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

ENCLOSURE 1

EXAMINATION REPORT NO.: 50-302/OL-90-02

Facility Licensee: Florida Power Corp(tion
Crystal River Nucl(Plant
P. O. Box 219
Crystal River, FL 32629

Facility Docket No.: 50-302

Facility License No.: DPR-72

Examinations administered at Crystal River-3 Nuclear Plant near Crystal River Florida.

Chief Examiner: Richard S. Baldwin — 12/11/90
Richard S. Baldwin — Date Signed

Approved by: Charles A. Casto — 12/11/90
Charles A. Casto, Chief — Date Signed
Operator Licensing Section 2
Operations Branch
Division of Reactor Safety

Summary:

Examinations on November 26-29, 1990.

Written examinations and operating tests were administered to seven RO applicants. All ROs passed these examinations.

REPORT DETAILS

1. Facility Employees Contacted

*J. Smith, Nuclear Licensed Operator Training Supervisor
*A. Auner, Manager, Nuclear Technical Training
*P. Alberdi, Manager of Nuclear Plant Operations
*J. Lind, Manager, Nuclear Licensed Operator Training
*L. Kelley, Director Nuclear Operations Training
*J. Springer, Nuclear Simulator Training Supervisor
*B. Marshall, Operations Superintendent

*Attended Exit Meeting

2. Examiners

*R. S. Baldwin, NRC
N. C. Jensen, EG&G
T. L. Morgan, EG&G

*Chief Examiner

3. Exit Meeting

At the conclusion of the site visit the examiners met with representatives of the plant staff to discuss the results of the examinations. The examiners made the following observations concerning your training program:

a) Candidates are not consistent with the use of Emergency Operating Prodedures.

b) Candidates are unfamiliar with Series 208 Drawings.

4. There were no Facility Comments concerning the written examination.

ENCLOSURE 2

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

FACILITY: Crystal River 3

REACTOR TYPE: PWR-B&W177

DATE ADMINISTERED: 90/11/27

CANDIDATE: MASTER COPY

INSTRUCTIONS TO CANDIDATE:

Points for each question are indicated in parentheses after the question. To pass this examination, you must achieve an overall grade of at least 80%. Examination papers will be picked up four and one half (4 1/2) hours after the examination starts.

NUMBER QUESTIONS	TOTAL POINTS	CANDIDATE'S POINTS	CANDIDATE'S OVERALL GRADE (%)
96	98.00		

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

Candidate's Signature

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 candidate 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 reprcductions.

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

6. Fill in the date on the cover sheet of the examination (if necessary).

7. You may write your answers on the examination question page or on a separate sheet of paper. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.

8. If you write your answers on the examination question page and you need more space to answer a specific question, use a separate sheet of the paper provided and insert it directly after the specific question. DO NOT WRITE ON THE BACK SIDE OF THE EXAMINATION QUESTION PAGE.

9. Print your name in the upper right-hand corner of the first page of answer sheets whether you use the examination question pages or separate sheets of paper. Initial each of the following answer pages.

10. 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.

11. If you are using separate sheets, number each answer and skip at least 3 lines between answers to allow space for grading.

12. Write "Last Page" on the last answer sheet.

13. 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.

14. The point value for each question is indicated in parentheses after the question. The amount of blank space on an examination question page is NOT an indication of the depth of answer required.

15. Show all calculations, methods, or assumptions used to obtain an answer.

16. Partial credit may be given. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWER BLANK. NOTE: partial credit will NOT be given on multiple choice questions.

17. 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.

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

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

20. To pass the examination, you must achieve an overall grade of 80% or greater.

21. There is a time limit of (4 1/2) hours for completion of the examination. (or some other time if less than the full examination is taken.)

22. When you are done and have turned in your examination, leave the examination area as defined by the examiner. If you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION: 001 (1.00)

Which one of the following must be used for proper tracking of "special valve line-ups?"

a Placing an entry in the operator's log.

b. Listing on the shift relief check list.

c. Placing an entry in the shift supervisor's log.

d. Making a temporary procedure change.

QUESTION: 002 (1.00)

Which one of the following is the maximum exposure limits as set down by 10 CFR 20 section 20.101? [NRC Form 4 is on file.]

a. Quarterly Whole Body - 1.25 rem
Yearly Whole Body - 5 Rem
Quarterly Extremities (Hands and feet) - 7.5 Rem
Quarterly Skin of Whole Body - 18.75 Rem

b. Quarterly Whole Body - 3.0 rem
Lifetime Whole Body - 5(N-18)
Quarterly Extremities (Hands and feet) - 7.5 Rem
Quarterly Skin of Whole Body - 18.75 Rem

c. Quarterly Whole Body - 3.0 rem
Lifetime Whole Body - 5(N-18)
Quarterly Extremities (Hands and feet) - 18.75 Rem
Quarterly Skin of Whole Body - 7.5 Rem

d. Quarterly Whole Body - 1.25 rem
Yearly Whole Body - 5 Rem
Quarterly Extremities (Hands and feet) - 18.75 Rem
Quarterly Skin of Whole Body - 7.5 Rem

QUESTION: 003 (1.00)

Which one of the following is the requirement a licensed operator must complete to maintain his/her license in an "ACTIVE" status per the regulations of 10 CFR 55, "Operators' Licenses?"

The operator shall actively perform the functions of the appropriately licensed operator on a minimum of:

a. seven 8 hour shifts or five 12 hour shifts per calendar month.

b. seven 8 hour shifts or five 12 hour shifts per calendar quarter.

c. five 8 hour shifts or three 12 hour shifts per calendar month.

d. five 8 hour shifts or three 12 hour shifts per calendar quarter.

QUESTION: 004 (1.00)

Which one of the following combinations of tags hung on a single component is permissible?

a. 1 white, 1 red, and 1 blue

b. 1 white and 3 red tags

c. 2 red and 1 blue

d. 2 blue tags

QUESTION: 005 (1.00)

The Emergency Diesel Generator output breaker fails to open on an overload thereby failing to deenergize the bus and smoke is emitting from the breaker cubical.

Which one of the following is the class of fire described above?

a. Class 'A'

b. Class 'B'

c. Class 'C'

d. Class 'D'

QUESTION: 006 (1.00)

In accordance with CP-115 "Nuclear Plant Clearance Orders," which one of the following statements gives two actions that must be undertaken by the Clearance Holder for those clearances that have been outstanding for 30 days or more?

a. Review and verify applicability, Re-date the clearance tags.

b. Review and verify applicability, reissue the clearance tags.

c. Perform a physical verification of tags, Reissue the clearance tags.

d. Review and verify applicability, perform a physical verification of tags.

QUESTION: 007 (1.00)

During operation an emergency situation arises for which no procedural guidance exists. Actions which depart from Technical Specifications are required immediately to protect the health and safety of the public.

Which one of the following describes the course of action the Nuclear Operator is authorized to take?

a. Immediately take what action is required without approval from another licensed operator.

b. Notify the Chief Nuclear Operator or another Licensed Reactor Operator of his/her intent and perform the required action.

c. Obtain approval from the Shift Supervisor on Duty and only the Shift Supervisor on Duty prior to taking any action.

d. Obtain approval from a Senior Reactor Operator prior to taking any action.

QUESTION: 008 (1.00)

Which one of the following is a normal responsibility of the Chief Nuclear Operator?

a. Provides direction and assistance to non-licensed operators in the performance of assigned tasks.

b. Initiates power reductions if plant parameters indicate that such action is required.

c. Manually trip the reactor if indications exceed automatic reactor trip settings and a trip has not occurred.

d. Actuates Emergency Safety Systems indications exceed automatic actuation setpoints and actuation has not occurred.

QUESTION: 009 (1.00)

Which one of the following is a proper method of operating a motor operated valve (MOV) when it does not electrically seat satisfactorily?

a. It must be positioned manually utilizing a valve wrench.

b. It can be positioned by use of the manual handwheel and valve wrench.

c. Resetting the torque switches, reclosing the valve electrically and assisting with the handwheel.

d. Disengage the electric motor and seat the valve using the handwheel.

QUESTION: 010 (1.00)

Which one of the following set of system conditions would require double valve protection for a clearance?

a. System pressure 350 psig
System temperature 135 degrees F
Piping size 3 inches

b. System pressure 425 psig
System temperature 175 degrees F
Piping size 2 inches

c. System pressure 600 psig
System temperature 100 degrees F
Piping size 3/8 inches

d. System pressure 350 psig
System temperature 225 degrees F
Piping size 1 inches

QUESTION: 011 (1.00)

A partial release is required on a current clearance. Which one of the following can authorize the partial ~~clearance~~ release?

a. The Chief Nuclear Operator

b. The Clearance Holder

c. The Assistant Nuclear Shift Supervisor on Duty

d. The Shift Operations Technical Advisor

QUESTION: 012 (1.00)

Which one of the following is dedicated to emergency communications only during an emergency?

a. PAX System channel PL-1

b. PAX System channel PL-2

c. Hand held radio channel 1

d. Hand held radio channel 2

QUESTION: 013 (1.00)

In accordance with the "Chemistry and Radiation Protection Procedure" RSP-101, Self - Reading Pocket Ion Chambers (PICs) MUST be re-zeroed prior to reaching _____ mR for the 0 to 200 mR and _____ for the 0 to 500 mR.

a. 100, 325

b. 150, 375

c. 175, 400

d. 125, 350

QUESTION: 014 (1.00)

In accordance with OP-204, "Power Operations", which one of the following is considered the perferred method for dampening a Xenon Oscillation?

a. Determine the period of the oscillation as soon as possible, and then utilize the APSRs and Boration /dilution as necessary several hours BEFORE the peak deviation to achieve an average axial power imbalance.

b. Determine the period of the oscillation within 12 hours, then use boration/dilution, as appropriate, several hours AFTER the peak deviation to achieve an average axial power imbalance.

c. Determine the period of the oscillation over several days, and once peak deviation occurs so that a POSITIVE axial imbalance exists, drive control rods inward to reduce power 10-15%.

d. Determine the period of the oscillation over several days, then make the appropriate rod position correction one to two hours BEFORE the peak deviation to achieve an average axial power imbalance.

QUESTION: 015 (1.00)

Which one of the following circuits does the Relative Position Indication (RPI) provide an input signal?

a. The sequence enable circuit

b. The sequence monitor circuit

c. The asymmetric rod runback circuit

d. The feed and bleed permit circuit

QUESTION: 016 (1.00)

Which one of the following combinations of control rod drive breakers and contacts opening will cause all rods to be inserted in the core?

a. Breaker A, Breaker C, Contact F.

b. Breaker A, Breaker D, Contact E.

c. Breaker B, Breaker D, Contact F.

d. Breaker B, Breaker C, Contact E.

QUESTION: 017 (1.00)

Which one of the following tie-back circuits will be in effect with the Diamond in manual and Bailey Reactor Control station in auto?

a. Neutron power will drive the reactor bailey output.

b. Neutron power will drive the Tave integral.

c. Neutron error will drive the Tave integral.

d. Input/Output error will drive the Tave integral.

QUESTION: 018 (1.00)

Which one of the following determine when the Megawatt Calibrating Integral will be controlled by turbine header pressure error?

a. The bypass valves controls are in manual.

b. The diamond control is in manual.

c. The SG/RX control is in manual.

d. The turbine is in operator manual.

QUESTION: 019 (1.00)

After a Reactor Trip which one of the following will cause the Feedwater Demand signal to be reduced?

a. ULD and Total Feedwater Controller

b. BTU limits and RFR

c. Feedwater limited by Reactor Cross Limits and RFR

d. Total Feedwater Controller and RFR

QUESTION: 020 (1.00)

A loss of makeup has occurred and the seal injection isolation valve has been manually closed due to flow being lost for more than 2 minutes.

Which one of the following is the reason why seal injection flow must be slowly increased when flow is restored?

a. Allows time for the PZR level control valve to respond.

b. Avoids thermal shock to seal parts.

c. Ensures the MUP maintains NPSH.

d. Prevents waterhammer.

QUESTION: 021 (1.00)

Which one of the following, per OP-402 "MAKEUP AND PURIFICATION SYSTEM" Limits and Precautions, is the amount of time an operator has to stop a Makeup Pump when flow through it is lost?

a. 15 seconds

b. 30 seconds

c. 45 seconds

d. 60 seconds

QUESTION: 022 (1.00)

Which one of the following coolers will remain in service following a ES RBI & C actuation?

a. CRDM Coolers

b. RC pump Coolers

c. Spent Fuel Coolers

d. Waste Gas Compressor Coolers

QUESTION: 023 (2.00)

Match the Liquid Radiation Monitor in Column "A" with the appropriate system monitored from Column "B". [Systems in column "B" may be used once more than once or not at all.]

Column "A"	Column "B"
a. RML-1	1. Decay heat CCW Train 'A'
b. RML-2	2. Decay heat CCW Train 'B'
c. RML-6	3. Primary Coolant Letdown
d. RML-7	4. Waste Neutralizer Tank (SDT-1) Disch to Canal
	5. Plant Discharge Line Prior to Dilution
	6. Nuclear Services CCW System

QUESTION: 024 (1.00)

Which one of the following is a function of the Sequence - Inhibit Lamp?

a. Indicates that control cannot be switched to automatic because the neutron error exceeds + or - 1%.

b. Indicates that the regulating groups cannot be withdrawn in sequence because the safety groups are not at their OUT - Limit.

c. Indicates that one of the five regulating power supply programmers has lost one of its redundant photocell light sources.

d. Indicates that the control rods will not respond to OUT commands because an asymmetric rod condition exists.

QUESTION: 025 (1.00)

Which one of the following conditions would result in the Emergency Feedwater Initiation and Control (EFIC) Feed Only Good Generator (FOGG) Logic directing Emergency Feedwater flow ONLY to the 'A' OTSG?

OTSG "A" at ____ psig and OTSG "B" at ____ psig

a. 384, 485

b. 540, 310

c. 570, 625

d. 775, 625

QUESTION: 026 (1.00)

An EFW actuation has taken place, with all RCPs secured. The OTSG level setpoint was manually raised to 95% on the PSA/EFIC panel. A RCP was then started.

Which one of the following will occur?

EFIC will automatically select:

a. 65%, but level will have to be manually adjusted to the setpoint.

b. 95%, but maintain level at 65%.

c. 30 inches and control level at this point.

d. 24 inches but will not control level until manually reset.

QUESTION: 027 (1.00)

Which one of the following conditions would allow the Reactor Operator to terminate HPI flow to the core?

a. The "A" LPI pump is supplying 1500 gpm through each of the LPI injection lines and conditions have been stable for 25 minutes.

b. Both LPI pumps are operating supplying a total combined flow of 1800 gpm via the LPI injection lines for 30 minutes and show normal motor amps.

c. Subcooling margin has been restored and pressurizer level is at 40 inches on the pressurizer level indication.

d. Subcooling margin exists and the Pressurized Thermal Shock limit is being approached.

QUESTION: 028 (1.00)

Which one of the following describes the Source Range Excore Nuclear Instrument detector count rate response as the core uncovers during a LOCA, with the RCP's off?

The detector count rate will:

a. increase as the core begins to uncover. The count rate will continue to increase as the core level continues to decrease.

b. decrease as the core begins to uncover. The count rate will continue to decrease as the core level continues to decrease.

c. increase as the core begins to uncover. The count rate will reach a maximum level then begin to decrease as the water level continues to decrease.

d. decrease as the core begins to uncover. The count rate will reach a minimum level then begin to increase as the water level continues to decrease.

QUESTION: 029 (1.00)

Which one of the following is the setpoint for the high temperature alarm signal from incore thermocouples?

a. 2500 F

b. 1300 F

c. 700 F

d. 580 F

QUESTION: 030 (1.00)

Which one of the following Reactor Coolant Pump start permissive interlocks will still be in affect when the controls are selected to the Remote (RSP) position?

a. Upper oil pot level

b. Seal and motor cooling water (SW) flow

c. Power level < 30%

d. Seal flow > 3 gpm

QUESTION: 031 (1.00)

Which one of the following is a correct statement concerning the interlocks and controls associated with RCS Pressure?

a. All pressurizer heaters should be on by 2147 psig and off by 2200 psig.

b. The pressurizer spray valve is interlocked to stroke to 40% open when RCS pressure reaches 2205 psig.

c. The reset setpoint of the PORV is 50 psig below its relief setpoint.

d. When selected to "low range," the PORV will open at 500 psig and reset at 450 psig.

QUESTION: 032 (1.00)

Which one of the following is the function of the back-lighted pushbutton located on the "B" portion of the ES panel, just above the controller for SWP-1B, labeled "TEST PB Emer CCC PP-3B?"

a. Causes the SWP-1B pump discharge pressure switch to sense a low header pressure and auto start the pump.

b. Should SWP-1B pump fail to start on an ES actuation this button is the emergency backup start pushbutton.

c. Blocks the auto-start of SWP-1B and provides an auto-start signal to the SWP-1A pump

d. Provides a ES start command to SWP-1B pump start circuit for testing the auto-start function.

QUESTION: 033 (1.00)

Which one of the following would be the status of the Emergency Diesel Generator (EDG) following a loss of 125 VDC power?

a. The EDG would remain shutdown and unable to startup.

b. The EDG would attempt to start and the start failure relay would shut it down.

c. The EDG will start, come up to speed, and the RUN light will NOT illuminate.

d. The EDG will start, come up to speed, and the RUN light will illuminate.

QUESTION: 034 (1.00)

Which one of the following will accurately complete the following statement?

Total feedwater flow control will be implemented when at least a 10% RCS flow error exists (three RCP's running):

a. 'A' OTSG is on low level limits and
'B' OTSG is on low level limits and
the 'A' feedwater master is in automatic and
the 'B' feedwater master is in automatic.

b. 'A' OTSG is NOT on low level limits and
the 'B' OTSG is on low level limits and
the 'A' feedwater master is in manual and
the 'B' feedwater master is in automatic.

c. 'A' OTSG is on low level limits and
the 'B' OTSG is NOT on low level limits and
the 'A' feedwater master is in manual and
the 'B' feedwater master is in auto.

d. 'A' OTSG is NOT on low level limits and
'B' OTSG is NOT on low level limits and
the 'A' feedwater master is in manual and
the 'B' feedwater master is in manual.

QUESTION: 035 (1.00)

Which one of the following are the correct load limits for the Emergency Diesel Generator?

a. Maximum continuous load of 3000 KW,
Maximum of 200 hours at 3000 - 3300 KW,
and a Maximum of 30 minutes at 3300 - 3600 KW.

b. Maximum continuous load of 2900 KW,
Maximum of 200 hours at 2900 - 3200 KW,
and a Maximum of 30 minutes at 3200 - 3400 KW.

c. Maximum continuous load of 2850 KW,
Maximum of 2000 hours at 2850 - 3000 KW,
and a Maximum of 30 minutes at 3250 - 3500 KW.

d. Maximum continuous load of 2550 KW,
Maximum of 2000 hours at 2550 - 2850 KW,
and a Maximum of 30 minutes at 3050 - 3250 KW.

QUESTION: 036 (1.00)

Which one of the following are the maximum cool down limits allowed on the Reactor Coolant System according the Technical Specifications?

a. >270 F - 110 F/hr
270 to 170 F - 60 F/hr
<170 F - 5 F/hr

b. >270 F - 100 F/hr
270 to 170 F - 50 F/hr
<170 F - 10 F/hr

c. >270 F - 90 F/hr
270 to 170 F - 40 F/hr
<170 F - 15 F/hr

d. >270 F - 80 F/hr
270 to 170 F - 30 F/hr
<170 F - 20 F/hr

QUESTION: 037 (1.00)

Which one of the following is NOT a RCS Leakage Detection System required by Technical Specifications?

a. Containment atmospheric Iodine radioactivity monitoring

b. Nuclear Services Closed Cooling Water monitoring

c. Containment atmospheric gaseous radioactivity monitoring

d. Containment sump level monitoring

QUESTION: 038 (1.00)

Which one of the following correctly describes the operation of the Load Control Valve (LLCV) and the Main Feedwater Block Valve (MBV) during a power decrease from 100% to 15%, assuming both valves are in Automatic?

a. The MBV starts to close as Loop FW Demand drops below 80% and the LLCV starts to close when the MBV reaches the fully closed position.

b. The MBV starts to close as Loop FW Demand drops below 50% and the LLCV starts to close when the MBV reaches the 80% open position.

c. The MBV starts to close as Loop FW Demand drops below 45% and the LLCV starts to close when the MBV reaches the 50% open position.

d. The MBV starts to close as Loop FW Demand drops below 45% and the LLCV starts to close when the MBV reaches the fully closed position.

