



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W., SUITE 2800
 ATLANTA, GEORGIA 30323-0198

Report Nos.: 50-369/95-300 and 50-370/95-300

Licensee: Duke Power Company
 422 South Church Street
 Charlotte, NC 28242

Docket Nos.: 50-369 and 50-370

License Nos.: NPF-9 and NPF-17

Facility Name: McGuire Nuclear Station Units 1 and 2

Examination Conducted: September 25, 1995

Chief Examiner: *Richard S. Baldwin* 10/4/95
 Richard S. Baldwin Date Signed

Approved by: *Thomas A. Peebles for* 10/6/95
 Thomas A. Peebles, Acting Chief Date Signed
 Operator Licensing Section
 Operations Branch
 Division of Reactor Safety

SUMMARY

Scope:

NRC examiners conducted regular, announced operator licensing initial examination on September 25, 1995. An examiner administered a written retake examination under the guidelines of the Examiner Standards (ES), NUREG-1021, Revision 7, to two Reactor Operator (RO) candidates.

Results:

Candidate Pass/Fail:

	RO - Rtk	SRO	Total	Percent
Fail	0	0	0	0
Pass	2	0	2	100%

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. Alexander, Medical Department Supervisor
- *L. Baker, Nurse, RN/Certified Occupational Health Nurse
- *A. Batts, System Engineer
- *D. Baxter, Support Operations Manager
- *R. Cross, Compliance Specialist
- *R. Deese, Safety Review Group
- *B. Dolan, Safety Assurance Manager
- *E. Geddie, Station Manager
- *P. Herran, Engineering Manager
- S. Helms, Nuclear Station Training Supervisor
- *J. Iddings, Shift Superintendent
- *S. Jolley, Manager of Safety and Health Services
- *R. Jones, Superintendent of Operations
- *A. Lindsey, Operations Training Manager
- *T. McMeekin, Site Vice President
- *J. Snyder, Regulatory Compliance Manager
- *J. Washam, Technical Specialist II Regulatory Compliance
- *R. White, Training Manager

Other licensee employees contacted included instructors and operators.

*Attended exit interview

2. Discussion

a. Written Examination

The candidates passed the administered examination. The licensee had no post-examination comments concerning the written examination administered.

b. Reference Material

The material provided by the licensee was adequate to formulate an examination. The examiner did not find any errors or inconsistencies in the material presented.

c. Facility Pre-review

The facility provided a thorough review of the written examination prior to administration of the examination.

Enclosure

3. Exit Interview

At the conclusion of the site visit, the examiner met with the plant representatives listed in paragraph 1 to discuss the results of the examination and inspection findings. The licensee did not identify as proprietary any material provided to, or reviewed by the examiner. Dissenting comments were not received from the licensee.

MASTER

Nuclear Regulatory Commission
Operator Licensing
Examination

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

Master
McGuire 95-300

U. S. NUCLEAR REGULATORY COMMISSION
SITE SPECIFIC EXAMINATION
REACTOR OPERATOR LICENSE
REGION 2

CANDIDATE'S NAME: _____

FACILITY: McGuire 1 & 2

REACTOR TYPE: PWR-WEC4

DATE ADMINISTERED: 95/09/25

INSTRUCTIONS TO CANDIDATE:

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

TEST VALUE	CANDIDATE'S SCORE	%	
_____	_____	---	
102.00		%	TOTALS
_____	FINAL GRADE	_____	

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 choice)

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

001 MATCHING

a _____

b _____

c _____

d _____

MULTIPLE CHOICE

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 _____

010 a b c d _____

011 a b c d _____

012 a b c d _____

013 a b c d _____

014 a b c d _____

015 a b c d _____

016 a b c d _____

017 a b c d _____

018 a b c d _____

019 a b c d _____

020 a b c d _____

021 a b c d _____

022 a b c d _____

023 a b c d _____

024 a b c d _____

025 a b c d _____

026 a b c d _____

027 a b c d _____

028 a b c d _____

029 a b c d _____

030 a b c d _____

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 _____

ANSWER SHEET

Multiple Choice (Circle or X your choice)

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

- | | | | | | | | | | | | |
|-----|-----------------|-----|---|---|-----|-----|---|---|---|---|-----|
| 042 | a | b | c | d | ___ | 060 | a | b | c | d | ___ |
| 043 | a | b | c | d | ___ | 061 | a | b | c | d | ___ |
| 044 | a | b | c | d | ___ | 062 | a | b | c | d | ___ |
| 045 | a | b | c | d | ___ | 063 | a | b | c | d | ___ |
| 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 | ___ |

ANSWER SHEET

Multiple Choice (Circle or X your choice)

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

- 083 a b c d ___
- 084 a b c d ___
- 085 a b c d ___
- 086 a b c d ___
- 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 ___
- 100 a b c d ___

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

NRC RULES AND GUIDELINES FOR LICENSE EXAMINATIONS

During the administration of this examination the following rules apply:

1. Cheating on the examination means an automatic denial of your application and could result in more severe penalties.
2. After the examination has been completed, you must sign the statement on the cover sheet indicating that the work is your own and you have not received or given assistance in completing the examination. This must be done after you complete the examination.
3. Restroom trips are to be limited and only one applicant at a time may leave. You must avoid all contacts with anyone outside the examination room to avoid even the appearance or possibility of cheating.
4. Use black ink or dark pencil ONLY to facilitate legible reproductions.
5. Print your name in the blank provided in the upper right-hand corner of the examination cover sheet and each answer sheet.
6. Mark your answers on the answer sheet provided. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.
7. Before you turn in your examination, consecutively number each answer sheet, including any additional pages inserted when writing your answers on the examination question page.
8. Use abbreviations only if they are commonly used in facility literature. Avoid using symbols such as < or > signs to avoid a simple transposition error resulting in an incorrect answer. Write it out.
9. The point value for each question is indicated in parentheses after the question.
10. Show all calculations, methods, or assumptions used to obtain an answer to any short answer questions.
11. Partial credit may be given except on multiple choice questions. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWER BLANK.
12. Proportional grading will be applied. Any additional wrong information that is provided may count against you. For example, if a question is worth one point and asks for four responses, each of which is worth 0.25 points, and you give five responses, each of your responses will be worth 0.20 points. If one of your five responses is incorrect, 0.20 will be deducted and your total credit for that question will be 0.80 instead of 1.00 even though you got the four correct answers.
13. If the intent of a question is unclear, ask questions of the examiner only.

14. When turning in your examination, assemble the completed examination with examination questions, examination aids and answer sheets. In addition, turn in all scrap paper.
15. Ensure all information you wish to have evaluated as part of your answer is on your answer sheet. Scrap paper will be disposed of immediately following the examination.
16. To pass the examination, you must achieve a grade of 80% or greater.
17. There is a time limit of four (4) hours for completion of the examination.
18. When you are done and have turned in your examination, leave the examination area (EXAMINER WILL DEFINE THE AREA). If you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION: 001 (2.00)

Match each plant condition in Column B to the reactor trip in Column A for which it provides protection. (0.5 each)

(Numbers from Column B may be used once, more than once, or not at all, but only a single answer may occupy each answer space.)

COLUMN A
Reactor Trips

COLUMN B
Plant Conditions

- | | |
|---|---|
| <p>_____ a. Steam generator low low level</p> <p>_____ b. Over-power delta-T</p> <p>_____ c. Pressurizer high pressure</p> <p>_____ d. Over-temperature delta-T</p> | <p>1. Inadvertent reactor criticality</p> <p>2. Pressurized thermal shock</p> <p>3. Loss of NC system integrity</p> <p>4. Departure from nucleate boiling</p> <p>5. Excessive fuel centerline temperature</p> <p>6. Loss of heat sink</p> |
|---|---|

QUESTION: 002 (1.00)

Given the following list of CA pump suction sources:

1. Nuclear service water
2. Upper surge tank
3. Hotwell
4. CA condensate storage tank

Which ONE of the following selections lists the CA pump suction sources in order of preference?

- a. 1, 3, 4, and 2
- b. 4, 1, 2, and 3
- c. 3, 2, 4, and 1
- d. 4, 2, 3, and 1

QUESTION: 003 (1.00)

Which ONE of the following conditions would cause the Load Rejection Bypass Valve, CM-420, to modulate OPEN Automatically?

- a. Low Condensate Booster Pump suction pressure.
- b. Low Main Feedwater Pump suction pressure.
- c. Low Hotwell Pump discharge pressure.
- d. Low Main Feedwater Pump discharge pressure.

QUESTION: 004 (1.00)

Given the following plant conditions:

- Unit 2 is at 100% power.
- Pressurizer pressure and level control are in automatic.
- Control Rods are in automatic.
- Steam dumps are in the Tavg Mode.

Which ONE of the following is the smallest step load reduction that would result in a reactor trip?

- a. 26 percent.
- b. 56 percent.
- c. 76 percent.
- d. 96 percent.

QUESTION: 005 (1.00)

Which ONE of the following is the reason that excess letdown must be manually isolated following a safety injection signal?

- a. To prevent overpressurizing the VCT and releasing radioactive materials from the Auxiliary building.
- b. To prevent overpressurizing the RCDT.
- c. To prevent lifting the seal return relief valve.
- d. To prevent potential release of radioactive materials from containment.

QUESTION: 006 (1.00)

Which ONE of the following statements describes a purpose of the Containment Purge System?

- a. Decrease Containment humidity to within acceptable limits for proper operation of refueling instruments.
- b. Remove airborne radioactivity from Containment following a LOCA.
- c. Provide additional cooling to upper Containment during refueling.
- d. Remove airborne radioactivity from containment during outages.

QUESTION: 007 (1.00)

Which ONE of the following is the MINIMUM system pressure at which all THREE (3) Main Fire pumps will be operating?

- a. 70 psig
- b. 75 psig
- c. 80 psig
- d. 85 psig

QUESTION: 008 (1.00)

Given the following plant conditions:

- Unit 1 is at 100% power.
- Control rods are in Auto and NOT moving.
- T-REF/T-AUCT ABNORMAL annunciator is lit.

Which ONE of the following immediate actions should be taken?

- a. Adjust Tave to within 1 degree of Tref by dilution or boration.
- b. Place rod control in manual and adjust turbine load to match Tave to Tref.
- c. Trip the reactor and enter EP/1/A/5000/E-0, "Reactor Trip or Safety Injection".
- d. Place rod control in manual and verify control rod operability by moving rods in 5 steps, then out 5 steps.

QUESTION: 009 (1.00)

Given the following Unit 1 plant conditions:

- Unit is in Mode 6.
- Refueling is in progress.

Which ONE of the following radiation monitors will activate the containment evacuation alarm?

- a. Trip One on EMF-40 (Containment Iodine monitor).
- b. Trip One on EMF-39 (Containment gas high range).
- c. Trip Two on EMF-38 (Containment Particulate low range).
- d. Trip Two on EMF-16 (Reactor building refueling bridge).

