

March 14, 2001

Mr. Oliver D. Kingsley  
President, Nuclear Generation Group  
Commonwealth Edison Company  
ATTN: Regulatory Services  
Executive Towers West III  
1400 Opus Place, Suite 500  
Downers Grove, IL 60515

SUBJECT: DRESDEN NUCLEAR STATION - INITIAL LICENSE EXAMINATION  
REPORT 50-237/01-301(DRS); 50-249/01-301(DRS)

Dear Mr. Kingsley:

On February 15, 2001, the NRC completed initial operator licensing examinations at your Dresden Nuclear Station. The enclosed report presents the results of the examination.

Dresden Station training department personnel administered the written examination on February 15, 2001, and NRC examiners administered the operating tests during the weeks of February 5, 2001, and February 12, 2001. Two Reactor Operator and eight Senior Reactor Operator candidates were administered license examinations. The results of the examinations were finalized on March 1, 2001. All candidates passed all sections of their respective examinations and were issued applicable operator licenses.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document control system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADQAMS/index.html> (the Public Electronic Reading Room).

We will gladly discuss any questions you have concerning this examination.

Sincerely,

*/RA/*

David E. Hills, Chief  
Operations Branch  
Division of Reactor Safety

Docket Nos. 50-237; 50-249  
License Nos. DPR-19; DPR-25

Enclosures: 1. Operator Licensing Examination Report  
50-237/01-301(DRS); 50-249/01-301(DRS)  
2. Simulation Facility Report  
3. Written Examinations and Answer Keys (RO & SRO)

See Attached Distribution

O. Kingsley

-2-

cc w/encl 1, 2: D. Helwig, Senior Vice President, Nuclear Services  
C. Crane, Senior Vice President, Nuclear Operations  
H. Stanley, Vice President, Nuclear Operations  
R. Krich, Vice President, Regulatory Services  
DCD - Licensing  
P. Swafford, Site Vice President  
R. Fisher, Station Manager  
D. Ambler, Regulatory Assurance Manager  
M. Aguilar, Assistant Attorney General  
State Liaison Officer  
Chairman, Illinois Commerce Commission

cc w/encl 1, 2 & 3: F. (Chip) Cerovac, Station Training Manager

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cc w/encl 1, 2 & 3: F. (Chip) Cerovac, Station Training Manager

ADAMS Distribution:

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J. Caldwell, RIII  
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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-237; 50-249  
License Nos: DPR-19; DPR-25

Report No: 50-237/01-301(DRS); 50-249/01-301(DRS)

Licensee: Commonwealth Edison Company

Facility: Dresden Nuclear Station, Units 2 and 3

Location: 6500 North Dresden Road  
Morris, IL 60450

Dates: February 5 through 15, 2001

Examiners: D. McNeil, Chief Examiner  
D. Pelton, Reactor Inspector  
H. Peterson, Reactor Inspector

Approved by: David E. Hills, Chief  
Operations Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

ER 05000237-01-301(DRS), ER 05000249-01-301(DRS), on 02/05-02/15/2001, Commonwealth Edison Company, Dresden Nuclear Station, Units 2 & 3. Initial License Examination Report.

The announced operator licensing initial examination was conducted by regional examiners in accordance with the guidance of NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1, Addendum 1.

### Examination Summary:

- Two reactor operator candidates and eight senior reactor operator candidates were administered written examinations and operating tests for initial operator licensing. All ten candidates passed all portions of their respective examinations and were issued applicable licenses.

## Report Details

### **4. OTHER ACTIVITIES (OA)**

#### 4OA5 Other

##### .1 Initial Licensing Examinations

###### a. Inspection Scope

The NRC examiners conducted announced operator licensing initial examinations during the weeks of February 5, 2001 and February 12, 2001. The facility's training staff used the guidance established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1, Addendum 1, to prepare the examination outline and to develop the written examination and operating test. The NRC examiners administered the operating test on February 5, 2001, through February 14, 2001, and the facility's training staff administered the written examination on February 15, 2001. Two reactor operator candidates and eight senior reactor operator candidates were examined.