QUESTION: 039 (1.00)

Which one of the following is automatically ISOLATED and/or TURNED OFF if RMA-1 "Reactor Building Purge Exhaust Duct" were to reach its alarm setpoint?

a. WDV-436, 437 and 438 (WGDT Outlet Isolation)

b. AHV-1A, 1B, 1C and 1D (Containment Purge supply/exhaust valves)

c. AHF-9A and 9B (Penetration Cooling Fans)

d. AHF-10 (Fuel Handling Area Fan)

QUESTION: 040 (1.00)

Which one of the following is the information provided by the bright red light on the RPS channel "A" status panel labeled "Breaker Trip?"

a. Channel "A" RPS has tripped.

b. "A" CRDM breaker is tripped open.

c. All RPS channels are tripped.

d. A module in RPS channel "A" is tripped.

QUESTION: 041 (1.00)

Which one of the following describes the effect on the "A" RPS channel if the "A" Vital Bus de-energizes?

a. "A" CRDM breaker will open, and the "A" side CRDM programmer lights will go out.

b. "A" RPS channel will be tripped, and the "A" side crdm programmer lights will go out.

c. "A" RPS channel will be tripped, and all CRDM breakers will open.

d. "A" RPS channel will be tripped, and the "A" CRDM breaker will open.

QUESTION: 042 (1.00)

Which one of the following will result in an initiation of the Emergency Feedwater Initiation and Control (EFIC) system?

a. 650 psig on the "A" OTSG

b. Channel "B" of the Engineered Safeguards Actuation System is tripped.

c. Total feed water flow is 15 % in both feedwater loops and Rx power is 23%.

d. All four RC pump power monitors indicate tripped and Rx power is 12%.

QUESTION: 043 (1.00)

Which one of the following are the power supplies to the Control Rod Drive System?

a. - 480 VAC Engineered Safeguard Bus "3A", through "A" CRD breaker.
   - 480 VAC Engineered Safeguard Bus "3B", through "B" CRD breaker.

b. - 480 VAC Reactor Auxiliary Bus "3A", through "A" CRD breaker.
   - 480 VAC Reactor Auxiliary Bus "3B", through "B" CRD breaker.

c. - 480 VAC Plant Auxiliary Bus "3", through "A" CRD breaker.
   - 480 VAC Reactor Auxiliary Bus "3B", through "B" CRD breaker.

d. - 480 VAC Reactor Auxiliary Bus "3A", through "A" CRD breaker.
   - 480 VAC Plant Auxiliary Bus "3", through "B" CRD breaker.

QUESTION: 044 (1.00)

Which one of the following is an accurate list of the Reactor Protection System trips bypassed when the Shutdown Bypass Key Switch is in the bypass position?

a. Variable Pressure Trip.
Flux/Delta Flux/Flow Trip.
Low Pressure Trip.
Both Main Feed Water Pump Trip.

b. Low Press Trip.
RCPPM Trip.
Variable Pressure Trip.
High Reactor Flux Trip.

c. RCPPM Trip.
Both Main Feed Water Pump Trip.
High Reactor Flux Trip.
Low Pressure Trip.

d. Flux/Delta Flux/Flow Trip.
Low Press Trip.
RCPPM Trip.
Variable Pressure Trip.

QUESTION: 045 (1.00)

Which one of the following failures will cause the NNI power supply monitor to trip it's respective NNI source breakers (S1 & S2)?

a. Any + or - 24 VDC power supply fails.

b. Any two 24 VDC power supplies fail.

c. Either + or - 24 VDC bus fails.

d. A 118 VAC field power supply fails.

QUESTION: 046 (1.00)

A station blackout has occurred. The "A" battery is discharging at the full load rate. Which one of the following is the amount of time the battery is designed to maintain this discharge rate?

a. 1 hours

b. 2 hours

c. 3 hours

d. 4 hours

QUESTION: 047 (1.00)

Which one of the following is the response of Engineered Safeguards Actuation System when the Reactor Building Cooling and Isolation system (RBIC) is MANUALLY initiated?

a. RBIC will isolate and shutdown the appropriate systems.

b. RBIC will isolate and shutdown the appropriate systems, and the Low Pressure Injection System will receive an initiation signal.

c. RBIC will isolate and shutdown the appropriate systems, and the High Pressure Injection System will receive an initiation signal.

d. RBIC will isolate and shutdown the appropriate systems, and the High Pressure Injection System and the Low Pressure Injection System will receive an initiation signal.

QUESTION: 048 (1.00)

Which one of the following Engineered Safeguards initiation signals will result in the automatic swapping of the normal cooling water source (CI) to the emergency cooling water source (SW) for the Main Reactor Building Fan Assemblies?

a. 1500 psig reactor plant system pressure.

b. 4 psig reactor building pressure.

c. 500 psig reactor plant system pressure.

d. 30 psig reactor building pressure.

QUESTION: 049 (1.00)

Which one of the following will result in the tripping of a Reactor Building Purge Supply Fan?

a. Differential pressure between supply fan suction and discharge <.15 inches of water.

b. Engineered Safeguards actuation signal of 4 psig Reactor Building Pressure.

c. One purge exhaust fans trips.

d. RMA-1 gas channel high alarm.

QUESTION: 050 (1.00)

The Emergency Diesel Generator start mode selector switch is selected to MANUAL. Which one of the following will be the effect on the diesel if an undervoltage signal is received while in this condition?

a. The diesel will NOT start.

b. The diesel will start, come up to 300 rpm as determined by the governor.

c. The diesel will start, come up to normal operating speed, but the output breaker will NOT close.

d. The diesel will start, come up to speed, output breaker will close, but unable to pickup load.

QUESTION: 051 (1.00)

Which one of the following accurately describes the operation of the Primary System Saturation Monitors?

a. When the T-sat/P-sat switch is selected to the P-sat position the saturation monitor will automatically select incores as the temperature input.

b. A red light on the saturation monitor indicates adequate subcooling margin. This light will be extinguished any time subcooled conditions do not exist.

c. The digital display will go blank if Reactor Coolant System pressure is less than 150 psig or the signal clock is lost.

d. The saturation monitors receive inputs from wide range pressures, T-hot, T-cold, T-ave, and Incore Temperatures.

QUESTION: 052 (1.00)

Which one of the following is an accurate statement concerning the EFIC system?

a. Following an actuation of EFW on low OTSG level, EFIC logic will feed the OTSGs up to low level limits at between 2 and 8 inches per minute based on OTSG pressure.

b. If power is lost to the EFIC control valves they will fail close and have to be controlled locally using manual handwheel control.

c. The EFW isolation valves (EFV-11, 14, 32, & 33) are powered from DPDP 8C and 8D and fail "as is" on a lost of power.

d. The only place that the EFIC control valves can be controlled from is the stations on the Main Control Board.

QUESTION: 053 (1.00)

Which one of the following is an accurate statement regarding the Make-up and Purification System?

a. When adding boron to the RCS, via the MU&P system, the operator should bypass the MU&P demineralizers to prevent their diluting the concentration of boron being added.

b. The Decay Heat System interconnects with the MU&P system upstream of the MU&P prefilters and again prior to the MU&P postfilters.

c. The letdown portion of the MU&P system taps into the RCS on the suction side of the "C" RCP

d. High temperature sensed in the letdown portion of the MU&P system will automatically close the letdown isolation valve.

QUESTION: 054 (1.00)

Which one of the following is the correct response regarding the function of the EFIC Maintenance Bypass switch?

a. The key switches are located on the cabinet alarm panels and once placed into bypass the key is held captive.

b. If an EFIC channel is in maintenance bypass, only the corresponding NI/RPS channel can be bypassed.

c. The EFIC Maintenance Bypass Light will flash only when the corresponding NI/RPS channel is bypassed.

d. The maintenance bypass switch does not bypass the EFW initiation from low OTSG level.

QUESTION: 055 (1.00)

Which one of the following will result in the ICS going to "Track"? Assume all ICS stations are in Automatic.

a. During normal 100% operation, Breaker 1661 (Main Generator output Breaker) trips open.

b. Feedwater demand becomes greater than 5% less than actual Feedwater flow.

c. Turbine control is taken to Operator Automatic.

d. The "A" Feedwater loop master is taken to hand.

QUESTION: 056 (1.00)

Which one of the following is the equivalent block load which EFP-1 will start if both the HPI portion of ES and Emergency Feedwater are simultaneously actuated with NO actuation of Building Spray?

a. 2

b. 3

c. 4

d. 5

QUESTION: 057 (1.00)

Which one of the following correctly describes the trip system of the main turbine?

a. When the EHC Oil pressure decreases, the interface trip valve will open, allowing the auto-stop (turbine control) oil to dump to the drain.

b. The interface trip valve is solenoid actuated and when open, will dump both auto-stop oil and EHC control oil to the drain.

c. A full turbine trip requires the servo valves for all four sets of turbine valves (throttle, governor, reheat and interceptor) to open.

d. When the auto-stop (turbine control) oil pressure decreases, the interface trip valve will open allowing the EHC control oil to dump to the drain.

QUESTION: 058 (1.00)

Which one of the following is the setpoir[illegible]he action that occurs when the Overspeed Protection Control (OPC) s[illegible]s in service?

a. At 103%, The OPC will close only the governor and interceptor valves will close.

b. At 103%, the OPC will close all valves - throttle, governor, reheat and interceptor.

c. At 111%, the OPC wil[illegible] close only the governor and interceptor valves.

d. At 111%, the OPC will close all valves - throttle, governor, reheat and interceptor.

QUESTION: 059 (1.00)

Which one of the following accurately completes the statement regarding the Decay Heat Removal drop line Automatic Closure Initiation (ACI) function?

At approximately 250 psig:

a. A single RCS pressure transmitter will shut DHV-3 and DHV-4.

b. Separate RCS pressure transmitters will shut DHV-3 and DHV-4.

c. A single RCS pressure transmitter will shut DHV-3, DHV-4, and DHV-41.

d. Separate RCS pressure transmitters will shut DHV-3, DHV-4, and DHV-41.

QUESTION: 060 (1.00)

Which one of the following set of actuation signals will initiate the Decay Heat Removal System in the Low Pressure Injection mode?

a. 500 psig LPI actuation signal or 30 psig RBIC actuation signal.

b. 1500 psig HPI actuation signal or 500 psig LPI actuation signal.

c. 500 psig LPI actuation signal or 4 psig RBIC actuation signal.

d. 30 psig RBIC actuation signal or 4 psig RBIC actuation signal.

QUESTION: 061 (1.00)

Which one of the following sets of conditions would stop the Fuel Hoist from operating in the down direction?

a. - No "Grapple Engage" light
   - 2950 pounds on the hoist

b. - 1800 # on the hoist and grapple tube not down
   - No "Disengaged" light

c. - 700 # on the hoist
   - Pneumatic pressure 125 psi

d. - No "Disengaged" light
   - 2300 # on the hoist and grapple tube not down

QUESTION: 062 (1.00)

Which one of the following is the minimum Refueling Canal level elevation allowed?

a. 165 feet

b. 156 feet

c. 146 feet

d. 134 feet

QUESTION: 063 (1.00)

Which one of the following would NOT require Emergency Boration of the Reactor Coolant System?

a. An unexplained rise in neutron flux

b. Less than required shutdown margin

c. Continuous control rod motion exists

d. In modes 1 or 2 with regulating rods in the unacceptable region of the rod index curves

QUESTION: 064 (1.00)

Which one of the following lineups is an emergency boration lineup?

a. MUV-58 "MUP-1C Suction From BWST" and MUV-64 "MUT Outlet" are open, MUP-1A is operating normally, and letdown flow is increased to 70 gpm.

b. MUP-1A and MUP-1B are operating normally, MUV-73 "MUP-1A Suction From BWST" and MUV-64 "MUT Outlet" are open and letdown flow is increased to 100 gpm.

c. MUP-1A is operating, CAV-60 "Emergency Boration Inlet" and MUV-64 "MUT Outlet" are open, and CAP-1A "Boric Acid Pump" is operating at 5 gpm.

d. MUP-1B is operating, CAV-60 "Emergency Boration Inlet" and MUV-64 "MUT Outlet" are open, and CAP-1B "Boric Acid Pump" is operating at 12 gpm.

QUESTION: 065 (1.00)

Which one of the following are actions required for the trip of one main feedwater booster pump?

a. Verify plant runback to 60% Reactor power, and verify FWV-28, 29, & 30 are repositioning as required as required by VP-540 "Runback Verification."

b. Verify Reactor trip and perform the immediate actions of AP-580 "Reactor Trip."

c. Verify Plant runback to 55% reactor power and then stabilize RCS pressure as required by AP-545 "Plant Runback."

d. Manually trip the reactor, then perform the immediate action of AP-580 "Reactor Trip."

QUESTION: 066 (1.00)

Which one of the following is an indication of INADEQUATE subcooling margin?

a. RCS pressure 140 psig
Subcooling Margin 30 F

b. RCS Pressure 225 psig
Subcooling Margin 40 F

c. RCS Pressure 750 psig
Subcooling Margin 50 F

d. RCS Pressure 1650 psig
Subcooling Margin 60 F

QUESTION: 067 (1.00)

Which one of the following is the bases for leaving one RCP running in each loop during a LOCA when the pumps where NOT tripped within two minutes of loosing subcooling margin?

a. To minimize the amount of time before ECCS actuation

b. To maintain void fraction less than 70%

c. To minimize the amount of inventory loss out the break

d. To maintain steam cooling of the core

QUESTION: 068 (1.00)

Which one of the following is the reason for raising OTSG levels to 95% after subcooling margin was lost and all RCPs were tripped during a LOCA?

a. Enables heat transfer during boiler-condenser operation

b. Establishes natural circulation conditions

c. Develops a differential pressure to allow spraying of the pressurizer to lower Tsat

d. Minimizes the inventory loss out of the break by reducing steam flow rates.

QUESTION: 069 (1.00)

Which one of the following conditions will require the reactor to be tripped?

a. While operating at 5% power, the control room receives a High Level alarm on the "A" CDP pit sump.

b. During a Plant start-up at 3% power, a Building Serviceman calls the control room and reports water running out of the in-service SC heat-exchanger.

c. While performing a plant shut-down at 15% power the "B" CDP suddenly decouples.

d. While operating at 72% power the "A" CDP suddenly trips and then the "A" CDP pit sump alarm comes in.

QUESTION: 070 (1.00)

Which one of the following conditions would require a mandatory throttling of the HPI flow?

a. Incores indicate adequate subcooling margin

b. Pressurizer level is approaching 240 inches

c. HPI total flow equals 1100 gpm with two pump operation

d. RCS pressure is approaching the NDT curve and subcooling margin is 10 degree F

QUESTION: 071 (1.00)

Which one of the following is an indication that Natural Circulation has been established?

a. RCS Tcold minus OTSG Tsat equals 3 degrees F.

b. Incores are following RCS Thot within 20 degrees F.

c. Delta T (incore - Tcold) equals 50 degrees F and increasing.

d. Thot, Tcold and incores increase when OTSG pressure is lowered.

QUESTION: 072 (1.00)

Which one of the following conditions, in accordance with OP-302 "RC PUMP OPERATION" Limits and Precautions, would require an immediate trip of the effected Reactor Coolant Pump?

a. RCP Motor Upper/Lower Guide Bearing Temperature at 185 degrees F and steady.

b. RCP cooling water outlet temperature at 185 degrees F and steady.

c. RCP Motor Upper/Lower Thrust Bearing High Temperature at 185 Degrees F and steady.

d. RCP Motor Stator Coil temperature at 185 Degrees F and steady.

QUESTION: 073 (1.00)

Which one of the following OTSG level indications would indicate a DRY OTSG according to AP-450 "Emergency Feedwater Actuation?"

a. 5 inches on the EFIC Low Level Range

b. 6% on the EFIC High Range Level

c. 5% on the OTSG Operating Range Level

d. 6 inches on the OTSG Startup Range Level

QUESTION: 074 (1.00)

Which one of the following statements accurately gives three conditions that should be met to feed a dry SG, as out lined in AP-450 "Emergency Feedwater Actuation"?

` rate should be:

a. </= 150 gpm feed flow rate,
Feed should be thru the low OTSG nozzles,
2 RCPs operating in the loop with the dry OTSG.

b. </= 125 gpm feed flow rate,
feed should be thru the high OTSG nozzles,
</= 1 RCP operating in the loop with the dry OTSG.

c. </= 100 gpm feed flow rate,
feed should be thru the high OTSG nozzles,
>/= 1 RCP operating in the loop with the dry OTSG.

d. </= 75 gpm feed flow rate,
feed should be thru the low OTSG nozzles,
No RCPs operating in the loop with the dry OTSG.

QUESTION: 075 (1.00)

Subcooling monitors are out of service. You are instructed to monitor Core Exit Thermocouples (CET) for possible entry into EP-290 "Inadequate Core Cooling." Using the Steam Tables provided, which one of the following sets of conditions would require entry into EP-290?

a. CET average = 630 degrees F
RCS pressure = 1950 psig

b. CET average = 610 degrees F
RCS pressure = 1850 psig

c. CET average = 620 degrees F
RCS pressure = 1700 psig

d. CET average = 600 degrees F
RCS pressure = 1600 psig

QUESTION: 076 (1.00)

EP-390 "Steam Generat Tube Leak" step 3.23 states: "When RCS Thot is </=540 degrees F and fected OTSG is identified, then isolate affected OTSG".

Which one of the following is the reason for isolating the OTSG at this time?

At this point:

a. The pressure is such that the ADV's can be placed in Auto without adjusting the null, so when the SG is isolated the pressure will not fluctuate.

b. Natural Circulation has been established and ensured of continuing with only one SG steaming.

c. Pressure in the affected SG should be below the lowest MSSV setpoint.

d. The leak rate has slowed to the point the OTSG will not go solid if SG blow down is established.

QUESTION: 077 (1.00)

Which one of the following is the reason that the cooldown rate, during natural circulation, is limited to </= 50 F/hr?

a. Thermal stresses in the OTSG

b. Voiding of the Rx Vessel head

c. Brittle fracture of the RCS loop welds

d. Waterhammer in the EFW lines

QUESTION: 078 (1.00)

Which one of the following is the reason for closing or verifying the Main Turbine Throttle and Governor Valves are closed following a reactor trip per the IMMEDIATE ACTIONS of AP-580, "Reactor Trip?"

a. To ensure the Main Generator is removed from the grid and power is transferred to off-site for the Vital buses.

b. To allow the rapid breaking of the condenser vacuum to facilitate emergency stopping of the Main Turbine.

c. To allow the Turbine bypass valves to control the OTSG pressure and plant cooldown rate.

d. Stop overcooling leading to possible emptying the PZR and a saturated RCS.