QUESTION: 010 (1.00)

Which ONE of the following is the reason for adding sodium tetraborate to the Ice Condenser System?

- a. It enhances steam condensation.
- b. It scrubs non-condensable gases from the containment atmosphere.
- c. It increases the pH of the sump to facilitate iodine removal.
- d. It minimizes the amount of hydrogen generated during a LOCA.

QUESTION: 011 (1.00)

Which ONE of the following is the reason for ensuring that NCS pressure is less than 2335 psig in Step 4 of EP/1/A/5000/FR-S.1, "Response to Nuclear Power Generation/ATWS"?

- a. Minimize the potential of reactor vessel pressurized thermal shock.
- b. Verifies a sufficient boron flow rate into the NCS.
- c. Minimize the potential of PRT rupture disc bursting.
- d. Verifies that the pressurizer PORVs are operating properly.

QUESTION: 012 (1.00)

Given the following plant conditions:

- Unit 2 is at 100% power.
- VCT level is 45%.
- All controls are in automatic with a 75 gpm orifice in service.
- NVLT-5760, (Control Room) VCT level transmitter indicates 45% level.
- NVLT-5761, VCT level transmitter, fails high.
- Assume no operator action.

Which ONE of the following describes the FINAL ACTUAL VCT level?

- a. Increases to 100% (full).
- b. Increases to 98.5% where letdown flow full diverts to the RHT.
- c. Cycles between 41% and 54% due to auto-makeup.
- d. Decreases to 0% (empty).

QUESTION: 013 (1.00)

Under which ONE (1) of the following conditions may the NCPs be started even though the NCPs may be damaged as a result of starting the pump?

- a. When responding to a loss of reactor coolant in accordance with EP/1/A/5000/E-1, "Loss of Reactor or Secondary Coolant."
- b. When responding to a steam generator tube rupture in accordance with EP/1/A/5000/E-3, "Steam Generator Tube Rupture."
- c. When responding to a loss of secondary heat sink in accordance with EP/1/A/5000/FR-H.1, "Response to Loss of Secondary Heat Sink."
- d. When responding to inadequate core cooling in accordance with EP/1/A/5000/FR-C.1, "Response to Inadequate Core Cooling."

QUESTION: 014 (1.00)

Which ONE of the following is the reason a nitrogen blanket is maintained on the Pressurizer Relief Tank (PRT)?

- a. Reduce the amount of water in the PRT necessary to quench pressurizer relief valve discharge.
- b. Reduce the potential for overpressurizing the PRT and prevent deformation of the rupture disks.
- c. Reduce the potential for an explosive mixture of hydrogen and oxygen in the PRT.
- d. Reduce the potential for corrosion in the PRT.

QUESTION: 015 (1.00)

Which ONE of the following is an AREA Radiation Monitor with an operability requirement contained in Technical Specification 3.3.3.1, Radiation Monitoring For Plant Operations?

- a. 1EMF24, Steam Line/Outer Doghouse
- b. 2EMF11, Steam Line/Inner Doghouse
- c. 1EMF16, Reactor Building Refueling Bridge
- d. 2EMF4, Spent Fuel Building Refueling Bridge

QUESTION: 016 (1.00)

Which ONE of the following is the minimum time period requiring abstinence from alcohol, preceding any shift period _____?

- a. 3 hours
- b. 5 hours
- c. 8 hours
- d. 12 hours

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QUESTION: 017 (1.00)

If a power mismatch signal is generated by the Reactor Control System, which ONE of the following parameters determines the magnitude of the gain imposed by the variable gain unit?

- a. Auctioneered High Tave.
- b. Start-up rate.
- c. Auctioneered High Nuclear Power.
- d. Turbine impulse pressure.

QUESTION: 018 (1.00)

Which ONE of the following groups of equipment will be reset by pushing the Rod Control Startup pushbutton?

- a. Slave cyclers, master cyclers, urgent failure alarm, multiplexer, DRPI, NR-45 recorder.
- b. P/A converter, master cyclers, multiplexer, bank overlap unit, trigger circuit.
- c. Alarm circuits, master cyclers, slave cyclers, step counters, bank overlap unit, P/A converter.
- d. Master cyclers, slave cyclers, alarm circuits, P/A converter, pulser.

QUESTION: 019 (1.00)

During a withdrawal sequence of a control rod, which ONE of the following operations will occur immediately after the movable gripper coil is energized?

- a. The lift coil is energized.
- b. The stationary gripper coil is de-energized.
- c. The lift coil is de-energized.
- d. The stationary gripper coil is energized.

QUESTION: 020 (1.00)

Which ONE of the following describes NCP No. 1 seal leakoff flow after a Phase A Containment Isolation Signal?

- a. Leakoff flow is routed to the PRT.
- b. Leakoff flow stops until the Containment Isolation signal is reset.
- c. Leakoff flow is routed to the RCDT.
- d. Leakoff flow is routed to the suction of the charging pumps.

QUESTION: 021 (1.00)

Which ONE of the following is the reason why all four NCP motor feeder breakers automatically trip on 6900V bus underfrequency?

- a. Prevents stator overheating which may result from low frequency operation.
- b. Results in a loss of flow trip when the pumps coast down, thereby providing a backup to the under frequency trip.
- c. Prevents rapid motor deceleration caused by the decaying frequency, thereby maintaining core flow during pump coast down.
- d. Results in a "load shed" feature in anticipation of restoring power to the 6900V switchgear.

QUESTION: 022 (1.00)

Which ONE of the following conditions will automatically UNBLOCK both the Unit 1 low pressurizer pressure and low steamline pressure safety injection actuation signals?

- a. Tave decreases to 553 degrees F.
- b. NC System pressure increases to 1960 psig.
- c. Steam pressure increases to 780 psig.
- d. Main steam line differential pressure increases to 100 psid.

QUESTION: 023 (1.00)

Which ONE of the following will occur simultaneously with manual Containment Spray actuation?

- a. Containment Ventilation Isolation
- b. Phase A Containment Isolation
- c. Main Steam Line Isolation
- d. Feedwater Isolation

QUESTION: 024 (1.00)

Which ONE of the following ESF actuation signals uses a Tave input?

- a. Containment Spray actuation.
- b. Feedwater isolation.
- c. Safety Injection actuation.
- d. Main Steam isolation.

QUESTION: 025 (1.00)

Which ONE of the following is a complete list of the neutron range(s) monitored by the Wide Range Neutron System?

- a. Only the source range.
- b. Both the source and intermediate ranges.
- c. Both the intermediate and power ranges.
- d. Source, intermediate and power ranges.

QUESTION: 026 (1.00)

Which ONE of the following explains why gamma compensation is NOT required in the Power Range?

- a. The power range detectors are surrounded by shielding that minimizes gamma effects.
- b. Gamma current remains relatively constant in the Power Range.
- c. The Power Range detectors are located near low gamma production regions around the core.
- d. Gamma current is insignificant compared to neutron current and gamma current is proportional to power in the Power Range.

QUESTION: 027 (1.00)

Which ONE of the following core exit thermocouple temperatures is the LOWEST temperature at which a DEGRADED core cooling situation exists per EP/1/A/5000/F-0, Core Cooling?

- a. 708 degrees F
- b. 808 degrees F
- c. 1008 degrees F
- d. 1208 degrees F

QUESTION: 028 (1.00)

Given the following Unit 2 conditions:

- Unit 2 is at 100% power.
- Indicated Subcooling drops 5 degrees F on the ICCM display.

Which ONE of the following failures would cause the above ICCM indication change?

- a. Failure of one or more pressurizer pressure channels in the low direction.
- b. Failure of one or more of the selected Core Exit Thermocouples in the high direction.
- c. Failure of one or more pressurizer pressure channels in the high direction.
- d. Failure of one or more of the selected Core Exit Thermocouples in the low direction.

QUESTION: 029 (1.00)

Which ONE of the following describes the initial response of the Lower Containment Air Handling Units (AHU) following a station blackout?

- a. Operating AHUs stop, then start in selected speed; non-operating AHUs start in low speed.
- b. Operating AHUs shift to fast speed; non-operating AHUs remain off.
- c. Operating AHUs stop, then start in selected speed; non-operating AHUs remain off.
- d. Operating AHUs do not change condition; non-operating AHUs start in fast speed.

QUESTION: 030 (1.00)

In addition to closing the Feedwater Control Valves, which ONE of the following signals will also trip the Main Turbine, trip the Main Feedwater Pumps and close the Feedwater Control Bypass Valves?

- a. High steamline pressure rate.
- b. Manual Feedwater Isolation.
- c. High-high steam generator level.
- d. Reactor trip signal coincident with low Tav_g.

QUESTION: 031 (1.00)

With the plant operating at 100% power, which ONE of the following situations will result in an automatic start of both the motor-driven Auxiliary Feedwater (CA) pumps and the Turbine-driven CA pump?

- a. Trip of both FWPs
- b. Blackout
- c. AMSAC
- d. 2/4 low S/G levels in 1/4 S/Gs

QUESTION: 032 (1.00)

Which ONE of the following is the reason Ventilation Unit Condensate Drain Tank System Pumps are NOT operated in AUTO?

- a. Prevent unnecessary cycling of the pumps.
- b. Prevent damage due to pump runout.
- c. Prevent an inadvertent spill or release.
- d. Prevent pump operation without correct number of RC Pumps running.

QUESTION: 033 (1.00)

Which ONE of the following would automatically stop a controlled release from the Waste Gas System?

- a. Trip two setpoint on Unit vent gas 1EMF36 is reached.
- b. Trip two setpoint on Unit vent Iodine 1EMF37 is reached.
- c. Trip two setpoint on Unit vent gas 2EMF36 is reached.
- d. Trip two setpoint on Unit vent Iodine 2EMF37 is reached.

QUESTION: 034 (1.00)

Given the following Unit 2 plant conditions:

- Tavg: 620 Deg. F.
- Source range count rate: 30 cps
- NC System wide range pressure: 2750 psig

Which ONE of the following describes the required actions?

- a. Within 5 minutes reduce NC System pressure to within limits.
- b. Within 5 minutes reduce NC System temperature to within limits.
- c. Within 10 minutes reduce NC System temperature AND NC System pressure to within their limits.
- d. Within 1 hour be in HOT SHUTDOWN with NC System temperature AND NC System pressure within their limits.

QUESTION: 035 (1.00)

Unit 1 is operating at 50% power when the Loop C T-hot fails high.

Which ONE of the following describes the response of the plant if no operator action is taken?

- a. Charging flow will initially decrease, actual pressurizer level will stabilize at 25%.
- b. Charging flow will initially decrease, actual pressurizer level will lower to 17% isolating letdown.
- c. Charging flow will initially increase, actual pressurizer level will stabilize at 61%.
- d. Charging flow will initially increase, actual pressurizer level will rise causing a reactor trip.