###### b. Findings

###### Written Examination

The NRC examiners determined that the written examination, as originally submitted by the licensee, was within the range of acceptability expected for a proposed examination. No post examination comments were submitted by the licensee.

###### Operating Test

The NRC examiners determined that the operating test, as originally submitted by the licensee, was within the range of acceptability expected for a proposed examination.

##### .2 Examination Security

###### a. Inspection Scope

The examiners reviewed and observed the licensee's implementation of examination security requirements during the examination preparation and administration.

###### b. Findings

The NRC examiners determined that the licensee's examination security practices associated with the development and administration of the operator license examinations were satisfactory.

#### 4OA6 Management Meetings

##### Exit Meeting Summary

The chief examiner presented the examination team's preliminary observations and findings to Mr. Swafford and other members of the licensee management on February 15, 2001. The licensee acknowledged the observations and findings presented. No proprietary or safeguards information was identified during the exit meeting.



## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

Preston Swafford, Site Vice President  
Robert Fisher, Plant Manager  
Ken Bowman, Operations Manager  
Dale Ambler, Regulatory Assurance Manager  
Chip Cerovac, Training Manager  
Dave Zehrung, Maintenance Technical Training Supervisor  
Bryant Hanson, Work Management Manager  
Chuck Dieckmann, Nuclear Oversight Manager  
Dan Murphy, ILT Group Lead  
Jeff Schmitz, Training  
Randy Weidner, Training  
Roger Stobert, LRT Group Lead  
Steve Russell, Training, NGG Exam Development  
Brian Grant, Shift Operations Supervisor  
Terry Palanyk, Shift Manager  
Sherry Butterfield, NRC Coordinator

### NRC

D. McNeil, Chief Examiner  
D. Hills, Chief, Operations Branch  
D. Smith, Dresden Senior Resident Inspector

## ITEMS OPENED, CLOSED AND DISCUSSED

### Opened

None

### Closed

None

### Discussed

None

## LIST OF ACRONYMS

ADAMS	Agency-Wide Document Access and Management System
DRS	Division of Reactor Safety
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records

SIMULATION FACILITY REPORT

Facility Licensee: Dresden Nuclear Station, Unit 2

Facility Docket No.: 50-237

Operating Tests Administered: February 05 - 15, 2001

The following documents observations made by the NRC examination team during the initial operator license examination. 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:

ITEM	DESCRIPTION
1.	The U2/3 emergency diesel generator auto started and had an immediate start failure. The auto start was probably correct based on a low RPV water level; however, the start failure was not expected.
2.	The drive water pressure for control rod drive hydraulics was high on all ICs we used. The applicants reduced drive pressure every time they started control rod manipulations in the simulator. The ICs may need to be re-done.
3.	The Rod Out Notch Over Ride (RONOR) switch did not work correctly in the OUT direction on Monday, February 5, 2001. It apparently worked on subsequent examination days.
4.	The turbine control valve combined position pen was stuck at zero percent during the examination.
5.	The simulator had to be re-booted on Monday when it was discovered the process computer program and the video out programs were not responding correctly.
6.	The simulator operator auxiliary computer mouse failed, resulting in the necessity of rebooting the computer.
7.	On-demand programs, OD-3 and OD-20 would not print during the entire operating test week



WRITTEN EXAMINATIONS AND ANSWER KEYS (RO/SRO)

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

**Applicant Information**

Name: MASTER	Region: III
Date: February 15, 2001	Facility/Unit: DRESDEN 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

## QUESTION: 001 (1.00)

Unit 3 is operating at 50% power with the following CRD system indications:

- Drive water differential pressure 265 psid
- Drive flow 0.0 gpm
- Charging Header pressure 1450 psig
- CRD system flow 50 gpm

While attempting to INSERT control rod M-05, drive water flow is observed to be 0.0 gpm. When attempting to WITHDRAW control rod M-05, drive water flow is observed to be 2.0 gpm. The control rod does NOT move. Which of the following describes the cause of the above indications? Directional Control Valve ...

