .(KA's)

ANSWER: 006 (1.00)

b.

REFERENCE:

OSP-0009, "Author's Guide/Control and Use of Emergency Operating Procedures", Rev. 5B, Page 29 of 47

HLO-218-3, L.O. - 5

[3.5/4.2]

294001A112 ..(KA's)

ANSWER: 007 (1.00)

d.

REFERENCE:

OSP-0017, "Normal Control Board Lineups for Safety Related Systems", Rev. 3, Page 3 of 118

No Learning Objective Identified

[4.5/4.3]

294001A113 ..(KA's)

ANSWER: 008 (1.00)

b.

REFERENCE:

RPP-0005, "Posting of Radiologically Controlled Areas", Rev. 9A, Page 3 of 30

HLO-209-2, L.O. - 2d

[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 009 (1.00)

d.

REFERENCE:

EIP-2-008, "Search and Rescue", Rev. 6, Page 3 of 9

No Learning Objective Identified

[3.3/3.8]

294001K103 ..(KA's)

ANSWER: 010 (1.00)

c.

REFERENCE:

10 CFR 26.20, "Written Policy and Procedures"

[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 011 (1.00)

a.

REFERENCE:

ADM-0022, "Conduct of Operations", Rev. 12H, Page 17 of 42

HLO-206-6, L.O. - 8

[2.7/3.7]

294001A103 ..(KA's)

ANSWER: 012 (1.00)

b.

REFERENCE:

River Bend Tech Spec Table 6.2.2-1, Page 6-5 and Table 1.2, Page 1-11

HLO-415-1, L.O. - 1 and 3

[3.3/4.3]

294001A111 ..(KA's)

ANSWER: 013 (1.00)

c.

REFERENCE:

OSP-0009, "Author's Guide/Control and Use of Emergency Operating Procedures", Rev. 5B, Page 39 of 47

HLO-218-3, L.O. - 1b

[4.2/4.2]

294001A102 ..(KA's)

ANSWER: 014 (1.00)

c.

REFERENCE:

LOTM-5-4, CRDH page 7. HLO-004 L.O.-2.c

[2.9/2.8]

201001A103 ..(KA's)

ANSWER: 015 (1.00)

b.

REFERENCE:

ARP-601-22, "Alarm Response" page 15. HLO-004 L.O.-5

[3.5/3.2]

201001G012 ..(KA's)

ANSWER: 016 (1.00)

d.

REFERENCE:

LOTM-5-4 CRDH page 5. L.O.-9

[3.1/3.1]

201001K103 ..(KA's)

ANSWER: 017 (1.00)

d.

REFERENCE:

LOTM-6-4, RCIS page 16. L.O.-3.[illegible]

[3.7/3.7]

201005A401 ..(KA's)

ANSWER: 018 (1.00)

c.

REFERENCE:

LOTM-6-4, RCIS page 40. L.O.-2.b

[3.3/3.5]

201005K102 ..(KA's)

ANSWER: 019 (1.00)

a.

REFERENCE:

LOTM-8-4 Recirculation Flow Control page 10. L.O.-3.a-b.-c.

[3.4/3.4]

202002A108 ..(KA's)

ANSWER: 020 (1.00)

b.

REFERENCE:

LOTM-19, Residual Heat Removal figure 3.

[3.5/3.5]

203000K201 ..(KA's)

ANSWER: 021 (1.00)

c.

REFERENCE:

LOTM-19-4, Residual Heat Removal page 5. HLO-021-6 L.O.-14

[3.3/3.4]

203000K402 ..(KA's)

ANSWER: 022 (1.00)

b.

REFERENCE:

LOTM-17-4, Low Pressure Core Spray page 4. HLO-020-6 L.O.-10.f

[3.0/3.2]

209001K404 ..(KA's)

ANSWER: 023 (1.00)

a.

REFERENCE:

LOTM-17-4, Low Pressure Core Spray page 3. Technical Specification 4.5.1.b.1. HLO-020-6 L.O.-11.

