

**U.S. Nuclear Regulatory Commission  
Site-Specific  
Written Examination**

**Applicant Information**

Name: MASTER	Region: III
Date: June 14, 2002	Facility/Unit: DRESDEN STATION / U2, U3
License Level: RO	Reactor Type: GE
Start Time:	Finish Time:

**Instructions**

Use the answer sheets provided to document your answers. Staple this cover sheet on top of the answer sheets. The passing grade requires a final grade of at least 80.00 percent. Examination papers will be collected five hours after the examination starts.

**Applicant Certification**

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

\_\_\_\_\_  
Applicant's Signature

**Results**

Examination Value	____100.0____ Points
Applicant's Score	_____ Points
Applicant's Grade	_____ Percent

## PART A - GENERAL GUIDELINES

1. **[Read Verbatim]** Cheating on any part of the examination will result in a denial of your application and/or action against your license.
2. If you have any questions concerning the administration of any part of the examination, do not hesitate asking them before starting that part of the test.
3. SRO applicants will be tested at the level of responsibility of the senior licensed shift position (i.e., shift supervisor, senior shift supervisor, or whatever the title of the position may be).
4. You must pass every part of the examination to receive a license.
5. The NRC examiner is not allowed to reveal the results of any part of the examination until they have been reviewed and approved by NRC management. Grades provided by the facility licensee are preliminary until approved by the NRC. You will be informed of the official examination results about 30 days after all the examinations are complete.

## PART B - WRITTEN EXAMINATION GUIDELINES

1. **[Read Verbatim]** After you complete the examination, sign the statement on the cover sheet indicating that the work is your own and you have not received nor given assistance in completing the examination.
2. To pass the examination, you must achieve a grade of 80.00 percent or greater; grades will not be rounded up to achieve a passing score. Every question is worth one point.
3. For an initial examination, the nominal time limit for completing the examination is six hours; extensions will be considered under extenuating circumstances.
4. You may bring pens, pencils, and calculators into the examination room. Dark pencil should be used to facilitate machine grading.
5. Print your name in the blank provided on the examination cover sheet and the answer sheet. You may be asked to provide the examiner with some form of positive identification.
6. Mark your answers on the answer sheet provided. Use only the answer sheets provided. If you decide to change your original answer, erase your selected answer completely and enter the desired answer. If the examiner is unable to determine which of the marks on your answer sheet is your selected answer because of poor erasure, the question will be marked incorrect and no credit will be given.

7. If you have any questions concerning the intent or the initial conditions of a question, do *not* hesitate asking them before answering the question. Ask questions of the NRC examiner or the designated facility instructor *only*. When answering a question, do *not* make assumptions regarding conditions that are not specified in the question unless they occur as a consequence of other conditions that are stated in the question. For example, you should not assume that any alarm has activated unless the question so states or the alarm is expected to activate as a result of the conditions that are stated in the question. Finally, answer all questions based on actual plant operation, procedures, and references. If you believe that the answer would be different based on simulator operation or training references, you should answer the question based on the *actual plant*.
8. Restroom trips are permitted, but only one applicant at a time will be allowed to use the restroom.
9. When you complete the examination, assemble a package including the examination cover sheet you have to sign and the answer sheets. Give it to the NRC examiner or proctor. Remember to sign the statement on the examination cover sheet indicating that the work is your own and that you have neither given nor received assistance in completing the examination. Your examination will be turned over to the station's training department for review/retention/destruction.
10. After you have turned in your examination, leave the examination area as defined by the proctor or NRC examiner. If you are found in this area while the examination is still in progress, your license may be denied.
11. Do you have any questions?

## QUESTION: 001 (1.00)

The following events occurred in sequence from rated conditions on Unit 2:

- 125 VDC control power to Bus 22 was lost.
- A full reactor scram signal was received.
- Control rods were inserted by actuation of ARI

Which ONE of the following describes the expected response to the ARI initiation?

The ARI valves in:

- a. division 1 energized.
- b. division 2 energized.
- c. both divisions energized.
- d. both divisions DE-energized.

## QUESTION: 002 (1.00)

After taking the shift, it is noticed that the Rod Worth Minimizer for control rod F-6 is displaying a rod position of 28 in GREEN. This indicates that the rod...

- a. has an insert error.
- b. is in an unknown position.
- c. is in the current latched step.
- d. has an alternate limit assigned.

## QUESTION: 003 (1.00)

Unit 2 is operating at rated conditions when the following events occur:

- The disc inside 2-3713 B-500 (2A RECIRC PMP OUTER SEAL CLR RBCCW INLET VLV) separates from the stem.
- Alarm "2A RECIRC PP SEAL CLG WTR FLOW LO" comes in.
- All other RBCCW parameters are normal.

If no operator actions are taken the...

- a. 2A Recirc pump seals and bearings could be damaged within one minute.
- b. TCVs on the RBCCW system will open to lower the RBCCW temperature.
- c. 2A Recirc pump seals will operate normally as long as CRD flow is maintained.
- d. RWCU system could isolate since cooling is lost to the non-regenerative heat exchanger.

## QUESTION: 004 (1.00)

The recirculating pumps are operating in the Master Manual mode at 75% speed when the Speed Controller for the 3A pump saturates high. Because of this, the 3A...

- a. pump increases to 85% speed and stops.
- b. pump increases to the high speed electrical stop.
- c. pump increases to the high speed mechanical stop.
- d. scoop tube will lock out due to a failed control signal.

## QUESTION: 005 (1.00)

The amount of oil inside the impeller casing of the MG Set fluid coupler is at a \_\_\_\_\_ quantity when the reactor is at maximum thermal power.

- a. Maximum
- b. Minimum
- c. slightly below average
- d. slightly above average

## QUESTION: 006 (1.00)

The following conditions exist on Unit 2:

- Unit 2 is shutdown.
- Reactor coolant temperature is 200°F.
- The Shutdown Cooling system is in service.
- Alternate Decay Heat Removal is NOT being used.

How is the cooldown rate maintained?

- a. Throttling the RBCCW outlet from the heat exchanger with the SDC pump suction valve throttled.
- b. Throttling the SDC pump suction valve with the RBCCW outlet valve from the heat exchange open to the max position.
- c. Throttling the SDC pump discharge valve with the RBCCW outlet valve from the heat exchanger open to the max position.
- d. Throttling the RBCCW outlet from the SDC heat exchanger with the SDC pump discharge valve open to the max position.

## QUESTION: 007 (1.00)

Which of the following is the LOWEST reactor water level that the Shutdown Cooling system will normally operate at on Unit 3?

- a. +9 inches
- b. +2 inches
- c. 0 inches
- d. -8 inches

## QUESTION: 008 (1.00)

A scram occurred on Unit 2 and the following conditions exist:

- Feedwater is NOT available.
- Reactor level: -10" and dropping slowly.
- HPCI running in the pressure control mode.
- HPCI discharge pressure: 1100 psig constant.
- Reactor pressure: 850 psig and rising slowly.
- The Isolation Condenser is isolated due to a tube leak.

Shortly after the Unit Supervisor directs the NSO to raise level with HPCI, the following occurs:

- HPCI flow increased rapidly.
- Reactor level quickly rose to +55".
- Annunciator 902-3 A9, HPCI TURB TRIPPED, alarmed.

Which of the following describes the cause of these conditions?

- a. The NSO throttled open the 2-2301-10 (test return valve) prior to injecting with HPCI.
- b. The HPCI Flow Controller output failed low (zero output) while HPCI was injecting into the vessel.
- c. The MSC failed to the HSS. Turbine speed increased rapidly resulting in increased flow to the reactor.
- d. The NSO failed to reduce HPCI discharge pressure to below reactor pressure prior to opening the 2-2301-8 (HPCI injection) valve.

QUESTION: 009 (1.00)

Given the following conditions;

- The plant is on line at 80% power
- A HPCI operability surveillance was in progress.
- HPCI was pumping 5200 gpm to the CST through the test line.
- The NSO shut the 2301-6 valve, HPCI CST suction valve
- Annunciator 902-3 A-11, "HPCI BOOST PP SUCT PRESS LO" has just alarmed.

Which of the following describes the response of the HPCI system?

- a. The HPCI turbine will trip on low booster pump suction pressure.
- b. The Flow Controller will decrease turbine speed until flow is zero.
- c. HPCI will continue to operate but pump flow will eventually drop to zero.
- d. The Flow Controller will increase turbine speed until it trips on overspeed.

QUESTION: 010 (1.00)

Unit 3 is at rated conditions when the following occurs:

- Loss of all high pressure feed.
- Isolation Condenser is being used for pressure control.
- Reactor water level is -65 inches and steady.

A tube leak then develops in the Isolation condenser.

This would result in....

- a. Reactor water level lowering.
- b. A potential Group 4 isolation.
- c. Isolation Condenser shell side level lowering.
- d. Increased makeup flow to the Isolation Condenser.



QUESTION: 011 (1.00)

The following conditions exist:

- A complete loss of offsite power to BOTH units
- A DBA LOCA on Unit 3

With NO operator action, what is the power supply to the 3A Core Spray pump?