- a. 122 is stuck closed.
- b. 122 is stuck open.
- c. 123 is stuck closed.
- d. 123 is stuck open.

## QUESTION: 002 (1.00)

Unit 3 is in a normal at power configuration when a single event/malfunction occurred affecting the CRD system. NO operator actions were performed. The operator observed the following indications before the event and after the CRD System stabilized:

## BEFOREAFTER

CRD flow controller - flow indication	58 gpm	0 gpm
CRD flow controller - demand indication	60%	100%
Cooling Water Flow	58 gpm	0 gpm
Cooling Water Pressure	25 psid	0 psid
Drive Water Pressure	280 psid	0 psid
Charging Pressure	1475 psig	1650 psig

Which of the following is the cause for this event?

- a. A Reactor Scram has occurred.
- b. The flow control valve failed closed.
- c. The Charging Header '25' valve was inadvertently opened.
- d. The flow transmitter output to the flow controller failed high.

## QUESTION: 003 (1.00)

Unit 2 was at rated conditions. The CRD system was in a normal lineup. A leak slowly developed on the Unit 2 RVWLIS piping increasing to 1 gpm over several hours. Which of the following describes how CRD control room indication would be affected by the leak?

- a. Cooling water flow indication would increase by 1 gpm.
- b. Drive water flow indication would increase by 1 gpm.
- c. System flow indication would increase by 1 gpm.
- d. System flow indication would decrease by 1 gpm..

## QUESTION: 004 (1.00)

Unit 2 was operating at rated conditions when Bus 22 tripped. Which of the following would be directly affected as a result of that trip?

- a. 2B Condensate Booster Pump.
- b. 2B Core Spray Pump.
- c. 2B Instrument Air Compressor.
- d. 2B Reactor Recirculation Pump.

## QUESTION: 005 (1.00)

Unit 2 was operating in single loop operation at 45% power with the 2B Recirculation pump secured. The 2A Recirculation MG scoop tube failed such that it repositioned to the fully retracted position. Which of the following describes the expected change in core flow and its relationship to indicated core flow?

- a. Core flow will decrease and be less than indicated core flow.
- b. Core flow will decrease and be greater than indicated core flow.
- c. Core flow will increase and be less than indicated core flow.
- d. Core flow will increase and be greater than indicated core flow.



## QUESTION: 006 (1.00)

The LPCI System Quarterly Flow Rate Test (DOS 1500-05) operates . . .

- a.pumps individually to ensure that each pump will pass the required flow.
- b.two pumps at a time in a single division to ensure that each division will pass the required flow.
- c.pumps in combination of three to ensure that the system will pass the required flow.
- d.all four pumps simultaneously to ensure that the system will pass the required flow.

## QUESTION: 007 (1.00)

Unit 3 was at rated conditions when the following occurred in the following order:

- LOCA
- Drywell pressure reached +6 psig
- Loss of Offsite Power occurred
- EDGs closed onto ECCS Buses resetting the UV relays

Which of the following describes how the LPCI pumps will react?

- a.All LPCI pumps start 5 seconds after EDGs close onto ECCS Buses.
- b."A" and "C" LPCI pumps start immediately after EDGs close onto ECCS Buses; "B" and "D" LPCI pumps start 5 seconds after EDGs close onto ECCS Buses.
- c."A" and "C" LPCI pumps start 5 seconds after EDGs close onto ECCS Buses; "B" and "D" LPCI pumps start 10 seconds after EDGs close onto ECCS Buses.
- d."A" and "C" LPCI pumps start immediately after EDGs close onto ECCS Buses; "B" and "D" LPCI pumps start 10 seconds after EDGs close onto ECCS Buses.