QUESTION: 036 (1.00)

Given the following plant conditions:

- Unit 1 is at 100% power.
- The group step counters for Control Bank D are at 100 steps.

Which ONE of the following is the Technical Specification requirement for the position of the Control Bank D individual DRPI?

- a. 98 to 102 steps.
- b. 88 to 112 steps.
- c. 82 to 118 steps.
- d. 76 to 124 steps.

QUESTION: 037 (1.00)

Which ONE of the following is an input to the Inadequate Core Cooling Monitor?

- a. NC Loop Tave.
- b. Pressurizer pressure.
- c. NC loop wide range pressure.
- d. Pressurizer level.

QUESTION: 038 (1.00)

Step 8 of EP/1/A/5000/ES-1.3, "Transfer to Cold Leg Recirc," states "WHEN FWST level reaches 17 inches, THEN align NS for recirc".

Which ONE of the following is the MAXIMUM time the operator has to stop the NS pumps following a FWST level of 17 inches before pump vortexing occurs?

- a. 30 seconds
- b. 60 seconds
- c. 90 seconds
- d. 120 seconds

QUESTION: 039 (1.00)

Which ONE of the following is NOT a source of make-up water to the Spent Fuel Pool?

- a. Condensate Storage Tank
- b. Nuclear Service Water
- c. Reactor Makeup Water Storage Tank
- d. Refueling Water Storage Tank

QUESTION: 040 (1.00)

Which ONE of the following is used as an input signal to control the Feedwater Bypass Control Valves when in AUTOMATIC?

- a. Wide range steam generator level.
- b. Auctioneered high nuclear power.
- c. Feed pump discharge pressure.
- d. Total steam flow.

QUESTION: 041 (1.00)

Which ONE of the following components is designed to minimize the reactivity effects of NC System cooldown during a main steam line break?

- a. Main Steam Isolation Valve.
- b. Steam Generator moisture separators.
- c. Main steam line equalization header.
- d. Steam Generator outlet flow restrictor.

QUESTION: 042 (1.00)

Which ONE of the following Auxiliary transformers can supply power to all of its unit's onsite auxiliary power needs plus the safe shutdown loads of the other unit?

- a. 1ATB
- b. 1ATD
- c. 2ATC
- d. 2ATE

QUESTION: 043 (1.00)

Given the following Unit 1 plant conditions:

- 6.9 KV busses are in sync.
- Mode Select switches are in auto.

Which ONE of the following describes the additional requirements for Automatic Fast Transfer of the 6.9 KV bus supply breakers?

- a. NC pumps in operation on busses 1TA and 1TC, alternate breaker closes, normal breaker opens.
- b. NC pump in operation on the bus that power is being transferred from, alternate breaker closes, normal breaker trips.
- c. NC pumps in operation on busses 1TB and 1TD, normal breaker trips, alternate breaker closes.
- d. NC pump in operation on the bus that power is being transferred to, normal breaker trips, alternate breaker closes.

QUESTION: 044 (1.00)

Following the loss of battery chargers 1DP and 1DS and the starting of all associated loads (including motors) approximately how long will battery 1DP be able to carry all of its loads?

- a. 30 minutes
- b. 2 hours
- c. 12 hours
- d. 24 hours

QUESTION: 045 (1.00)

Given the following Unit 1A Diesel Generator conditions:

- One diesel air start air compressor is out of service due to maintenance.
- Both air start receivers are at 235 psig.

If the second air compressor became inoperable, which ONE of the following is the design MAXIMUM number of times the D/G could be started?

- a. 2
- b. 3
- c. 4
- d. 5

QUESTION: 046 (1.00)

Which ONE of the following is NOT a Diesel Generator Mode of Operation that can be selected in the Control Room on the Main Electrical Control Board?

- a. Automatic
- b. Local Manual
- c. Control Room Manual
- d. Control Room Override

QUESTION: 047 (1.00)

Which ONE of the following indications on the EMF RP86A digital radiation readout modules would indicate a loss of signal from the detector?

- a. Yellow LED comes on.
- b. Red LED comes on.
- c. Green LED goes out.
- d. White LED goes out.

QUESTION: 048 (1.00)

Which ONE of the following is the MINIMUM number of condenser circulating water (RC) pumps that must be operating in order for the Condenser Steam Dump Valves to open upon demand?

- a. 1
- b. 2
- c. 3
- d. 4

QUESTION: 049 (1.00)

When the NC System water level is below the top of the Hot Legs, only one ND pump may be operated at a time except when swapping trains.

Which ONE of the following is the reason for this precaution?

- a. The cooling requirements in this condition are within the capacity of one train.
- b. Prevent loss of suction to both trains of ND.
- c. Operating two pumps in this condition would heatup the NC system.
- d. Prevent ND pump runout due to low NC system backpressure.

QUESTION: 050 (1.00)

Which ONE of the following would result in the automatic starting of the standby (non-operating) Component Cooling Water (KC) Pumps?

- a. Flow less than 1000 gpm in the operating train.
- b. Loss of power to a pump in the operating train.
- c. Pressure less than 150 psig in the operating train.
- d. Loss of off-site power (Blackout).

QUESTION: 051 (1.00)

Which ONE of the following is the charcoal filters in the Containment Air Release System (VQ) designed to remove?

- a. Iodine.
- b. Hydrogen.
- c. Small particulates.
- d. Large particulates

QUESTION: 052 (2.00)

Match each condition in Column A with the corresponding Hydrogen concentration in Column B that would result in that condition.

(Number from Column B may be used once, more than once, or not at all, but only a single answer may occupy each answer space).

Column A (CONDITION)	Column B (HYDROGEN CONCENTRATION)
_____ a. Maximum H2 concentration for recombiners to be replaced in service	1. 0.5%
_____ b. Minimum flammable H2 concentration in containment	2. 2.0%
_____ c. Explosive concentration of H2	3. 3.5%
_____ d. High H2 concentration alarm setpoint	4. 4%
	5. 6%
	6. 8.5%
	7. 17%

QUESTION: 053 (1.00)

Which ONE of the following prevents inadvertently raising an irradiated fuel assembly in the New Fuel Elevator?

- Fuel pool bridge crane is interlocked to prevent loading irradiated fuel assembly into the elevator.
- The elevator is interlocked to stop if any Fuel Handling Building ARM is in alarm.
- Operators verify elevator is empty before raising the elevator.
- The elevator will not rise if any fuel element is in it.

QUESTION: 054 (1.00)

Given the following plant conditions:

- Unit 1 is in Mode 2 at 557 degrees F.
- RC Pumps A, B, & C are running.
- Steam Dump Mode Selector switch is in STM PRESS.
- Steam Header Pressure Controller is set for 1092 psig.
- Condenser vacuum is 25" Hg vacuum.
- Main Steam Header pressure transmitter fails HIGH.

Which ONE of the following describes the Steam Dump System response?

- a. Steam Dump System will be blocked.
- b. Steam Dump System will be armed but will not open.
- c. Condenser steam dump valves will open; atmospheric steam dump valves remain closed.
- d. Condenser steam dump valves and atmospheric steam dump valves will open.

QUESTION: 055 (1.00)

Which ONE of the following sets of signals is sent to the Reactor Protection System to indicate a Turbine Trip?

- a. Throttle valves closed and EHC pressure low.
- b. Throttle valves closed and autostop oil pressure low.
- c. Governor valves closed and EHC pressure low.
- d. Governor valves closed and autostop oil pressure low.

QUESTION: 056 (1.00)

Given the following plant conditions:

- Both units are at 100% power.
- "A" Train RN is in operation in Unit 1.
- "B" Train RN is in operation in Unit 2.

Which ONE of the following would be an effect on Unit 2 due to a Safety Injection on Unit 1?

- a. Loss of RN to the NC Pumps.
- b. Loss of Suction on "B" train RN Pumps.
- c. Loss of Cooling Water to containment RV loads.
- d. Loss of RN to "B" Train KC Heat Exchanger.

QUESTION: 057 (1.00)

Which ONE of the following is the reason for promptly closing the seal return valve for a NCP with a high number 1 seal leakoff flow?

- a. Prevention of failure of number 2 and 3 seals.
- b. Prevention of damage to the thermal barrier due to high flow.
- c. Minimize the amount of NCS water that is routed to containment sump.
- d. Assure a minimum back pressure is maintained on the number 1 seal.

QUESTION: 058 (1.00)

Given the following Unit 1 plant conditions:

- Emergency Boration is initiated to restore adequate SDM.
- 1NV-265B, Boric Acid to NV Pumps, fails to open electrically and cannot be opened locally.

Which ONE of the following operator actions is required to complete initiation of emergency boration in accordance with AP/1/A/5500/38, "Emergency Boration"?

- a. Open 1NV-267A (BA to BA Blender Control) and 1NV-175A (Blender to NV Pump Suction).
- b. Locally open 1NV-412 (NV Pump Suction from BATs).
- c. Open 1NV-221A/B (NV Pump Suction From FWST).
- d. Locally open 1NV-269 (BA Supply to NV Pump Block) and open 1NV-267A (BA to BA Blender Control).

QUESTION: 059 (1.00)

Given the following plant conditions:

- Unit 2 is at 50% power.
- All systems are in automatic.
- "A" Train KC is in operation.

Which ONE of the following lists of conditions would require entry into AP/1/A/5500/21, "Loss of KC or KC System Leakage"?

- a. KC surge tank level increasing,
NCP stator temperature increasing,
Thermal barrier KC auto isolation.
- b. Low KC Hx "A" inlet flow alarm,
NCP motor bearing temperature increasing,
NCP lower bearing low flow alarm.
- c. Low KC Hx "A" inlet flow alarm,
NCP motor bearing temperature increasing,
RN non-essential header pressure low.
- d. Low KC surge tank level alarm,
NCP seal temperature increasing,
NCP stator winding temperature increasing.

QUESTION: 060 (1.00)

Given the following plant conditions:

- Unit 1 at 100% power.
- All systems and components operating normally.
- Pressurizer Pressure Channel Control Switch is in position 1-2.
- Pressurizer (PZR) Pressure fails to 2450 psig.

Which ONE of the following actions is an IMMEDIATE action required by AP/1/A/5500/11, "Pressurizer Pressure Anomalies"?

- a. Close PZR PORV NC-34 and its associated Block valve.
- b. Close both spray valves using the PZR pressure master controller.
- c. Select another pressure control channel for control of PZR pressure.
- d. Energize all PZR heaters using the PZR heater control switches.

QUESTION: 061 (1.00)

Which ONE of the following is the parameter that would initially allow the operator to distinguish between a large steam line break inside the containment, and a double ended feed line break inside the containment?

- a. S/G pressure.
- b. S/G level.
- c. Feedwater flow to affected S/G.
- d. Containment humidity and pressure.

QUESTION: 062 (1.00)

Given the following plant conditions:

- Steam generator B is faulted outside of containment.
- Performing actions of EP/1/A/5000/E-2, "Faulted Steam Generator Isolation".
- CA system in operation.