- a. U2 EDG
- b. U3 EDG
- c. U2/3 EDG
- d. U2 SBO DG

QUESTION: 012 (1.00)

While at rated conditions the following events occur:

- 01:28, 2A-2 is lost due to a switching error.
- 01:30, 2B-1 is lost due to an electrical fire.
- 01:44, DBA LOCA occurs on Unit 2.

Which of the following will occur?

- a. U-2 EDG starts
- b. U-2/3 EDG starts
- c. CAM System B starts
- d. SBO Feed at Bus 24 trips

## QUESTION: 013 (1.00)

Which of the following power supplies provide power to the 2A Standby Liquid Control System squib valve?

- a. Instrument Bus
- b. ESS Bus
- c. MCC 28-1
- d. MCC 29-1

## QUESTION: 014 (1.00)

A control rod is being fully withdrawn.

Which of the following is indication of an UNCOUPLED control rod on the full core display?

- a. Red position 48 lights illuminated
- b. Rod position indication goes blank
- c. Green position 48 lights turn amber
- d. Amber position 48 lights turn green

## QUESTION: 015 (1.00)

With the plant operating at 50% power, the supply breaker from MCC 28-2 to its associated RPS MG set inadvertently trips.

Which ONE of the following describes the response of the RPS system?

- a. The RPS channel will automatically transfer to the alternate supply.
- b. A half scram will occur on RPS B logic channel as a result of the breaker trip.
- c. A half scram will occur on RPS A logic channel as a result of the breaker trip.
- d. The RPS MG flywheel will keep the bus voltage up until the power supply is manually transferred to the reserve power.

## QUESTION: 016 (1.00)

Automatic TIP traces are in progress on Unit 2 when a transient occurs resulting in the following conditions:

- RPV water level is +5 inches and rising.
- Drywell pressure is 1.5 psig and steady.

Concerning the TIP system you would verify...

- a. the shear valve fires, isolating the TIP tube.
- b. TIP withdrawal to In-Shield position and Ball valve closure.
- c. the Group II Isolation status light on the TIP drawer is illuminated.
- d. the Shear AND Squib Valve Monitor lights are illuminated after 5 minutes.

## QUESTION: 017 (1.00)

Given the following conditions:

- Rod H-8 is selected.
- Reactor power is 40%.
- APRM Channel 3 fails "Downscale".
- APRM Channel 3 has NOT been bypassed.

Due to this, the Rod Block Monitor (RBM) Channel 7...

- a. is NOT affected.
- b. is automatically bypassed.
- c. generates a rod withdrawal block.
- d. shifts to the alternate reference APRM.

## QUESTION: 018 (1.00)

The SRM "DRIVE IN" push button needs to be \_\_\_\_ (1) \_\_\_\_ in order to drive the SRM detectors in to the core. The SRM "DRIVE OUT" push button needs to be \_\_\_\_ (2) \_\_\_\_ in order to drive the SRM detectors out of the core.

1

2

- |    |                       |                       |
|----|-----------------------|-----------------------|
| a. | continually held      | continually held      |
| b. | continually held      | momentarily depressed |
| c. | momentarily depressed | continually held      |
| d. | momentarily depressed | momentarily depressed |

## QUESTION: 019 (1.00)

During a normal unit shutdown, while preparing to shift the Rx mode switch out of RUN, the following conditions exist:

- APRM 1 = 2%
- APRM 2 = 4%
- APRM 3 = 2%
- APRM 4 = 4%
- APRM 5 = 4%
- APRM 6 = 2%
- Rx Pressure = 922 psig
- A "whisker" on IRM channel 17 detector causes indication to go to full UPSCALE.

This will cause a...

- a. reactor scram.
- b. rod block only.
- c. rod block and 1/2 scram on RPS channel A only.
- d. rod block and 1/2 scram on RPS channel B only.

## QUESTION: 020 (1.00)

At least \_\_\_\_ (1) \_\_\_\_ LPRM's on channels 1, 2, 3 and \_\_\_\_ (2) \_\_\_\_ on channels 4, 5, 6 of the LPRM's assigned to one APRM must be operable or an INOP trip occurs. 1 2

- a. 20 21
- b. 21 20
- c. 10 11
- d. 11 10

## QUESTION: 021 (1.00)

Given the following conditions:

- Unit 2 is at 80% reactor power when smoke begins billowing from the control room ventilation ducts.
- The Unit Supervisor directs a control room evacuation.
- Both Unit NSOs take all preparatory actions per DSSP 100-CR "Control Room Evacuation".
- As the Unit 2 NSO is leaving the control room, he notices RPV water level on the wide range indicator reading -68 inches.

In order to continue monitoring RPV water level based on his last observation, the Unit 2 NSO should report to the:

- a. 5 or 6 racks in the Reactor Building.
- b. 7 or 8 racks in the Reactor Building.
- c. ATWS cabinets 2202-70A/B in the AEER.
- d. Analog Trip System racks 2202-73A/B in turbine building.

## QUESTION: 022 (1.00)

Unit 2 is at rated conditions when the following occurs:

- Indications on Wide Range level indicator (263-113) on the 902-4 panel are lost.
- Indications on Wide Range digital level indicator (263-112) on the 902-5 panel are lost.

These symptoms indicate a loss of...

- a. Instrument Bus.
- b. Essential Service Bus.
- c. 125 VDC panel 2B-1.
- d. 125 VDC RBX Distribution panel.

QUESTION: 023 (1.00)

At 10:44 the following conditions exist on Unit 2:

- A steam line break occurred in the drywell
- The MSIVs are closed.
- HPCI is operating and injecting into the vessel.
- Reactor water level is -45" and trending down at two inches per minute.
- Reactor pressure is 900 psig and steady.
- Drywell pressure is 1.5 psig and trending up at 0.2 psig per minute.

At 10:47 the following 902-3 panel annunciators alarm:

- "ADS PERMISSIVE DW PRESS HI" (E-15)
- "ADS TIMER START" (B-13)
- "LPCI/CS PP AT PRESS" (H-13)
- "ADS INHIBIT" (G-11)

What is the state the reactor at 10:54?

- a. Reactor water level is still trending down.
- b. HPCI is now maintaining level in the vessel.
- c. All five relief valves are open as required by ADS actuation.
- d. LPCI AND Core Spray pumps are running and injecting water into the vessel.

## QUESTION: 024 (1.00)

The Reactor is operating at 70% power when a LOCA condition develops in the Drywell. The following is a timeline of ADS associated events:

- 17:15:00, Division I, High Drywell Pressure
- 17:15:30, Division I, Low Low Reactor Water Level
- 17:15:35, Division II, ECCS Discharge Permissive
- 17:15:55, Division II, Low Low Reactor Water Level
- 17:16:01, Division I, ECCS Discharge Permissive

At what time will the FIRST 120 second Automatic Depressurization time delay time-out?

- a. 17:17:30
- b. 17:17:35
- c. 17:17:55
- d. 17:18:01

## QUESTION: 025 (1.00)

During torus cooling, after LPCI pump flow has stabilized, the LPCI / CCSW Heat Exchanger should have...

- a. 3500 gpm of LPCI flow for each LPCI pump.
- b. 5000 gpm of CCSW flow for each CCSW pump.
- c. a differential pressure of 20 psid with LPCI system pressure greater than CCSW pressure.
- d. a differential pressure of 20 psid with CCSW pressure greater than LPCI system pressure.



## QUESTION: 026 (1.00)

Unit 2 was at power with the Unit 2 Isolation Condenser OOS, when a transient occurred. The following conditions exist:

- Bus 24 was damaged by a fire and has been taken out of service.
- All rods are inserted.
- MSIVs are closed to conserve inventory.
- RPV level has remained at +10 inches.
- HPCI is being used for reactor pressure control.

The \_\_\_\_\_(1)\_\_\_\_\_ CCSW pumps can be started and Torus cooling can be performed by \_\_\_\_\_(2)\_\_\_\_\_.

1 2

- a. 2A and 2B each CCSW pump supplying a different LPCI/CCSW HX
- b. 2A and 2B both CCSW pumps supplying one LPCI/CCSW HX and utilizing the cross-tie line
- c. 2C and 2D each CCSW pump supplying a different LPCI/CCSW HX
- d. 2C and 2D both CCSW pumps supplying one LPCI/CCSW HX and utilizing the cross-tie line

## QUESTION: 027 (1.00)

Unit 3 is at rated conditions with the following:

- Drywell pressure is 1.0 psig.
- Torus pressure is 1.5 psig.
- Reactor Building pressure is -0.25 inches of water (0 psig).

Which of the following would the operator observe?

- a. NO Vacuum Breakers open.
- b. Torus to Drywell Vacuum Breakers open.
- c. Torus to Reactor Building Vacuum Breakers open.
- d. Drywell to Reactor Building Vacuum Breakers open.

## QUESTION: 028 (1.00)

Given the following information:

- A Loss of Coolant Accident (LOCA) has occurred inside the drywell.
- The break has also caused a rupture in the RBCCW supply line resulting in a loss of RBCCW flow and pressure.