## QUESTION: 008 (1.00)

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

- plant heatup in progress.
- reactor pressure is 50 psig.
- reactor coolant temperature is 270°F.

The RWCU Auxiliary Pump seal overheats and one of the alarms received is 903-4 H-12, RWCU AUX PP CLG WTR TEMP HI. The Rx Outlet Isol, MO 3-1201-1 and Rx Inlet Isol, MO 3-1201-2 close. Which of the following describes the expected operator action? Verify the RWCU Aux Pump is \_\_\_(1)\_\_\_ and AUX PP SUCTION, MO 3-1201-3, and RX OUTLET BYP, MO 3-1201-1A, valves are \_\_\_(2)\_\_\_.

- a.RUNNING OPEN
- b.TRIPPED OPEN
- c.RUNNING CLOSED
- d.TRIPPED CLOSED

## QUESTION: 009 (1.00)

Unit 3 was operating at rated condition. An earthquake resulted in the following:

- 125 VDC Bus 3B-1 de-energized.
- A LOCA causing drywell pressure to increase to 5psig.
- Reactor water level decreased to -30 inches.

Which of the following describes the response of High Pressure Coolant Injection (HPCI) System to this transient? The HPCI system ...

- a.automatically initiated and aligned for injection utilizing the alternate power supply.
- b.can be only be initiated if the power supply is manually transferred to an alternate source.
- c.isolated due to the loss of its isolation logic power supply.
- d.will automatically initiate if reactor water level decreases an additional 30 inches.

## QUESTION: 010 (1.00)

Following an MSIV isolation at full power, HPCI received an auto initiate signal on RPV low level. During the initiation, the HPCI pump flow signal was lost to the flow controller. Which of the following describes the HPCI system response if no operator action was taken? The HPCI turbine will ...

- a.overspeed and shutdown.
- b.remain at minimum speed.
- c.trip on high RPV water level.
- d.fail to start due to loss of the MGU signal input.

## QUESTION: 011 (1.00)

Unit 3 was operating at rated power when 125 VDC power was lost to Division I of the Isolation Condenser initiation and isolation logic. Which of the following is expected to occur as a direct result of the loss of power?

- a.All Isolation Condenser isolation valves will close.
- b.An Isolation Condenser initiation will occur.
- c.All Isolation Condenser valves will remain as is.
- d.The Isolation Condenser inboard isolation valves will close.

## QUESTION: 012 (1.00)

Unit 2 was at rated power when a transient occurred resulting in the following conditions:

- A fire renders the ESS bus unavailable
- The Unit 2 and the 2/3 Emergency Diesel Generators fail to start
- A reactor scram occurs concurrent with a loss of TR-22

Based on these conditions, what indication of RPV level should be available to the Operating Crew?

- a. One fuel zone instrument only.
- b. One medium range instrument only.
- c. One medium range and one fuel zone instrument.
- d. One medium range and one narrow range instrument.

## QUESTION: 013 (1.00)

Given the following plant conditions:

- Unit 2:
  - In "REFUEL" with core alterations in progress.
- CRD mechanism removal is in progress. (This activity has the potential to drain the vessel.)
  - Torus is empty.
  - Both Core Spray pumps aligned to the 2/3A CST.
  - Both LPCI loops are drained.
  - Unit 3 was shutdown.
  - 1 CST indicated level 30,000 gallons of water.
  - 2/3A CST indicated level 250,000 gallons of water.
  - 5.2/3B CST drained.

An Instrument Technician informs the Unit 2 NSO that the 2/3A CST level indicator is reading high. The correct level in the tank corresponds to 100,000 gallons of water. Based on this information...

- a. Both core alterations and CRD mechanism removal work may continue.
- b. Core alterations must be stopped but CRD mechanism removal may continue.
- c. CRD mechanism removal must be stopped but core alterations may continue.
- d. Both core alterations and CRD mechanism removal work must be stopped.