Which ONE of the following actions concerning the CA pumps should be taken?

- a. Run all CA Pump(s) until all narrow range S/G levels are above 9%.
- b. Run the CA Pumps only if less than 450 gpm is available to the S/Gs.
- c. Isolate all of the CA Pumps from the faulted S/G (steam and CA flow).
- d. Isolate only the turbine driven CA Pump steam supply from the faulted S/G.

QUESTION: 063 (1.00)

Given the following plant conditions:

- Unit 1 is at 50% power.
- DEH is in manual.
- Three RC pumps are in operation.

Which ONE of the following is a symptom of a loss of condenser vacuum according to AP/1/A/5500/23, "Loss of Condenser Vacuum"?

- a. Decreasing hotwell temperature.
- b. Decreasing level in the CSAE loop seal.
- c. Decreasing condenser hotwell level.
- d. Decreasing megawatt output.

QUESTION: 064 (1.00)

Which ONE of the following is the reason the operator is cautioned NOT to decrease SG pressures to less than 110 psig during the depressurization of intact S/Gs per EP/1/A/5000/ECA-0.0, "Loss of All AC Power"?

- a. To prevent runout of the ND pumps when power is restored.
- b. To prevent reduction in natural circulation capability.
- c. To prevent T-cold from reaching REACTOR COOLANT INTEGRITY RED Path criterion.
- d. To prevent excessive differential pressure across S/G U-tubes and tube sheet.

QUESTION: 065 (1.00)

Which ONE of the following plant conditions may require 120VAC Vital Busses to be placed onto KRP?

- a. Loss of Regulated Power Supply from shared Motor Control Center.
- b. A Malfunctioning Static Inverter.
- c. A Malfunctioning Auto Transfer Switch on the Regulated Power Supply.
- d. A loss of the Voltage Regulator on the Regulated Power Supply.

QUESTION: 066 (1.00)

Which ONE of the following is protected by the HALON 1301 Fire Suppression System?

- a. Auxiliary Feedwater Pump Turbine.
- b. Hydrogen seal oil unit.
- c. Unit storage and standby transformer.
- d. Battery rooms.

QUESTION: 067 (1.00)

Which ONE of the following locations is manned by a Reactor Operator when AP/1/A/5500/17, "Loss of Control Room", is implemented?

- a. Aux Shutdown Panel.
- b. Turbine driven CA pump local control panel.
- c. Reactor trip breakers.
- d. Main turbine front standard.

QUESTION: 068 (1.00)

Technical Specifications require containment pressure to be between -0.3 and +0.3 psig in Modes 1, 2, 3 and 4.

Which ONE of the following is the MAXIMUM time containment pressure is allowed to be outside this band before an LCO action statement is entered?

- a. 30 minutes
- b. 1 hour
- c. 6 hours
- d. 30 hours

QUESTION: 069 (1.00)

In EP/1/A/5000/FR-C.1, "Response to Inadequate Core Cooling", if attempts to establish adequate core cooling using the ECCS pumps are ineffective, the intact S/Gs are depressurized to 150 psig.

Which ONE of the following describes the purpose of depressurizing the S/Gs?

- a. To depressurize S/Gs to allow condensate booster pump flow into S/Gs.
- b. To enhance natural circulation in the NCS.
- c. To depressurize the NCS to increase accumulator and ND flow.
- d. To depressurize the NCS to prevent PTS of reactor vessel.

QUESTION: 070 (1.00)

An immediate action of AP/1/A/5500/14, Rod Control Malfunction, for a continuous rod withdrawal is to place the CRD bank selector switch in MANUAL.

Which ONE of the following is another immediate action required for a continuous rod withdrawal?

- a. Position control rods in manual to maintain $T\text{-Avg} = T\text{-ref}$.
- b. Check NC Loop T-Avg channel normal.
- c. Verify rod movement stopped.
- d. Check Turbine Impulse Pressure channel normal.

QUESTION: 071 (1.00)

Which ONE of the following reasons explains why the recovery of a dropped rod is possible while the ROD CONTROL URGENT FAILURE annunciator is actuated?

- a. Placing the Bank Selector Switch to the individual bank allows rod motion.
- b. Rod motion is allowed since only 3 of 4 disconnect switches for the power cabinet with the urgent failure are opened.
- c. Rod motion is allowed when the Demand Step Counter for the affected banks is reset to zero.
- d. Depressing the "Rod Control Alarm Reset" bypasses the block.

QUESTION: 072 (1.00)

If the unit is operating at full load, which ONE of the following groups of instrument readings will result in an automatic reactor trip?

	CH 1	CH 2	CH 3	CH 4
a. NCP bus frequency (hertz):	56.0	57.0	57.0	58.0
b. Power range (percent):	107	108	108	109
c. S/G B NR level (percent):	40	41	41	42
d. PZR pressure (psig):	2383	2384	2385	2386

QUESTION: 073 (1.00)

Step 3 of EP/1/A/5000/E-0, "Reactor Trip or Safety Injection" verifies that a turbine trip has occurred following a reactor trip.

Which ONE of the following is the reason for tripping the turbine?

- a. To prevent overheating the last stage of blades on the low pressure turbines.
- b. To prevent uncontrolled cooldown of the NC System.
- c. To prevent overspeeding the turbine by reverse powering the generator.
- d. To provide dryout protection for the steam generators, in the event of a loss of all feedwater accident.

QUESTION: 074 (1.00)

Given the following plant conditions:

- Unit 2 reactor is shutdown.
- Pressurizer pressure is 985 psig.
- Pressurizer relief tank (PRT) pressure is 5 psig.
- PRT temperature is 90 degrees F.
- Ambient heat losses are negligible.
- Steam quality in the pressurizer steam bubble is 100%.

Which ONE of the following Safety Valve downstream temperatures, as indicated by the Safety Valve discharge RTD, would be caused by a leaking pressurizer Safety Valve? [Assume pressurizer and PRT conditions do NOT change.]

- a. 230 F
- b. 300 F
- c. 340 F
- d. 410 F

QUESTION: 075 (1.00)

Which ONE of the following parameters can be used shortly after event initiation, to discriminate between a steamline leak and a small break LOCA from the NCS, both occurring inside containment?

- a. Pressurizer level.
- b. Charging flow rate.
- c. RCS temperature.
- d. Pressurizer pressure.

QUESTION: 076 (1.00)

Which ONE of the following completes the statement below?

Following a LOCA with adverse containment conditions, containment high temperatures will always cause _____ to indicate significantly HIGHER than actual.

- a. Pressurizer level instruments
- b. Core exit thermocouples
- c. NCS pressure instruments
- d. NCS wide range RTDs

QUESTION: 077 (1.00)

Which ONE of the following describes how REFLUX cooling removes heat from the core during a small break LOCA?

- a. Boiling in the core produces steam which flows out the break to the sump for recirculation.
- b. Boiling in the core produces steam which condenses in the S/G tubes and flows down the cold leg back to the core.
- c. Boiling in the core produces steam which condenses in the head area and flows back to the core.
- d. Boiling in the core produces steam which condenses in the S/G tubes and flows down the hot leg back to the core.

QUESTION: 078 (1.00)

Given the following plant conditions:

- Unit 1 has experienced a reactor and turbine trip.
- A NV pump is out of service for maintenance.
- B NV pump has tripped.
- Containment Phase A and B isolation are actuated.

Prior to starting a centrifugal NV Pump, EP/1/A/5000/FR-I.2, "Response to Low Pressurizer Level", directs the operator to locally isolate NCP seal injection.

Which ONE of the following statements is the reason for isolating NCP seal injection?

- a. Prevents thermal shock to the NCP seals.
- b. Protects the NCP seals from excessive differential pressure.
- c. Prevents possible crud injection into the NCP seal cavity.
- d. Prevent loss of shutdown margin due to cold water injection.

QUESTION: 079 (1.00)

Unit 1 has been in an ATWS casualty and boration is in progress per EP/1/A/5000/FR-S.1, "Response to Nuclear Power Generation/ATWS".

Which ONE of the following criteria MUST be satisfied to verify the reactor is subcritical?

- a. All reactor trip breakers open.
- b. Source range detectors energized and emergency boration in progress.
- c. All rod bottom lights lit.
- d. Power range less than 5% and Intermediate Range SUR negative.

QUESTION: 080 (1.00)

Given the following plant conditions:

- Unit 1 is in MODE 6, refueling is in progress.
- The audio count rate signal in containment has failed.
- N-31 Source Range indication is erratic.

Which ONE of the following describes the action to be taken per AP/1/A/5500/16, "Malfunction of Nuclear Instrumentation"?

- a. The audio count rate circuit must be verified operable and shutdown margin verified.
- b. Containment building integrity must be maintained until the inoperable source range channel is returned to service.
- c. Refueling operations and positive reactivity changes must be suspended.
- d. NC system temperature must be maintained at or below the temperature at time of failure.

QUESTION: 081 (1.00)

Given the following plant conditions:

- Unit 2 plant shutdown in progress.
- All power range channels indicate 6% reactor power.
- Intermediate Range Channel N-36 fails high.

Which ONE of the following statements describes the plant response and HOW the failure affects the subsequent operation of the Nuclear Instrumentation system?

- a. The reactor will trip on IR Low Power Reactor Trip, and source range NIs will energize when N-35 decreases to the proper setpoint.
- b. The reactor will trip on IR Low Power Reactor Trip, and source range NIs will have to be manually energized at the proper setpoint.
- c. The reactor will not trip, and source range NIs will energize when N-35 decreases to the proper setpoint.
- d. The reactor will not trip, and source range NIs will have to be manually energized at the proper setpoint.

QUESTION: 082 (1.00)

Given the following plant conditions:

- Unit 1 is at 100% power.
- All systems are in a normal 100% power lineup.
- IEMF33 COND AIR EJECT EXH HI RAD is in alarm.
- IEMF34 S/G SAMPLE HI RAD readings are increasing.
- PZR level is below programmed level and is slowly decreasing.

Which ONE of the following is an IMMEDIATE required operator action?

- a. Start additional NV pump.
- b. Increase charging to greater than 175 GPM.
- c. Begin load reduction.
- d. Trip the reactor and initiate S/I.

QUESTION: 083 (1.00)

The crew is responding to a ruptured tube in 1B steam generator (S/G) using EP/1/A/5000/E-3, "Steam Generator Tube Rupture."

The following conditions exist:

- 1A S/G pressure is 980 psig.
- 1B S/G pressure is 1050 psig.
- 1C S/G pressure is 990 psig.
- 1D S/G pressure is 990 psig.
- Containment pressure is 3.4 psig.

Which ONE of the following is the required core exit temperature that the RCS must be cooled down to prior to depressurization? (page 16 of E-3 attached).