QUESTION: 079 (1.00)

Which one of the following would be the major problem associated with conducting a forced circulation cooldown with one OTSG dry and depressurized?

a. Excessive Delta Tcold

b. Excessive subcooling Margin

c. Pressurized thermal shock

d. OTSG Tube-to-shell differential temperature

QUESTION: 080 (1.00)

Which one of the following components will still actuate upon an ES signal when their controls are selected to the Remote Shutdown Panels (RSP)?

a. MUP-1A High Pressure Injection Pump

b. EFP-1 Emergency Feed Water Pump

c. DHP-1B Low Pressure Injection Pump

d. MUP-1C High Pressure Injection Pump

QUESTION: 081 (1.00)

Which one of the following is a list of the four Critical Safety Functions, listed in the order of priority, as monitored in VP-580 "Plant Safety Verification Procedure?"

a. Reactivity Control
Thermal Control
Radioactive Inventory Control
Equipment Availability

b. Equipment Availability
Thermal Control
Radioactive Inventory Control
Reactivity Control

c. Thermal Control
Radioactive Inventory Control
Equipment Availability
Reactivity Control

d. Reactivity Control
Radioactive Inventory Control
Thermal Control
Equipment Availability

QUESTION: 082 (1.00)

Which one of the following conditions will satisfy Containment Integrity requirements?

a. While conducting maintenance inside the personnel hatch, personnel leave the outer door open for easier access.

b. An automatic isolation valve fails in the open position and is isolated by a manual valve down stream.

c. An automatic isolation valve's stroke time is excessive. Valve is electrically closed and caution tagged.

d. An equipment hatch as been opened then reclosed. The leak check is now in progress.

QUESTION: 083 (1.00)

Which one of the following is the expected response of an Emergency Diesel Generator (EDG) when it is in parallel operation, for testing, and a Loss of Off Site power occurs?

a. The EDG's output breaker would trip on over current, then auto close to energize ES loads once the bus has been stripped.

b. The ES Bus incoming breakers from the switchyard will trip, the EDG will remain running carrying the respective ES bus.

c. The lowered speed droop setting will cause the EDG to trip on low RPM, the EDG will then receive an ES start sign and load the bus.

d. The EDG's output breaker and ES Bus supply breakers will trip, then the EDG output breaker will have to be manually closed.

QUESTION: 084 (1.00)

Which one of the following correctly describes the behavior of RCS pressure, if a Small Break LOCA which is NOT large enough to actuate ES occurs, and NO feedwater is available to OTSGs?

a. Pressure initially decreases slowly, then rapidly drops when the OTSGs are boiled dry.

b. Pressure initially decreases slowly until it levels off somewhere above ES actuation pressure, The OTSGs boiling dry have little effect.

c. Pressure initially decreases, then rapidly increases when the OTSGs boil dry.

d. Pressure initially decreases, then when OTSGs boil dry continues to decrease, but at a much slower rate.

QUESTION: 085 (1.00)

A Station Blackout has occurred. You are directed to the Remote Shutdown panel to monitor Reactor Plant parameters. The Control Room requests actual Pressurizer level. RCS pressure is 2150 psig and Pressurizer level indicates 95 inches. Which one of the following Pressurizer levels is actual level?

a. 95 inches

b. 35 inches

c. 155 inches

d. 65 inches

QUESTION: 086 (1.00)

Step 3.4 of AP-790 "Station Blackout" directs the operator to "Actuate MS line isolation on both OTSGs". Which one of the following is the purpose for this action?

a. To help control cooldown.

b. To prevent OTSG dry out.

c. To maintain >100 psig in the OTSGs.

d. To prevent OTSGs overfilling.

QUESTION: 087 (1.00)

Which one of the following is the major concern if clad temperature reaches 1400 degrees F or greater.

a. Clad melting.

b. Excessive hydrogen generation.

c. Fuel melting.

d. Structural failure of core supports.

QUESTION: 088 (1.00)

Which one of the following conditions would require a manual Reactor Trip and entry into AP-580 "Reactor Trip?"

a. RCS Pressure at 2275 psig and increasing

b. "B" RCP trips with Reactor Power at 87 %

c. Trip of "A" Main Feedwater Pump with Reactor Power at 45%

d. Reactor Hot Leg temperature at 620 degrees F and decreasing

QUESTION: 089 (1.00)

Which one of the following parameters will be the greatest aid to an operator in differentiating between a small steam leak and a small LOCA inside containment?

a. Containment Radiation levels

b. Containment Pressure readings

c. Containment Temperature readings

d. Containment/Reactor Building Sump levels

QUESTION: 090 (1.00)

Which one of the following is a Limiting Condition for Operations concerning Movable Control Assemblies? [See Attachment]

a. All safety, regulating and axial power shaping control reed switch position indicator channels and pulse stepping position indicator channels shall be operable and capable of determining the control rod position within +/- 2%.

b. The position of each regulating group shall be determined to be within the insertion, sequence and overlap limits at least once every 24 hours.

c. The individual safety and regulating rod drop time from the fully withdrawn position shall be less than or equal to 3.1 seconds from power interruption at the control rod drive breakers to 3/5 insertion with Tave greater than or equal to 525 F and all RCPs operating.

d. All axial power shaping rods (APSR) shall be operable, unless fully withdrawn, and shall be positioned within +/- 2.5% (indicated position) of their group average height.

QUESTION: 091 (1.00)

According to EM-216, "Duties of the Nuclear Plant Fire Brigade"

Which one of the following is the method of fighting a fire in the vicinity of energized high voltage electrical equipment?

a. Straight stream directly on fire from a distance of more than 50 ft.

b. Fog/stream combination as close as possible.

c. Wide fog pattern from a distance of more that 10 ft.

d. Narrow fog pattern from a distance of more than 40 ft.

QUESTION: 092 (1.00)

In accordance with AP-581 "LOSS OF NNI X" step 3.7

"ACTIONS" state:
* "Determine the status of NNI-X DC Power."

"DETAILS" state:
* "Observe the 4 power supply monitor lights located in NNI Cabinet 3, Row 6, Module 15."
* "NNI-X DC power is energized if at least 1 POS and 1 NEG light is lit."

Which one of the following System Power Supply Monitor combination of lights indicate both + and - 24 V buses are available?

a. 1st light OFF
2nd light ON
3rd light OFF
4th light ON

b. 1st light OFF
2nd light OFF
3rd light ON
4th light ON

c. 1st light OFF
2nd light ON
3rd light ON
4th light OFF

d. 1st light ON
2nd light OFF
3rd light ON
4th light OFF

QUESTION: 093 (2.00)

According to EM-201 "Duties of an Individual Who Discovers an Emergency" an individual who discovers an emergency condition shall notify the Control Room by dialing 311 on a PAX or conventional intra-plant telephone, and give specific information.

Which of the following items of information are required to be given, as a MINIMUM, by EM-201 for an accidental gaseous release? [NOTE: More than one item is required.]

a. Type of Emergency
b. The safe area for personnel
c. Location of Emergency
d. Names of personnel in the area
e. Visible damage to plant components
f. What action (if any) has been taken
g. Power supplies to the effected equipment
j. Recommendations on equipment to secure

QUESTION: 094 (1.00)

Which one of the following is the minimum number of decades that the Intermediate Range and Source Range must overlap to verify proper operation during a Reactor Startup?

a. two

b. one and one half

c. one

d. one half

QUESTION: 095 (1.00)

Which one of the following pressures is the entry condition for AP-470 "Loss of Instrument Air?"

a. 95 psig

b. 90 psig

c. 85 psig

d. 80 psig

QUESTION: 096 (1.00)

Which one of the following will be the results of a leak on the reference leg of the controlling Pressurizer level instrument, where the level in the reference leg SLOWLY decreases, with no operator actions and level control is in automatic?

Actual pressurizer level would:

a. decrease, indicated level would decrease.

b. increase, indicated level would increase.

c. decrease, indicated level would remain constant.

d. increase, indicated level would remain constant.

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

ANSWER: 001 (1.00)

d.

REFERENCE:

CR3 AI-400D Section 4.1 page 2
Lesson Objective ROT-5-77 #3
(3.6/3.7)

194001K101 ..(KA's)

ANSWER: 002 (1.00)

c.

REFERENCE:

10 CFR 20 Section 20.101 "Radiation Dose Standards for Individuals in Restricted Areas." page 268 of 10 parts 0 to 50 Revised as of January 1, 1988.
[2.8/3.4]

194001K103 ..(KA's)

ANSWER: 003 (1.00)

b.

REFERENCE:

10 CFR 55.53(e) Issued 1-1-88
[4.1/3.9]

194001A102 ..(KA's)

ANSWER: 004 (1.00)

b

REFERENCE:

CR3 CP-115 SECTION 4.5.1, 4.5.2, 4.5.3 pg 15 & 16
LESSON OBJECTIVE ROT-5-40 #7 & #8
[3.7/4.1]

194001K102 ..(KA's)

ANSWER: 005 (1.00)

c

REFERENCE:

CR3 EM-215 Section 3.1 pg 1 & 2
NO LESSON OBJECTIVE IDENTIFIED
[3.5/4.2]

194001K116 ..(KA's)

ANSWER: 006 (1.00)

d

REFERENCE:

CR3 CP-115 SECTION 3.1.5 PG 2, AI-500 PG 2
LESSON OBJECTIVES ROT 5-40 CP-115 # 3
[3.7/4.1]

194001K102 ..(KA's)

ANSWER: 007 (1.00)

d

REFERENCE:

CR3 AI-500 Section 4.1 page 16
10 CFR 50.54 (x)&(y)
[4.1/3.9]

194001A102 ..(KA's)

ANSWER: 008 (1.00)

a

REFERENCE:

CR3 AI-500 Section 3.2.5 & 3.2.6 pages 8 & 9
Lesson Objective ROT-5-38 #11
[4.1/3.9]

194001A102 ..(KA's)

ANSWER: 009 (1.00)

d

REFERENCE:

CR3 AI-500 Section 4.11.4 page 38
No Lesson Objective Identified
[3.6/3.7]

194001K101 ..(KA's)

ANSWER: 010 (1.00)

d

REFERENCE:

CR3 CP-115 Section 3.1.14 pg 3
No Lesson Objective Identified
[3.5/3.4]

194001K108 ..(KA's)

ANSWER: 011 (1.00)

b

REFERENCE:

CR3 CP-115 Section 3.2.2.6 page 7
Lesson Objective ROT-5-40 #2 page V
[3.7/4.1]

194001K102 ..(KA's)

ANSWER: 012 (1.00)

a

REFERENCE:

CR3 AI-412 Section 4.1.7 page 3
No Lesson Objective Identified
[3.0/3.2]

194001A104 ..(KA's)

ANSWER: 012 (1.00)

b

REFERENCE:

CR3 RSP-101 section 3.1.6 page 3
No Lesson Objective Identified
[2.8/3.5]

194001K103 ..(KA's)

ANSWER: 014 (1.00)

d.

REFERENCE:

CR3 OP-204 Section 4.2 page 16
Lesson Objective ROT-5-2 #5
[3.6/4.0]

001050A206 ..(KA's)

ANSWER: 015 (1.00)

b.

REFERENCE:

CR3 Exam Bank exam #4 Question 2.8
Lesson Objective ROT-4-28 #4 & 5
[3.5/3.8]

001000K401 ..(KA's)

ANSWER: 016 (1.00)

d

REFERENCE:

CR3 ROT-4-12 section 1.2.2.8 pg 12
Lesson Objective ROT-4-12 #3.
[3.1/3.5]

012000K603 ..(KA's)

ANSWER: 017 (1.00)

c

REFERENCE:

CR3 ROT-4-14 page 19
CR3 Exam Bank Exam #4 Ques 2.1
Lesson Objective ROT-4-14 #5.b,c,d
[3.9/3.9]

015000K105 ..(KA's)

ANSWER: 018 (1.00)

d

REFERENCE:

CR3 ROT-4-14 section 1.5.2 page 10
CR3 Exam Bank Exam #4 question 2.2
Lesson Objective ROT-4-14 #3.b.
[3.1/3.1]

039000K104 ..(KA's)

ANSWER: 019 (1.00)

c

REFERENCE:

CR3 ROT-4-14 Section 1.5.4 page 31
CR3 Exam Bank Exam #4 question 2.3
Lesson Objective ROT-4-14 #4.d,.f,.h,.i, #6
[3.2/3.2]

059000K107 ..(KA's)

ANSWER: 020 (1.00)

b

REFERENCE:

CR3 ROT-5-76 OP-402 SECTION 3.2.12 P & L pg 8
Lesson Objective ROT-5-76 #6.
[3.7/3.9]

004000K304 ..(KA's)

ANSWER: 021 (1.00)

a.

REFERENCE:

CR3 OP-402 section 3.2.11 page 8
No Lesson Objective Identified
[2.8/3.1]

004000K604 ..(KA's)

ANSWER: 022 (1.00)

c

REFERENCE:

CR3 ROT-4-13 Table V page 76
Lesson Objective ROT-4-13 #13
[4.1/4.2]

013000A302 ..(KA's)

ANSWER: 023 (2.00)

a. - 3.
b. - 5.
c. - 2.
d. - 4. (4 @ 0.5 ea)

REFERENCE:

CR3 ROT-4-25 Table 4 page 29
CR3 Exam Bank Exam #5 Question 3.23
[3.6/3.9]

073000K101 ..(KA's)

ANSWER: 024 (1.00)

b

REFERENCE:

CR3 ROT-4-28 Section 2.4.5 page 33
Lesson Objective ROT-4-28 #7
[3.8/3.8]

001000K402 ..(KA's)

ANSWER: 025 (1.00)

b

REFERENCE:

CR3 Exam Bank Test #5 Question # 2.38
CR3 ROT-4-15 Section 2.2.2.2 page 21
Lesson Objective ROT-4-15 #17
[4.1/4.4]

013000K107 ..(KA's)

ANSWER: 026 (1.00)

c

REFERENCE:

CR3 ROT-4-15, Section 2.2.1.B page 14
Lesson Objective ROT-4-15 #14
[2.5/2.8]

061000K601 ..(KA's)

ANSWER: 027 (1.00)

a.

REFERENCE:

CR3 Exam Bank ROT-G Exam #6 Question 2.20
ROT-3-4 section 4.2 page 7
Lesson Objective ROT-3-4 #6
[3.7/3.9]

006030K601 ..(KA's)

ANSWER: 028 (1.00)

c.

REFERENCE:

CR3 ROT 3-10 Section 3.1 PG 10 & 11
Lesson Objective ROT-3-10 #5
[3.8/3.8]

015000A301 ..(KA's)

ANSWER: 029 (1.00)

c.

REFERENCE:

CR3 Exam Bank ROT-G Exam #6 Question #2.29
ROT-3-9 section 3.1.2 page 8
Lesson Objective ROT-3-9 #4
[3.2/3.2]

017020K101 ..(KA's)

ANSWER: 030 (1.00)

b.

REFERENCE:

CR3 ROT-4-1 Section 2.3.3 page 21
Lesson Objective ROT-4-1 #4
[2.6/2.9]

003000K614 ..(KA's)

ANSWER: 031 (1.00)

b.

REFERENCE:

CR3 Exam Bank ROT-G Exam #6 Question #3.1
CR3 ROT-4-1 section 2.2.3 page 18
Lesson Objective ROT-4-1 #6
[2.8/2.9]

016000K403 ..(KA's)

ANSWER: 032 (1.00)

a.

REFERENCE:

CR3 Exam Bank ROT-G Exam #6 Question 3.6
CR3 ROT-4-2 Section 2.2.3 page 16
Lesson Objective ROT-4-2 Ch 2 #3
[3.3/3.1]

008000A401 ..(KA's)

ANSWER: 033 (1.00)

c.

REFERENCE:

CR3 Simulator
Lesson Objective ROT-4-6 #2
[3.7/4.1]

063000K301 ..(KA's)

ANSWER: 034 (1.00)

c.

REFERENCE:

CR3 ROT 4-14 section 1.5.4 pg 21
Lesson Objective ROT-4-14 #4
[3.4/3.5]

059000A307 ..(KA's)

ANSWER: 035 (1.00)

c.

REFERENCE:

CR3 AP-770 Table 1, page 4
Lesson Objective ROT-4-06 #3
[3.4/3.9]

064000G005 ..(KA's)

ANSWER: 036 (1.00)

b.

REFERENCE:

CR3 ANO-81 section 4.2 page 46
Lesson Objective ROT-5-1 #9
[3.6/4.1]

002000G005 ..(KA's)

ANSWER: 037 (1.00)

b.

REFERENCE:

CR3 TS 3.4.6.1,
Lesson Objective ROT-5-1, #7
[3.6/4.1]

002000G005 ..(KA's)

ANSWER: 038 (1.00)

d.

REFERENCE:

CR3 NAO-96 Section 2.2.1 page 46
Lesson Objective NAO-96 #5
[3.4/3.5]

059000A307 ..(KA's)

ANSWER: 039 (1.00)

b.

REFERENCE:

CR3 ROT-4-25 Table 5 page 30
Lesson Objective ROT-4-25 #4
[4.0/4.3]

073000K401 ..(KA's)

ANSWER: 040 (1.00)

b.

REFERENCE:

CR3 Exam Bank Question 3.1
CR3 ROT-4-12 Section 1.3.2 page 15
Lesson Objec ive ROT-4-12 #7
[4.0/4.0]

012000A307 ..(KA's)

ANSWER: 041 (1.00)

d.

REFERENCE:

CR3 Exam Bank Question 3.14
CR3 ROT-4-12 section 1.2.1 page 4
Lesson Objective ROT-4-12 #4
[3.3/3.7]

012000K201 ..(KA's)

ANSWER: 042 (1.00)

d.

REFERENCE:

CR3 ROT-4-15 section 2.1 page 9 & 10
Lesson Objective ROT-4-15 #9
[2.8/3.1]

003000K303 ..(KA's)

ANSWER: 043 (1.00)

d.

REFERENCE:

CR3 ROT-4-28 section 1.2 page 1 & 2
Lesson Objective ROT-4-28 #8
[3.5/3.7

001000K202 ..(KA's)

ANSWER: 044 (1.00)

d.

REFERENCE:

CR3 ROT-4-12 Figure 1 page 50
Lesson Objective ROT-4-12 #13
[3.2/3.5]

012000K406 ..(KA's)

ANSWER: 045 (1.00)

c.

REFERENCE:

CR3 ROT 4-9 SECTION 3.2.E.6 pg 20 & 21,
No lesson objective identified
[2.9/3.2]

063000K402 ..(KA's)

ANSWER: 046 (1.00)

b.

REFERENCE:

CR3 ROT-4-3 section 1.2.14 page 6
Lesson Objective ANO-111 #1
[2.5/3.3]

000000A101 ..(KA's)

ANSWER: 047 (1.00)

a.

REFERENCE:

CR3 ROT-4-13 Section 2.2.10.5 page 51
Lesson Objective ROT-4-13 #12
[4.5/4.7]

013000A403 ..(KA's)

ANSWER: 048 (1.00)

b.

REFERENCE:

CR3 ANO-76 section 2.2 page 23
Lesson Objective ANO-76 #9
[4.1/4.3]

022000A301 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

CR3 ANO-76 section 2.3 page 28
Lesson Objective ANO-76 #7
[3.2/3.5]

029000K403 ..(KA's)

ANSWER: 050 (1.00)

a.

REFERENCE:

CR3 Exam Bank ROT-G Exam #4 Question #2.21
CR3 ROT-4-6 Section 3.0 page 9
Lesson Objective ROT-4-6 #7
[3.6/3.9]

064000K303 ..(KA's)

ANSWER: 051 (1.00)

c.

REFERENCE:

CR3 Exam Bank Exam ROT-G #3 Question 2.12
CR3 ROT-4-9 section 2.0.L page 17 & 18
Lesson Objective ROT-4-9 #9
[3.9/4.1]

002000A104 ..(KA's)

ANSWER: 052 (1.00)

c.

REFERENCE:

CR3 Exam Bank Exam ROT-G #3 Question 2.26
CR3 ROT-4-15
Lesson Objective ROT-4-15 # 6, 9, 11, & 19
[3.2/3.3]

061000K201 ..(KA's)

ANSWER: 053 (1.00)

d.