[3.1/3.1]

2090[illegible]08 ..(KA's)

ANSWER: 024 (1.00)

d.

REFERENCE:

LOTM-18-4, High Pressure Core Spray page 12. HLO-019-5 L.O.-5.b

[3.2/3.4]

209002A203 ..(KA's)

ANSWER: 025 (1.00)

c.

REFERENCE:

LOTM-16-4, Standby Liquid Control page 6. HLO -016-3 L.O.-5.b

[3.1/3.2]

211000K504 ..(KA's)

ANSWER: 026 (1.00)

d.

REFERENCE:

LOTM-15-4, Reactor Protection System page 4. HLO-061 L.O.-4.e

[3.2/3.3]

212000K201 ..(KA's)

ANSWER: 027 (1.00)

d.

REFERENCE:

LOTM-15, Reactor Protection System, figure 5 and 10. HLO--061 L.O.-7

[4.0/4.1]

212000K306 ..(KA's)

ANSWER: 028 (1.00)

c.

REFERENCE:

LOTM-10-4 IRMs page 10. ARP P680-06A window A09.
HLO-052-3 L.O.-12 .a and b.

[3.9/4.0]

215003K301 ..(KA's)

ANSWER: 029 (1.00)

c.

REFERENCE:

LOTM-10-4 IRMs page 4 and 8. HLO-052-3 L.O.-6.c

[3.5/3.5]

215003G007 ..(KA's)

ANSWER: 030 (1.00)

d.

REFERENCE:

LOTM-9-4, SRMs page 14. HLO-052-3 L.O.-5

[3.7/3.7]

215004K401 ..(KA's)

ANSWER: 031 (1.00)

d.

REFERENCE:

LOTM-15-4, RPS page 5. HLO-061 L.O.-4.b

[3.4/3.5]

215004K402 ..(KA's)

ANSWER: 032 (1.00)

a.

REFERENCE:

LOTM-12-4, APRMs page 6. HLO-053 L.O.-8

[3.1/3.3]

215005K603 ..(KA's)

ANSWER: 033 (1.00)

b.

REFERENCE:

LOTM-12-4, APRMs page 7. HLO-054-5 L.O.-8

[3.8/3.8]

2150C5A307 ..(KA's)

ANSWER: 034 (1.00)

a.

REFERENCE:

LOTM-3-4, Nuclear Boiler Process Instrumentation System pages 3 and 5.
HLO-056-4 L.O.-6.e

[3.9/4.0]

216000K104 ..(KA's)

ANSWER: 035 (1.00)

c.

REFERENCE:

LOTM-20-4, RCIC page 7. HLO-017-4 L.O.-5.g

[3.0/3.1]

217000K404 ..(KA's)

ANSWER: 036 (1.00)

d.

REFERENCE:

LOTM-21-4, ADS page 4 HLO-64 L.O.-7

[3.8/3.8]

218000K501 ..(KA's)

ANSWER: 037 (1.00)

~~d~~. A

REFERENCE:

LOTM-24, Main Steam Page 6 and Figure 21. HLO-007-6 L.O.-10.a

[3.6/3.7]

239002A304 ..(KA's)

ANSWER: 038 (1.00)

b.

REFERENCE:

GOP-0001 "Plant Startup" Precaution 3.3 page 3. HLO-007-6 L.O. 16-C.

[3.0/3.2]

241000G010 ..(KA's)

ANSWER: 039 (1.00)

d.

REFERENCE:

LOTM-33-4, Feedwater System page 8. HLO-012-04 L.O.-4.a.

[3.5/3.5]

259001K411 ..(KA's)

ANSWER: 040 (1.00)

b.

REFERENCE:

LOTM-34-4, Feedwater Level Control System page 14. HO-01 L.O.-8

[3.1/3.1]

259002K603 ..(KA's)

ANSWER: 041 (1.00)

a.

REFERENCE:

LOTM-64-4, SBGT page 15. HLO-033 L.O.17

[3.2/3.1]

261000A302 ..(KA's)

ANSWER: 042 (1.00)

c.