- a. 515 degrees F
- b. 514 degrees F
- c. 502 degrees F
- d. 501 degrees F

QUESTION: 084 (1.00)

The post-SGTR cooldown procedures EP/1/A/5000/ES-3.1, 3.2 and 3.3 (Backfill, Blowdown and Steam Dump) all have a continuous action step to keep ruptured S/G narrow range level greater than 9%.

Which ONE of the following describes one reason for this S/G level requirement?

- a. Prevents S/G dryout and subsequent heatup and pressurization of the NCS.
- b. Ensures the S/G NR level indication remains on scale.
- c. Keeps the S/G U-tubes covered to prevent rapid S/G depressurization.
- d. Ensures that the MSIVs do not go closed due to loss of S/G pressure.

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

NOTE

- NC pump trip criteria based on subcooling does not apply after starting a controlled cooldown.
- After the steamline S/I signal is blocked, Main Steam Isolation will occur if the high steam pressure rate setpoint is exceeded.

16. Initiate NC System cooldown as follows:

- ___ a. Determine required core exit temperature based on lowest ruptured S/G pressure:

LOWEST RUPTURED S/G PRESSURE (PSIG)	CORE EXIT T/Cs (°F)
GREATER THAN 1200	538 (536 ACC)
1100 - 1199	527 (525 ACC)
1000 - 1099	515 (514 ACC)
900 - 999	502 (501 ACC)
800 - 899	489 (487 ACC)
700 - 799	474 (472 ACC)
600 - 699	457 (456 ACC)
500 - 599	437 (436 ACC)
400 - 499	415 (414 ACC)
300 - 399	387 (386 ACC)
210 - 299	355 (354 ACC)

b. Check condenser available:

___ b. GO TO RNO for Step 16.e.

- ___ • "C-9 COND AVAILABLE FOR STEAM DUMP" status light (1SI-18) - LIT
- ___ • MSIV on intact S/G(s) - OPEN.

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

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900 - 999	502 (501 ACC)
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700 - 799	474 (472 ACC)
600 - 699	457 (456 ACC)
500 - 599	437 (436 ACC)
400 - 499	415 (414 ACC)
300 - 399	387 (386 ACC)
210 - 299	355 (354 ACC)

b. Check condenser available:

— b. GO TO RNO for Step 16.e.

- • "C-9 COND AVAILABLE FOR STEAM DUMP" status light (1SI-18) - LIT
- • MSIV on intact S/G(s) - OPEN.

QUESTION: 085 (1.00)

Given the following plant conditions:

- Unit 1 is at 100% power.
- All systems are in a normal 100% power lineup.
- Main Feedwater Pump 1A trips.

Which ONE of the following is an IMMEDIATE operator action required under these conditions

- a. Trip the reactor and trip the turbine.
- b. Take manual control of S/G feed reg valves and reduce feed flow to all S/Gs.
- c. Verify control rods in AUTO and moving in.
- d. Verify condenser dump valves are open.

QUESTION: 086 (1.00)

Given the following plant conditions:

- Unit 2 is at 100% power.
- The Pressurizer Level Channel Selector Switch is in position 1-2.
- Pressurizer level control channel 1 fails LOW.

Which ONE of the following will occur without operator action?

- a. Letdown isolation valve, NV1A, CLOSES.
- b. Charging flow DECREASES.
- c. Pressurizer backup heaters turn ON.
- d. Charging flow INCREASES.

QUESTION: 087 (1.00)

Which ONE of the following is the 1A Emergency Diesel Generator STEADY STATE load limit for a ten hour run?

- a. 3600 KW.
- b. 4000 KW.
- c. 4400 KW.
- d. 4800 KW.

QUESTION: 088 (1.00)

Given the following plant conditions:

- Unit 2 is at 8% power.
- All systems are in a normal lineup.
- An unisolable rupture of the Instrument Air (VI) header has occurred.
- VI pressure is 85 psig and decreasing.

Which ONE of the following conditions in accordance with AP-22, "Loss of VI", would require a reactor trip?

- a. VI header pressure decreases to 80 psig.
- b. PZR level increasing in an uncontrolled manner.
- c. Inability to start two VI compressors.
- d. S/G levels decreasing in an uncontrolled manner.

QUESTION: 089 (1.00)

A "Working Copy" of an operating procedure must be compared against the Control Copy of the procedure before use.

Which ONE of the following is the MAXIMUM amount of time a "Working Copy Procedure" can be used before re-verification of the procedures is required?

- a. One shift.
- b. Twenty-four hours.
- c. Seven days.
- d. Fourteen days.

QUESTION: 090 (1.00)

Which ONE of the following procedure types may be performed entirely from memory?

- a. Continuous Use
- b. Information Use
- c. Reference Use
- d. Multiple Use

QUESTION: 091 (1.00)

Which ONE of the following equipments can be operated by a non-licensed operator (NLO) NOT in an approved license training class under the direct observation of an actively licensed RO?

- a. Main Feedwater Pump.
- b. Turbine Generation.
- c. Control Rod Drive System.
- d. Pressurizer heaters and spray valves.

QUESTION: 092 (1.00)

Given the following plant conditions:

- Unit 2 is currently in Mode 2 enroute to Mode 6.
- Unit 1 is in Mode 5.

Which ONE of the following describes the Operational Mode where a licensed Reactor Operator may first assume the "Control Room Command Function"? (Normally held by the control room SRO)

- a. Mode 3.
- b. Mode 4.
- c. Mode 5.
- d. Mode 6.

QUESTION: 093 (1.00)

Which ONE of the following is the MAXIMUM time a Licensed Operator is allowed to be "At the Controls" in one continuous work period per Technical Specifications?

- a. 6 hours
- b. 8 hours
- c. 12 hours
- d. 16 hours

QUESTION: 094 (1.00)

Which ONE of the following would be the 1B Hydrogen Recombiner power setting when starting up the recombiner following a LOCA? (Assume post LOCA containment pressure is 3 psig.) (Copy of OP/1/A/6100/22, Curve 1.8 provided.)

- a. 35.67 KW
- b. 37.00 KW
- c. 47.44 KW
- d. 48.51 KW

QUESTION: 095 (1.00)

Which ONE of the following must be notified FIRST by the person receiving a bomb threat phone call?

- a. Shift Supervisor
- b. Shift Work Manager
- c. Operator at the Controls
- d. Security

QUESTION: 096 (1.00)

Which ONE of the following terms describes the qualitative assessment of channel behavior during operation by observation as defined in Technical Specifications.

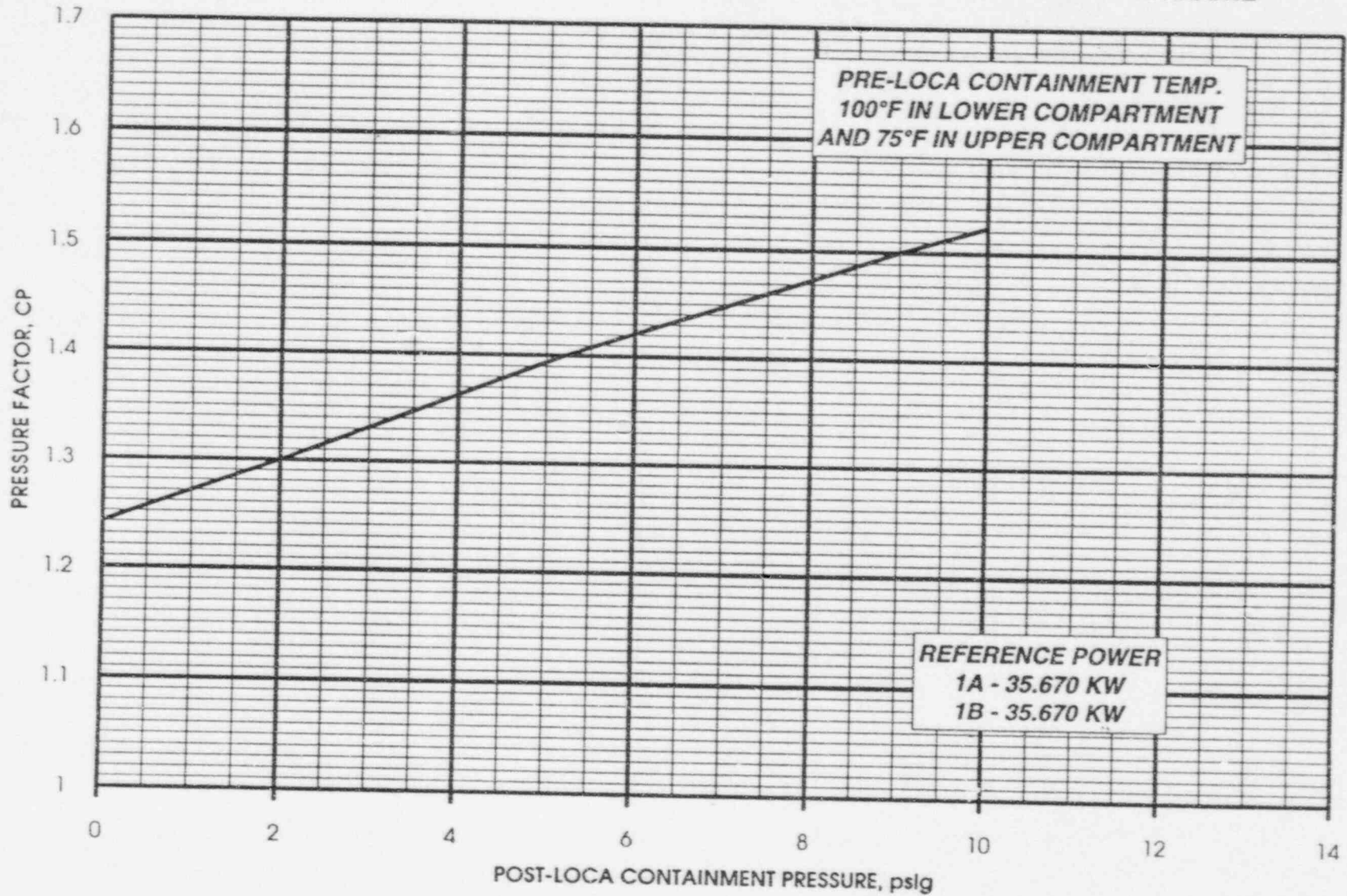
- a. Channel Calibration
- b. Channel Check
- c. Channel Functional Test
- d. Channel Verification

UNIT 1

OP/1/A/L 122
ENCLOSURE 4.3
CURVE 1.8

ch. # 295
KAS

HYDROGEN RECOMBINER POWER CORRECTION FACTOR vs. CONTAINMENT PRESSURE



UNIT 1

QUESTION: 097 (1.00)

A cooling loop was placed in operation with the manual heat exchanger outlet valve "THROTTLED".

Which ONE of the following is a desired method to verify position of this valve per NSD 700, Independent Verification if flow cannot be stopped?

- a. Verify heat exchanger outlet flow at desired value.
- b. Cycle valve closed then return to desired position.
- c. Measure the rise on the valve stem.
- d. Open the valve to the full open position then return to desired position.