REFERENCE:

CR3 Exam Bank Test ROT-G #3Question #2.18
CR3 ROT-4-1 Section 1.4.4 page 39
Lesson Objective ROT-4-1 #5
[3.6/3.6]

004000A302 ..(KA's)

ANSWER: 054 (1.00)

a.

REFERENCE:

CR3 Exam Bank Test ROT-G #3 Question 2.20
CR3 ROT-4-15 section 2.2.3.3 page 24
Lesson Objective ROT-4-15 #18
[3.8/3.9]

061000G009 ..(KA's)

ANSWER: 055 (1.00)

c.

REFERENCE:

CR3 Exam Bank Test ROT-G #3 Question 2.34
CR3 ROT-4-14 Section 1.5.1 page 8
Lesson Objective ROT-4-14 #2d
[2.6/3.0]

045000K408 ..(KA's)

ANSWER: 056 (1.00)

d. c.

REFERENCE:

CR3 Exam Bank Exam ROT-G #5 Question 2.21
CR3 ROT-4-13 Section 2.2.10.3 page 47
Lesson Objective ROT-4-13 #26
[4.3/4.4]

013000K404 ..(KA's)

ANSWER: 057 (1.00)

d.

REFERENCE:

CR3 Exam Bank Exam ROT-G #5 Question 3.4
CR3 ROT-4-22 Section 1.4.2 page 21
Lesson Objective ROT-4-22 #6 & 7
[2.6/2.9]

045000A305 ..(KA's)

ANSWER: 058 (1.00)

a.

REFERENCE:

CR3 Exam Bank Exam ROT-G #5 Question 3.18
CR3 ROT-4-22 Section 2.2.7 page 49
Lesson Objective ROT-4-22 #8
[2.6/2.8]

045000K413 ..(KA's)

ANSWER: 059 (1.00)

b.

REFERENCE:

CR3 ANO-86 Section 2.3.2 page 35
Lesson Objective CR3 ANO-86 #6
[3.2/3.5]

005000K407 ..(KA's)

ANSWER: 060 (1.00)

c.

REFERENCE:

CR3 ROT-4-13 section 1.2.4 page 16
Lesson Objective ROT-4-13 #6
[3.5/3.6]

005000K106 ..(KA's)

ANSWER: 061 (1.00)

b.

REFERENCE:

CR3 ROT-4-26 Section 2.2.1.b page 22
Lesson Objective ROT-4-26 #4
[2.6/3.3]

034000K403 ..(KA's)

ANSWER: 062 (1.00)

b.

REFERENCE:

CR3 ROT-4-26 Section 3.1 page 29
Lesson Objective ROT-4-26 #6
[2.9/3.7]

034000A102 ..(KA's)

ANSWER: 063 (1.00)

c.

REFERENCE:

CR3 EP-140 Section 2.0 page 1
Lesson Objective ROT-5-16 #1
[4.1/4.4]

000024K301 ..(KA's)

ANSWER: 064 (1.00)

d.

REFERENCE:

CR3 OP-403-B Section 4.4 page 12 and EP-140 Section 2.0 page 3
Lesson Objective ROT-5-16 #2
[3.9/3.9]

000024A117 ..(KA's)

ANSWER: 065 (1.00)

c.

REFERENCE:

CR3 AP-545 Section 2.0 page 3
Lesson Objective ROT-5-68 #2
[4.1/4.4]

000054A202 ..(KA's)

ANSWER: 066 (1.00)

b.

REFERENCE:

CR3 AP-380 Section 2.2 page 3
Lesson Objective ROT-5-63 #2
[4.2/4.2]

000009A116 ..(KA's)

ANSWER: 067 (1.00)

d.

REFERENCE:

CR3 ROT-5-63 Section 3.2 page 8
Lesson Objective ROT-5-63 #3
[4.1/4.2]

000011K314 ..(KA's)

ANSWER: 068 (1.00)

a.

REFERENCE:

CR3 ROT-5-63 Section 3.0 page 8
Lesson objective ROT-5-63 #3
[4.2/4.7]

000009K101 ..(KA's)

ANSWER: 069 (1.00)

d.

REFERENCE:

CR3 AP-1050 Section 1.0 & 2.0 Page 1 & 2
Lesson Objective ROT-5-83 #1
[3.9/4.1]

000051A202 ..(KA's)

ANSWER: 070 (1.00)

c.

REFERENCE:

CR3 Exam Bank Exam ROT-G #5 Question 2.31
CR3 ROT-3-4 Section 4.2 page 7
Lesson Objective ROT-3-4 #6
[3.9/4.3]

000011A211 ..(KA's)

ANSWER: 071 (1.00)

a.

REFERENCE:

CR3 AP-530 Table 3 page 10
No lesson objective identified
[4.4/4.5]

000015A121 ..(KA's)

ANSWER: 072 (1.00)

b.

REFERENCE:

CR3 OP-302 section 3.2.9 page 6
Lesson Objective ROT-5-76 #3
[3.4/3.5]

000015A208 ..(KA's)

ANSWER: 073 (1.00)

a.

REFERENCE:

CR3 AP-450 Note page 9
No lesson objective identified
[3.4/3.3]

000054G011 ..(KA's)

ANSWER: 074 (1.00)

c.

REFERENCE:

CR3 AP-450 step 3.9 pg 9
Lesson Objective ROT-5-64 TERMINAL OBJECTIVE
[4.0/4.3]

000054A206 ..(KA's)

ANSWER: 075 (1.00)

c.

REFERENCE:

EP-290 Section 1.0 page 1 & Steam Tables
Lesson Objective ROT-5-19 #1
[3.7/4.1]

000074K104 ..(KA's)

ANSWER: 076 (1.00)

c.

REFERENCE:

CR3 ROT-5-20 step 3.23 page 22
Lesson Objective ROT-5-20 #3
[4.4/4.5]

000038K302 ..(KA's)

ANSWER: 077 (1.00)

b.

REFERENCE:

CR3 EP-390 Caution page 19
Lesson Objective ROT-5-20 #3
[3.9/4.2]

000038K103 ..(KA's)

ANSWER: 078 (1.00)

d.

REFERENCE:

CR3 ROT-5-28 section 2.4 page 4
Lesson Objective #3
[3.7/4.0]

000007K103 ..(KA's)

ANSWER: 079 (1.00)

d.

REFERENCE:

CR3 ROT-3-3 Section 4.1 page 7
Lesson Objective ROT-3-3 #12
[3.7/3.8]

000040K106 ..(KA's)

ANSWER: 080 (1.00)

b.

REFERENCE:

CR3 ROT-4-16 Section 3.3.5.1 page 62
Lesson Objective ROT-4-16 Terminal Objective
[4.3/4.5]

000068A102 ..(KA's)

ANSWER: 081 (1.00)

a.

REFERENCE:

CR3 ROT-5-14 Section 4.2 page 14 & 15
Lesson Objective ROT-5-14 #10
[3.8/3.9]

000007G012 ..(KA's)

ANSWER: 082 (1.00)

b.

REFERENCE:

CR3 Exam Bank Question 34.0
CR3 ROT-5-1

000069G008 ..('A's)

ANSWER: 083 (1.00)

b.

REFERENCE:

CR3 ANO-106 Section 7.0 page 17
Lesson Objective ANO-106 #6
[4.4/4.6]

000056A214 ..(KA's)

ANSWER: 084 (1.00)

c.

REFERENCE:

CR3 ROT-3-8 Section 2.2.E & 2.2.I page 23 & 27
Lesson Objective ROT-3-8 Terminal Objective
[4.1/4.7]

000074A207 ..(KA's)

ANSWER: 085 (1.00)

c.

REFERENCE:

CR3 AP-790 step 3.16 note page 11
No lesson objective identified
[3.8/41]

000055G006 ..(KA's)

ANSWER: 086 (1.00)

a.

REFERENCE:

CR3 ROT-5-80 step 3.4 page 6
Lesson Objective ROT-5-80 #3
[4.3/4.6]

000055K302 ..(KA's)

ANSWER: 087 (1.00)

b.

REFERENCE:

CR3 ROT-5-19 step 3.17 page 24
Lesson Objective ROT-5-19 #3
[4.6/4.8]

000074K102 ..(KA's)

ANSWER: 088 (1.00)

d.

REFERENCE:

CR3 AP-580 section 1.0 page 1
Lesson Objective ROT-5-28 #1
[4.1/4.3]

000007G011 ..(KA's)

ANSWER: 089 (1.00)

a.

REFERENCE:

CR3 ROT-3-8 Section 2.2.E page 24
No lesson objective identified
[4.2/4.6]

000009A236 ..(KA's)

ANSWER: 090 (1.00)

a.

REFERENCE:

CR3 Tech Spec 3.1.3.x, pp 3/4 1-18 through 3/4 1-37
Lesson Objective ROT 5-1 Terminal Objective
[3.1/3.6]

000005G003 ..(KA's)

ANSWER: 091 (1.00)

c.

REFERENCE:

CR3 EM-216 Section 3.3.2 page 3
No Lesson Objective Identified
[3.1/3.9]

000067K102 ..(KA's)

ANSWER: 092 (1.00)

b.

REFERENCE:

CR3 ROT-5-81 Section 3.6 page 10
No Lesson Objective Identified
[3.7/4.1]
000058A201 ..(KA's)

ANSWER: 093 (2.00)

a.
c.
e.
f. (4 @ 0.5 ea)

REFERENCE:

C.A.F. EM-201 NOT SUPPLIED BY FACILITY
CR3 EM-201 Section 4.1.1 pg 3
Lesson Objective ROT 5-35 #6
[3.8/3.8]

000060G010 ..(KA's)

ANSWER: 094 (1.00)

c.

REFERENCE:

CR3 OP-210 step 4.2.10 pg 12
Lesson Objective ROT-5-2 #5
[3.2/3.6]

000033A204 ..(KA's)

ANSWER: 095 (1.00)

c.

REFERENCE:

CR3 AP-470 Section 1.0 page 1
Lesson Objection ROT-5-84 #1
[3.4/3.6]

000065G011 ..(KA's)

ANSWER: 096 (1.00)

c.

REFERENCE:

Operation of a D/P cell
[2.6/2.7]

000028K202 ..(KA's)

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

QUESTION	VALUE	REFERENCE
001	1.00	9000001
002	1.00	9000002
003	1.00	9000003
004	1.00	9000004
005	1.00	9000005
006	1.00	9000006
007	1.00	9000007
008	1.00	9000008
009	1.00	9000009
010	1.00	9000010
011	1.00	9000011
012	1.00	9000012
013	1.00	9000013
014	1.00	9000014
015	1.00	9000015
016	1.00	9000016
017	1.00	9000017
018	1.00	9000018
019	1.00	9000019
020	1.00	9000020
021	1.00	9000021
022	1.00	9000022
023	2.00	9000023
024	1.00	9000024
025	1.00	9000025
026	1.00	9000026
027	1.00	9000027
028	1.00	9000028
029	1.00	9000029
030	1.00	9000030
031	1.00	9000031
032	1.00	9000032
033	1.00	9000033
034	1.00	9000034
035	1.00	9000035
036	1.00	9000036
037	1.00	9000037
038	1.00	9000038
039	1.00	9000039
040	1.00	9000040
041	1.00	9000041
042	1.00	9000042
043	1.00	9000043
044	1.00	9000044
045	1.00	9000045
046	1.00	9000046
047	1.00	9000047
048	1.00	9000048
049	1.00	9000049
050	1.00	9000050
051	1.00	9000051
052	1.00	9000052
053	1.00	9000053
054	1.00	9000054

QUESTION	VALUE	REFERENCE
055	1.00	9000055
056	1.00	9000056
057	1.00	9000057
058	1.00	9000058
059	1.00	9000059
060	1.00	9000060
061	1.00	9000061
062	1.00	9000062
063	1.00	9000063
064	1.00	9000064
065	1.00	9000065
066	1.00	9000066
067	1.00	9000067
068	1.00	9000068
069	1.00	9000069
070	1.00	9000070
071	1.00	9000071
072	1.00	9000072
073	1.00	9000073
074	1.00	9000074
075	1.00	9000075
076	1.00	9000076
077	1.00	9000077
078	1.00	9000078
079	1.00	9000079
080	1.00	9000080
081	1.00	9000081
082	1.00	9000082
083	1.00	9000083
084	1.00	9000084
085	1.00	9000085
086	1.00	9000086
087	1.00	9000087
088	1.00	9000088
089	1.00	9000089
090	1.00	9000090
091	1.00	9000091
092	1.00	9000092
093	2.00	9000093
094	1.00	9000094
095	1.00	9000095
096	1.00	9000096
	98.00	
	98.00	

Facility: Crystal River 3 Exam Date: 1990/11/27

MASTER COPY

Knowledge and Ability Record Form
COUNT MATRIX

Summarizing Counts by K/A Group
for
PWR - Reactor Operator

	K1	K2	K3	K4	K5	K6	A1	A2	A3	A4	SG	Total
Plant Wide Generics												13
Plant Systems I	4	2	2	3	0	3	0	1	6	1	1	23
Plant Systems II	2	1	2	~~3~~ 5	0	2	2	0	1	0	3	~~18~~ 19
Plant Systems III	1	0	0	4	0	0	1	0	1	1	0	8
Emergency/Abn I	4	0	2	.....			3	3	.....		3	15
Emergency/Abn II	3	0	2	.....			1	6	.....		~~5~~ 4	~~16~~ 17
Emergency/Abn III	0	1	0	.....			0	1	.....		1	3
Totals	14	4	8	12	0	5	7	11	8	2	12	=====
Model Total												~~96~~ 98

Knowledge and Ability Record Form
PLANT-WIDE GENERIC RESPONSIBILITIES

PWR - Reactor Operator Target: 13 % Actual: ~~13.5~~ 12.3 %

K/A	Rep	Topic	Rating R/S
194001A102	3	Ability to execute procedural steps	4.1/3.9
194001A104		Ability to operate the plant phone, paging system, and two-way radio	3.0/3.2
194001K101	2	Knowledge of how to conduct and verify valve lineups	3.6/3.7
194001K102	3	Knowledge of tagging and clearance procedures	3.7/4.1
194001K103	2	Knowledge of 10 CFR 20 and related facility radiation control requirements	2.8/3.4
194001K108		Knowledge of safety procedures related to high temperature	3.5/3.4
194001K116		Knowledge of facility protection requirements, including fire brigade and portable fire-fighting equipment usage	3.5/4.2

Knowledge and Ability Record Form
PLANT SYSTEMS
PWR - Reactor Operator - 51 %

Group I Plant Systems Target: 23 % Actual: ~~24.0~~ 23.5 %

001 Control Rod Drive	017 In-Core Temperature	061 Aux./Emer. Feedwater
003 Reactor Coolant Pump	022 Containment Cooling	068 Liquid Radwaste
004 Chemical & Volume	025 Ice Condenser	071 Wast Gas Disposal
013 E. Saftey Actuation	056 Condensate System	072 Area Radiation Mon.
015 Nuclear Instrument.	059 Main Feedwater System	

K/A	Rep	Topic	Rating R/S
001000K202		One-line diagram of power supply to trip breakers	3.6/3.7
001000K401		Rod position indication	3.5/3.8
001000K402		Control rod mode select control (movement control)	3.8/3.8
001050A206		Axial flux distribution	3.6/4.0
003000K303		Feedwater and emergency feedwater	2.8/3.1
003000K614		Starting requirements	2.6/2.9
004000A302		Letdown isolation	3.6/3.6
004000K304		RCPS	3.7/3.9
004000K604		Pumps	2.8/3.1
013000A302		Operation of actuated equipment	4.1/4.2
013000A403		ESFAS initiation	4.5/4.7
013000K107		AFW System	4.1/4.4
013000K404		Auxiliary feed actuation signal	4.3/4.5
015000A301		Console and cabinet indications	3.8/3.8
015000K105		ICS	3.9/3.9
017020K101		Plant computer (COLSS)	3.2/3.2
022000A301		Initiation of safeguards mode of operation	4.1/4.3
059000A307	2	ICS	3.4/3.5
059000K107		ICS	3.2/3.2
061000G009		Ability to locate and operate components, including local controls	3.8/3.9
061000K201		AFW system MOVs	3.2/3.3
061000K601		Controllers and positioners	2.5/2.8

Knowledge and Ability Record Form
PLANT SYSTEMS
PWR - Reactor Operator - 51 %

Group II Plant Systems Target: 20 % Actual: ~~18.8 %~~ 19.4

002 RCS	011 PZRLCS	016 NNIS	033 SFPCS	055 CARS	064 ED/G	079 SAS
006 ECCS	012 RPS	026 CSS	035 S/GS	062 AC	073 PRM	086 FPS
010 PZRPRS	014 RPIS	029 CPS	039 MRSS	063 DC	075 CIRC	

K/A	Rep	Topic	Rating R/S
002000A104		Subcooling margin	3.9/4.1
002000G005	2	Knowledge of limiting conditions for operations and safety limits	3.6/4.1
006030K601		HPI and LPI systems	3.7/3.9
012000A307		Trip breakers	4.0/4.0
012000K201		RPS channels, components, and interconnections	3.3/3.7
012000K406		Automatic or manual enable/disable of RPS trips	3.2/3.5
012000K603		Trip logic circuits	3.1/3.5
016000K403		Input to control systems	2.8/2.9
029000K403		Automatic purge isolation	3.2/3.5
039000K104		RCS temperature monitoring and control	3.1/3.1
063000A101		Battery capacity as it is affected by discharge rate	2.5/3.3
063000K301		ED/G	3.7/4.1
063000K402		Breaker interlocks, permissives, bypasses and crossties	2.9/3.2
064000G005		Knowledge of limiting conditions for operations and safety limits	3.4/3.9
064000K303		ED/G (manual loads)	3.6/3.9
073000K101		Those systems served by PRMs	3.6/3.9
073000K401	2	Release termination when radiation exceeds setpoint	4.0/4.3

Knowledge and Ability Record Form
PLANT SYSTEMS
PWR - Reactor Operator - 51 %

Group III Plant Systems Target: 8 % Actual: ~~8.3~~ 8.2 %

005 RHRS 008 CCWSS 028 HRPS 041 SDS 076 SWS 103 Containment
007 PRTS 027 CIRS 034 FHES 045 MT/G 078 IAS

K/A	Rep	Topic	Rating R/S
005000K106		ECCS	3.5/3.6
005000K407		System protection logics, including high-pressure interlock, reset controls, and valve interlocks	3.2/3.5
008000A401		CCW indications and controls	3.3/3.1
034000A102		Water level in the refueling canal	2.9/3.7
034000K403		Overload protection	2.6/3.3
045000A305		Electrohydraulic control	2.6/2.9
045000K408		The reactor bailey station and reactor diamond station in integrated control circuitry	2.6/3.0
045000K413		Overspeed protection	2.6/2.8

Knowledge and Ability Record Form
EMERGENCY PLANT EVOLUTIONS
PWR - Reactor Operator - 36 %

Group I Emergency and Abnormal Plant Evolutions Target: 16 % Actual: ~~15.6~~ 15.3 %

000005 Inoperable/Stuck Rod	000040 Steam Line Rupture	000067 Plant Fire Onsite
000015 RCP Motor Malfunction	000051 Loss of Vacuum	000068 CR Evacuation
000024 Emergency Boration	000055 Blackout	000069 Loss Containment
000026 Loss of CCW	000057 Loss of AC Elec	000074 Inadeq. Core Cool
000027 PZR PCS Malfunction	Instrument Bus	000076 High RCS Activity