REFERENCE:

LOTM-58-4 Standby Diesel Generator and Auxiliaries page 13. HLO-037-4 L.O.-4

[3.7/3.7]

264000A404 ..(KA's)

ANSWER: 043 (1.00)

c.

REFERENCE:

LOTM-19-4, Residual Heat Removal page 10. HLO-021-6 L.O.-2.e

[3.6/3.6]

205000K114 ..(KA's)

ANSWER: 044 (1.00)

a.

REFERENCE:

LOTM-19-4, Residual Heat Removal page 10. HLO-021-6 L.O.-5.g

[2.9/2.9]

219000K504 ..(KA's)

ANSWER: 045 (1.00)

c.

REFERENCE:

LOTM-4-4, Control Rod Drive Mechanisms page 15. HLO-003-5 L.O.-7

[3.8/3.9]

201003K402 ..(KA's)

ANSWER: 046 (1.00)

c.

REFERENCE:

LOTM-7-4, Reactor Recirculation System page 5. HO-01 L.O.-13

[3.3/3.3]

202001A109 ..(KA's)

ANSWER: 047 (1.00)

b.

REFERENCE:

LOTM-7-4, Reactor Recirculation System page 11. HLO-005-5 L.O.-4.c

[3.5/3.6]

202001K505 ..(KA's)

ANSWER: 048 (1.00)

c.

REFERENCE:

LOTM-14-4, RWCU page 7. HLO-006-4 L.O.-4.a

[3.6/3.[illegible]

204000A303 ..(KA's)

ANSWER: 049 (1.00)

d.

REFERENCE:

LOTM-19-4, Residual Heat Removal page 45. HLO-021-6 L.O.-5.c

[3.4/3.4]

205000A105 ..(KA's)

ANSWER: 050 (1.00)

a.

REFERENCE:

LOTM-24-4, Main Steam figure 16. HLO-007-6 L.O.-11.B

[3.2/3.3]

239001K201 ..(KA's)

ANSWER: 051 (1.00)

d.

REFERENCE:

LOTM-24-4, Main Steam pages 5 and 17. HLO-007-6 L.O.-4.c.

[3.8/3.8]

239001A108 ..(KA's)

ANSWER: 052 (2.00)

a. 7

b. 2

c. 2

d. 6

REFERENCE:

LOTM-29-4, Condenser Air Removal, page 11. HLO-025-3 L.O.-7
ARP-680-07, p. 30 of 34

[3.5/3.6]

245000A203 ..(KA's)

ANSWER: 053 (1.00)

b.

REFERENCE:

LOTM-31-4 page 19 and LOTM-33-4 page 26. HLO-046 L.O.-9.a.

[2.8/2.8]

256000K604 ..(KA's)

ANSWER: 054 (1.00)

b.

REFERENCE:

LOTM-56-4, AC Distribution page 9. HLO-034-4 L.O.3.a.

[3.4/3.5]

262001A303 ..(KA's)

ANSWER: 055 (1.00)

a.

REFERENCE:

LOTM-56-4, AC distribution page 8 and figure 8.

[2.8/3.1]

262002A401 ..(KA's)

ANSWER: 056 (1.00)

d.

REFERENCE:

LOTM-58-4, Standby Diesel Generators page 25. HLO-037-4 L.O.-10.b.

[3.4/3.8]

263000K301 ..(KA's)

ANSWER: 057 (1.00)

b.

REFERENCE:

LOTM-57-4, DC Distribution page 3. HLO-035-4 L.O.-3.

[2.8/3.3]

263000G010 ..(KA's)

ANSWER: 058 (1.00)

d.

REFERENCE:

LOTM-30-4, Offgas System page 41. HLO-047-3 L.O.-11

[3.1/3.3]

271000K408 ..(KA's)

ANSWER: 059 (1.00)

d.