The drywell atmosphere is prevented from entering the Reactor Building through the RBCCW system by....

- a. the RBCCW expansion tank.
- b. check valves in the RBCCW piping.
- c. manually isolating the RBCCW system at the 923-1 panel.
- d. an automatic isolation by the Primary Containment Isolation System.

## QUESTION: 029 (1.00)

A station blackout has occurred with the following events on Unit 2:

- The 2/3 Diesel Generator auto started and loaded.
- The U2 Diesel Generator could NOT be started.
- The SBO Diesel Generators have NOT been started yet.

At this time, the LPCI pumps available for containment spray are....

- a. LPCI Pumps 2A and 2B.
- b. LPCI Pumps 2A and 2C.
- c. LPCI Pumps 2B and 2D.
- d. LPCI Pumps 2C and 2D.

QUESTION: 030 (1.00)

The reason the LPCI pump discharge piping has a keep fill system is to...

- a. provide an indication of the LPCI pump integrity.
- b. minimize corrosion in the Torus and Drywell spray lines.
- c. prevent the LPCI/CCSW heat exchanger from becoming air bound.
- d. minimize the effects of water hammer on the system and pipe hangers.

QUESTION: 031 (1.00)

One hour ago a small LOCA developed on Unit 2 and the following conditions exist:

- RPV level is 30 inches and stable.
- Drywell pressure is 2.5 psig and steady.
- Drywell temperature is 210°F and trending down slowly.
- LPCI is being used for Torus cooling and spray.
- Torus level is 14 feet and rising slowly.

Subsequently:

- Discharge pressure and flow on the LPCI pumps started fluctuating
- The following annunciators alarm:
  - "2A LPCI HDR FLOW LOW"
  - "2B LPCI HDR FLOW LOW"

This indicates that.....

- a. The ECCS keepfill pump has tripped.
- b. The LPCI pump suction have auto swapped over to the CST.
- c. The ECCS ring header suction strainers have become clogged.
- d. The EDGs have started and are now supplying power to the LPCI pumps.

QUESTION: 032 (1.00)

Fuel movements are being performed in the Unit 2 core. The Unit 2 NSO and Fuel Handlers cannot agree as to which move is to be performed next.

According to Unit 2 Master Refueling Procedure, DFP 800-1, which ONE of the following personnel is to be contacted?

- a. Unit 3 NSO
- b. Fuel Handling Foreman
- c. Nuclear Materials Custodian
- d. Control Room Nuclear Observer

QUESTION: 033 (1.00)

Unit 3 is at rated conditions when the following occur:

Instrument Air header pressure rapidly goes to 0 psig.

This would result in..

- a. the FRVs failing closed.
- b. the inboard MSIVs starting to close.
- c. the outboard MSIVs starting to close.
- d. the FRVs immediately locking up in their current position.

## QUESTION: 034 (1.00)

Unit 2 is at rated condition when a failure of the EHC system causes a transient to occur.

As a result of the transient:

- RPV level dropped to 27 inches and is now rising.
- RPV pressure stabilized at 1070 psig.

With these indications the operating team should enter....

- a. DEOP 100-1, RPV Control, due to RPV level.
- b. DEOP 100-1, RPV Control, due to RPV pressure.
- c. DOA 600-1, Transient Level Control, due to RPV level.
- d. DOA 5650-03, Turbine Control Valve or Bypass Valve Failed Open, due to reactor pressure.

## QUESTION: 035 (1.00)

Given the following conditions on Unit 3:

- Reactor Power is 35%
- The Main Turbine/Main Generator is on line.

A fault occurs that causes the Main Generator field breaker to open.

Which of the following occur?

- a. A load reject scram occurs.
- b. Reactor pressure goes down.
- c. Reactor scrams on high pressure.
- d. The bypass valves control reactor pressure.

QUESTION: 036 (1.00)

Both Units are operating at rated conditions with the following pumps running:

- 2A TBCCW
- 3A TBCCW

The following then occurs:

- Annunciator "U2 or U3 TBCCW PRESS LOW" alarms.
- U2 TBCCW DISCH HDR PRESS indicates 0 psig.

What is the impact and how is the situation controlled?

	IMPACT	HOW CONTROLLED
a.	Cooling is lost to the Condensate Pump seal coolers.	Start the 2B TBCCW pump only.
b.	Cooling is lost the Condensate Pump seal coolers.	Start the 2B OR the 3B TBCCW pump.
c.	Cooling is lost to the MG Set oil coolers.	Start the 2B TBCCW pump only.
d.	Cooling is lost to the MG Set oil coolers.	Start the 2B OR the 3B TBCCW pump.

## QUESTION: 037 (1.00)

Unit 2 is operating at rated power when multiple Feed Regulating Station high vibration alarms are received and feedwater flow oscillations are observed.

The operator is to maintain feedwater flow for \_\_\_\_ (1) \_\_\_\_ seconds, OR until reactor level is restored to above \_\_\_\_ (2) \_\_\_\_ inches. 1 2

- a. 15 +15
- b. 15 +20
- c. 60 +15
- d. 60 +20

## QUESTION: 038 (1.00)

While operating at rated conditions, which of the following signals will cause the Unit 2 FWLC system to transfer from 3-Element to 1- Element control, AND what action should the operator take? SIGNAL ACTION

- a. 2A Feed Flow instrument fails "BAD QUALITY" Take manual control of the FRVs
- b. 2A Steam Flow instrument fails "BAD QUALITY" Depress the "1-ELEM" pushbutton
- c. "A" NR level instrument fails to "BAD QUALITY". Take manual control of the FRVs
- d. "A" NR level instrument fails to "BAD QUALITY". Depress the "1-ELEM" pushbutton

QUESTION: 039 (1.00)

The following indications are present for the FWLC system.

- "1-ELEM" is white
- "AUTO" is amber
- "3-ELEM" is flashing amber

These are an indication that the operator selected....

- a. 3 Element control and the system is still operating in 3 Element control.
- b. 3 Element control and the system automatically switched to 1 Element control.
- c. 1 Element control and the system is still operating in 1 Element control.
- d. 1 Element control and the system automatically switched to 3 Element control.



QUESTION: 040 (1.00)

The following condition exist on Unit 2:

- 2/3A SBGT is running due to an auto initiation.
- 2/3B SBGT is in STBY

Then the following occurs:

- "STBY GAS TRT SYS A TROUBLE" annunciator alarms.
- The 2/3A AIR HEATERS indicate OFF.

What is the potential problem and what action should the operator take to correct the problem?

	Problem	Action
a.	Moisture could enter the charcoal, which decreases the charcoal filtration efficiency.	Verify the 2/3B SBGT starts
b.	The charcoal is NOT warm enough to adsorb the radioactive iodine.	Verify the 2/3B SBGT starts
c.	Moisture could enter the charcoal, which decreases the charcoal filtration efficiency.	Reenergize the heaters on the 2/3A SBGT
d.	The charcoal is NOT warm enough to adsorb the radioactive iodine.	Reenergize the heaters on the 2/3A SBGT

QUESTION: 041 (1.00)

The following plant conditions exist:

- Unit 2 is at 820 MWe.
- Unit 3 is off-loading fuel after 550 days of operation.
- 2/3A SBGT selector switch is in PRI
- 2/3B SBGT selector switch is in STBY

The following then occurs:

- Reactor Building Ventilation Exhaust Duct trends up to 7 mrem/hr.

Which of the following describes the system response and the actions required if this does NOT occur? SYSTEM RESPONSE ACTION REQUIRED

- a. 2/3A SBGT starts and 2/3B SBGT starts if the 2/3A SBGT fails to start. Immediately suspend all irradiated fuel moves.
- b. 2/3A SBGT starts and 2/3B SBGT starts if the 2/3A SBGT fails to start. Restart Reactor Building ventilation.
- c. 2/3B SBGT starts and 2/3A SBGT starts if the 2/3B SBGT fails to start. Immediately suspend all irradiated fuel moves.
- d. 2/3B SBGT starts and 2/3A SBGT starts if the 2/3B SBGT fails to start. Restart Reactor Building ventilation.

## QUESTION: 042 (1.00)

Given the following conditions:

- "BUS 24 OVERCURRENT" annunciator alarms and the plant responds as expected.
- The Unit 2 Diesel Generator fails to start.

What is the affect, if any, on the LPCI injection valves (1501-21A/B and 22A/B) during this event?

- a. remain unaffected.
- b. lose valve power for 20 seconds.
- c. the valves will open until power is restored.
- d. lose valve power indefinitely until restored manually.

## QUESTION: 043 (1.00)

The Unit 2 Reserve Aux Transformer NORMALLY receives power from...

- a. TR-81 through the 138kV switchyard.
- b. TR-83 through the 138kV switchyard.
- c. TR-81 through the 345kV switchyard.
- d. TR-83 through the 345kV switchyard.

## QUESTION: 044 (1.00)

Unit 2 just completed a refueling outage.

- Start up is in progress.
- The Mechanical Vacuum pump is in operation.
- "A" Main Steam Line radiation monitor has failed upscale.