K/A	Rep	Topic	Rating R/S
000005G003		Knowledge of limiting conditions for operations and safety limits	3.1/3.6
000015A121		Development of natural circulation flow	4.4/4.5
000015A208		When to secure RCPs on high bearing temperature	3.4/3.5
000024A117		Emergency borate control valve and indicators	3.9/3.9
000024K301		When emergency boration is required	4.1/4.4
000040K106		High-energy steam line break considerations	3.7/3.8
000051A202		Conditions requiring reactor and/or turbine trip	3.9/4.1
000055G006		Ability to locate and operate components, including local controls	3.8/4.1
000055K302		Actions contained in EOP for loss of offsite and onsite power	4.3/4.6
000067K102		Fire fighting	3.1/3.9
000068A102		AFW emergency pump	4.3/4.5
000069G008		Ability to recognize indications for system operating parameters which are entry-level conditions for technical specifications	3.4/4.1
000074A207		The difference between a LOCA and inadequate core cooling, from trends and indicators	4.1/4.7
000074K102		Potential consequences of uncovering the core	4.6/4.8
000074K104		Use of steam tables, including subcooled, saturated, and superheated regions	3.7/4.1

Knowledge and Ability Record Form
EMERGENCY PLANT EVOLUTIONS
PWR - Reactor Operator - 36 %

Group II Emergency and Abnormal Plant Evolutions Target: 17 % Actual: ~~16.7~~ 17.3 %

000001 CRW	000022 Loss of RCS Makeup	000038 SG Tube Rupture
000003 Dropped Control Rod	000025 Loss of RHR	000054 Loss of MFW
000007 Reactor Trip	000029 ATWS	000058 Loss of DC
000008 Stuck Relief Valve	000032 Loss of SRNI	000059 Loss Release
000009 Small Break LOCA	000033 Loss of IRNI	000060 GRW Release
000011 Large Break LOCA	000037 SG Tube Leak	000061 ARMS Alarm

K/A	Rep	Topic	Rating R/S
000007G011		Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures	4.1/4.3
000007G012		Ability to utilize symptom based procedures	3.8/3.9
000007K103		Reasons for closing the main turbine governor valve and the main turbine stop valve after a reactor trip	3.7/4.0
000009A116		Subcooling margin monitors	4.2/4.2
000009A236		Difference between overcooling and LOCA indications	4.3/4.6
000009K101		Natural circulation and cooling, including reflux boiling	4.2/4.7
000011A211		Conditions for throttling or stopping HPI	3.9/4.3
000011K314		RCP tripping requirement	4.1/4.2
000033A204		Satisfactory overlap between source-range, intermediate-range and power-range instrumentation	3.2/3.6
000038K103		Natural circulation	3.9/4.2
000038K302		Prevention of secondary PORV cycling	4.4/4.5
000054A202		Differentiation between loss of all MFW and trip of one MFW pump	4.1/4.4
000054A206		AFW adjustments needed to maintain proper T-ave and S/G level	4.0/4.3
000054G011		Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for emergency and abnormal operating procedures	3.4/3.3
000058A201		That a loss of dc power has occurred; verification that substitute power sources have come on line	3.7/4.1
000060G010	2	Ability to perform without reference to procedures those actions that require immediate operation of system components or controls	3.8/3.8

Knowledge and Ability Record Form
EMERGENCY PLANT EVOLUTIONS
PWR - Reactor Operator - 36 %

Group III Emergency and Abnormal Plant Evolutions Target: 3 % Actual: 3 / ~~3.1~~ %

000028 Pressure Level Malfunction
000036 Fuel Handling Accident
000056 Loss of OffSite Power
000065 Loss of Instrument Air

K/A	Rep	Topic	Rating R/S
000028K202		Sensors and detectors	2.6/2.7
000056A214		Operational status of ED/Gs (A and B)	4.4/4.6
000065C011		Ability to recognize abnormal indications for system operating parameters which are entry-level conditions for e... rgency and abnormal operating procedures	3.4/3.5

MASTER COPY

REACTOR OPERATOR
Page 1

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	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	_____
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	_____

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.

022 a b c d _____

023 match with selected number in the blank

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 _____

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.

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	_____
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	a	b	c	d	_____
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	_____
058	a	b	c	d	_____
059	a	b	c	d	_____
060	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.

061	a	b	c	d	_____
062	a	b	c	d	_____
063	a	b	c	d	_____
064	a	b	c	d	_____
065	a	b	c	d	_____
066	a	b	c	d	_____
067	a	b	c	d	_____
068	a	b	c	d	_____
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	_____

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.

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	_____
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 Fill in the blanks [ALL blanks may or may not be used]

1. _____ 5. _____
2. _____ 6. _____
3. _____ 7. _____
4. _____ 8. _____

094	a	b	c	d	_____
095	a	b	c	d	_____
096	a	b	c	d	_____

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

MASTER COPY

REACTOR OPERATOR
Page 1

A N S W E R K E Y

001	d
002	c
003	b
004	b
005	c
006	d
007	d
008	a
009	d
010	d
011	b
012	a
013	b
014	d
015	b
016	d
017	c
018	d
019	c
020	b
021	a
022	c

A N S W E R K E Y

023 match with selected number in the blank

a 3

b 5

c 2

d 4 [4 @ 0.5 ea]

024 b

025 b

026 c

027 a

028 c

029 c

030 b

031 b

032 a

033 c

034 c

035 c

036 b

037 b

038 d

039 b

040 b

041 d

042 d

A N S W E R K E Y

043	d
044	d
045	c
046	b
047	a
048	b
049	c
050	a
051	c
052	c
053	d
054	a
055	c
056	d c,
057	d
058	a
059	b
060	c
061	b
062	b
063	c
064	d
065	c
066	b

A N S W E R K E Y

067	d
068	a
069	d
070	c
071	a
072	b
073	a
074	c
075	c
076	c
077	b
078	d
079	d
080	b
081	a
082	b
083	b
084	c
085	c
086	a
087	b
088	d
089	a
090	a

A N S W E R K E Y

091 c

092 b

093 Fill in the blank

1. - a

2. - c

3. - e

4. - f [4 @ 0.5 ea]

094 c

095 c

096 c

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

Nuclear Regulatory Commission
Operator Licensing
Examination

MASTER COPY

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

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

FACILITY: Crystal River 3

REACTOR TYPE: PWR-B&W177

DATE ADMINISTERED: 90/11/27

CANDIDATE:

INSTRUCTIONS TO CANDIDATE:

Points for each question are indicated in parentheses after the question. To pass this examination, you must achieve an overall grade of at least 80%. Examination papers will be picked up four and one half (4 1/2) hours after the examination starts.

NUMBER QUESTIONS	TOTAL POINTS	CANDIDATE'S POINTS	CANDIDATE'S OVERALL GRADE (%)
96	9[illegible].00		

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

Candidate's Signature

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 candidate 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.

6. Fill in the date on the cover sheet of the examination (if necessary).

7. You may write your answers on the examination question page or on a separate sheet of paper. USE ONLY THE PAPER PROVIDED AND DO NOT WRITE ON THE BACK SIDE OF THE PAGE.

8. If you write your answers on the examination question page and you need more space to answer a specific question, use a separate sheet of the paper provided and insert it directly after the specific question. DO NOT WRITE ON THE BACK SIDE OF THE EXAMINATION QUESTION PAGE.

9. Print your name in the upper right-hand corner of the first page of answer sheets whether you use the examination question pages or separate sheets of paper. Initial each of the following answer pages.

10. 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.

11. If you are using separate sheets, number each answer and skip at least 3 lines between answers to allow space for grading.

12. Write "Last Page" on the last answer sheet.

13. 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.

14. The point value for each question is indicated in parentheses after the question. The amount of blank space on an examination question page is NOT an indication of the depth of answer required.

15. Show all calculations, methods, or assumptions used to obtain an answer.

16. Partial credit may be given. Therefore, ANSWER ALL PARTS OF THE QUESTION AND DO NOT LEAVE ANY ANSWER BLANK. NOTE: partial credit will NOT be given on multiple choice questions.

17. 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.

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

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

20. To pass the examination, you must achieve an overall grade of 80% or greater.

21. There is a time limit of (4 1/2) hours for completion of the examination. (or some other time if less than the full examination is taken.)

22. When you are done and have turned in your examination, leave the examination area as defined by the examiner. If you are found in this area while the examination is still in progress, your license may be denied or revoked.

QUESTION: 001 (1.00)

Which one of the following must be used for proper tracking of "special valve line-ups?"

a Placing an entry in the operator's log.

b. Listing on the shift relief check list.

c. Placing an entry in the shift supervisor's log.

d. Making a temporary procedure change.

QUESTION: 002 (1.00)

Which one of the following is the maximum exposure limits as set down by 10 CFR 20 section 20.101? [NRC Form 4 is on file.]

a. Quarterly Whole Body - 1.25 rem
Yearly Whole Body - 5 Rem
Quarterly Extremities (Hands and feet) - 7.5 Rem
Quarterly Skin of Whole Body - 18.75 Rem

b. Quarterly Whole Body - 3.0 rem
Lifetime Whole Body - 5(N-18)
Quarterly Extremities (Hands and feet) - 7.5 Rem
Quarterly Skin of Whole Body - 18.75 Rem

c. Quarterly Whole Body - 3.0 rem
Lifetime Whole Body - 5(N-18)
Quarterly Extremities (Hands and feet) - 18.75 Rem
Quarterly Skin of Whole Body - 7.5 Rem

d. Quarterly Whole Body - 1.25 rem
Yearly Whole Body - 5 Rem
Quarterly Extremities (Hands and feet) - 18.75 Rem
Quarterly Skin of Whole Body - 7.5 Rem

QUESTION: 003 (1.00)

Which one of the following is the requirement a licensed operator must complete to maintain his/her license in an "ACTIVE" status per the regulations of 10 CFR 55, "Operators' Licenses?"

The operator shall actively perform the functions of the appropriately licensed operator on a minimum of:

a. seven 8 hour shifts or five 12 hour shifts per calendar month.

b. seven 8 hour shifts or five 12 hour shifts per calendar quarter.

c. five 8 hour shifts or three 12 hour shifts per calendar month.

d. five 8 hour shifts or three 12 hour shifts per calendar quarter.

QUESTION: 004 (1.00)

Which one of the following combinations of tags hung on a single component is permissible?

a. 1 white, 1 red, and 1 blue

b. 1 white and 3 red tags

c. 2 red and 1 blue

d. 2 blue tags

QUESTION: 005 (1.00)

The Emergency Diesel Generator output breaker fails to open on an overload thereby failing to deenergize the bus and smoke is emitting from the breaker cubical.

Which one of the following is the class of fire described above?

a. Class 'A'

b. Class 'B'

c. Class 'C'

d. Class 'D'

QUESTION: 006 (1.00)

In accordance with CP-115 "Nuclear Plant Clearance Orders," which one of the following statements gives two actions that must be undertaken by the Clearance Holder for those clearances that have been outstanding for 30 days or more?

a. Review and verify applicability, Re-date the clearance tags.

b. Review and verify applicability, reissue the clearance tags.

c. Perform a physical verification of tags, Reissue the clearance tags.

d. Review and verify applicability, perform a physical verification of tags.

QUESTION: 007 (1.00)

During operation an emergency situation arises for which no procedural guidance exists. Actions which depart from Technical Specifications are required imrediately to protect the health and safety of the public.

Which one of the following describes the course of action the Nuclear Operator is authorized to take?

a. Immediately take what action is required without approval from another licensed operator.

b. Notify the Chief Nuclear Operator or another Licensed Reactor Operator of his/her intent and perform the required action.

c. Obtain approval from the Shift Supervisor on Duty and only the Shift Supervisor on Duty prior to taking any action.

d. Obtain approval from a Senior Reactor Operator prior to taking any action.

QUESTION: 008 (1.00)

Which one of the following is a normal responsibility of the Chief Nuclear Operator?

a. Provides direction and assistance to non-licensed operators in the performance of assigned tasks.

b. Initiates power reductions if plant parameters indicate that such action is required.

c. Manually trip the reactor if indications exceed automatic reactor trip settings and a trip has not occurred.

d. Actuates Emergency Safety Systems if indications exceed automatic actuation setpoints and actuation has not occurred.

QUESTION: 009 (1.00)

Which one of the following is a proper method of operating a motor operated valve (MOV) when it does not electrically seat satisfactorily?

a. It must be positioned manually utilizing a valve wrench.

b. It can be positioned by use of the manual handwheel and valve wrench.

c. Resetting the torque switches, reclosing the valve electrically and assisting with the handwheel.

d. Disengage the electric motor and seat the valve using the handwheel.

QUESTION: 010 (1.00)

Which one of the following set of system conditions would require double valve protection for a clearance?

a. System pressure 350 psig
System temperature 135 degrees F
Piping size 3 inches

b. System pressure 425 psig
System temperature 175 degrees F
Piping size 2 inches

c. System pressure 600 psig
System temperature 100 degrees F
Piping size 3/8 inches

d. System pressure 350 psig
System temperature 225 degrees F
Piping size 1 inches

QUESTION: 011 (1.00)

A partial release is required on a current clearance. Which one of the following can authorize the partial ~~clearance~~ release?

a. The Chief Nuclear Operator

b. The Clearance Holder

c. The Assistant Nuclear Shift Supervisor on Duty

d. The Shift Operations Technical Advisor

QUESTION: 012 (1.00)

Which one of the following is dedicated to emergency communications only during an emergency?

a. PAX System channel PL-1

b. PAX System channel PL-2

c. Hand held radio channel 1

d. Hand held radio channel 2

QUESTION: 013 (1.00)

In accordance with the "Chemistry and Radiation Protection Procedure" RSP-101, Self - Reading Pocket Ion Chambers (PICs) MUST be re-zeroed prior to reaching _____ mR for the 0 to 200 mR and _____ for the 0 to 500 mR.

a. 100, 325

b. 150, 375

c. 175, 400

d. 125, 350

QUESTION: 014 (1.00)

In accordance with OP-204, "Power Operations", which one of the following is considered the perferred method for dampening a Xenon Oscillation?

a. Determine the period of the oscillation as soon as possible, and then utilize the APSRs and Boration /dilution as necessary several hours BEFORE the peak deviation to achieve an average axial power imbalance.

b. Determine the period of the oscillation within 12 hours, then use boration/dilution, as appropriate, several hours AFTER the peak deviation to achieve an average axial power imbalance.

c. Determine the period of the oscillation over several days, and once peak deviation occurs so that a POSITIVE axial imbalance exists, drive control rods inward to reduce power 10-15%.

d. Determine the period of the oscillation over several days, then make the appropriate rod position correction one to two hours BEFORE the peak deviation to achieve an average axial power imbalance.

QUESTION: 015 (1.00)

Which one of the following circuits does the Relative Position Indication (RPI) provide an input signal?

a. The sequence enable circuit

b. The sequence monitor circuit

c. The asymmetric rod runback circuit

d. The feed and bleed permit circuit

QUESTION: 016 (1.00)

Which one of the following combinations of control rod drive breakers and contacts opening will cause all rods to be inserted in the core?

a. Breaker A, Breaker C, Contact F.

b. Breaker A, Breaker D, Contact E.

c. Breaker B, Breaker D, Contact F.

d. Breaker B, Breaker C, Contact E.

QUESTION: 017 (1.00)

Which one of the following tie-back circuits will be in effect with the Diamond in manual and Bailey Reactor Control station in auto?

a. Neutron power will drive the reactor bailey output.

b. Neutron power will drive the Tave integral.

c. Neutron error will drive the Tave integral.

d. Input/Output error will drive the Tave integral.

QUESTION: 018 (1.00)

Which one of the following determine when the Megawatt Calibrating Integral will be controlled by turbine header pressure error?

a. The bypass valves controls are in manual.

b. The diamond control is in manual.

c. The SG/RX control is in manual.

d. The turbine is in operator manual.

QUESTION: 019 (1.00)

After a Reactor Trip which one of the following will cause the Feedwater Demand signal to be reduced?

a. ULD and Total Feedwater Controller

b. BTU limits and RFR

c. Feedwater limited by Reactor Cross Limits and RFR

d. Total Feedwater Controller and RFR

QUESTION: 020 (1.00)

A loss of makeup has occurred and the seal injection isolation valve has been manually closed due to flow being lost for more than 2 minutes.

Which one of the following is the reason why seal injection flow must be slowly increased when flow is restored?

a. Allows time for the PZR level control valve to respond.

b. Avoids thermal shock to seal parts.

c. Ensures the MUP maintains NPSH.

d. Prevents waterhammer.

QUESTION: 021 (1.00)

Which one of the following, per OP-402 "MAKEUP AND PURIFICATION SYSTEM" Limits and Precautions, is the amount of time an operator has to stop a Makeup Pump when flow through it is lost?

a. 15 seconds

b. 30 seconds

c. 45 seconds

d. 60 seconds

QUESTION: 022 (1.00)

Which one of the following coolers will remain in service following a ES RBI & C actuation?

a. CRDM Coolers

b. RC pump Coolers

c. Spent Fuel Coolers

d. Waste Gas Compressor Coolers

QUESTION: 023 (2.00)

Match the Liquid Radiation Monitor in Column "A" with the appropriate system monitored from Column "B". [Systems in column "B" may be used once more than once or not at all.]

Column "A"	Column "B"
a. RML-1	1. Decay heat CCW Train 'A'
b. RML-2	2. Decay heat CCW Train 'B'
c. RML-6	3. Primary Coolant Letdown
d. RML-7	4. Waste Neutralizer Tank (SDT-1) Disch to Canal
	5. Plant Discharge Line Prior to Dilution
	6. Nuclear Services CCW System

QUESTION: 024 (1.00)

Which one of the following is a function of the Sequence - Inhibit Lamp?

a. Indicates that control cannot be switched to automatic because the neutron error exceeds + or - 1%.

b. Indicates that the regulating groups cannot be withdrawn in sequence because the safety groups are not at their OUT - Limit.

c. Indicates that one of the five regulating power supply programmers has lost one of its redundant photocell light sources.

d. Indicates that the control rods will not respond to OUT commands because an asymmetric rod condition exists.

QUESTION: 025 (1.00)

Which one of the following conditions would result in the Emergency Feedwater Initiation and Control (EFIC) Feed Only Good Generator (FOGG) Logic directing Emergency Feedwater flow ONLY to the 'A' OTSG?

OTSG "A" at ____ psig and OTSG "B" at ____ psig

a. 384, 485

b. 540, 310

c. 570, 625

d. 775, 625

QUESTION: 026 (1.00)

An EFW actuation has taken place, with all RCPs secured. The OTSG level setpoint was manually raised to 95% on the PSA/EFIC panel. A RCP was then started.

Which one of the following will occur?

EFIC will automatically select:

a. 65%, but level will have to be manually adjusted to the setpoint.

b. 95%, but maintain level at 65%.

c. 30 inches and control level at this point.

d. 24 inches but will not control level until manually reset.

QUESTION: 027 (1.00)

Which one of the following conditions would allow the Reactor Operator to terminate HPI flow to the core?

a. The "A" LPI pump is supplying 1500 gpm through each of the LPI injection lines and conditions have been stable for 25 minutes.

b. Both LPI pumps are operating supplying a total combined flow of 1800 gpm via the LPI injection lines for 30 minutes and show normal motor amps.

c. Subcooling margin has been restored and pressurizer level is at 40 inches on the pressurizer level indication.

d. Subcooling margin exists and the Pressurized Thermal Shock limit is being approached.

QUESTION: 028 (1.00)

Which one of the following describes the Source nge Excore Nuclear Instrument detector count rate response as the core uncovers during a LOCA, with the RCP's off?

The detector count rate will:

a. increase as the core begins to uncover. The count rate will continue to increase as the core level continues to decrease.

b. decrease as the core begins to uncover. The count rate will continue to decrease as the core level continues to decrease.

c. increase as the core begins to uncover. The count rate will reach a maximum level then begin to decrease as the water level continues to decrease.

d. decrease as the core begins to uncover. The count rate will reach a minimum level then begin to increase as the water level continues to decrease.