REFERENCE:

LOTM-66-4, Process Radiation Monitoring System page 3.
HLO-068-2 L.O.-10

[3.5/3.7]

272000K305 ..(KA's)

ANSWER: 060 (1.00)

d. OR C

REFERENCE:

LOTM-73-4, Fire Detection and Protection page 16. HLO-032-4 L.O.-5

[3.2/3.3]

286000A304 ..(KA's)

ANSWER: 061 (1.00)

d.

REFERENCE:

LOTM-1-4, Nuclear Fuel page 10. HLO-002 L.O.-7

[3.0/3.7]

234000K505 ..(KA's)

ANSWER: 062 (1.00)

d.

REFERENCE:

LOTM-52-4, Penetration Valve and MSIV Leakage Control System page 6. HLO-008 L.O.-5

[3.1/3.1]

239003A101 ..(KA's)

ANSWER: 063 (1.00)

c.

REFERENCE:

LOTM-3-4, Nuclear Boiler Process Instrumentation System page 26
HLO-001-4 L.O-7.b

[3.2/3.4]

290002G010 ..(KA's)

ANSWER: 064 (1.00)

c.

REFERENCE:

LOTM-70-4, Fuel Storage and Handling and Refueling page 35. L.O.-2.a

[3.3/4.1]

234000K402 ..(KA's)

ANSWER: 065 (1.00)

a.

ANSWER: 068 (1.00)

a.

REFERENCE:

LOTM-22-4, "Remote Shutdown System", Page 4 of 25

HLO-066-3, L. O. - 2

[4.4/4.5]

295016K201 ..(KA's)

ANSwER: 069 (1.00)

c.

REFERENCE:

SOP-0053, "Standby Diesel Generator and Auxiliaries", Rev. 6E, Page 4 of 64

HLO-037-4, L.O. - 7g

[4.1/4.2]

295003K202 ..(KA's)

ANSWER: 070 (1.00)

a.

REFERENCE:

AOP-0002, "Main Turbine and Generator Trips", Rev. 6, Page 2a of 5

HLO-086-0, L.O. - 7b

[3.1/3.1]

295005A203 ..(KA's)

ANSWER: 066 (1.00)

d.

REFERENCE:

AOP-0002, "Main Turbine and Generator Trips", Rev. 6, Page 2a of 5

HLO-025-3, L.O. - 9

[3.1/3.3]

295005G007 ..(KA's)

ANSWER: 067 (1.00)

b.

REFERENCE:

AOP-0031, "Shutdown From Outside Main Control Room", Rev. 7A, Page 24 of 75

HLO-066-3, L.O. - 7 & 8

[4.0/4.1]

295016A106 ..(KA's)

REFERENCE:

AOP-0005, "Loss of Main Condenser Vacuum/Trip of Circulating Water Pump", Rev. 6, Page 2 of 5

HLO-024, L.O. - 11

[3.8/3.7]

295002G010 ..(KA's)

ANSWER: 071 (1.00)

d.

REFERENCE:

AOP-0024, "Core Thermal Hydraulic Instability", Rev. 5B, Page 3 of 6

HLO-005-5, L.O. - 12

[3.3/3.3]

295001A102 ..(KA's)

ANSWER: 072 (1.00)

c.

REFERENCE:

AOP-0024, "Core Thermal Hydraulic Instability", Rev. 5B, Page 6 of 6

NRC Bulletin No. 88-07, "Power Oscillations in BWRs"

HLO-005-5, L.O. - 13

[3.5/3.8]

295001A201 ..(KA's)

ANSWER: 073 (1.00)

b.

REFERENCE:

River Bend Tech Spec Table 1.2, Page 1-11

River Bend Tech Spec 3.6.1.1, Page 3/4 6-1

HLO-047-1, L.O. - 1

[3.5/3.6]

295021A201 ..(KA's)

ANSWER: 074 (1.00)

a.

REFERENCE:

LOTM-15-4, "Reactor Protection Systems", Figure 5

LOTM-5-4, "Control Rod Drive Hydraulics", Page 16 of 24

[3.9/4.1]

295025K204 ..(KA's)

ANSWER: 075 (1.00)

b.