Then the following occurs:

- "ESS UPS TROUBLE" annunciator alarm.
- "ESS UPS ON DC OR ALTERNATE AC" annunciator alarm.
- "120/240V ESS BUS VOLT LO" annunciator alarm.
- The NLO reports from the AEER that the ESS Bus voltage is zero.

As a result of this the....

- a. mechanical vacuum pump trips.
- b. refuel floor rad monitors fail downscale.
- c. 24/48 VDC system battery chargers lose power.
- d. Reactor Feed Pump minimum flow valve fails closed.

## QUESTION: 045 (1.00)

The NSO is performing a EDG surveillance:

To prevent a reverse power trip of the output breaker, after closing the output breaker the NSO must \_\_\_\_\_(1)\_\_\_\_\_ load using the \_\_\_\_\_(2) \_\_\_\_\_ control switch in accordance with DOS 6600-01, Diesel Generator Surveillance Tests.

- |    | 1     | 2           |
|----|-------|-------------|
| a. | raise | GOVERNOR    |
| b. | raise | VOLTAGE REG |
| c. | lower | GOVERNOR    |
| d. | lower | VOLTAGE REG |

## QUESTION: 046 (1.00)

Given the following:

- A Loss of Coolant Accident has occurred on Unit 2 resulting in drywell pressure of 11 psig.
- Unit 2 Emergency Diesel Generator is supplying power to the emergency bus.
- A large leak develops in the Unit 2 DG Cooling Water System.

With NO operator action, which statement below describes the response of the Unit 2 EDG to this condition?

- a. Unit 2 EDG continues to run to destruction.
- b. Unit 2 EDG trips when cooling water temperature reaches 200(F.
- c. Unit 2 EDG trips when cooling water pressure drops below 35 psig.
- d. When cooling water pressure drops to 35 psig, the Unit 2 EDG will continue to run for 6 minutes and then shutdown.

## QUESTION: 047 (1.00)

The Off Gas Charcoal adsorbers are required to be in service above 30% reactor power to allow for...

- a. monitoring using the Flux Tilt Monitor.
- b. the recombination of hydrogen and oxygen.
- c. proper mixing prior to discharge out the chimney.
- d. the decay of gaseous radioactive nuclides to particulate.

QUESTION: 048 (1.00)

Unit 3 is at rated conditions when the following occur:

- A small LOCA develops inside the drywell
- Drywell pressure is 1.5 psig and rising slowly

What will be the impact as drywell pressure continues to rise and what actions are necessary?

IMPACT ACTION

- a. Reactor Building ventilation isolates Restart Reactor Building ventilation
- b. Reactor Building ventilation isolates Verify SBGT system operating
- c. Turbine Building ventilation isolates Restart Turbine Building ventilation
- d. Turbine Building ventilation isolates Verify SBGT system operating

QUESTION: 049 (1.00)

Unit 3 is at rated conditions.

Which ONE of the following would require LCO action?

- a. Reactor Steam Dome Pressure is 900 psig.
- b. Secondary Containment at -0.1 inches H<sub>2</sub>O.
- c. Reactor Coolant System identified leakage is 2 gpm.
- d. One of the Turbine Building to Reactor Building Interlock Doors is closed but unable to be opened.

QUESTION: 050 (1.00)

Given the following information regarding the Control Room Ventilation system:

- Train "A" Air Handling Unit control switch has a RED-TARGET.
- Train "B" Air Handling Unit is operating.
- Air Filtration Unit is secured.
- The Train "B" Air Handling Unit Isolation Dampers (XCV-2/3-5741-059 A and B) are OPEN
- All other dampers are CLOSED.

The Control Room Ventilation system is in the \_\_\_\_\_ mode.

- a. smoke purge
- b. normal operating
- c. emergency operating
- d. isolation/recirculation

QUESTION: 051 (1.00)

A reactor cooldown is in progress on Unit 2 using the BYPASS VALVE-OPENING JACK.

The circulating water pumps trip.

What will occur?

- a. The MSIV's will isolate on low pressure.
- b. The rupture disk on the LP turbine will blow out.
- c. The bypass valves will close on low main condenser vacuum.
- d. Turbine exhaust hood spray will initiate on high backpressure.

QUESTION: 052 (1.00)

Unit 2 is at 40% power when the following alarms annunciate:

- 4KV MAIN FEED BKR TRIP
- 4KV BUS 23-1/24-1 VOLT LO
- 4KV BUS 24-1 VOLTAGE DEGRADED

Upon investigation, you notice:

- the Main Feed Breaker for Bus 24-1 is tripped.
- Bus 24-1 is de-energized.
- Unit 2 Emergency Diesel Generator is NOT running.

What actions, if any, are required?

- a. Be in cold shutdown condition within 7 days.
- b. Attempt to manually start the U2 Diesel Generator from the 902-8 panel.
- c. Leave Bus 24-1 de-energized while the Maintenance Department repairs the Diesel Generator.
- d. No action required since no ECCS signal is present (the Diesel Generator is NOT supposed to auto start)



QUESTION: 053 (1.00)

Given the following:

- Unit 2 is at 40% power.
- The electric plant is in a normal line up.
- The Unit 3 EDG is OOS for repairs to the governor.

A fault develops on Bus 23 causing it to de-energize.

As a result of this...

- a. Bus 25 will be picked up by Bus 27.
- b. Bus 26 or 27 will be picked up by Bus 25.
- c. Bus 28 will stay tied to Bus 23-1 and be energized when the EDG starts and closes on Bus 23-1.
- d. Bus 28 will be load shed from Bus 23-1 and will have to be reclosed on Bus 23-1 after the EDG starts and closes on Bus 23-1.

## QUESTION: 054 (1.00)

During performance of DOP 6900-06 125 VDC GROUND DETECTION - UNIT 2, the following ground detection meter indications are observed:

- the meter reads +40 volts with no buttons pushed
- the negative button is pushed and the meter goes to -60 volts
- the positive button is pushed and the meter goes to +100 volts

The NLO then opens the U2 125 VDC TURB. BLDG. RESERVE BUS 2B-2 breaker on RESERVE BUS 2B. There is a known ground of +10 volts on RESERVE BUS 2B-2.

How will Unit 2 ground detection indication respond and what is the reason for the response?

- a. All Unit 2 ground detection is lost because of the opened breaker.
- b. Unit 2 grounds stay the same because the deenergized bus is powered from Unit 3.
- c. The Unit 2 ground detector goes to +30 with no buttons pushed because of the known ground.
- d. The Unit 2 ground detector goes to +50 with no buttons pushed because of the known ground.

QUESTION: 055 (1.00)

A manual scram occurred on Unit 2 and the following conditions are noted:

- The Main Turbine Stop Valves, Control Valves and Intercept Valves are closed.
- MWe on the 902-5 panel indicates -18 MWe
- There are no alarms up on the 923-2 panel

Two minutes later conditions are the same.

Based on these conditions the NSO will...

- a. start the Emergency Bearing Oil Pump.
- b. open the Main Generator OCB's.
- c. open the Turbine Vacuum Breaker.
- d. depress the Main Turbine trip pushbutton.

QUESTION: 056 (1.00)

The fuel is protected from damage during a Main Turbine Generator trip by maintaining...

- a. MCPR greater than one.
- b. MCPR less than one.
- c. MAPLHGR greater than one.
- d. MAPLHGR less than one.

QUESTION: 057 (1.00)

Unit 3 is shutdown with the following conditions:

- No recirc pumps are running.
- Drywell temperature is 115°F.
- RPV pressure is 0 psig
- SDC pumps are secured.

Which of the following is the lowest usable level indication available at the 903-5 panel to the NSO?

- a. -39 inches
- b. -51 inches
- c. -60 inches
- d. -295 inches

QUESTION: 058 (1.00)

The feed pumps trip on high reactor level to prevent....

- a. jet pump damage due to steam carryunder.
- b. HPCI turbine damage due to moisture carryover.
- c. feed pump damage due to cavitation and/or runout.
- d. main turbine damage due to moisture carryover.

QUESTION: 059 (1.00)

Unit 2 is at rated conditions with the 902-36 back-panel recorder TIRS 2-1640-200A, TORUS TEMP MON DIV I OOS due to a failed power supply and all appropriate Technical Specifications have been entered.

TIRS 2-1640-200B currently indicates the following:

Point 1	112°F	Point 5	85°F
Point 2	95°F	Point 6	85°F
Point 3	90°F	Point 7	87°F
Point 4	85°F	Point 8	90°F

What actions (if any) are required based on the current readings?

- a. No actions are required at this time.
- b. Immediately place the Mode Switch in Shutdown.
- c. Enter DEOP 200-1 because two readings satisfy the entry requirement.
- d. Enter DEOP 200-1 because the average readings satisfy the entry requirement

QUESTION: 060 (1.00)

A startup is in progress on Unit 3 with the following conditions:

- Reactor pressure is 170 psig.
- One bypass valve is full open.
- Control rods are being withdrawn to achieve two bypass valves open.
- IRMs are between 30 and 70 on range 8

Which of the following would be expected to occur if all bypass valves were to fail closed with no operator action?