QUESTION: 029 (1.00)

Which one of the following is the setpoint for the high temperature alarm signal from incore thermocouples?

a. 2500 F

b. 1300 F

c. 700 F

d. 580 F

QUESTION: 030 (1.00)

Which one of the following Reactor Coolant Pump start permissive interlocks will still be in affect when the controls are selected to the Remote (RSP) position?

a. Upper oil pot level

b. Seal and motor cooling water (SW) flow

c. Power level < 30%

d. Seal flow > 3 gpm

QUESTION: 031 (1.00)

Which one of the following is a correct statement concerning the interlocks and controls associated with RCS Pressure?

a. All pressurizer heaters should be on by 2147 psig and off by 2200 psig.

b. The pressurizer spray valve is interlocked to stroke to 40% open when RCS pressure reaches 2205 psig.

c. The reset setpoint of the PORV is 50 psig below its relief setpoint.

d. When selected to "low range," the PORV will open at 500 psig and reset at 450 psig.

QUESTION: 032 (1.00)

Which one of the following is the function of the back-lighted pushbutton located on the "B" portion of the ES panel, just above the controller for SWP-1B, labeled "TEST PB Emer CCC PP-3B?"

a. Causes the SWP-1B pump discharge pressure switch to sense a low header pressure and auto start the pump.

b. Should SWP-1B pump fail to start on an ES actuation this button is the emergency backup start pushbutton.

c. Blocks the auto-start of SWP-1B and provides an auto-start signal to the SWP-1A pump

d. Provides a ES start command to SWP-1B pump start circuit for testing the auto-start function.

QUESTION: 033 (1.00)

Which one of the following would be the status of the Emergency Diesel Generator (EDG) following a loss of 125 VDC power?

a. The EDG would remain shutdown and unable to startup.

b. The EDG would attempt to start and the start failure relay would shut it down.

c. The EDG will start, come up to speed, and the RUN light will NOT illuminate.

d. The EDG will start, come up to speed, and the RUN light will illuminate.

QUESTION: 034 (1.00)

Which one of the following will accurately complete the following statement?

Total feedwater flow control will be implemented when at least a 10% RCS flow error exists (three RCP's running):

a. 'A' OTSG is on low level limits and
'B' OTSG is on low level limits and
the 'A' feedwater master is in automatic and
the 'B' feedwater master is in automatic.

b. 'A' OTSG is NOT on low level limits and
the 'B' OTSG is on low level limits and
the 'A' feedwater master is in manual and
the 'B' feedwater master is in automatic.

c. 'A' OTSG is on low level limits and
the 'B' OTSG is NOT on low level limits and
the 'A' feedwater master is in manual and
the 'B' feedwater master is in auto.

d. 'A' OTSG is NOT on low level limits and
'B' OTSG is NOT on low level limits and
the 'A' feedwater master is in manual and
the 'B' feedwater master is in manual.

QUESTION: 035 (1.00)

Which one of the following are the correct load limits for the Emergency Diesel Generator?

a. Maximum continuous load of 3000 KW,
Maximum of 200 hours at 3000 - 3300 KW,
and a Maximum of 30 minutes at 3300 - 3600 KW.

b. Maximum continuous load of 2900 KW,
Maximum of 200 hours at 2900 - 3200 KW,
and a Maximum of 30 minutes at 3200 - 3400 KW.

c. Maximum continuous load of 2850 KW,
Maximum of 2000 hours at 2850 - 3000 KW,
and a Maximum of 30 minutes at 3250 - 3500 KW.

d. Maximum continuous load of 2550 KW,
Maximum of 2000 hours at 2550 - 2850 KW,
and a Maximum of 30 minutes at 3050 - 3250 KW.

QUESTION: 036 (1.00)

Which one of the following are the maximum cool down limits allowed on the Reactor Coolant System according the Technical Specifications?

a. >270 F - 110 F/hr
270 to 170 F - 60 F/hr
<170 F - 5 F/hr

b. >270 F - 100 F/hr
270 to 170 F - 50 F/hr
<170 F - 10 F/hr

c. >270 F - 90 F/hr
270 to 170 F - 40 F/hr
<170 F - 15 F/hr

d. >270 F - 80 F/hr
270 to 170 F - 30 F/hr
<170 F - 20 F/hr

QUESTION: 037 (1.00)

Which one of the following is NOT a RCS Leakage Detection System required by Technical Specifications?

a. Containment atmospheric Iodine radioactivity monitoring

b. Nuclear Services Closed Cooling Water monitoring

c. Containment atmospheric gaseous radioactivity monitoring

d. Containment sump level monitoring

QUESTION: 038 (1.00)

Which one of the following correctly describes the operation of the Load Control Valve (LLCV) and the Main Feedwater Block Valve (MBV) during a power decrease from 100% to 15%, assuming both valves are in Automatic?

a. The MBV starts to close as Loop FW Demand drops below 80% and the LLCV starts to close when the MBV reaches the fully closed position.

b. The MBV starts to close as Loop FW Demand drops below 50% and the LLCV starts to close when the MBV reaches the 80% open position.

c. The MBV starts to close as Loop FW Demand drops below 45% and the LLCV starts to close when the MBV reaches the 50% open position.

d. The MBV starts to close as Loop FW Demand drops below 45% and the LLCV starts to close when the MBV reaches the fully closed position.

QUESTION: 039 (1.00)

Which one of the following is automatically ISOLATED and/or TURNED OFF if RMA-1 "Reactor Building Purge Exhaust Duct" were to reach its alarm setpoint?

a. WDV-436, 437 and 438 (WGDT Outlet Isolation)

b. AHV-1A, 1B, 1C and 1D (Containment Purge supply/exhaust valves)

c. AHF-9A and 9B (Penetration Cooling Fans)

d. AHF-10 (Fuel Handling Area Fan)

QUESTION: 040 (1.00)

Which one of the following is the information provided by the bright red light on the RPS channel "A" status panel labeled "Breaker Trip?"

a. Channel "A" RPS has tripped.

b. "A" CRDM breaker is tripped open.

c. All RPS channels are tripped.

d. A module in RPS channel "A" is tripped.

QUESTION: 041 (1.00)

Which one of the following describes the effect on the "A" RPS channel if the "A" Vital Bus de-energizes?

a. "A" CRDM breaker will open, and the "A" side CRDM programmer lights will go out.

b. "A" RPS channel will be tripped, and the "A" side crdm programmer lights will go out.

c. "A" RPS channel will be tripped, and all CRDM breakers will open.

d. "A" RPS channel will be tripped, and the "A" CRDM breaker will open.

QUESTION: 042 (1.00)

Which one of the following will result in an initiation of the Emergency Feedwater Initiation and Control (EFIC) system?

a. 650 psig on the "A" OTSG

b. Channel "B" of the Engineered Safeguards Actuation System is tripped.

c. Total feed water flow is 15 % in both feedwater loops and Rx power is 23%.

d. All four RC pump power monitors indicate tripped and Rx power is 12%.

QUESTION: 043 (1.00)

Which one of the following are the power supplies to the Control Rod Drive System?

a. - 480 VAC Engineered Safeguard Bus "3A", through "A" CRD breaker.
   - 480 VAC Engineered Safeguard Bus "3B", through "B" CRD breaker.

b. - 480 VAC Reactor Auxiliary Bus "3A", tnrough "A" CRD breaker.
   - 480 VAC Reactor Auxiliary Bus "3B", through "B" CRD breaker.

c. - 480 VAC Plant Auxiliary Bus "3", through "A" CRD breaker.
   - 480 VAC Reactor Auxiliary Bus "3B", through "B" CRD breaker.

d. - 480 VAC Reactor Auxiliary Bus "3A", through "A" CRD breaker.
   - 480 VAC Plant Auxiliary Bus "3", through "B" CRD breaker.

QUESTION: 044 (1.00)

Which one of the following is an accurate list of the Reactor Protection System trips bypassed when the Shutdown Bypass Key Switch is in the bypass position?

a. Variable Pressure Trip.
Flux/Delta Flux/Flow Trip.
Low Pressure Trip.
Both Main Feed Water Pump Trip.

b. Low Press Trip.
RCPPM Trip.
Variable Pressure Trip.
High Reactor Flux Trip.

c. RCPPM Trip.
Both Main Feed Water Pump Trip.
High Reactor Flux Trip.
Low Pressure Trip.

d. Flux/Delta Flux/Flow Trip.
Low Press Trip.
RCPPM Trip.
Variable Pressure Trip.

QUESTION: 045 (1.00)

Which one of the following failures will cause the NNI power supply monitor to trip it's respective NNI source breakers (S1 & S2)?

a. Any + or - 24 VDC power supply fails.

b. Any two 24 VDC power supplies fail.

c. Either + or - 24 VDC bus fails.

d. A 118 VAC field power supply fails.

QUESTION: 046 (1.00)

A station blackout has occurred. The "A" battery is discharging at the full load rate. Which one of the following is the amount of time the battery is designed to maintain this discharge rate?

a. 1 hours

b. 2 hours

c. 3 hours

d. 4 hours

QUESTION: 047 (1.00)

Which one of the following is the response of Engineered Safeguards Actuation System when the Reactor Building Cooling and Isolation system (RBIC) is MANUALLY initiated?

a. RBIC will isolate and shutdown the appropriate systems.

b. RBIC will isolate and shutdown the appropriate systems, and the Low Pressure Injection System will receive an initiation signal.

c. RBIC will isolate and shutdown the appropriate systems, and the High Pressure Injection System will receive an initiation signal.

d. RBIC will isolate and shutdown the appropriate systems, and the High Pressure Injection System and the Low Pressure Injection System will receive an initiation signal.

QUESTION: 048 (1.00)

Which one of the following Engineered Safeguards initiation signals will result in the automatic swapping of the normal cooling water source (CI) to the emergency cooling water source (SW) for the Main Reactor Building Fan Assemblies?

a. 1500 psig reactor plant system pressure.

b. 4 psig reactor building pressure.

c. 500 psig reactor plant system pressure.

d. 30 psig reactor building pressure.

QUESTION: 049 (1.00)

Which one of the following will result in the tripping of a Reactor Building Purge Supply Fan?

a. Differential pressure between supply fan suction and discharge <.15 inches of water.

b. Engineered Safeguards actuation signal of 4 psig Reactor Building Pressure.

c. One purge exhaust fans trips.

d. RMA-1 gas channel high alarm.

QUESTION: 050 (1.00)

The Emergency Diesel Generator start mode selector switch is selected to MANUAL. Which one of the following will be the effect on the diesel if an undervoltage signal is received while in this condition?

a. The diesel will NOT start.

b. The diesel will start, come up to 300 rpm as determined by the governor.

c. The diesel will start, come up to normal operating speed, but the output breaker will NOT close.

d. The diesel will start, come up to speed, output breaker will close, but unable to pickup load.

QUESTION: 051 (1.00)

Which one of the following accurately describes the operation of the Primary System Saturation Monitors?

a. When the T-sat/P-sat switch is selected to the P-sat position the saturation monitor will automatically select incores as the temperature input.

b. A red light on the saturation monitor indicates adequate subcooling margin. This light will be extinguished any time subcooled conditions do not exist.

c. The digital display will go blank if Reactor Coolant System pressure is less than 150 psig or the signal clock is lost.

d. The saturation monitors receive inputs from wide range pressures, T-hot, T-cold, T-ave, and Incore Temperatures.

QUESTION: 052 (1.00)

Which one of the following is an accurate statement concerning the EFIC system?

a. Following an actuation of EFW on low OTSG level, EFIC logic will feed the OTSGs up to low level limits at between 2 and 8 inches per minute based on OTSG pressure.

b. If power is lost to the EFIC control valves they will fail close and have to be controlled locally using manual handwheel control.

c. The EFW isolation valves (EFV-11, 14, 32, & 33) are powered from DPDP 8C and 8D and fail "as is" on a lost of power.

d. The only place that the EFIC control valves can be controlled from is the stations on the Main Control Board.

QUESTION: 053 (1.00)

Which one of the following is an accurate statement regarding the Make-up and Purification System?

a. When adding boron to the RCS, via the MU&P system, the operator should bypass the MU&P demineriliz ers to prevent their diluting the concentration of boron being added.

b. The Decay Heat System interconnects with the MU&P system upstream of the MU&P prefilters and again prior to the MU&P postfilters.

c. The letdown portion of the MU&P system taps into the RCS on the suction side of the "C" RCP

d. High temperature sensed in the letdown portion of the MU&P system will automatically close the letdown isolation valve.

QUESTION: 054 (1.00)

Which one of the following is the correct response regarding the function of the EFIC Maintenance Bypass switch?

a. The key switches are located on the cabinet alarm panels and once placed into bypass the key is held captive.

b. If an EFIC channel is in maintenance bypass, only the corresponding NI/RPS channel can be bypassed.

c. The EFIC Maintenance Bypass Light will flash only when the corresponding NI/RPS channel is bypassed.

d. The maintenance bypass switch does not bypass the EFW initiation from low OTSG level.

QUESTION: 055 (1.00)

Which one of the following will result in the ICS going to "Track"? Assume all ICS stations are in Automatic.

a. During normal 100% operation, Breaker 1661 (Main Generator output Breaker) trips open.

b. Feedwater demand becomes greater than 5% less than actual Feedwater flow.

c. Turbine control is taken to Operator Automatic.

d. The "A" Feedwater loop master is taken to hand.

QUESTION: 056 (1.00)

Which one of the following is the equivalent block load which EFP-1 will start if both the HPI portion of ES and Emergency Feedwater are simultaneously actuated with NO actuation of Building Spray?

a. 2

b. 3

c. 4

d. 5

QUESTION: 057 (1.00)

Which one of the following correctly describes the trip system of the main turbine?

a. When the EHC Oil pressure decreases, the interface trip valve will open, allowing the auto-stop (turbine control) oil to dump to the drain.

b. The interface trip valve is solenoid actuated and when open, will dump both auto-stop oil and EHC control oil to the drain.

c. A full turbine trip requires the servo valves for all four sets of turbine valves (throttle, governor, reheat and interceptor) to open.

d. When the auto-stop (turbine control) oil pressure decreases, the interface trip valve will open allowing the EHC control oil to dump to the drain.

QUESTION: 058 (1.00)

Which one of the following is the setpoint and the action that occurs when the Overspeed Protection Control (OPC) system is in service?

a. At 103%, The OPC will close only the governor and interceptor valves will close.

b. At 103%, the OPC will close all valves - throttle, governor, reheat and interceptor.

c. At 111%, the OPC will close only the governor and interceptor valves.

d. At 111%, the OPC will close all valves - throttle, governor, reheat and interceptor.

QUESTION: 059 (1.00)

Which one of the following accurately completes the statement regarding the Decay Heat Removal drop line Automatic Closure Initiation (ACI) function?

At approximately 250 psig:

a. A single RCS pressure transmitter will shut DHV-3 and DHV-4.

b. Separate RCS pressure transmitters will shut DHV-3 and DHV-4.

c. A single RCS pressure transmitter will shut DHV-3, DHV-4, and DHV-41.

d. Separate RCS pressure transmitters will shut DHV-3, DHV-4, and DHV-41.

QUESTION: 060 (1.00)

Which one of the following set of actuation signals will initiate the Decay Heat Removal System in the Low Pressure Injection mode?

a. 500 psig LPI actuation signal or 30 psig RBIC actuation signal.

b. 1500 psig HPI actuation signal or 500 psig LPI actuation signal.

c. 500 psig LPI actuation signal or 4 psig RBIC actuation signal.

d. 30 psig RBIC actuation signal or 4 psig RBIC actuation signal.

QUESTION: 061 (1.00)

Which one of the following sets of conditions would stop the Fuel Hoist from operating in the down direction?

a. - No "Grapple Engage" light
   - 2950 pounds on the hoist

b. - 1800 # on the hoist and grapple tube not down
   - No "Disengaged" light

c. - 700 # on the hoist
   - Pneumatic pressure 125 psi

d. - No "Disengaged" light
   - 2300 # on the hoist and grapple tube not down

QUESTION: 062 (1.00)

Which one of the following is the minimum Refueling Canal level elevation allowed?

a. 165 feet

b. 156 feet

c. 146 feet

d. 134 feet

QUESTION: 063 (1.00)

Which one of the following would NCT require Emergency Boration of the Reactor Coolant System?

a. An unexplained rise in neutron flux

b. Less than required shutdown margin

c. Continuous control rod motion exists

d. In modes 1 or 2 with regulating rods in the unacceptable region of the rod index curves

QUESTION: 064 (1.00)

Which one of the following lineups is an emergency boration lineup?

a. MUV-58 "MUP-1C Suction From BWST" and MUV-64 "MUT Outlet" are open, MUP-1A is operating normally, and letdown flow is increased to 70 gpm.

b. MUP-1A and MUP-1B are operating normally, MUV-73 "MUP-1A Suction From BWST" and MUV-64 "MUT Outlet" are open and letdown flow is increased to 100 gpm.

c. MUP-1A is operating, CAV-60 "Emergency Boration Inlet" and MUV-64 "MUT Outlet" are open, and CAP-1A "Boric Acid Pump" is operating at 5 gpm.

d. MUP-1B is operating, CAV-60 "Emergency Boration Inlet" and MUV-64 "MUT Outlet" are open, and CAP-1B "Boric Acid Pump" is operating at 12 gpm.

QUESTION: 065 (1.00)

Which one of the following are actions required for the trip of one main feedwater booster pump?

a. Verify plant runback to 60% Reactor power, and verify FWV-28, 29, & 30 are repositioning as required as required by VP-540 "Runback Verification."

b. Verify Reactor trip and perform the immediate actions of AP-580 "Reactor Trip."

c. Verify Plant runback to 55% reactor power and then stabilize RCS pressure as required by AP-545 "Plant Runback."

d. Manually trip the reactor, then perform the immediate action of AP-580 "Reactor Trip."

QUESTION: 066 (1.00)

Which one of the following is an indication of INADEQUATE subcooling margin?

a. RCS pressure 140 psig
Subcooling Margin 30 F

b. RCS Pressure 225 psig
Subcooling Margin 40 F

c. RCS Pressure 750 psig
Subcooling Margin 50 F

d. RCS Pressure 1650 psig
Subcooling Margin 60 F

QUESTION: 067 (1.00)

Which one of the following is the bases for leaving one RCP running in each loop during a LOCA when the pumps where NOT tripped within two minutes of loosing subcooling margin?

a. To minimize the amount of time before ECCS actuation

b. To maintain void fraction less than 70%

c. To minimize the amount of inventory loss out the break

d. To maintain steam cooling of the core

QUESTION: 068 (1.00)

Which one of the following is the reason for raising OTSG levels to 95% after subcooling margin was lost and all RCPs were tripped during a LOCA?

a. Enables heat transfer during boiler-condenser operation

b. Establishes natural circulation conditions

c. Develops a differential pressure to allow spraying of the pressurizer to lower Tsat

d. Minimizes the inventory loss out of the break by reducing steam flow rates.

QUESTION: 069 (1.00)

Which one of the following conditions will require the reactor to be tripped?

a. While operating at 5% power, the control room receives a High Level alarm on the "A" CDP pit sump.

b. During a Plant start-up at 3% power, a Building Serviceman calls the control room and reports water running out of the in-service SC heat-exchanger.

c. While performing a plant shut-down at 15% power the "B" CDP suddenly decouples.

d. While operating at 72% power the "A" CDP suddenly trips and then the "A" CDP pit sump alarm comes in.

QUESTION: 070 (1.00)

Which one of the following conditions would require a mandatory throttling of the HPI flow?

a. Incores indicate adequate subcooling margin

b. Pressurizer level is approaching 240 inches

c. HPI total flow equals 1100 gpm with two pump operation

d. RCS pressure is approaching the NDT curve and subcooling margin is 10 degree F

QUESTION: 071 (1.00)

Which one of the following is an indication that Natural Circulation has been established?

a. RCS Tcold minus OTSG Tsat equals 3 degrees F.

b. Incores are following RCS Thot within 20 degrees F.

c. Delta T (incore - Tcold) equals 50 degrees F and increasing.

d. Thot, Tcold and incores increase when OTSG pressure is lowered.