REFERENCE:

LOTM-24-4, "Main Steam", Pages 5, 6 & 17 of 21

HLO-007-6, L.O. - 4b & c

[3.9/4.1]

295007A104 ..(KA's)

ANSWER: 076 (1.00)

c.

REFERENCE:

River Bend Tech Spec 3.6.3.1, Page 3/4 6-26

EOP-2, "Containment Control"

HLO-407-1, L.O. - 8e

[3.8/3.6]

295013G010 ..(KA's)

ANSWER: 077 (1.00)

a.

REFERENCE:

EOP-2, "Containment Control", Step 29 and Figure 2

HLO-514-0, L.O. - 3

[3.9/4.0]

295026A203 ..(KA's)

ANSWER: 078 (1.00)

d.

REFERENCE:

AOP-0027, "Fuel Handling Mishaps", Rev. 7, Page 3A of 5

HLO-510, L.O. - 5

[3.3/3.7]

295023K201 ..(KA's)

ANSWER: 079 (1.00)

d.

REFERENCE:

AOP-0001, "Reactor Scram", Rev. 8, Page 4 of 8

HLO-510, L.O. - 1 & 5

[4.2/4.2]

295006A105 ..(KA's)

ANSWER: 080 (1.00)

c.

REFERENCE:

EOP-1A, "RPV Control - ATWS", Rev. 10, Table 2

HLO-513-1, L.O. - 3

[4.0/4.3]

295031K304 ..(KA's)

ANSWER: 081 (1.00)

a.

REFERENCE:

EOP-1, "RPV Control", Rev. 10, Step 16

EPSTG*0002-1, Appendix "A", Page 32 of 41

HLO-512-1, L.O. - 2 & 3

[3.6/3.9]

295028K301 ..(KA's)

ANSWER: 082 (1.00)

b.

REFERENCE:

LOTM-51-4, "Containment and Reactor Vessel Isolation Control System", Pages 4, 8, 26 and 32 of 58

HLO-062-4, L.O. - 9

[3.6/3.7]

295020K201 ..(KA's)

ANSWER: 083 (1.00)

b.

REFERENCE:

LOTM-51-4, "Containment and Reactor Vessel Isolation Control System", Page 37 of 58 and Figure 13

HLO-063-4, L.O. - 11a

[3.6/3.6]

295020A101 ..(KA's)

ANSWER: 084 (1.00)

d.

REFERENCE:

ARP-680-07, Rev. 6, Page 16 of 39

ARP-601-22, Rev. 4, Page 2 of 23

HLO-003-5, L.O. - 5a

[3.6/3.6]

295022A102 ..(KA's)

ANSWER: 085 (1.00)

b.

REFERENCE:

EOP-3, "Secondary Containment and Radioactive Release Control"
Appendix "B" page 260. HLO-515-0 L.O.-3.

[3.6/3.8]

295032K302 ..(KA's)

ANSWER: 086 (1.00)

c.

REFERENCE:

EOP-3, "Secondary Containment and Radioactive Release Control"
Appendix "B" page 260. HLO-515-0 L.O.-3.

[3.9/4.2]

295035K102 ..(KA's)

ANSWER: 087 (1.00)

d.

REFERENCE:

EOP-1, "RPV Control", Flowchart Entry Conditions

EPSTG*0002-1, Appendix "B", Page 23 of 269

HLO-512-1, L.O. - 4

[3.8/4.4]

295010G012 ..(KA's)

ANSWER: 088 (1.00)

a.

REFERENCE:

EOP-2, "Containment Control", Steps 20 & 21

LOTM-45-4, "Primary Containment", Page 2 of 19

HLO-013-4, L.O. - 3

[4.0/4.1]

295024A209 ..(KA's)

ANSWER: 089 (1.00)

c.