QUESTION: 098 (1.00)

Which ONE of the following groups of individuals must agree upon the placement of a Human Red Tag?

1. Operations Shift Manager
 2. Work Group Supervisor
 3. Person performing work
 4. Supervisor with operational responsibility for the component
 5. Shift Supervisor
- a. 1, 2, and 3
 - b. 2, 3, and 4
 - c. 3, 4, and 5
 - d. 1, 3, and 5

QUESTION: 099 (1.00)

Given the following information for a licensed operator:

- 20 year old.
- Received an exposure of 750 mrem to date this year.
- Have an NRC Form 4 on file.

Which ONE of the following is the MAXIMUM exposure this operator can receive and not be "excluded" from further work in the RCA?

- a. 249 mrem
- b. 749 mrem
- c. 1049 mrem
- d. 1249 mrem

QUESTION: 100 (1.00)

Which ONE of the following is the MINIMUM number of escorts required in each respective area for a group of 13 visitors?

	Protected Area	Vital Area
a.	1	2
b.	2	3
c.	3	4
d.	4	5

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

ANSWER: 001 (2.00)

- a. 6
- b. 5
- c. 3
- d. 4

REFERENCE:

OP-MC-IC-IPE, Rev. 10, pgs. 17, 18, & 19 and LPRO 1.F.

KA 012000K402 [3.9/4.3]

012000K402 .. (KA's)

ANSWER: 002 (1.00)

- d.

REFERENCE:

OP-MC-CF-CA, Rev. 15, pgs. 11, 12 & 17 and LPRO 3; and OP/1/A/6250/02, Enclosure 4.1, pg. 2.

KA 061000K401 [3.9/4.2]

061000K401 .. (KA's)

ANSWER: 003 (1.00)

- a.

REFERENCE:

OP-MC-CF-CM, Rev. 8, pg. 21 and LPRO 5.

KA 056000A204 [2.6/2.8]

056000A204 ..(KA's)

ANSWER: 004 (1.00)

d.

REFERENCE:

OP-MC-PS-IPE, Rev. 11, pg. 8 and LPRO 1.A.

KA 010000K603 [3.2/3.6]

010000K603 ..(KA's)

ANSWER: 005 (1.00)

d.

REFERENCE:

EP/1/A/5000/E-0, Rev. 3, pg. 8.

KA 004000K115 [3.8/4.0]

004000K115 ..(KA's)

ANSWER: 006 (1.00)

d.

REFERENCE:

OP-MC-CNT-VP, Rev. 6, pgs. 7 & 11 and LPRO 1.

KA 029000G004 [2.9/3.0]

029000G004 ..(KA's)

ANSWER: 007 (1.00)

a.

REFERENCE:

OP-MC-SS-RFY, Rev. 5, pg. 20 and LPRO 3.

KA 086000K402 [3.0/3.4]

[Similar question used on 92 SRO exam]

086000K402 ..(KA's)

ANSWER: 008 (1.00)

b.

REFERENCE:

AP/1/A/5500/14, Rod Control Malfunctions, Case I and OP-MC-IC-IRE, Rev. 9, pg. 35, LPRO 16C.

KA 000005A101 [3.6/3.4]

[Similar question used on 1992 SRO exam]

000005A101 ..(KA's)

ANSWER: 009 (1.00)

d.

REFERENCE:

OP-MC-PS-NV, Rev. 19, pgs. 17 & 18 and LPRO 6.

KA 004010A105 [3.0/3.2]

004010A105 ..(KA's)

ANSWER: 013 (1.00)

d.

REFERENCE:

OP-MC-EP-FRC, Rev. 1, pg. 43 and LPRO 15.

KA 000074A106 [3.6/3.9]

000074A106 ..(KA's)

ANSWER: 014 (1.00)

c.

REFERENCE:

OP-MC-PS-NC, Rev. 12, pg. 42 and LPRO 2.

KA 007000G007 [2.9/3.1]

007000G007 ..(KA's)

ANSWER: 015 (1.00)

d.

REFERENCE:

OP-MC-WE-EMF, Rev. 14, pg. 27 and LPRO 3

KA 000061A101 (3.6/3.6)

000061A101 .. (KA's)

ANSWER: 010 (1.00)

c.

REFERENCE:

OP-MC-CNT-NF, Rev. 9, pg. 11 and LPRO D.

KA 025000G007 [4.0/4.3]

025000G007 .. (KA's)

ANSWER: 011 (1.00)

b.

REFERENCE:

OP-MC-EP-FRS, Rev. 0, pg. 25 and LPRO 6.

KA 000024A201 [3.8/4.1]

[Similar question used for KA 000029K312 on 92 SRO exam]

000024A201 .. (KA's)

ANSWER: 012 (1.00)

c.

REFERENCE:

Tech. Spec. 3.3.3.1, Table 3.3-6 and OP-MC-WE-EMF, Rev. 14.

KA 072000G005 [3.0/3.6]

[Same question used on Sequoyah 93 RO exam.]

072000G005 .. (KA's)

ANSWER: 016 (1.00)

b.

REFERENCE:

KA 194001A103 [2.5/3.4]

194001A103 .. (KA's)

ANSWER: 017 (1.00)

d.

REFERENCE:

OP-MC-IC-IRX, Rev. 6, pg. 11 and LPRO 1.

KA 001000A102 [3.1/3.4]

001000A102 .. (KA's)

ANSWER: 018 (1.00)

c.

REFERENCE:

OP-MC-IC-IRE, Rev. 9, pg. 24 and LPRO 12.

KA 001010K604 [2.9/3.2]

001010K604 .. (KA's)

ANSWER: 019 (1.00)

b.

REFERENCE:

OP-MC-IC-IRE, Rev. 9, pg. 28 and LPRO 3.

KA 001000K103 [3.4/3.6]

001000K103 .. (KA's)

ANSWER: 020 (1.00)

a.

REFERENCE:

OP-MC-PS-NV, Rev. 19, pg. 34 and LRPO 3.I.

KA 003000K604 [2.8/3.1]

003000K604 .. (KA's)

ANSWER: 021 (1.00)

c.

REFERENCE:

OP-MC-PS-NCP, Rev. 12, pg. 18 and LRPO 9.
EB PSNCP005.

KA 003000K301 [3.7/4.0]

003000K301 .. (KA's)

ANSWER: 022 (1.00)

b.

REFERENCE:

OP-MC-ECC-ISE, Rev. 12, pg. 15 and LPRO 1.C.

KA 013000A101 [4.0/4.2]

013000A101 .. (KA's)

ANSWER: 023 (1.00)

a.

REFERENCE:

OP-MC-ECC-ISE, Rev. 12, pg. 10 and LPRO 1.C.

KA 013000A403 [4.5/4.7]

013000A403 .. (KA's)

ANSWER: 024 (1.00)

b.

REFERENCE:

OP-MC-ECC-ISE, Rev. 12, pg. 20 and LPRO 1.N.4.

KA 013000A301 [3.7/3.9]

013000A301 .. (KA's)

ANSWER: 025 (1.00)

d.

REFERENCE:

OP-MC-IC-ENB, Rev. 11, pg. 33 and LPRO 16.

KA 015000A402 [3.9/3.9]

015000A402 .. (KA's)

ANSWER: 026 (1.00)

d.

REFERENCE:

OP-MC-IC-ENB, Rev. 11, pg. 26 and LPRO 6.C.

KA 015000K501 [2.9/3.2]

015000K501 .. (KA's)

ANSWER: 027 (1.00)

a.

REFERENCE:

EP/1/A/5000/F-0, Core Cooling, Rev. 0, pg. 4 and OP-MC-EP-FO, Rev. 0, pg. 29 and LPRO 4.

KA 017000G015 [3.8/4.0]

017000G015 ..(KA's)

ANSWER: 028 (1.00)

b.

REFERENCE:

OP-MC-IC-ICM, Rev. 5, pg. 22 and LPRO 9.A.

KA 017020K401 [3.8/4.1]

017020K401 ..(KA's)

ANSWER: 029 (1.00)

a.

REFERENCE:

OP-MC-CNT-VUL, Rev. 11, pg. 16.

KA 022000A301 [4.1/4.3]

022000A301 ..(KA's)

ANSWER: 030 (1.00)

c.

REFERENCE:

OP-MC-ECC-ISE, Rev. 12, pg. 21 and LPRO 1.N.4.

KA 059000A412 [3.4/3.5]

059000A412 .. (KA's)

ANSWER: 031 (1.00)

b.

REFERENCE:

OP-MC-CF-CA, Rev. 15, pgs. 20 & 21 and LPRO 5.

KA 061000A301 [4.2/4.2]

061000A301 .. (KA's)

ANSWER: 032 (1.00)

c.

REFERENCE:

OP-MC-WE-WL, Rev. 4, pg. 21 and LPRO 6.

KA 068000A302 [3.6/3.6]

068000A302 .. (KA's)

ANSWER: 033 (1.00)

a.

REFERENCE:

OP-MC-WE-WG, Rev. 1, pg. 26 and LPRO 7.

KA 071000A409 [3.3/3.5]

071000A409 ..(KA's)

ANSWER: 034 (1.00)

a.

REFERENCE:

Tech. Spec. 2.1.2.

KA 002000G005 [3.6/4.1]

002000G005 ..(KA's)

ANSWER: 035 (1.00)

c.

REFERENCE:

OP-MC-PS-ILE, Rev. 7, pg. 8 and LPRO 1.H.

KA 011000A104 [3.1/3.3]

011000A104 ..(KA's)

ANSWER: 036 (1.00)

b.

REFERENCE:

Tech. Spec. 3.1.3.1 and OP-MC-IC-EDA, Rev. 4, LPRO 8.B.

KA 014000G011 [3.0/3.9]

014000G011 ..(KA's)

ANSWER: 037 (1.00)

c.

REFERENCE:

OP-MC-PS-NC, Rev. 12, pg. 31 and LPRO 8.

KA 016000K101 [3.4/3.4]

016000K101 ..(KA's)

ANSWER: 038 (1.00)

b.

REFERENCE:

OP-MC-ECC-NS, Rev. 13, pg. 31 and LPRO 11.

KA 026020A202 [3.6/3.9]

026020A202 ..(KA's)

ANSWER: 039 (1.00)

a.

REFERENCE:

OF-MC-FH-KF, Rev. 7, pg. 12 and LPRO 5.

KA 033000K401 [2.9/3.2]

033000K401 ..(KA's)

ANSWER: 040 (1.00)

b.

REFERENCE:

OP-MC-CF-IFE, Rev. 10, pg. 29 and LPRO 6.

KA 035010A301 [4.0/3.9]

035010A301 ..(KA's)

ANSWER: 041 (1.00)

a.

REFERENCE:

OP-MC-STM-SM, Rev. 11, pgs. 11 & 21 and LPRO 11.