- a. The reactor would scram due to high flux.
- b. The reactor would scram due to high pressure.
- c. Reactor power would increase and stabilize due to the change in void fraction.
- d. Reactor power would decrease and stabilize due to the change in void fraction.

## QUESTION: 061 (1.00)

The basis for the RBM rod block function is to prevent exceeding the:

- a. MCPR Limit during a single rod withdrawal error.
- b. MCPR Limit during multiple rod withdrawal errors.
- c. LHGR Limit for a fuel node during a single rod withdrawal error.
- d. LHGR Limit for a fuel node during multiple rod withdrawal errors.

## QUESTION: 062 (1.00)

An automatic scram occurred on Unit 3

Control rods did not fully insert and reactor power decreased to 10%

Containment parameters will require an emergency depressurization within fifteen minutes if trends are not changed.

Opening the bypass valves now to rapidly reduce reactor pressure should....

- a. be performed to allow for the reduction of reactor power.
- b. be performed to anticipate an emergency depressurization.
- c. NOT be performed since the pressure reduction will add significant positive reactivity.
- d. NOT be performed since the pressure reduction will result in removal of boron from the RPV.

QUESTION: 063 (1.00)

DSSP 0100-CR "Control Room Evacuation" is in progress.

How is the Bus 29-28 Tie breaker closed?

- a. Depress the manual close pushbutton on the front of the breaker.
- b. Plug in the local pushbutton control station and depress the close button.
- c. Place the two hooks of the operating handle in the lower portion of the cubicle and push down on the operating tool.
- d. Place the ratchet type maintenance tool on the shaft that protrudes from the breaker and operate the handle until the breaker closes.

QUESTION: 064 (1.00)

Which ONE of the following conditions will cause a Reactor Building Ventilation Isolation?

- a. A 10 R/hr radiation level in the drywell.
- b. A 10 mR/hr radiation level on the refuel floor.
- c. An upscale trip on one Reactor Building ventilation radiation monitor.
- d. A downscale trip on one Reactor Building ventilation radiation monitor.

QUESTION: 065 (1.00)

The reason for the implementation of the General Emergency plan is to...

- a. minimize the damage done to plant equipment.
- b. allow personnel to exceed the normal exposure limits.
- c. allow the NRC to be involved in decisions made at the plant.
- d. minimize or prevent exposure above federal limits to offsite personnel.

## QUESTION: 066 (1.00)

Unit 3 is operating at rated conditions when the following occurs:

- The 3A RBCCW pump trips.
- The 3B RBCCW pump is successfully started and all RBCCW system parameters return to normal.
- There is no indication of an electrical trip on the breaker for the 3A RBCCW pump.

What is the lowest level of authority that must authorize a restart of the 3A RBCCW pump?

- a. Only the Unit Supervisor
- b. The Shift Manager and Engineering
- c. The Shift Manager and Electrical Maintenance
- d. The Unit Supervisor and Electrical Maintenance

## QUESTION: 067 (1.00)

What effect will the loss of Instrument Air have on the HPCI system?

- a. HPCI Turbine Exhaust Pot Bypass Valve (2301-28) will fail closed.
- b. HPCI Steam Line Drain Trap Bypass Valve (2301-31) will fail open.
- c. Turbine Steam Supply Line Drain Valves (2301-29, -30) will fail open.
- d. Turbine Stop Valve Above Seat Drain Valves (2301-64, -65) will fail closed.



## QUESTION: 068 (1.00)

Unit 2 is at rated conditions and has been for the last 300 days.

An inadvertent Group 1 isolation signal is received on High Main Steam Line Flow.

What is the FIRST thing this causes?

- a. EDGs to start.
- b. HPCI to start.
- c. Drywell pressure to go up.
- d. Torus temperature to go down.

## QUESTION: 069 (1.00)

Unit 2 is in a refueling outage when the refuel floor radiation alarm sounds.

The AUX NSO reports the Refuel Floor ARM indicates 110 mrem/hr.

Which of the following actions must be taken?

- a. Evacuate the Refuel Floor only.
- b. Evacuate the Refuel Floor and the Reactor Building.
- c. Notify the Fuel Handling Supervisor that the alarm is erroneous.
- d. Notify the Fuel Handling Supervisor that the alarm is valid and work may continue with caution.

## QUESTION: 070 (1.00)

The reactor building overhead crane and the refueling bridge crane are being used to move equipment during a refueling outage when radiation levels reach 40 mrem / hr on the refuel floor.

What are the consequences of the radiation level?

- a. Standby Gas Treatment will auto start.
- b. The Reactor Building Ventilation system will isolate.
- c. The refueling bridge crane will be prevented from raising fuel.
- d. The reactor building overhead crane hoist raise function is inhibited.

## QUESTION: 071 (1.00)

Unit 2 is at rated conditions when the following occurs:

A design basis Loss of Coolant Accident (LOCA). A Drywell to Torus Vacuum Breaker fails open.

This will FIRST result in drywell pressure...

- a. equalizing with Reactor Building pressure.
- b. exceeding the design pressure of the containment.
- c. dropping rapidly since the cooling effectiveness of the torus has been greatly improved.
- d. staying below the design pressure since there are a number of redundant vacuum breakers installed.

## QUESTION: 072 (1.00)

Given the following conditions on Unit 3:

- The plant had been operating at 100% for 6 months.
- A Group 1 isolation occurred ten minutes ago.
- All AC power has been lost to Unit 3.

Which of the following systems is designed to provide reactor pressure control/cooling under these conditions?

- a. HPCI
- b. Isolation Condenser
- c. Main steam line drain valves
- d. Automatic Depressurization System

## QUESTION: 073 (1.00)

Unit 3 is experiencing a LOCA. The following conditions exist:

- reactor is shutdown
- drywell pressure is 10 psig
- drywell temperature is 350°F (point 9)
- reactor pressure is 75 psig
- reactor water level is -45 inches
- reactor building temperature is 105°F
- Fuel Zone level indication is OOS

Which ONE of the following is the reason that RPV water level indication may NOT be reliable?

- a. Drywell pressure is excessive.
- b. Drywell temperature is excessive.
- c. Reactor Building temperature is excessive.
- d. RPV level is below minimum usable indicating levels.

## QUESTION: 074 (1.00)

Conditions are as follow on Unit 2

- Torus water level is 19 feet.
- All efforts to lower Torus level have failed.

Which of the following events could jeopardize containment integrity?

- a. Core Spray initiation and injection.
- b. ERVs cycling on high reactor pressure.
- c. HPCI initiation with suction from the torus.
- d. Lining up the LPCI system for torus cooling.

## QUESTION: 075 (1.00)

Unit 2 is at rated conditions when the following occurs:

- A transient occurs that causes the following RPV level indication:
- Narrow Range A indicates -2 inches.
- Narrow Range B indicates +1 inches.
- Medium Range A indicates -1 inches.
- A Reactor Scram does NOT occur.

What is the response of the FWLC system?

- a. Stays in Master Auto and attempts to restore level.
- b. Sets RPV level setpoint to +5 inches immediately.
- c. Ramps RPV level setpoint to +5 inches at 10 inches/min.
- d. Enters Master Manual and the operator must restore level.

## QUESTION: 076 (1.00)

After a trip of Reactor Building ventilation it has been determined that Reactor Building ventilation needs to be restarted per DEOP 300-1, Secondary Containment Control, to lower Reactor Building temperature.

What must be done to restart Reactor Building ventilation?

- a. Two vent fans must be started first.
- b. Two exhaust fans must be started first.
- c. Install jumpers to bypass High Reactor Building Temperature isolation.
- d. Fan control switch must be held in CLOSE for a minimum of five seconds.

## QUESTION: 077 (1.00)

Given the following conditions:

- The 902-3 A-1 "RX BLDG RAD HI" annunciator has alarmed.
- The ARM in alarm is still above its alarm setpoint.

The annunciator will be able to be reset...

- a. ONLY when that ARM's RESET button is depressed on the 902-11 panel Indicator and Trip Unit.
- b. after the ARM BYPASS SWITCH for the ARM in alarm has been placed in the BYPASS position.
- c. ONLY when that ARM's SILENCE button has been depressed locally at the auxiliary unit.
- d. after acknowledging the 902-3 panel annunciator and then by depressing the 902-3 panel Reset pushbutton.

## QUESTION: 078 (1.00)

Unit 3 was at rated conditions when a transient occurred.

- An Isolation Condenser steam leak occurred and was isolated.
  - Isolation Condenser area temperature is 170°F and is too high for personnel access.
  - Valid Reactor Building Ventilation isolations are present on each of the following parameters:
    - Drywell Pressure
    - Reactor Building Exhaust Radiation
    - Reactor Water Level Restarting the Reactor Building Ventilation would allow safer access to the Isolation Condenser area...
- a. but is NOT allowed due to the Drywell Pressure isolation.
- b. but is NOT allowed due to the Reactor Building Exhaust Radiation isolation.
- c. but is NOT allowed due to the Reactor Water Level isolation.
- d. and may be performed after bypassing the isolation signals.