REFERENCE:

SOP-0040, "Hydrogen Mixing, Purge, Recombiners, and Ignitors", Rev. 6A, Page 5 of 28

LOTM-48-4, "Combustible Gas Control", Page 7 of 14

No Lesson Plan or Learning Objective Identified

[3.7/4.0]

295031G007 ..(KA's)

ANSWER: 090 (1.00)

d.

REFERENCE:

EOP-1A, "RPV Control - ATWS", Rev. 10, Step 70

EPSTG*0002-1, Appendix "B", Page 171 of 269

HLO-513-1, L.O. - 3

[4.6/4.7]

295031K101 ..(KA's)

ANSWER: 091 (1.00)

a.

REFERENCE:

EPSTG*0002-1, Appendix "A", Page 36 of 41

EPSTG*0002-1, Appendix "B", Pages 7 & 8 of 269

HLO-511-4, L.O. - 3

[4.2/4.2]

295009A201 ..(KA's)

ANSWER: 092 (1.00)

a.

REFERENCE:

EPSTG*0002-1, Appendix "B", Page 131 of 269

HLO-513-1, L.O. - 2

[4.1/4.2]

295037K301 ..(KA's)

ANSWER: 093 (1.00)

d.

REFERENCE:

LOTM-74-4, Meteorological Tower page 2. HLO-70-3 L.O.-3

[2.5/3.9]

295017A112 ..(KA's)

ANSWER: 094 (1.00)

b.

REFERENCE:

AOP-0014, "Loss of 125 VDC" page 2. HLO-510 L.O.-1

[3.4/3.6]

295004A103 ..(KA's)

ANSWER: 095 (1.00)

a.

REFERENCE:

LOTM-14-4, RWCU page 14. SOP-0090, "Reactor Water Cleanup" page 34. HLO-006-4 L.O.-6

[3.3/3.3]

295008A109 ..(KA's)

ANSWER: 096 (1.00)

c.

REFERENCE:

LOTM-3-4, Nuclear Boiler Process Instrumentation System page 4. Appendix "B", EOP-2 Steps 8 and 9 page 216. HLO-056-4 L.O.-7.b.

[3.9/3.9]

295008A201 ..(KA's)

ANSWER: 097 (1.00)

d.

REFERENCE:

LOTM-3-4, Nuclear Boiler Process Instrumentation System page 4.
HLO-056-4 L.O.-12

[3.6/3.9]

295008K302 ..(KA's)

ANSWER: 098 (1.00)

c.

REFERENCE:

EOP 1, 1A and 2 Entry Conditions. HLO-514-0 L.O.-4

[4.0/4.4]

295011G011 ..(KA's)

ANSWER: 099 (1.00)

b.

REFERENCE:

AOP-0011, "Loss of Reactor Plant Component Cooling Water" page 3.
HLO-510 L.O.-4

[3.4/3.3]

295018G010 ..(KA's)

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

A N S W E R   K E Y

MULTIPLE CHOICE

001 ~~b~~ C

002 c

003 a

004 d

005 a

006 b

007 d

008 b

009 d

010 c

011 a

012 b

013 c

014 c

015 b

016 d

017 d

018 c

019 a

020 b

021 c

022 b

023 a

024 d

025 c

026 d

027 d

028 c

029 c

030 d

031 d

032 a

033 b

034 a

035 c

036 d

037 ~~d~~ A

038 b

039 d

040 b

041 a

042 c

043 c

044 a

[illegible]5 c

A N S W E R   K E Y

046 c

047 b

048 c

049 d

050 a

051 d

052 MATCHING

a 7

b 2

c 2

d 6

MULTIPLE CHOICE

053 b

054 b

055 a

056 d

057 b

058 d

059 d

060 d OR C

061 d

062 d

063 c

064 c

065 a

066 d

067 b

068 a

069 c

070 a

071 d

072 c

073 b

074 a

075 b

076 c

077 a

078 d

079 d

080 c

081 a

082 b

083 b

084 d

085 b

086 c

A N S W E R K E Y

087 d

088 a

089 c

090 d

091 a

092 a

093 d

094 b

095 a

096 c

097 d

098 c

099 b

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