## QUESTION: 014 (1.00)

It is planned to isolate and drain the suction piping for the Unit 2 "B" Core Spray pump. The Jockey Pump could...

- a. supply ALL Unit 2 ECCS Keepfill.
- b. supply Unit 2 ECCS Keepfill ONLY to Core Spray "A" and LPCI System "A."
- c. supply Unit 2 ECCS Keepfill ONLY to LPCI System "A" and LPCI System "B."
- d. NOT supply ANY Unit 2 ECCS Keepfill.

## QUESTION: 015 (1.00)

A transient has occurred on Unit 2.

- The Unit Supervisor ordered SBLC started for injection into the reactor.
- The NSO placed the INJECTION CONTROL switch to the SYS 2 position.

Which of the following describes the expected status of the Squib A and Squib B indicating lights following the NSO's actions?

- Squib A light Squib B light
- a. ENERGIZED ENERGIZED
  - b. ENERGIZED DE-ENERGIZED
  - c. DE-ENERGIZED ENERGIZED
  - d. DE-ENERGIZED DE-ENERGIZED

## QUESTION: 016 (1.00)

Control Rod F-09 is uncoupled. The overtravel reed switch on control rod F-09's position probe is stuck open. Which of the following describes the expected indication on the MCR display if control rod F-09 was withdrawn to position 48 and a coupling check then performed? The position readout for Control Rod F-09 on the Full Core Display will . . .

- a. be blank and an OVERTRAVEL alarm will be received.
- b. indicate a Red "48" and an OVERTRAVEL alarm will be received.
- c. be blank and an OVERTRAVEL alarm will NOT be received.
- d. indicate a Red "48" and an OVERTRAVEL alarm will NOT be received.

## QUESTION: 017 (1.00)

During TIP operation, which of the following events would prevent the U-2 TIP Cubicle ARM station from returning to a normal value?

- a. Inserting two detectors both selected for the common channel.
- b. Activation of the cable shear valve during a TIP trace.
- c. Failure of the TIP detector proximity switch during withdrawal.
- d. Selecting another channel when a TIP detector is in the indexer.

## QUESTION: 018 (1.00)

Immediately after a Unit 3 TIP scan started supplying the process computer with flux data, the PCIS Group 2 logic erroneously initiated. Which of the following describe the response of the TIP system to the initiation? The TIP drive mechanism ...

- a.starts to withdraw the detector at HIGH speed. The guide tube ball valve closes when the detector is in its shield chamber.
- b.continues to withdraw the detector at LOW speed. The guide tube ball valve closes when the detector is in its shield chamber.
- c.starts to withdraw the detector at HIGH speed. The guide tube ball valve closes when the detector is past its indexer.
- d.continues to withdraw the detector at LOW speed. The guide tube ball valve closes when the detector is past its indexer.

## QUESTION: 019 (1.00)

Unit 3 is operating at 80% power.

- The CRD Weekly Exercise surveillance is in progress.
- Control Rod E-04 has just been exercised.
- When the NSO selected the next Control Rod (E-11), the white backlight illuminated.
- The white backlight for Control Rod E-04 also remained illuminated.

Control rod motion should . . .

- a.continue after completion of the RBM null sequence for Control Rod E-04.
- b.NOT continue due to a RBM INOP rod block.
- c.NOT continue due to a RMCS select block.
- d.NOT continue due to a RMCS timer malfunction.



## QUESTION: 020 (1.00)

Unit 3 is in STARTUP. The NSO selected control rod M-8. The RBM channel 8 "Push To Set Up" light illuminated. Withdrawal of control rod M-8 is allowed ...

- a. ONLY if RBM channel 8 is bypassed.
- b. until the "SET HI" light illuminates.
- c. ONLY if the "SET UP" button is depressed.
- d. until the selected Trip Reference Level is reached.