KA 039000K508 [3.6/3.6]

039000K508 ..(KA's)

ANSWER: 042 (1.00)

a.

REFERENCE:

OP-MC-EL-EP, Rev. 12, pg. 20 and LPRO 18.
EE ELEP002.

KA 062000K201 [3.3/3.4]

062000K2C1 ..(KA's)

ANSWER: 043 (1.00)

c.

REFERENCE:

OP-MC-EL-EP, Rev. 12, pg. 24 and LPRO 21.

KA 062000K403 [2.8/3.1]

062000K403 ..(KA's)

ANSWER: 044 (1.00)

b.

REFERENCE:

OP-MC-EL-EPJ, Rev. 5, pg. 6.

KA 063000A101 [2.5/3.3]

063000A101 ..(KA's)

ANSWER: 045 (1.00)

c.

REFERENCE:

OP-MC-DG-DGA, Rev. 10, pgs. 18 & 19 and LPRO 4.A and 5.

KA 064000A304 [3.1/3.5]

064000A304 .. (KA's)

ANSWER: 046 (1.00)

d.

REFERENCE:

OP-MC-DG-DG, Rev. 9, pgs. 14, 15, & 16 and LPRO 4.

KA 064000A401 [4.0/4.3]

064000A401 .. (KA's)

ANSWER: 047 (1.00)

c.

REFERENCE:

OP-MC-WE-EMF, Rev. 14, pg. 41.

KA 073000A202 [2.7/3.2]

073000A202 .. (KA's)

ANSWER: 048 (1.00)

b.

REFERENCE:

OP-MC-MT-RC,, Rev. 8, pg. 22 and LPRO 5.B.

KA 075000A203 [2.5/2.7]

075000A203 .. (KA's)

ANSWER: 049 (1.00)

b.

REFERENCE:

OP-MC-PS-ND, Rev. 16, pg. 22 and LPRO 8.

KA 005000G010 [3.3/3.5]

005000G010 .. (KA's)

ANSWER: 050 (1.00)

d.

REFERENCE:

OP-MC-PSS-KC, Rev. 9, pg. 20 and LPRO 4.

KA 008000K401 [3.1/3.3]

008000K401 .. (KA's)

ANSWER: 051 (1.00)

a.

REFERENCE:

OP-MC-CNT-VQ, Rev. 8, pg. 8 and LPRO 1.

KA 027000K501 [3.1/3.4]

027000K501 .. (KA's)

ANSWER: 052 (2.00)

- a. 5
- b. 4
- c. 7
- d. 3

REFERENCE:

OP-MC-CNT-VX, Rev. 13, pgs. 19, 21, & 29 and LPRO 3.

KA 028000A101 [3.4/3.8]

028000A101 .. (KA's)

ANSWER: 053 (1.00)

- d.

REFERENCE:

OP-MC-FH-FC, Rev. 6, pg 36 and LPRO 6.

KA 034000K402 [2.5/3.3]

034000K402 .. (KA's)

ANSWER: 054 (1.00)

- c.

REFERENCE:

OP-MC-STM-IDE, Rev. 9, pg. 31 and LPRO 5.

KA 041020K603 [2.7/2.9]

041020K603 .. (KA's)

ANSWER: 055 (1.00)

b.

REFERENCE:

OP-MC-IC-IPE, Rev. 10, pg. 21 and LPRO 1.F.

KA 045010K111 [3.6/3.7]

045010K111 .. (KA's)

ANSWER: 056 (1.00)

a.

REFERENCE:

OP-MC-PSS-RN, Rev. 12, pg. [Check with facility] and LPRO 5.
EB PSSRN012

KA 076000K401 [2.5/2.9]

076000K401 .. (KA's)

ANSWER: 057 (1.00)

a.

REFERENCE:

OP-MC-PS-NCP, Rev. 12, pg. 34, and LPRO 10; and AP/1/A/5500/08, pg. 3
CAUTION note.

KA 000015A122 [4.0/4.2]

000015A122 ..(KA's)

ANSWER: 058 (1.00)

d.

REFERENCE:

AP/1/A/5500/38, Rev. 0, pg. 2.

KA 000024A202 [3.9/4.4]

000024A202 ..(KA's)

ANSWER: 059 (1.00)

b.

REFERENCE:

AP/1/A/5500/21, Loss of KC or KC System Leakage, pg. 2, Symptoms and OP-
MC-PSS-KC, Rev. 9, pg. 6 and LPRO 12.B.
EB PSSKC025.

KA 000026G011 [3.4/3.7]

000026G011 ..(KA's)

ANSWER: 060 (1.00)

c.

REFERENCE:

AP/1/A/5500/11, Rev. 0, pg. 2 and OP-MC-PS-IPE, Rev. 11, LPRO 5.D.

KA 000027A215 [3.7/4.0]

000027A215 .. (KA's)

ANSWER: 061 (1.00)

a.

REFERENCE:

OP-MC-EP-E2, Rev. 0, pg. 11.

KA 000040A201 [4.2/4.7]

000040A201 .. (KA's)

ANSWER: 062 (1.00)

c.

REFERENCE:

EP/1/A/5000/E-2, Rev. 1, pgs. 6, 7, 8 & 9.

KA 000040A110 [4.1/4.1]

000040A110 .. (KA's)

ANSWER: 063 (1.00)

d.

REFERENCE:

AP/1/A/5500/23, Rev. 1, pg. 2, Symptoms.

KA 000051G011 [2.7/2.9]

000051G011 ..(KA's)

ANSWER: 064 (1.00)

b.

REFERENCE:

OP-MC-EP-ECA0, Rev. 0, pg. 43 and LPRO 2.

KA 000055K302 [4.3/4.6]

000055K302 ..(KA's)

ANSWER: 065 (1.00)

b.

REFERENCE:

OP/1/A/6100/10L, Panel 1AD11-G1.
EB 412

KA 000057A106 [3.5/3.5]

000057A106 ..(KA's)

ANSWER: 066 (1.00)

a.

REFERENCE:

OP-MC-SS-RFY, Rev. 5, pg. 38 and LPRO 9.

KA 000067A214 [3.2/4.3]

000067A214 .. (KA's)

ANSWER: 067 (1.00)

b.

REFERENCE:

AP/1/A/5500/17, Rev. 6, pg. 3.

000068G006 [4.1/4.3]

000068G006 .. (KA's)

ANSWER: 068 (1.00)

b.

REFERENCE:

Tech. Spec. 3.6.1.4 and OP-MC-CNT-VQ, Rev. 8, LPRO 9.A.

KA 000069G003 [3.3/3.9]

000069G003 .. (KA's)

ANSWER: 069 (1.00)

c.

REFERENCE:

OP-MC-EP-FRC, Rev. 1, pg. 39 and LPRO 10.

KA 000074K103 [4.5/4.9]

000074K103 ..(KA's)

ANSWER: 070 (1.00)

c.

REFERENCE:

AP/1/A/5500/14, pg. 2.

KA 000001G010 [3.9/4.0]

000001G010 ..(KA's)

ANSWER: 071 (1.00)

a.

REFERENCE:

OP-MC-IC-IRE, Rev. 9, pg. 26 and LPRO 10.

KA 000003A102 [3.6/3.4]

000003A102 ..(KA's)

ANSWER: 072 (1.00)

d.

REFERENCE:

OP-MC-IC-IPE, Rev. 10, Handout MC-IC-IPE1 and LPRO 1.F.

KA 000007A205 [3.4/3.9]

000007A205 ..(KA's)

ANSWER: 073 (1.00)

b.

REFERENCE:

OP-MC-EP-EO, Rev. 0, pg. 31 and LPRO 2.

KA 000007K103 [3.7/4.0]

000007K103 ..(KA's)

ANSWER: 074 (1.00)

b.

REFERENCE:

Steam Tables

KA 000008K101 [3.2/3.7]

000008K101 ..(KA's)

ANSWER: 075 (1.00)

c.

REFERENCE:

AP/1/A/5500/01, Rev. 5, pg. 2, Symptoms.

KA 000009A101 [4.4/4.3]

000009A101 .. (KA's)

ANSWER: 076 (1.00)

a.

REFERENCE:

OP-MC-PC-ILE, Rev. 7, pg. 15 and LPRO-1.0.

KA 000011A204 [3.7/3.9]

000011A204 .. (KA's)

ANSWER: 077 (1.00)

d.

REFERENCE:

OP-MC-TA-AM, Rev. 5, pg. 24 and LPRO 1.B.

KA 000011K101 [4.1/4.4]

000011K101 .. (KA's)

ANSWER: 078 (1.00)

a.

REFERENCE:

OP-MC-EP-FRI, Rev. 0, pg 37 and LPRO 1.a.

KA 000022K302 [3.5/3.8]

000022K302 ..(KA's)

ANSWER: 079 (1.00)

d.

REFERENCE:

OP-MC-EP-FRS, Rev. 0, pg. 33 and LPRO 8.
EB EPFRS009.

000029A201 [4.4/4.7]

000029A201 ..(KA's)

ANSWER: 080 (1.00)

c.

REFERENCE:

AP/1/A/5500/16, Rev. 0, pg. 2 and OP-MC-IC-ENB, Rev. 11, LPRO 15.C.

KA 000032G010 [2.9/3.1]

[Similar question used on 92 SRO exam]

000032G010 ..(KA's)

ANSWER: 081 (1.00)

b.

REFERENCE:

OP-MC-IC-ENB, Rev. 11, pgs. 16 & 24 and LPRO 11 & 12.

KA 000033A208 [3.3/3.4]

000033A208 .. (KA's)

ANSWER: 082 (1.00)

a.

REFERENCE:

AP/1/A/5500/10, Case I, Rev. 1, pg. 3 and OP-MC-PS-NC, Rev. 12, LPRO 15.C.

KA 000037G011 [3.9/4.1]

000037G011 .. (KA's)

ANSWER: 083 (1.00)

b.

REFERENCE:

EP/1/A/5000/E-3, Rev. 1, pg. 16.

KA 000038A136 [4.3/4.5]

[PROVIDE: E-3, pg. 16 of 56]

000038A136 .. (KA's)

ANSWER: 084 (1.00)

c.

REFERENCE:

OP-MC-EP-E3, Rev. 0, pg. 165 and LPRO 8.
EB EPE3023.

KA 000038K306 [4.2/4.5]

000038K306 .. (KA's)

ANSWER: 085 (1.00)

c.

REFERENCE:

AP/1/A/5500/03, Case I, Rev. 0, pg. 3.

KA 000054G012 [3.2/3.2]

000054G012 .. (KA's)

ANSWER: 086 (1.00)

d.

REFERENCE:

OP-MC-PS-ILE, Rev. 7, pg. 8 and LPRO 1.0.

KA 000028A210 [3.3/3.4]

000028A210 .. (KA's)

ANSWER: 087 (1.00)

b.

REFERENCE:

AP/1/A/5500/07, Enclosure 2, pg. 3.