## QUESTION: 079 (1.00)

Why do the Reactor Building Ventilation supply fans trip on high Reactor Building pressure?

- a. To prevent an auto initiation of SBT.
- b. To prevent actuation of the Reactor Building blowout panels.
- c. To ensure that airflow is from high contamination to low contamination.
- d. To prevent damage to the Reactor Building Ventilation supply fans butterfly dampers.

## QUESTION: 080 (1.00)

The following conditions exist:

- A transient has occurred on Unit 2.
- The Unit Supervisor has ordered both SBLC pumps started for injection into the reactor.
- After placing the INJECTION CONTROL switch to the SYS 1&2 position, the operator observes the following indications:
- The SQUIB A and SQUIB B lights are lit.
- The Pump 1 and Pump 2 lights are lit.

Which ONE of the following is the proper course of action in order to attempt to get full initiation of BOTH SBLC subsystems?

- a. Dispatch an NLO to start the SBLC pumps locally.
- b. Dispatch an NLO to manually open the SQUIB valves.
- c. Position the INJECTION CONTROL switch to the SYS 1 position.
- d. Position the INJECTION CONTROL switch to the SYS 2&1 position.

## QUESTION: 081 (1.00)

When flooding the RPV during a Failure to Scram condition, why must injection into the RPV be increased slowly?

- a. To minimize the amount of hydrogen produced by the zirconium-steam reaction.
- b. To prevent a large power transient that may cause core damage.
- c. To allow the operators time to ensure the Main Steam lines do not become flooded.
- d. To ensure the reactor does not pressurize uncontrollably when the reactor goes solid.

QUESTION: 082 (1.00)

Unit 2 is at rated conditions when the "LIQUID PROCESS RAD MONITOR HI" 902-3 G-1 annunciator alarms.

Where can the operator determine the actual RBCCW effluent monitor levels?

- a. 902-10 panel - control room backpanel
- b. 923-7 panel - SPING panel
- c. Rad Waste Control Room
- d. at the RBCCW expansion tank

QUESTION: 083 (1.00)

The following conditions exist at Dresden.

- A Tornado Warning is in effect for the area that includes Dresden.
- Reactor Building crane lifts are in progress to move material from the 517 foot level of the reactor building to the refuel floor.
- Dresden Security personnel have sighted a tornado.

Which of the following must be performed as a result of these conditions?

- a. Start EDG's in anticipation of a loss of off-site power.
- b. Verify blowout panels are in place on both Unit 2 and 3 Reactor Buildings.
- c. Open Unit 2 and 3 Turbine Building rollup doors to equalize building pressure.
- d. Stop crane lifts ONLY if a local assessment determines the tornado will hit on site.



## QUESTION: 084 (1.00)

The Unit 2 Service Air to Unit 2 Instrument Air crosstie will automatically open if:

- a. service air header pressure decreases to 95 psig
- b. instrument air header pressure decreases to 85 psig
- c. radwaste sparging air header pressure decreases to 95 psig
- d. control room breathing air header pressure decreases to 85 psig

## QUESTION: 085 (1.00)

During power operation, the drywell and torus are normally inerted to ...

- a. allow detection of Iodine gas more readily.
- b. prevent the occurrence of a flammable mixture in the primary containment.
- c. control temperatures of the containment during Loss of Coolant Accidents.
- d. limit the amount of oxygen generated during a LOCA so an explosive mixture is NOT achieved.

## QUESTION: 086 (1.00)

Nitrogen purging of the primary containment without venting while performing the actions of DEOP 200-2 Hydrogen Control will...

- a. NOT reduce the hydrogen concentration.
- b. increase the pressure in the containment.
- c. make the hydrogen monitoring indications unreliable.
- d. increase the oxygen concentration in the primary containment.

QUESTION: 087 (1.00)

Given the following information:

- loss of all 125 vdc to unit 2
- a fire occurs in the U2 DG room

Where would you dispatch personnel to manually inject CO<sub>2</sub> to the Unit 2 DG room?

- a. the main CO<sub>2</sub> tank.
- b. the CO<sub>2</sub> reset panel.
- c. the Unit 2 DG room.
- d. the Unit 2 DG room and the main CO<sub>2</sub> tank.

QUESTION: 088 (1.00)

The following conditions exist on Unit 2:

- The MODE Switch is in the Shutdown position.
- Reactor coolant temperature is 200°F.
- Mechanical Maintenance has detensioned two reactor vessel closure bolts.

The Reactor is in Mode...

- a. 2 "STARTUP"
- b. 3 "HOT SHUTDOWN"
- c. 4 "COLD SHUTDOWN"
- d. 5 "REFUEL "

QUESTION: 089 (1.00)

DOA 0700-02 SRM OR IRM DETECTOR STUCK, provides a caution with regard to the use of portable radios near the SRM/IRM Pre-amp Cabinet.

What is the reason for this caution?

- a. Keying the radio may cause a voltage spike resulting in blown fuses in the detector circuitry.
- b. The operation of the radio near the preamp could cause interference resulting in a reactor scram.
- c. The operation of the radio near the preamp could cause circuit dampening resulting in lower than actual indication on the SRM/IRM instruments.
- d. The high voltage that is used by the preamp could cause extreme radio interference resulting in poor communications or miscommunication between parties.

QUESTION: 090 (1.00)

Unit 3 is at rated conditions.

Local adjustment of Reactor Recirculation pump 3A speed is required.

Which of the following describes the MINIMUM requirements to perform this evolution?

- a. Communication with any on shift Operator prior to adjustment.
- b. Communication between the Control Room and a licensed Operator at the motor generator.
- c. Communication between the Control Room and on shift Operator at the motor generator with no physical restriction which would prohibit solo operations at the motor generator.
- d. Communication between the Control Room and an active licensed Operator at the motor generator with no license restriction which would prohibit solo operations at the motor generator.

## QUESTION: 091 (1.00)

While performing a reactor startup, the IRMs should be ranged up when indicating between:

- a. 5/125 and 15/125 of full scale.
- b. 25/125 and 50/125 of full scale.
- c. 25/125 and 75/125 of full scale.
- d. 50/125 and 100/125 of full scale.

## QUESTION: 092 (1.00)

During core alterations that potentially affect core reactivity which of the following conditions must be met?

- a. The Control Room Nuclear Observer is in the Control Room.
- b. Radiation Protection Personnel have placed a high radiation area lock on AND posted the access ladders to the Drywell above the first floor indicating: NO ENTRY FUEL TRANSFER IN PROGRESS.
- c. A SRO or an SROL is directly supervising and in line of sight of fuel handling operations on the Refueling Platform.
- d. A Qualified Nuclear Engineer verifies SRM reading are as expected after each step of the Nuclear Component Transfer List.

QUESTION: 093 (1.00)

Unit 2 is near the end of an operating cycle with a startup in progress.

Reactor coolant temperature has lowered 30°F below the value that was used to calculate the ECP.

Who is REQUIRED to recalculate the ECP?

- a. Nuclear Station Operator
- b. Unit Supervisor
- c. Shift Technical Advisor
- d. Qualified Nuclear Engineer

QUESTION: 094 (1.00)

The RWCU pump room was recently surveyed and the following radiological conditions exist:

- General area radiation of 20 mRem per hour
- Smearable contamination of 100 dpm/100 cm<sup>2</sup> (beta-gamma)

Which of the following postings should be applied to this area?

- a. Radiation area only
- b. High radiation area only
- c. Radiation area and Contamination area
- d. High radiation area and Contamination area

QUESTION: 095 (1.00)

Chemistry has reported that high coolant activity exists on Unit 2 and a fuel element failure is suspected.

Which of the following actions is required to prevent excessive personnel exposure if site assembly is required?

- a. Isolating HPCI steam drains
- b. Isolating the Isolation Condenser
- c. Isolating HPCI steam flow
- d. Isolating Recirc Sample Lines

QUESTION: 096 (1.00)

A Non-Licensed Operator has an Out Of Service that requires independent verification.

For which of the following conditions can the Shift Manager waive independent verification?

An OOS card to be hung on...

- a. a drain valve on the #2 Main Turbine Stop Valve at rated power.
- b. the south instrument air cross-connect valve 8 feet off the floor in the turbine building 517 level.
- c. the 2/3 Diesel Air Start motor that was just replaced.
- d. the 2/3A SBGT Charcoal Filter that was just replaced.

## QUESTION: 097 (1.00)

Per RP-AA-203, Exposure Review and Authorization, workers at Dresden have an administrative exposure control level of \_\_\_\_\_ (1) \_\_\_\_\_ mrem TEDE per year. This can be raised to \_\_\_\_\_ (2) \_\_\_\_\_ mrem TEDE by the Radiation Protection Manager.

- |    | 1    | 2    |
|----|------|------|
| a. | 1000 | 3000 |
| b. | 1000 | 5000 |
| c. | 2000 | 3000 |
| d. | 2000 | 5000 |

## QUESTION: 098 (1.00)

In order to vent the overpiston area of the control rod drive, the operator will need a hose, adjustable wrench and a CRD vent valve tool.