QUESTION: 072 (1.00)

Which one of the following conditions, in accordance with OP-302 "RC PUMP OPERATION" Limits and Precautions, would require an immediate trip of the effected Reactor Coolant Pump?

a. RCP Motor Upper/Lower Guide Bearing Temperature at 185 degrees F and steady.

b. RCP cooling water outlet temperature at 185 degrees F and steady.

c. RCP Motor Upper/Lower Thrust Bearing High Temperature at 185 Degrees F and steady.

d. RCP Motor Stator Coil temperature at 185 degrees F and steady.

QUESTION: 073 (1.00)

Which one of the following OTSG level indications would indicate a DRY OTSG according to AP-450 "Emergency Feedwater Actuation?"

a. 5 inches on the EFIC Low Level Range

b. 6% on the EFIC High Range Level

c. 5% on the OTSG Operating Range Level

d. 6 inches on the OTSG Startup Range Level

QUESTION: 074 (1.00)

Which one of the following statements accurately gives three conditions that should be met to feed a dry SG, as out lined in AP-450 "Emergency Feedwater Actuation"?

Feed rate should be:

a. </= 150 gpm feed flow rate,
Feed should be thru the low OTSG nozzles,
2 RCPs operating in the loop with the dry OTSG.

b. </= 125 gpm feed flow rate,
feed should be thru the high OTSG nozzles,
</= 1 RCP operating in the loop with the dry OTSG.

c. </= 100 gpm feed flow rate,
feed should be thru the high OTSG nozzles,
>/= 1 RCP operating in the loop with the dry OTSG.

d. </= 75 gpm feed flow rate,
feed should be thru the low OTSG nozzles,
No RCPs operating in the loop with the dry OTSG.

QUESTION: 075 (1.00)

Subcooling monitors are out of service. You are instructed to monitor Core Exit Thermocouples (CET) for possible entry into EP-290 "Inadequate Core Cooling." Using the Steam Tables provided, which one of the following sets of conditions would require entry into EP-290?

a. CET average = 630 degrees F
RCS pressure = 1950 psig

b. CET average = 610 degrees F
RCS pressure = 1850 psig

c. CET average = 620 degrees F
RCS pressure = 1700 psig

d. CET average = 600 degrees F
RCS pressure = 1600 psig

QUESTION: 076 (1.00)

EP-390 "Steam Generator Tube Leak" step 3.23 states: "When RCS Thot is </=540 degrees F and affected OTSG is identified, then isolate affected OTSG".

Which one of the following is the reason for isolating the OTSG at this time?

At this point:

a. The pressure is such that the ADV's can be placed in Auto without adjusting the null, so when the SG is isolated the pressure will not fluctuate.

b. Natural Circulation has been established and ensured of continuing with only one SG steaming.

c. Pressure in the affected SG should be below the lowest MSSV setpoint.

d. The leak rate has slowed to the point the OTSG will not go solid if SG blow down is established.

QUESTION: 077 (1.00)

Which one of the following is the reason that the cooldown rate, during natural circulation, is limited to </= 50 F/hr?

a. Thermal stresses in the OTSG

b. Voiding of the Rx Vessel head

c. Brittle fracture of the RCS loop welds

d. Waterhammer in the EFW lines

QUESTION: 078 (1.00)

Which one of the following is the reason for closing or verifying the Main Turbine Throttle and Governor Valves are closed following a reactor trip per the IMMEDIATE ACTIONS of AP-580, "Reactor Trip?"

a. To ensure the Main Generator is removed from the grid and power is transferred to off-site for the Vital buses.

b. To allow the rapid breaking of the condenser vacuum to facilitate emergency stopping of the Main Turbine.

c. To allow the Turbine bypass valves to control the OTSG pressure and plant cooldown rate.

d. Stop overcooling leading to possible emptying the PZR and a saturated RCS.

QUESTION: 079 (1.00)

Which one of the following would be the major problem associated with conducting a forced circulation cooldown with one OTSG dry and depressurized?

a. Excessive Delta Tcold

b. Excessive subcooling Margin

c. Pressurized thermal shock

d. OTSG Tube-to-shell differential temperature

QUESTION: 080 (1.00)

Which one of the following components will still actuate upon an ES signal when their controls are selected to the Remote Shutdown Panels (RSP)?

a. MUP-1A High Pressure Injection Pump

b. EFP-1 Emergency Feed Water Pump

c. DHP-1B Low Pressure Injection Pump

d. MUP-1C High Pressure Injection Pump

QUESTION: 081 (1.00)

Which one of the following is a list of the four Critical Safety Functions, listed in the order of priority, as monitored in VP-580 "Plant Safety Verification Procedure?"

a. Reactivity Control
Thermal Control
Radioactive Inventory Control
Equipment Availability

b. Equipment Availability
Thermal Control
Radioactive Inventory Control
Reactivity Control

c. Thermal Control
Radioactive Inventory Control
Equipment Availability
Reactivity Control

d. Reactivity Control
Radioactive Inventory Control
Thermal Control
Equipment Availability

QUESTION: 082 (1.00)

Which one of the following conditions will satisfy Containment Integrity requirements?

a. While conducting maintenance inside the personnel hatch, personnel leave the outer door open for easier access.

b. An automatic isolation valve fails in the open position and is isolated by a manual valve down stream.

c. An automatic isolation valve's stroke time is excessive. Valve is electrically closed and caution tagged.

d. An equipment hatch as been opened then reclosed. The leak check is now in progress.

QUESTION: 083 (1.00)

Which one of the following is the expected response of an Emergency Diesel Generator (EDG) when it is in parallel operation, for testing, and a Loss of Off Site power occurs?

a. The EDG's output breaker would trip on over current, then auto close to energize ES loads once the bus has been stripped.

b. The ES Bus incoming breakers from the switchyard will trip, the EDG will remain running carrying the respective ES bus.

c. The lowered speed droop setting will cause the EDG to trip on low RPM, the EDG will then receive an ES start sign and load the bus.

d. The EDG's output breaker and ES Bus supply breakers will trip, then the EDG output breaker will have to be manually closed.

QUESTION: 084 (1.00)

Which one of the following correctly describes the behavior of RCS pressure, if a Small Break LOCA which is NOT large enough to actuate ES occurs, and NO feedwater is available to OTSGs?

a. Pressure initially decreases slowly, then rapidly drops when the OTSGs are boiled dry.

b. Pressure initially decreases slowly until it levels off somewhere above ES actuation pressure, The OTSGs boiling dry have little effect.

c. Pressure initially decreases, then rapidly increases when the OTSGs boil dry.

d. Pressure initially decreases, then when OTSGs boil dry continues to decrease, but at a much slower rate.

QUESTION: 085 (1.00)

A Station Blackout has occurred. You are directed to the Remote Shutdown panel to monitor Reactor Plant parameters. The Control Room requests actual Pressurizer level. RCS pressure is 2150 psig and Pressurizer level indicates 95 inches. Which one of the following Pressurizer levels is actual level?

a. 95 inches

b. 35 inches

c. 155 inches

d. 65 inches

QUESTION: 086 (1.00)

Step 3.4 of AP-790 "Station Blackout" directs the operator to "Actuate MS line isolation on both OTSGs". Which one of the following is the purpose for this action?

a. To help control cooldown.

b. To prevent OTSG dry out.

c. To maintain >100 psig in the OTSGs.

d. To prevent OTSGs overfilling.

QUESTION: 087 (1.00)

Which one of the following is the major concern if clad temperature reaches 1400 degrees F or greater.

a. Clad melting.

b. Excessive hydrogen generation.

c. Fuel melting.

d. Structural failure of core supports.

QUESTION: 088 (1.00)

Which one of the following conditions would require a manual Reactor Trip and entry into AP-580 "Reactor Trip?"

a. RCS Pressure at 2275 psig and increasing

b. "B" RCP trips with Reactor Power at 87 %

c. Trip of "A" Main Feedwater Pump with Reactor Power at 45%

d. Reactor Hot Leg temperature at 620 degrees F and decreasing

QUESTION: 089 (1.00)

Which one of the following parameters will be the greatest aid to an operator in differentiating between a small steam leak and a small LOCA inside containment?

a. Containment Radiation levels

b. Containment Pressure readings

c. Containment Temperature readings

d. Containment/Reactor Building Sump levels

QUESTION: 090 (1.00)

Which one of the following is a Limiting Condition for Operations concerning Movable Control Assemblies? [See Attachment]

a. All safety, regulating and axial power shaping control reed switch position indicator channels and pulse stepping position indicator channels shall be operable and capable of determining the control rod position within +/- 2%.

b. The position of each regulating group shall be determined to be within the insertion, sequence and overlap limits at least once every 24 hours.

c. The individual safety and regulating rod drop time from the fully withdrawn position shall be less than or equal to 3.1 seconds from power interruption at the control rod drive breakers to 3/5 insertion with Tave greater than or equal to 525 F and all RCPs operating.

d. All axial power shaping rods (APSR) shall be operable, unless fully withdrawn, and shall be positioned within +/- 2.5% (indicated position) of their group average height.

QUESTION: 091 (1.00)

According to EM-216, "Duties of the Nuclear Plant Fire Brigade"

Which one of the following is the method of fighting a fire in the vicinity of energized high voltage electrical equipment?

a. Straight stream directly on fire from a distance of more than 50 ft.

b. Fog/stream combination as close as possible.

c. Wide fog pattern from a distance of more that 10 ft.

d. Narrow fog pattern from a distance of more than 40 ft.

QUESTION: 092 (1.00)

In accordance with AP-581 "LOSS OF NNI X" step 3.7

"ACTIONS" state:
* "Determine the status of NNI-X DC Power."

"DETAILS" state:
* "Observe the 4 power supply monitor lights located in NNI Cabinet 3, Row 6, Module 15."
* "NNI-X DC power is energized if at least 1 POS and 1 NEG light is lit."

Which one of the following System Power Supply Monitor combination of lights indicate both + and - 24 V buses are available?

a. 1st light OFF
2nd light ON
3rd light OFF
4th light ON

b. 1st light OFF
2nd light OFF
3rd light ON
4th light ON

c. 1st light OFF
2nd light ON
3rd light ON
4th light OFF

d. 1st light ON
2nd light OFF
3rd light ON
4th light OFF

QUESTION: 093 (2.00)

According to EM-201 "Duties of an Individual Who Discovers an Emergency" an individual who discovers an emergency condition shall notify the Control Room by dialing 311 on a PAX or conventional intra-plant telephone, and give specific information.

Which of the following items of information are required to be given, as a MINIMUM, by EM-201 for an accidental gaseous release? [NOTE: More than one item is required.]

a. Type of Emergency
b. The safe area for personnel
c. Location of Emergency
d. Names of personnel in the area
e. Visible damage to plant components
f. What action (if any) has been taken
g. Power supplies to the effected equipment
j. Recommendations on equipment to secure

QUESTION: 094 (1.00)

Which one of the following is the minimum number of decades that the Intermediate Range and Source Range must overlap to verify proper operation during a Reactor Startup?

a. two

b. one and one half

c. one

d. one half

QUESTION: 095 (1.00)

Which one of the following pressures is the entry condition for AP-470 "Loss of Instrument Air?"

a. 95 psig

b. 90 psig

c. 85 psig

d. 80 psig

QUESTION: 096 (1.00)

Which one of the following will be the results of a leak on the reference leg of the controlling Pressurizer level instrument, where the level in the reference leg SLOWLY decreases, with no operator actions and level control is in automatic?

Actual pressurizer level would:

a. decrease, indicated level would decrease.

b. increase, indicated level would increase.

c. decrease, indicated level would remain constant.

d. increase, indicated level would remain constant.

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

ANSWER: 001 (1.00)

d.

REFERENCE:

CR3 AI-400D Section 4.1 page 2
Lesson Objective ROT-5-77 #3
(3.6/3.7)

194001K101 ..(KA's)

ANSWER: 002 (1.00)

c.

REFERENCE:

10 CFR 20 Section 20.101 "Radiation Dose Standards for Individuals in Restricted Areas." page 268 of 10 parts 0 to 50 Revised as of January 1, 1988.
[2.8/3.4]

194001K103 ..(KA's)

ANSWER: 003 (1.00)

b.

REFERENCE:

10 CFR 55.53(e) Issued 1-1-88
[4.1/3.9]

194001A102 ..(KA's)

ANSWER: 004 (1.00)

b

REFERENCE:

CR3 CP-115 SECTION 4.5.1, 4.5.2, 4.5.3 pg 15 & 16
LESSON OBJECTIVE ROT-5-40 #7 & #8
[3.7/4.1]

194001K102 ..(KA's)

ANSWER: 005 (1.00)

c

REFERENCE:

CR3 EM-216 Section 3.1 pg 1 & 2
NO LESSON OBJECTIVE IDENTIFIED
[3.5/4.2]

194001K116 ..(KA's)

ANSWER: 006 (1.00)

d

REFERENCE:

CR3 CP-115 SECTION 3.1.5 PG 2, AI-500 PG 2
LESSON OBJECTIVES ROT 5-40 CP-115 # 3
[3.7/4.1]

194001K102 ..(KA's)

ANSWER: 007 (1.00)

d

REFERENCE:

CR3 AI-500 Section 4.1 page 16
10 CFR 50.54 (x)&(y)
[4.1/3.9]

194001A102 ..(KA's)

ANSWER: 008 (1.00)

a

REFERENCE:

CR3 AI-500 Section 3.2.5 & 3.2.6 pages 8 & 9
Lesson Objective ROT-5-38 #11
[4.1/3.9]

194001A102 ..(KA's)

ANSWER: 009 (1.00)

d

REFERENCE:

CR3 AI-500 Section 4.11.4 page 38
No Lesson Objective Identified
[3.6/3.7]

194001K101 ..(KA's)

ANSWER: 010 (1.00)

d

REFERENCE:

CR3 CP-115 Section 3.1.14 pg 3
No Lesson Objective Identified
[3.5/3.4]

194001K108 ..(KA's)

ANSWER: 011 (1.00)

b

REFERENCE:

CR3 CP-115 Section 3.2.2.6 page 7
Lesson Objective ROT-5-40 #2 page V
[3.7/4.1]

194001K102 ..(KA's)

ANSWER: 012 (1.00)

a

REFERENCE:

CR3 AI-412 Section 4.1.7 page 3
No Lesson Objective Identified
[3.0/3.2]

194001A104 ..(KA's)

ANSWER: 013 (1.00)

b

REFERENCE:

CR3 RSP-101 section 3.1.6 page 3
No Lesson Objective Identified
[2.8/3.5]

194001K103 ..(KA's)

ANSWER: 014 (1.00)

d.

REFERFNCE:

CR3 OP-204 Section 4.2 page 16
Lesson Objective ROT-5-2 #5
[3.6/4.0]

001050A206 ..(KA's)

ANSWER: 015 (1.00)

b.

REFERENCE:

CR3 Exam Bank exam #4 Question 2.8
Lesson Objective ROT-4-28 #4 & 5
[3.5/3.8]

001000K401 ..(KA's)

ANSWER: 016 (1.00)

d

REFERENCE:

CR3 ROT-4-12 section 1.2.2.8 pg 12
Lesson Objective ROT-4-12 #3.
[3.1/3.5]

012000K603 ..(KA's)

ANSWER: 017 (1.00)

c

REFERENCE:

CR3 ROT-4-14 page 19
CR3 Exam Bank Exam #4 Ques 2.1
Lesson Objective ROT-4-14 #5.b,c,d
[3.9/3.9]

015000K105 ..(KA's)

ANSWER: 018 (1.00)

d

REFERENCE:

CR3 ROT-4-14 section 1.5.2 page 10
CR3 Exam Bank Exam #4 question 2.2
Lesson Objective ROT-4-14 #3.b.
[3.1/3.1]

039000K104 ..(KA's)

ANSWER: 019 (1.00)

c

REFERENCE:

CR3 ROT-4-14 Section 1.5.4 page 31
CR3 Exam Bank Exam #4 question 2.3
Lesson Objective ROT-4-14 #4.d,.f,.h,.i, #6
[3.2/3.2]

059000K107 ..(KA's)

ANSWER: 020 (1.00)

b

REFERENCE:

CR3 ROT-5-76 OP-402 SECTION 3.2.12 P & L pg 8
Lesson Objective ROT-5-76 #6.
[3.7/3.9]

004000K304 ..(KA's)

ANSWER: 021 (1.00)

a.

REFERENCE:

CR3 OP-402 section 3.2.11 page 8
No Lesson Objective Identified
[2.8/3.1]

004000K604 ..(KA's)

ANSWER: 022 (1.00)

c

REFERENCE:

CR3 ROT-4-13 Table V page 76
Lesson Objective ROT-4-13 #13
[4.1/4.2]

013000A302 ..(KA's)

ANSWER: 023 (2.00)

a. - 3.
b. - 5.
c. - 2.
d. - 4. (4 @ 0.5 ea)

REFERENCE:

CR3 ROT-4-25 Table 4 page 29
CR3 Exam Bank Exam #5 Question 3.23
[3.6/3.9]

073000K101 ..(KA's)

ANSWER: 024 (1.00)

b

REFERENCE:

CR3 ROT-4-28 Section 2.4.5 page 33
Lesson Objective ROT-4-28 #7
[3.8/3.8]

001000K402 ..(KA's)

ANSWER: 025 (1.00)

b

REFERENCE:

CR3 Exam Bank Test #5 Question # 2.38
CR3 ROT-4-15 Section 2.2.2.2 page 21
Lesson Objective ROT-4-15 #17
[4.1/4.4]

013000K107 ..(KA's)

ANSWER: 026 (1.00)

c

REFERENCE:

CR3 ROT-4-15, Section 2.2.1.B page 14
Lesson Objective ROT-4-15 #14
[2.5/2.8]

061000K601 ..(KA's)

ANSWER: 027 (1.00)

a.

REFERENCE:

CR3 Exam Bank ROT-G Exam #6 Question 2.20
ROT-3-4 section 4.2 page 7
Lesson Objective ROT-3-4 #6
[3.7/3.9]

006030K601 ..(KA's)

ANSWER: 028 (1.00)

c.

REFERENCE:

CR3 ROT 3-10 Section 3.1 PG 10 & 11
Lesson Objective ROT-3-10 #5
[3.8/3.8]

015000A301 ..(KA's)

ANSWER: 029 (1.00)

c.

REFERENCE:

CR3 Exam Bank ROT-G Exam #6 Question #2.29
ROT-3-9 section 3.1.2 page 8
Lesson Objective ROT-3-9 #4
[3.2/3.2]

017020K101 ..(KA's)

ANSWER: 030 (1.00)

b.

REFERENCE:

CR3 ROT-4-1 Section 2.3.3 page 21
Lesson Objective ROT-4-1 #4
[2.6/2.9]

003000K614 ..(KA's)

ANSWER: 031 (1.00)

b.

REFERENCE:

CR3 Exam Bank ROT-G Exam #6 Question #3.1
CR3 ROT-4-1 section 2.2.3 page 18
Lesson Objective ROT-4-1 #6
[2.8/2.9]

016000K403 ..(KA's)

ANSWER: 032 (1.00)

a.

REFERENCE:

CR3 Exam Bank ROT-G Exam #6 Question 3.6
CR3 ROT-4-2 Section 2.2.3 page 16
Lesson Objective ROT-4-2 Ch 2 #3
[3.3/3.1]

008000A401 ..(KA's)

ANSWER: 033 (1.00)

c.

REFERENCE:

CR3 Simulator
Lesson Objective ROT-4-6 #2
[3.7/4.1]

063000K301 ..(KA's)

ANSWER: 034 (1.00)

c.