## QUESTION: 021 (1.00)

To drive the IRM detectors into the core, the "DRIVE IN" pushbutton must be \_\_\_\_\_(1)\_\_\_\_\_ depressed, AND to drive the IRM detectors out of the core, the "DRIVE OUT" pushbutton must be \_\_\_\_\_(2)\_\_\_\_\_ depressed.

- a. (1)momentarily(2)momentarily
- b. (1)continuously(2)momentarily
- c. (1)momentarily(2)continuously
- d. (1)continuously(2)continuously

## QUESTION: 022 (1.00)

A reactor startup is in progress on Unit 2. The IRM detector range switches are aligned as follows:

- IRM channels 15 and 16 are on range 2.
- All other IRM channels are on range 3.

SRM 21 indication decreases to 2 cps due to a failure of an amplifier in the trip unit. As a result of this failure . . .

- a. ROD OUT BLOCK and SRM HI/INOP alarms are received.
- b. only a SRM HI/INOP alarm is received.
- c. only a SRM DOWNSCALE alarm is received.
- d. ROD OUT BLOCK and SRM SHORT PERIOD alarms are received.

## QUESTION: 023 (1.00)

An operator needed to confirm that there are 20 LPRM inputs to ARPM channel 4. The operator placed the ARPM Channel 4 Meter Function Switch to COUNT. Which of the following would the operator expect to read on the ARPM meter?

- a. 2 on the 0 - 10 scale.
- b. 10 on the 0 - 10 scale.
- c. 20 on the 0 - 125 scale.
- d. 100 on the 0 - 125 scale.

## QUESTION: 024 (1.00)

Which of the following will result from a Recirculation drive flow signal of 115% to Flow Converter Unit 2?

- a. An APRM INOP half scram occurs.
- b. A control rod withdraw block occurs.
- c. The APRM HI-HI flow biased trip setpoints are overly conservative.
- d. The affected APRMs automatically shift to the other flow converter.

## QUESTION: 025 (1.00)

Which of the following would be used to verify torus water level was 11 feet prior to initiating ADS?

- a. Narrow Range Torus Level indication on 902-1 panel.
- b. Narrow Range Torus Level indication on 902-3 panel.
- c. Wide Range Torus Level indication on 902-1 panel.
- d. Wide Range Torus Level indication on 902-3 panel.

## QUESTION: 026 (1.00)

A fire occurred in the Control Room HVAC Room. Control Room evacuation was directed by the Shift Manager. The Unit 2 and Unit 3 NSOs, prior to their departure from the control room, performed all required actions. Which of the following describe ADS valve operation following the evacuation?

- a. No ADS valves will open under ANY condition.
- b. Only one ADS valve will open if reactor pressure exceeds the safety setpoint.
- c. All ADS valves will open if ADS automatically actuates.
- d. All ADS valves will open if their relief setpoint(s) are exceeded.

## QUESTION: 027 (1.00)

Unit 3 was at rated conditions with Division 1 LPCI loop running in torus cooling for a HPCI surveillance. A LOCA occurred on the 'B' recirculation loop.

- RPV water level is - 140 inches and decreasing.
- RPV pressure is 300 psig and stable.

The NSO observes valves TORUS CLG/TEST MO 3-1501-38A and TORUS CLG/TEST MO 3-1501-20A full open. Which of the following describes the consequences of the NSO's observation AND the action that the NSO should perform as a result?

- a. INJ VLV MO 3-1501-22A should be closed and there will be no injection flow. The NSO should close 3-1501-38A and 3-1501-20A and open 3-1501-22A.
- b. LPCI VLV MO 3-1501-21A should be open but injection flow will be low. The NSO should close 3-1501-38A and 3-1501-20A.
- c. INJ VLV MO 3-1501-22A should be closed and there will be no injection flow. The NSO should ensure 3-1501-38A and 3-1501-20A remain open by turning the Containment Spray/Torus Cooling Permissive switch to MANUAL.
- d. LPCI VLV MO 3-1501-21A should be open but injection flow will be low. The NSO should close 3-1501-21A and ensure 3-1501-38A and 3-1501-20A remain open by turning the Containment Spray/Torus Cooling Permissive switch to MANUAL.