Tools and/or equipment required to perform this task are located in the...

- a. DEOP equipment cart
- b. Reactor building ground floor at the CO2 gas bottle rack.
- c. Reactor building second floor in the DEOP storage locker.
- d. Turbine building second floor in the DEOP storage locker.

QUESTION: 099 (1.00)

During normal plant operations, an annunciator alarms which has a RED backlight.

What is the significance of this RED backlight?

- a. Identifies a parameter which could cause a unit scram.
- b. Identifies a parameter which causes a critical change in plant status.
- c. Identifies a condition that requires immediate entry into the DOAs or DEOPs.
- d. Informs the operators of annunciators that are expected to alarm due to maintenance being performed.

QUESTION: 100 (1.00)

DEOP 200-01 requires emergency depressurization if torus water level cannot be maintained above 11 ft.

What is the reason for this action?

- a. T-Quenchers are uncovered at 10.8 ft
- b. The loss of HPCI requires Low Pressure ECCS injection
- c. Reject energy from the vessel while the suppression pool is still available
- d. Torus water level instrumentation is NOT accurate below this level

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



ANSWER: 001 (1.00)  
a.  
REFERENCE:  
SDM 212002 BANK High  
201001K205 ..(KA's)

ANSWER: 002 (1.00)  
c.  
REFERENCE:  
SDM 201006 Modified  
20106S0181 Memory  
201006A305 ..(KA's)

ANSWER: 003 (1.00)  
a.  
REFERENCE:  
DOA 3700-01 and DAN  
902(3)-4 G-3 NEW High  
202001K602 ..(KA's)

ANSWER: 004 (1.00)  
a.  
REFERENCE:  
SDM 202002 BANK High  
202002K405 ..(KA's)

ANSWER: 005 (1.00)  
a.  
REFERENCE:  
SDM202001 BANK High  
202002K501 ..(KA's)

ANSWER: 006 (1.00)  
d.  
REFERENCE:  
SDM 205000 Modified High  
205000A411 ..(KA's)

ANSWER: 007 (1.00)  
a.  
REFERENCE:  
SDM 205000 New Memory  
205000K403 ..(KA's)

ANSWER: 008 (1.00)  
d.  
REFERENCE:  
DOP 2300-03 BANK  
20600S0341 High  
206000A106 ..(KA's)

ANSWER: 009 (1.00)  
a.  
REFERENCE:  
SDM 206000 DAN  
902(3)-A11 BANK High  
206000K609 ..(KA's)

ANSWER: 010 (1.00)  
a.  
REFERENCE:  
DOA 1300-1 DAN 902(3)-3  
H-2 New Memory  
207000K302 ..(KA's)

ANSWER: 011 (1.00)  
c.  
REFERENCE:  
SDM 209001 SDM 264001  
Modified 20901S0031 High  
209001K110 ..(KA's)

ANSWER: 012 (1.00)  
b.  
REFERENCE:  
SDM 209001 BANK  
20901S0262 High  
209001K303 ..(KA's)

ANSWER: 013 (1.00)  
c.  
REFERENCE:  
SDM 211001 MODIFIED  
21100S0221 Memory  
211000K202 ..(KA's)

ANSWER: 014 (1.00)  
b.  
REFERENCE:  
SDM 201002 BANK  
20102S0521 Memory  
212000A406 ..(KA's)

ANSWER: 015 (1.00)  
b.  
REFERENCE:  
DOP 500-3 SDM 262011  
Bank 21200S0331 High  
212000K201 ..(KA's)

ANSWER: 016 (1.00)  
b.  
REFERENCE:  
SDM 215001 and DAN 902-5,  
E-5 MODIFIED 21501S0171  
High  
215001A303 ..(KA's)

ANSWER: 017 (1.00)  
b.  
REFERENCE:  
SDM 215002 BANK  
21502S0053 High  
215002K101 ..(KA's)

ANSWER: 018 (1.00)  
c.  
REFERENCE:  
SDM215004 Modified  
Memory  
215004A404 ..(KA's)

ANSWER: 019 (1.00)  
d.  
REFERENCE:  
SDM215005 BANK  
21505S0371 High  
215005A307 ..(KA's)

ANSWER: 020 (1.00)

d.

REFERENCE:

SDM 215005 BANK  
21505S0081 Memory  
215005K506 ..(KA's)

ANSWER: 026 (1.00)

b.

REFERENCE:

SDM 277000, SDM 203000  
and DOP 1500-02 Modified  
27700S0321 High  
219000A205 ..(KA's)

ANSWER: 031 (1.00)

c.

REFERENCE:

SDM203000, 209001 and  
NRC bulletin 93-02 NEW  
High  
230000K605 ..(KA's)

ANSWER: 021 (1.00)

b.

REFERENCE:

SDM 216000 and DSSP  
100-CR BANK 21600S0071  
High  
216000K401 ..(KA's)

ANSWER: 027 (1.00)

b.

REFERENCE:

SDM 223001 Modified  
22301S0211 High  
223001A302 ..(KA's)

ANSWER: 032 (1.00)

d.

REFERENCE:

DFP 0800-1 Bank  
23400S011 Memory  
2.1.2 234000 ..(KA's)

ANSWER: 022 (1.00)

a.

REFERENCE:

SDM 216000 BANK  
21600S0111 Memory  
216000K601 ..(KA's)

ANSWER: 028 (1.00)

c.

REFERENCE:

SDM208000 Modified  
20800S0081 Memory  
223002K119 ..(KA's)

ANSWER: 033 (1.00)

c.

REFERENCE:

DOA 4700-1 Modified  
03000S0541 High  
239001K506 ..(KA's)

ANSWER: 023 (1.00)

a.

REFERENCE:

DAN 902(3) B13, E-15, G-11,  
and H-13, 218L-S1 NEW  
High  
218000K301 ..(KA's)

ANSWER: 029 (1.00)

a.

REFERENCE:

SDM 203000 and SDM  
264001 Last years NRC  
Exam #34 High  
226001K202 ..(KA's)

ANSWER: 034 (1.00)

b.

REFERENCE:

DEOP 100-1, DOA 600-1,  
and DOA 5650-03 NEW High  
241000 2.4.4 ..(KA's)

ANSWER: 024 (1.00)

a.

REFERENCE:

SDM 218000 Modified  
21800S0211 High  
218000K401 ..(KA's)

ANSWER: 030 (1.00)

d.

REFERENCE:

SDM 203000 and ITS Bases  
3.5.1 Modified 29900S0241  
Memory  
226001K502 ..(KA's)

ANSWER: 035 (1.00)

d.

REFERENCE:

SDM212001 and DOA  
5600-1 New High  
245000K302 ..(KA's)

ANSWER: 025 (1.00)

d.

REFERENCE:

DOP 1500-2 BANK  
21900S0021 Memory  
219000A102 ..(KA's)

ANSWER: 036 (1.00)

a.

REFERENCE:

DAN 923-1 C-2 and D-2  
NEW High  
256000A212 ..(KA's)

ANSWER: 037 (1.00)

c.

REFERENCE:

DOA 3200-01 Bank  
25901S0091 Memory Rev 3  
259001 2.1.2 ..(KA's)

ANSWER: 038 (1.00)

b.

REFERENCE:

SDM 259002 and DAN 902-5  
G-8 Modified 25902S0391  
High  
259002A201 ..(KA's)

ANSWER: 039 (1.00)

b.

REFERENCE:

SDM259002 NEW High  
259002A406 ..(KA's)

ANSWER: 040 (1.00)

a.

REFERENCE:

SDM 261000 and DAN 923-5  
A-6 New High  
261000A204 ..(KA's)

ANSWER: 041 (1.00)

a.

REFERENCE:

DOA 7500-01 and DAN  
923-5 A-6 Modified  
26100S0191 High.  
261000A213 ..(KA's)

ANSWER: 042 (1.00)

b.

REFERENCE:

203L-S1, SDM262001 BANK  
26201S0116 High  
262001A101 ..(KA's)

ANSWER: 043 (1.00)

b.

REFERENCE:

SDM 262003 and 262001  
Modified 26203S0141  
Memory  
262001K201 ..(KA's)

ANSWER: 044 (1.00)

a.

REFERENCE:

SDM262006 and 272002  
NEW High  
262002K317 ..(KA's)

ANSWER: 045 (1.00)

a.

REFERENCE:

DOS 6600-01, Diesel  
Generator Surveillance Tests.  
New Memory  
264000A109 ..(KA's)

ANSWER: 046 (1.00)

a.

REFERENCE:

SDM 264001 BANK  
26400S0261 High  
264000A306 ..(KA's)

ANSWER: 047 (1.00)

d.

REFERENCE:

SDM27100 Modified Memory  
271000K507 ..(KA's)

ANSWER: 048 (1.00)

b.

REFERENCE:

DAN 902-5 G5 and 923-5 A1  
New High  
288000A201 ..(KA's)

ANSWER: 049 (1.00)

b.