KA 000056A250 [2.8/3.1]

000056A250 .. (KA's)

ANSWER: 088 (1.00)

d.

REFERENCE:

AP/1/A/5500/22, Rev. 5, pg. 8.

KA 000065A206 [3.6/4.2]

000065A206 .. (KA's)

ANSWER: 089 (1.00)

d.

REFERENCE:

OMP-4-1, Rev. 0, pg. 7.

KA 194001A101 [3.3/3.4]

194001A101 .. (KA's)

ANSWER: 090 (1.00)

b.

REFERENCE:

OMP 4-1, Rev. 0, pg. 5.

KA 194001A102 [4.1/3.9]

194001A102 ..(KA's)

ANSWER: 091 (1.00)

d.

REFERENCE:

OMP 2-2, Rev. 1, pg. 12.

KA 194001A109 [2.7/3.9]

194001A109 ..(KA's)

ANSWER: 092 (1.00)

c.

REFERENCE:

Tech. Spec. 6.2.1, Table 6.2-1.

KA 194001A103 [2.5/3.4]

194001A103 ..(KA's)

ANSWER: 093 (1.00)

d.

REFERENCE:

Tech. Spec. 6.2.1.

KA 194001A103 [2.5/3.4]

194001A103 ..(KA's)

ANSWER: 094 (1.00)

c.

REFERENCE:

OP/1/A/6450/10, Enclosure 4.2, pg. 2.

KA 194001A108 [2.6/3.1]

194001A108 ..(KA's)

ANSWER: 095 (1.00)

a.

REFERENCE:

MSD 951, Rev. 0, pg. 11.

KA 194001A109 [2.7/3.9]

194001A109 ..(KA's)

ANSWER: 096 (1.00)

b.

REFERENCE:

Tech. Spec. Definitions 1.6.

KA 194001A113 [4.3/4.1]

194001A113 ..(KA's)

ANSWER: 097 (1.00)

a.

REFERENCE:

NSD 700, Rev. 2, pg. 11.

KA 194001K101 [3.6/3.7]

194001K101 ..(KA's)

ANSWER: 098 (1.00)

b.

REFERENCE:

NSD 500, Rev. 4, pg. 17.

KA 194001K102 [3.7/4.1]

194001K102 ..(KA's)

ANSWER: 099 (1.00)

c.

REFERENCE:

GET, Rad Worker Training Student Guide, Sections 4.1 and 4.4.

KA 194001K103 [2.8/3.4]

194001K103 .. (KA's)

ANSWER: 100 (1.00)

b.

REFERENCE:

MSD 950, Rev. 0, pg. 11.

KA 194001K105 [3.1/3.4]

194001K105 .. (KA's)

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

ANSWER KEY

001 MATCHING

- a 6
- b 5
- c 3
- d 4

MULTIPLE CHOICE

- 002 d
- 003 a
- 004 d
- 005 d
- 006 d
- 007 a
- 008 b
- 009 d
- 010 c
- 011 b
- 012 c
- 013 d
- 014 c
- 015 d
- 016 b
- 017 d
- 018 c

- 019 b
- 020 a
- 021 c
- 022 b
- 023 a
- 024 b
- 025 d
- 026 d
- 027 a
- 028 b
- 029 a
- 030 c
- 031 b
- 032 c
- 033 a
- 034 a
- 035 c
- 036 b
- 037 c
- 038 b
- 039 a
- 040 b
- 041 a

A N S W E R K E Y

042	a	060	c
043	c	061	a
044	b	062	c
045	c	063	d
046	d	064	b
047	c	065	b
048	b	066	a
049	b	067	b
050	d	068	b
051	a	069	c
052	MATCHING	070	c
	a 5	071	a
	b 4	072	d
	c 7	073	b
	d 3	074	b
		075	c
		076	a
		077	d
		078	a
		079	d
		080	c
		081	b
		082	a

MULTIPLE CHOICE

A N S W E R K E Y

- 083 b
- 084 c
- 085 c
- 086 d
- 087 b
- 088 d
- 089 d
- 090 b
- 091 d
- 092 c
- 093 d
- 094 c
- 095 a
- 096 b
- 097 a
- 098 b
- 099 c
- 100 b

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

R O Exam P W R Reactor
Organized by Question Number

<u>QUESTION</u>	<u>VALUE</u>	<u>REFERENCE</u>
001	2.00	20212
002	1.00	22968
003	1.00	27669
004	1.00	29890
005	1.00	32806
006	1.00	33815
007	1.00	34565
008	1.00	34595
009	1.00	34618
010	1.00	34641
011	1.00	34672
012	1.00	35043
013	1.00	35077
014	1.00	35229
015	1.00	36744
016	1.00	45139
017	1.00	9000128
018	1.00	9000129
019	1.00	9000130
020	1.00	9000131
021	1.00	9000132
022	1.00	9000135
023	1.00	9000136
024	1.00	9000137
025	1.00	9000138
026	1.00	9000139
027	1.00	9000140
028	1.00	9000141
029	1.00	9000142
030	1.00	9000145
031	1.00	9000146
032	1.00	9000148
033	1.00	9000149
034	1.00	9000151
035	1.00	9000153
036	1.00	9000155
037	1.00	9000156
038	1.00	9000157
039	1.00	9000159
040	1.00	9000160
041	1.00	9000161
042	1.00	9000162
043	1.00	9000163
044	1.00	9000164
045	1.00	9000165
046	1.00	9000166
047	1.00	9000167
048	1.00	9000168
049	1.00	9000170

R O Exam P W R Reactor
Organized by Question Number

<u>QUESTION</u>	<u>VALUE</u>	<u>REFERENCE</u>
050	1.00	9000172
051	1.00	9000173
052	2.00	9000174
053	1.00	9000175
054	1.00	9000176
055	1.00	9000177
056	1.00	9000178
057	1.00	9000180
058	1.00	9000181
059	1.00	9000183
060	1.00	9000184
061	1.00	9000185
062	1.00	9000186
063	1.00	9000187
064	1.00	9000188
065	1.00	9000189
066	1.00	9000190
067	1.00	9000191
068	1.00	9000192
069	1.00	9000193
070	1.00	9000195
071	1.00	9000196
072	1.00	9000197
073	1.00	9000198
074	1.00	9000199
075	1.00	9000200
076	1.00	9000201
077	1.00	9000202
078	1.00	9000203
079	1.00	9000204
080	1.00	9000205
081	1.00	9000206
082	1.00	9000207
083	1.00	9000208
084	1.00	9000209
085	1.00	9000210
086	1.00	9000212
087	1.00	9000213
088	1.00	9000214
089	1.00	9000215
090	1.00	9000216
091	1.00	9000217
092	1.00	9000218
093	1.00	9000219
094	1.00	9000220
095	1.00	9000221
096	1.00	9000222
097	1.00	9000223
098	1.00	9000224

R O Exam P W R Reactor
Organized by Question Number

<u>QUESTION</u>	<u>VALUE</u>	<u>REFERENCE</u>
099	1.00	9000225
100	1.00	9000226

	102.00	

	102.00	

R O Exam PWR Reactor
Organized by KA Group

PLANT WIDE GENERICS

QUESTION	VALUE	KA
089	1.00	194001A101
090	1.00	194001A102
092	1.00	194001A103
016	1.00	194001A103
093	1.00	194001A103
094	1.00	194001A108
091	1.00	194001A109
095	1.00	194001A109
096	1.00	194001A113
097	1.00	194001K101
098	1.00	194001K102
099	1.00	194001K103
100	1.00	194001K105

PWG Total	13.00	

PLANT SYSTEMS

Group I

QUESTION	VALUE	KA
017	1.00	001000A102
019	1.00	001000K103
018	1.00	001010K604
021	1.00	003000K301
020	1.00	003000K604
005	1.00	004000K115
012	1.00	004010A105
022	1.00	013000A101
024	1.00	013000A301
023	1.00	013000A403
025	1.00	015000A402
026	1.00	015000K501
027	1.00	017000G015
028	1.00	017020K401
029	1.00	022000A301
010	1.00	025000G007
003	1.00	056000A204
030	1.00	059000A412
031	1.00	061000A301
002	1.00	061000K401
032	1.00	068000A302
033	1.00	071000A409
015	1.00	072000G005

R O Exam P W R Reactor
 Organized by KA Group

PLANT SYSTEMS

Group I

QUESTION	VALUE	KA
PS-I Total	23.00	

Group II

QUESTION	VALUE	KA
034	1.00	002000G005
004	1.00	010000K603
035	1.00	011000A104
001	2.00	012000K402
036	1.00	014000G011
037	1.00	016000K101
038	1.00	026020A202
006	1.00	029000G004
039	1.00	033000K401
040	1.00	035010A301
041	1.00	039000K508
042	1.00	062000K201
043	1.00	062000K403
044	1.00	063000A101
045	1.00	064000A304
046	1.00	064000A401
047	1.00	073000A202
048	1.00	075000A203
007	1.00	086000K402

PS-II Total	20.00	

Group III

QUESTION	VALUE	KA
049	1.00	005000G010
014	1.00	007000G007
050	1.00	008000K401
051	1.00	027000K501
052	2.00	028000A101
053	1.00	034000K402
054	1.00	041020K603
055	1.00	045010K111
056	1.00	076000K401

PS-III Total	10.00	

R O Exam PWR Reactor
Organized by KA Group

PLANT SYSTEMS

QUESTION	VALUE	KA
PS Total	53.00	

EMERGENCY PLANT EVOLUTIONS

Group I

QUESTION	VALUE	KA
008	1.00	000005A101
057	1.00	000015A122
011	1.00	000024A201
058	1.00	000024A202
059	1.00	000026G011
060	1.00	000027A215
062	1.00	000040A110
061	1.00	000040A201
063	1.00	000051G011
064	1.00	000055K302
065	1.00	000057A106
066	1.00	000067A214
067	1.00	000068G006
068	1.00	000069G003
013	1.00	000074A106
069	1.00	000074K103

EPE-I Total	16.00	

Group II

QUESTION	VALUE	KA
070	1.00	000001G010
071	1.00	000003A102
072	1.00	000007A205
073	1.00	000007K103
074	1.00	000008K101
075	1.00	000009A101
076	1.00	000011A204
077	1.00	000011K101
078	1.00	000022K302
079	1.00	000029A201
080	1.00	000032G010
081	1.00	000033A208
082	1.00	000037G011
083	1.00	000038A136
084	1.00	000038K306

R O Exam PWR Reactor
 Organized by KA Group

EMERGENCY PLANT EVOLUTIONS

Group II

QUESTION	VALUE	KA
085	1.00	000054G012
009	1.00	000061A101

EPE-II Total	17.00	

Group III

QUESTION	VALUE	KA
086	1.00	000028A210
087	1.00	000056A250
088	1.00	000065A206

EPE-III Total	3.00	

EPE Total	36.00	

Test Total	102.00	