REFERENCE:

CR3 ROT 4-14 section 1.5.4 pg 21
Lesson Objective ROT-4-14 #4
[3.4/3.5]

059000A307 ..(KA's)

ANSWER: 035 (1.00)

c.

REFERENCE:

CR3 AP-770 Table 1, page 4
Lesson Objective ROT-4-06 #3
[3.4/3.9]

064000G005 ..(KA's)

ANSWER: 036 (1.00)

b.

REFERENCE:

CR3 ANO-81 section 4.2 page 46
Lesson Objective ROT-5-1 #9
[3.6/4.1]

002000G005 ..(KA's)

ANSWER: 037 (1.00)

b.

REFERENCE:

CR3 TS 3.4.6.1,
Lesson Objective ROT-5-1, #7
[3.6/4.1]

002000G005 ..(KA's)

ANSWER: 038 (1.00)

d.

REFERENCE:

CR3 NAO-96 Section 2.2.1 page 46
Lesson Objective NAO-96 #5
[3.4/3.5]

059000A307 ..(KA's)

ANSWER: 039 (1.00)

b.

REFERENCE:

CR3 ROT-4-25 Table 5 page 30
Lesson Objective ROT-4-25 #4
[4.0/4.3]

073000K401 ..(KA's)

ANSWER: 040 (1.00)

b.

REFERENCE:

CR3 Exam Bank Question 3.1
CR3 ROT-4-12 Section 1.3.2 page 15
Lesson Objective ROT-4-12 #7
[4.0/4.0]

012000A307 ..(KA's)

ANSWER: 041 (1.00)

d.

REFERENCE:

CR3 Exam Bank Question 3.14
CR3 ROT-4-12 section 1.2.1 page 4
Lesson Objective ROT-4-12 #4
[3.3/3.7]

012000K201 ..(KA's)

ANSWER: 042 (1.00)

d.

REFERENCE:

CR3 ROT-4-15 section 2.1 page 9 & 10
Lesson Objective ROT-4-15 #9
[2.8/3.1]

003000K303 ..(KA's)

ANSWER: 043 (1.00)

d.

REFERENCE:

CR3 ROT-4-28 section 1.2 page 1 & 2
Lesson Objective ROT-4-28 #8
[3.6/3.7]

001000K202 ..(KA's)

ANSWER: 044 (1.00)

d.

REFERENCE:

CR3 ROT-4-12 Figure 1 page 50
Lesson Objective ROT-4-12 #13
[3.2/3.3]

012000K406 ..(KA's)

ANSWER: 045 (1.00)

c.

REFERENCE:

CR3 ROT 4-9 SECTION 3.2.E.6 pg 20 & 21,
No lesson objective identified
[2.9/3.2]

063000K402 ..(KA's)

ANSWER: 046 (1.00)

b.

REFERENCE:

CR3 ROT-4-3 section 1.2.14 page 6
Lesson Objective ANO-111 #1
[2.5/3.3]

063000A101 ..(KA's)

ANSWER: 047 (1.00)

a.

REFERENCE:

CR3 ROT-4-13 Section 2.2.10.5 page 51
Lesson Objective ROT-4-13 #12
[4.5/4.7]

013000A403 ..(KA's)

ANSWER: 048 (1.00)

b.

REFERENCE:

CR3 ANO-76 section 2.2 page 23
Lesson Objective ANO-76 #9
[4.1/4.3]

022000A301 ..(KA's)

ANSWER: 049 (1.00)

c.

REFERENCE:

CR3 ANO-76 section 2.3 page 28
Lesson Objective ANO-76 #7
[3.2/3.5]

029000K403 ..(KA's)

ANSWER: 050 (1.00)

a.

REFERENCE:

CR3 Exam Bank ROT-G Exam #4 Question #2.21
CR3 ROT-4-6 Section 3.0 page 9
Lesson Objective ROT-4-6 #7
[3.6/3.9]

064000K303 ..(KA's)

ANSWER: 051 (1.00)

c.

REFERENCE:

CR3 Exam Bank Exam ROT-G #3 Question 2.12
CR3 ROT-4-9 section 2.0.L page 17 & 18
Lesson Objective ROT-4-9 #9
[3.9/4.1]

002000A104 ..(KA's)

ANSWER: 052 (1.00)

c.

REFERENCE:

CR3 Exam Bank Exam ROT-G #3 Question 2.26
CR3 ROT-4-15
Lesson Objective ROT-4-15 # 6, 9, 11, & 19
[3.2/3.3]

061000K201 ..(KA's)

ANSWER: 053 (1.00)

d.

REFERENCE:

CR3 Exam Bank Test ROT-G #3Question #2.18
CR3 ROT-4-1 Section 1.4.4 page 39
Lesson Objective ROT-4-1 #5
[3.6/3.6]

004000A302 ..(KA's)

ANSWER: 054 (1.00)

a.

REFERENCE:

CR3 Exam Bank Test ROT-G #3 Question 2.20
CR3 ROT-4-15 section 2.2.3.3 page 24
Lesson Objective ROT-4-15 #18
[3.8/3.9]

061000G009 ..(KA's)

ANSWER: 055 (1.00)

c.

REFERENCE:

CR3 Exam Bank Test ROT-G #3 Question 2.34
CR3 ROT-4-14 Section 1.5.1 page 8
Lesson Objective ROT-4-14 #2d
[2.6/3.0]

045000K408 ..(KA's)

ANSWER: 056 (1.00)

c.

REFERENCE:

CR3 Exam Bank Exam ROT-G #5 Question 2.21
CR3 ROT-4-13 Section 2.2.10.3 page 47
Lesson Objective ROT-4-13 #26
[4.3/4.4]

013000K404 ..(KA's)

ANSWER: 057 (1.00)

d.

REFERENCE:

CR3 Exam Bank Exam ROT-G #5 Question 3.4
CR3 ROT-4-22 Section 1.4.2 page 21
Lesson Objective ROT-4-22 #6 & 7
[2.6/2.9]

045000A305 ..(KA's)

ANSWER: 058 (1.00)

a.

REFERENCE:

CR3 Exam Bank Exam ROT-G #5 Question 3.18
CR3 ROT-4-22 Section 2.2.7 page 49
Lesson Objective ROT-4-22 #8
[2.6/2.8]

045000K413 ..(KA's)

ANSWER: 059 (1.00)

b.

REFERENCE:

CR3 ANO-86 Section 2.3.2 page 35
Lesson Objective CR3 ANO-86 #6
[3.2/3.5]

005000K407 ..(KA's)

ANSWER: 060 (1.00)

c.

REFERENCE:

CR3 ROT-4-13 section 1.2.4 page 16
Lesson Objective ROT-4-13 #6
[3.5/3.6]

005000K106 ..(KA's)

ANSWER: 061 (1.00)

b.

REFERENCE:

CR3 ROT-4-26 Section 2.2.1.b page 22
Lesson Objective ROT-4-26 #4
[2.6/3.3]

034000K403 ..(KA's)

ANSWER: 062 (1.00)

b.

REFERENCE:

CR3 ROT-4-26 Section 3.1 page 29
Lesson Objective ROT-4-26 #6
[2.9/3.7]

034000A102 ..(KA's)

ANSWER: 063 (1.00)

c.

REFERENCE:

CR3 EP-140 Section 2.0 page 1
Lesson Objective ROT-5-16 #1
[4.1/4.4]

000024K301 ..(KA's)

ANSWER: 064 (1.00)

d.

REFERENCE:

CR3 OP-403-B Section 4.4 page 12 and EP-140 Section 2.0 page 3
Lesson Objective ROT-5-16 #2
[3.9/3.9]

000024A117 ..(KA's)

ANSWER: 065 (1.00)

c.

REFERENCE:

CR3 AP-545 Section 2.0 page 3
Lesson Objective ROT-5-68 #2
[4.1/4.4]

000054A202 ..(KA's)

ANSWER: 066 (1.00)

b.

REFERENCE:

CR3 AP-380 Section 2.2 page 3
Lesson Objective ROT-5-63 #2
[4.2/4.2]

000009A116 ..(KA's)

ANSWER: 067 (1.00)

d.

REFERENCE:

CR3 ROT-5-63 Section 3.2 page 8
Lesson Objective ROT-5-63 #3
[4.1/4.2]

000011K314 ..(KA's)

ANSWER: 068 (1.00)

a.

REFERENCE:

CR3 ROT-5-63 Section 3.0 page 8
Lesson objective ROT-5-63 #3
[4.2/4.7]

000009K101 ..(KA's)

ANSWER: 069 (1.00)

d.

REFERENCE:

CR3 AP-1050 Section 1.0 & 2.0 Page 1 & 2
Lesson Objective ROT-5-83 #1
[3.9/4.1]

000051A202 ..(KA's)

ANSWER: 070 (1.00)

c.

REFERENCE:

CR3 Exam Bank Exam ROT-G #5 Question 2.31
CR3 ROT-3-4 Section 4.2 page 7
Lesson Objective ROT-3-4 #6
[3.9/4.3]

000011A211 ..(KA's)

ANSWER: 071 (1.00)

a.

REFERENCE:

CR3 AP-530 Table 3 page 10
No lesson objective identified
[4.4/4.5]

000015A121 ..(KA's)

ANSWER: 072 (1.00)

b.

REFERENCE:

CR3 OP-302 section 3.2.9 page 6
Lesson Objective ROT-5-76 #3
[3.4/3.5]

000015A208 ..(KA's)

ANSWER: 073 (1.00)

a.

REFERENCE:

CR3 AP-450 Note page 9
No lesson objective identified
[3.4/3.3]

000054G011 ..(KA's)

ANSWER: 074 (1.00)

c.

REFERENCE:

CR3 AP-450 step 3.9 pg 9
Lesson Objective ROT-5-64 TERMINAL OBJECTIVE
[4.0/4.3]

000054A206 ..(KA's)

ANSWER: 075 (1.00)

c.

REFERENCE:

EP-290 Section 1.0 page 1 & Steam Tables
Lesson Objective ROT-5-19 #1
[3.7/4.1]

000074K104 ..(KA's)

ANSWER: 076 (1.00)

c.

REFERENCE:

CR3 ROT-5-20 step 3.23 page 22
Lesson Objective ROT-5-20 #3
[4.4/4.5]

000038K302 ..(KA's)

ANSWER: 077 (1.00)

b.

REFERENCE:

CR3 EP-390 Caution page 19
Lesson Objective ROT-5-20 #3
[3.9/4.2]

000038K103 ..(KA's)

ANSWER: 078 (1.00)

d.

REFERENCE:

CR3 ROT-5-28 section 2.4 page 4
Lesson Objective #3
[3.7/4.0]

000007K103 ..(KA's)

ANSWER: 079 (1.00)

d.

REFERENCE:

CR3 ROT-3-3 Section 4.1 page 7
Lesson Objective ROT-3-3 #12
[3.7/3.8]

000040K106 ..(KA's)

ANSWER: 080 (1.00)

b.

REFERENCE:

CR3 ROT-4-16 Section 3.3.5.1 page 62
Lesson Objective ROT-4-16 Terminal Objective
[4.3/4.5]

000068A102 ..(KA's)

ANSWER: 081 (1.00)

a.

REFERENCE:

CR3 ROT-5-14 Section 4.2 page 14 & 15
Lesson Objective ROT-5-14 #10
[3.8/3.9]

000007G012 ..(KA's)

ANSWER: 082 (1.00)

b.

REFERENCE:

CR3 Exam Bank Question 34.0
CR3 ROT-5-1

000069G008 ..(KA's)

ANSWER: 083 (1.00)

b.

REFERENCE:

CR3 ANO-106 Section 7.0 page 17
Lesson Objective ANO-106 #6
[4.4/4.6]

000056A214 ..(KA's)

ANSWER: 084 (1.00)

c.

REFERENCE:

CR3 ROT-3-8 Section 2.2.E & 2.2.I page 23 & 27
Lesson Objective ROT-3-8 Terminal Objective
[4.1/4.7]

000074A207 ..(KA's)

ANSWER: 085 (1.00)

c.

REFERENCE:

CR3 AP-790 step 3.16 note page 11
No lesson objective identified
[3.8/41]

000055G006 ..(KA's)

ANSWER: 086 (1.00)

a.

REFERENCE:

CR3 ROT-5-80 step 3.4 page 6
Lesson Objective ROT-5-80 #3
[4.3/4.6]

000055K302 ..(KA's)

ANSWER: 087 (1.00)

b.

REFERENCE:

CR3 ROT-5-19 step 3.17 page 24
Lesson Objective ROT-5-19 #3
[4.6/4.8]

000074K102 ..(KA's)

ANSWER: 088 (1.00)

d.

REFERENCE:

CR3 AP-580 section 1.0 page 1
Lesson Objective ROT-5-28 #1
[4.1/4.3]

000007G011 ..(KA's)

ANSWER: 089 (1.00)

a.

REFERENCE:

CR3 ROT-3-8 Section 2.2.E page 24
No lesson objective identified
[4.2/4.6]

000009A236 ..(KA's)

ANSWER: 090 (1.00)

a.

REFERENCE:

CR3 Tech Spec 3.1.3.x, pp 3/4 1-18 through 3/4 1-37
Lesson Objective ROT 5-1 Terminal Objective
[3.1/3.6]

000005G003 ..(KA's)

ANSWER: 091 (1.00)

c.

REFERENCE:

CR3 EM-216 Section 3.3.2 page 3
No Lesson Objective Identified
[3.1/3.9]

000067K102 ..(KA's)

ANSWER: 092 (1.00)

b.

REFERENCE:

CR3 ROT-5-81 Section 3.6 page 10
No Lesson Objective Identified
[3.7/4.1]
000058A201 ..(KA's)

ANSWER: 093 (2.00)

a.
c.
e.
f. (4 @ 0.5 ea)

REFERENCE:

C.A.F. EM-201 NOT SUPPLIED BY FACILITY
CR3 EM-201 Section 4.1.1 pg 3
Lesson Objective ROT 5-35 #6
[3.8/3.8]

000060G010 ..(KA's)

ANSWER: 094 (1.00)

c.

REFERENCE:

CR3 OP-210 step 4.2.10 pg 12
Lesson Objective ROT-5-2 #5
[3.2/3.6]

000033A204 ..(KA's)

ANSWER: 095 (1.00)

c.

REFERENCE:

CR3 AP-470 Section 1.0 page 1
Lesson Objection ROT-5-84 #1
[3.4/3.6]

000065G011 ..(KA's)

ANSWER: 096 (1.00)

c.

REFERENCE:

Operation of a D/P cell
[2.6/2.7]

00J028K202 ..(KA's)

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

QUESTION	VALUE	REFERENCE
001	1.00	9000001
002	1.00	9000002
003	1.00	9000003
004	1.00	9000004
005	1.00	9000005
006	1.00	9000006
007	1.00	9000007
008	1.00	9000008
009	1.00	9000009
010	1.00	9000010
011	1.00	9000011
012	1.00	9000012
013	1.00	9000013
014	1.00	9000014
015	1.00	9000015
016	1.00	9000016
017	1.00	9000017
018	1.00	9000018
019	1.00	9000019
020	1.00	9000020
021	1.00	9000021
022	1.00	9000022
023	2.00	9000023
024	1.00	9000024
025	1.00	9000025
026	1.00	9000026
027	1.00	9000027
028	1.00	9000028
029	1.00	9000029
030	1.00	9000030
031	1.00	9000031
032	1.00	9000032
033	1.00	9000033
034	1.00	9000034
035	1.00	9000035
036	1.00	9000036
037	1.00	9000037
038	1.00	9000038
039	1.00	9000039
040	1.00	9000040
041	1.00	9000041
042	1.00	9000042
043	1.00	9000043
044	1.00	9000044
045	1.00	9000045
046	1.00	9000046
047	1.00	9000047
048	1.00	9000048
049	1.00	9000049
050	1.00	9000050
051	1.00	9000051
052	1.00	9000052
053	1.00	9000053
054	1.00	9000054

QUESTION	VALUE	REFERENCE
055	1.00	9000055
056	1.00	9000056
057	1.00	9000057
058	1.00	9000058
059	1.00	9000059
060	1.00	9000060
061	1.00	9000061
062	1.00	9000062
063	1.00	9000063
064	1.00	9000064
065	1.00	9000065
066	1.00	9000066
067	1.00	9000067
068	1.00	9000068
069	1.00	9000069
070	1.00	9000070
071	1.00	9000071
072	1.00	9000072
073	1.00	9000073
074	1.00	9000074
075	1.00	9000075
076	1.00	9000076
077	1.00	9000077
078	1.00	9000078
079	1.00	9000079
080	1.00	9000080
081	1.00	9000081
082	1.00	9000082
083	1.00	9000083
084	1.00	9000084
085	1.00	9000085
086	1.00	9000086
087	1.00	9000087
088	1.00	9000088
089	1.00	9000089
090	1.00	9000090
091	1.00	9000091
092	1.00	9000092
093	2.00	9000093
094	1.00	9000094
095	1.00	9000095
096	1.00	9000096
	98.00	
	98.00	

MASTER COPY

REACTOR OPERATOR
Page 1

ANSWER SHEET

Multiple Choice (Circle or X your choice)

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

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	_____
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	_____

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.

022 a b c d _____

023 match with selected number in the blank

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 _____

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.

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	_____
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	a	b	c	d	_____
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	_____
058	a	b	c	d	_____
059	a	b	c	d	_____
060	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.

061	a	b	c	d	_____
062	a	b	c	d	_____
063	a	b	c	d	_____
064	a	b	c	d	_____
065	a	b	c	d	_____
066	a	b	c	d	_____
067	a	b	c	d	_____
068	a	b	c	d	_____
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	_____

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.

061	a	b	c	d	_____
062	a	b	c	d	_____
063	a	b	c	d	_____
064	a	b	c	d	_____
065	a	b	c	d	_____
066	a	b	c	d	_____
067	a	b	c	d	_____
068	a	b	c	d	_____
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	_____

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.

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	_____
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 Fill in the blanks [ALL blanks may or may not be used]

1. _____	5. _____
2. _____	6. _____
3. _____	7. _____
4. _____	8. _____

094	a	b	c	d	_____
095	a	b	c	d	_____
096	a	b	c	d	_____

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

MASTER COPY

REACTOR OPERATOR
Page 1

A N S W E R K E Y

001	d
002	c
003	b
004	b
005	c
006	d
007	d
008	a
009	d
010	d
011	b
012	a
013	b
014	d
015	b
016	d
017	c
018	d
019	c
020	b
021	a
022	c

A N S W E R K E Y

023 match with selected number in the blank

a 3

b 5

c 2

d 4 [4 @ 0.5 ea]

024 b

025 b

026 c

027 a

028 c

029 c

030 b

031 b

032 a

033 c

034 c

035 c

036 b

037 b

038 d

039 b

040 b

041 d

042 d

A N S W E R K E Y

043	d
044	d
045	c
046	b
047	a
048	b
049	c
050	a
051	c
052	c
053	d
054	a
055	c
056	~~d~~ c,
057	d
058	a
059	b
060	c
061	b
062	b
063	c
064	d
065	c
066	b

A N S W E R K E Y

067	d
068	a
069	d
070	c
071	a
072	b
073	a
074	c
075	c
076	c
077	b
078	d
079	d
080	b
081	a
082	b
083	b
084	c
085	c
086	a
087	b
088	d
089	a
090	a

A N S W E R K E Y

091 c

092 b

093 Fill in the blank

1. - a

2. - c

3. - e

4. - f [4 @ 0.5 ea]

094 c

095 c

096 c

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

ENCLOSURE 3

SIMULATION FACILITY REPORT

Facility Licensee: Crystal River-3

Facility Docket No.: 50-302

Operating Tests Administered on: November 28-29, 1990

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of non-compliance with 10 CFR 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 simulator portion of the operating tests, the following items were observed: None.