REFERENCE:

ITS 3.6.4.1 New Memory  
2.1.33 288000 ..(KA's)

ANSWER: 050 (1.00)

d.

REFERENCE:

SDM 288003 BANK  
28803S0141 High  
290003A301 ..(KA's)

ANSWER: 051 (1.00)

c.

REFERENCE:

SDM 275001 and SDM  
241000 Modified  
24501S0401 High  
295002AK20 ..(KA's)

ANSWER: 052 (1.00)

b.

REFERENCE:

DOA 6600-01 Bank  
26400S0011 High  
295003A103 ..(KA's)

ANSWER: 053 (1.00)

c.

REFERENCE:

SDM 262001 NEW High  
295003K203 ..(KA's)

ANSWER: 054 (1.00)

b.

REFERENCE:

SDM 263002 and DOP  
6900-06 New High  
295004K302 ..(KA's)

ANSWER: 055 (1.00)

b.

REFERENCE:

DGP 2-3 Modified

03000S0421 High

295005A104 ..(KA's)

ANSWER: 060 (1.00)

a.

REFERENCE:

DGP 01-01 page 19 Last

years NRC Exam #72 High

295014K201 ..(KA's)

ANSWER: 066 (1.00)

a.

REFERENCE:

DOA 6500-10 New Memory

2.1.14 295018 ..(KA's)

ANSWER: 056 (1.00)

a.

REFERENCE:

COLR, ITS 3.2.2 and GP

lesson plan Core thermal limits. New Memory

295005AK10 ..(KA's)

ANSWER: 061 (1.00)

a.

REFERENCE:

SDM215002 Modified

21502S0164 Memory

295014K302 ..(KA's)

ANSWER: 067 (1.00)

d.

REFERENCE:

SDM206000 New Memory

295019K217 ..(KA's)

ANSWER: 057 (1.00)

d.

REFERENCE:

SDM 216000 and Figures A,

B and C of the DEOPs New

High

295031A201 ..(KA's)

ANSWER: 062 (1.00)

c.

REFERENCE:

295L-S1 Last years NRC

exam #99 Memory

295015K104 ..(KA's)

ANSWER: 068 (1.00)

c.

REFERENCE:

299L-S5 New High

295020A201 ..(KA's)

ANSWER: 058 (1.00)

d.

REFERENCE:

SDM259L-S1, SDM223004,

DAN 902(3)-3-6 F-7 and

902(3)-3 A-9 Modified

25600S0051 Memory

295008K304 ..(KA's)

ANSWER: 063 (1.00)

d.

REFERENCE:

DSSP 100-CR New Memory

295016A104 ..(KA's)

ANSWER: 069 (1.00)

a.

REFERENCE:

DFP 0850-03 New High

2.1.14 295023

..(KA's)

ANSWER: 059 (1.00)

a.

REFERENCE:

295L-S2 and ITS 3.6.2.1

Bank High

295013A201 ..(KA's)

ANSWER: 064 (1.00)

c.

REFERENCE:

DOA 5750-01 Modified

288801S011 Memory

295017K204 ..(KA's)

ANSWER: 070 (1.00)

d.

REFERENCE:

DFP 850-03 New High

295023A103 ..(KA's)

ANSWER: 059 (1.00)

a.

REFERENCE:

295L-S2 and ITS 3.6.2.1

Bank High

295013A201 ..(KA's)

ANSWER: 065 (1.00)

d.

REACTOR OPERATOR

ANSWER: 071 (1.00)

b.

REFERENCE:

SDM223001 Bank

22301S0311 High

295024K101 ..(KA's)

REFERENCE:

EP-AA-113 and EP-AA-111

New Memory

295017K303 ..(KA's)

ANSWER: 072 (1.00)

b.

REFERENCE:

SDM 207000 Bank

20700S0401 High

295025K304 ..(KA's)

ANSWER: 078 (1.00)

b.

REFERENCE:

295L-S3 Last years NRC

Exam #97 Memory

295034K101 ..(KA's)

ANSWER: 084 (1.00)

b.

REFERENCE:

SDM278000 Bank

27800S0074 Memory

300000K402 ..(KA's)

ANSWER: 073 (1.00)

b.

REFERENCE:

DEOP 100 Figure A and B

Modified 29502S0881 High

295028K102 ..(KA's)

ANSWER: 079 (1.00)

b.

REFERENCE:

SDM 288001 and 223001

and LP 288S-L1 New

Memory

295035K302 ..(KA's)

ANSWER: 085 (1.00)

b.

REFERENCE:

223L-S3 Modified

22301S0241 Memory

500000K209 ..(KA's)

ANSWER: 074 (1.00)

b.

REFERENCE:

295L-S2 New High

295029A202 ..(KA's)

ANSWER: 080 (1.00)

d.

REFERENCE:

SDM211000 Modified

21100S0171 High.

295037A104 ..(KA's)

ANSWER: 086 (1.00)

b.

REFERENCE:

DEOP 500-4 New Memory

500000K301 ..(KA's)

ANSWER: 075 (1.00)

b.

REFERENCE:

DOA 600-1 and SDM 259002

New High

295031K216 ..(KA's)

ANSWER: 081 (1.00)

b.

REFERENCE:

295L-S4 Bank 35900S0081

Memory

295037K102 ..(KA's)

ANSWER: 087 (1.00)

c.

REFERENCE:

SDM 286002 Bank

28600S0451 High

600000K102 ..(KA's)

ANSWER: 076 (1.00)

d.

REFERENCE:

DEOP 500-2 New Memory

295032A103 ..(KA's)

ANSWER: 082 (1.00)

a.

REFERENCE:

DAN 902(3)-3 G-1 New

Memory

295038A103 ..(KA's)

ANSWER: 088 (1.00)

d.

REFERENCE:

ITS Table 1.1-1 New High

2.1.22 ..(KA's)

ANSWER: 077 (1.00)

b.

REFERENCE:

SDM 272001 Bank

27201S0061 Memory

295033A101 ..(KA's)

ANSWER: 083 (1.00)

b.

REFERENCE:

DOA 0010-02 Tornado

Warning / Severe Winds New

Memory

295038K103 ..(KA's)

ANSWER: 089 (1.00)

b.

REFERENCE:

DOA 700-2 Bank

03000S0011 Memory

2.1.32 ..(KA's)

ANSWER: 090 (1.00)

d.

REFERENCE:

DOP 0202-12 Modified  
Memory

2.1.8 ..(KA's)

ANSWER: 095 (1.00)

a.

REFERENCE:

DGA-16 section D.11  
Caution. 1998 NRC Exam  
Memory

2.3.10 ..(KA's)

ANSWER: 100 (1.00)

c.

REFERENCE:

295L-S2 Bank 29502S0271  
Memory 2.4.7 ..(KA's)

ANSWER: 091 (1.00)

c.

REFERENCE:

DOP 0700-02 Bank  
21503B0021 Last years NRC  
Exam #112 Memory

2.2.2 ..(KA's)

ANSWER: 096 (1.00)

a.

REFERENCE:

HU-AA-101 Modified Last  
years NRC exam #117 High

2.3.2 ..(KA's)

ANSWER: 092 (1.00)

c.

REFERENCE:

DFP 800-1 and TRM 3.9.a  
New Memory

2.2.26 ..(KA's)

ANSWER: 097 (1.00)

c.

REFERENCE:

RP-AA-203 New Memory Rev  
3

2.3.4 ..(KA's)

ANSWER: 093 (1.00)

d.

REFERENCE:

DGP 1-1 New Memory

2.2.34 ..(KA's)

ANSWER: 098 (1.00)

d.

REFERENCE:

DEOP 500-05 Bank  
29502S0521 Memory

2.4.35 ..(KA's)

ANSWER: 094 (1.00)

a.

REFERENCE:

RP-AA-376 Modified  
29400S0261 Modified Last  
years NRC exam #116 High

2.3.1 ..(KA's)

ANSWER: 099 (1.00)

b.

REFERENCE:

Operator Aid #84 Bank  
29902S0401 Memory

2.4.45 ..(KA's)

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

ANSWER KEY  
MULTIPLE CHOICE

001 a	021 b	041 a	061 a	081 b
002 c	022 a	042 b	062 c	082 a
003 a	023 a	043 b	063 d	083 b
004 a	024 a	044 a	064 c	084 b
005 a	025 d	045 a	065 d	085 b
006 d	026 b	046 a	066 a	086 b
007 a	027 b	047 d	067 d	087 c
008 d	028 c	048 b	068 c	088 d
009 a	029 a	049 b	069 a	089 b
010 a	030 d	050 d	070 d	090 d
011 c	031 c	051 c	071 b	091 c
012 b	032 d	052 b	072 b	092 c
013 c	033 c	053 c	073 b	093 d
014 b	034 b	054 b	074 b	094 a
015 b	035 d	055 b	075 b	095 a
016 b	036 a	056 a	076 d	096 a
017 b	037 c	057 d	077 b	097 c
018 c	038 b	058 d	078 b	098 d
019 d	039 b	059 a	079 b	099 b
020 d	040 a	060 a	080 d	100 c

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