## QUESTION: 028 (1.00)

A transient occurred on Unit 3 resulting in the following conditions:

- Drywell Pressure 3 psig
- Containment O<sub>2</sub> 22%
- Containment H<sub>2</sub> 7%

The Unit Supervisor has directed containment venting be initiated to reduce the hydrogen concentration per DEOP 500-04. N<sub>2</sub> purge flow must be obtained using NCAD bypass flow.

The total amount of the radioactive release should be limited by only venting until . . .

- a. H<sub>2</sub> concentration is below 6% in the containment.
- b. H<sub>2</sub> concentration is below 5% in the containment.
- c. H<sub>2</sub> concentration is below 1% in the containment.
- d. N<sub>2</sub> purge flow is 35 scfm.

## QUESTION: 029 (1.00)

Unit 3 was at rated power. A full Group 4 auto isolation signal was inserted by IMD technicians as part of a steam line high flow channel PCIS functional test. A transient then occurred on Unit 3:

- RPV water level decreased and stabilized at -75 inches
- RPV pressure stabilized at 850 psig

Which of the following describes:

- (1)the expected HPCI system status, and
- (2)the expected operator actions.

a.(1)HPCI is isolated.

- (2)have the HPCI steam line high flow channel restored to normal, then reset the Group 4 isolation signal and restore RPV level per DEOP 100, RPV Control.

b.(1)HPCI is injecting.

- (2)restore RPV level per DEOP 100, RPV Control.

c.(1)HPCI is isolated.

- (2)bypass the Group 4 isolations per DEOP 500-2, Bypassing Interlocks and Isolations, and restore RPV level per DEOP 100, RPV Control.

d.(1)HPCI is tripped.

- (2)reset HPCI turbine, bypass the Group 4 isolations per DEOP 500-2, Bypassing Interlocks and Isolations, and restore RPV level per DEOP 100, RPV Control.

## QUESTION: 030 (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: 031 (1.00)

Drywell spray initiation at high drywell temperatures and pressures greater than 11 psig is prohibited due to the potential to ...

- a.implode the drywell due to leakage of nitrogen from the drywell and torus.
- b.implode the drywell due to limitations of the Drywell to Torus vacuum breakers.
- c.collapse the torus downcomer legs due to leakage of nitrogen from the drywell and torus.
- d.collapse the torus downcomer legs due to limitations of the Drywell to Torus vacuum breakers

## QUESTION: 032 (1.00)

A steam leak in the drywell occurred on Unit 3.  
"A" LPCI was aligned for torus sprays as follows:

- Torus Spray Valve MO 3-1501-18A is OPEN with its control switch in AUTO
- Torus Spray Valve MO 3-1501-19A is OPEN with its control switch in AUTO
- Accident Spray Permissive keylock switch 3-1530-316A is in MANUAL
- 2/3 Core Coverage Override keylock switch 3-1530-317A is in OFF

Reactor water level subsequently dropped to -200 inches and was restored to +8 inches using HPCI. Which of the following describes LPCI torus spray valves response to the level transient?

MO 3-1501-18AMO 3-1501-19A

- a.CLOSESremains OPEN
- b.remains OPENremains OPEN
- c.remains OPENCLOSES
- d.CLOSESCLOSES

## QUESTION: 033 (1.00)

Unit 3 is in refueling and new fuel is being loaded into the core. The Refueling Forman requests withdrawal of a control rod. What is the MINIMUM count rate on the applicable SRM to perform this evolution?

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



## QUESTION: 034 (1.00)

Unit 2 was operating at rated power when the output from Instrument Bus power was lost. The Unit NSO placed the 2B Electromatic Relief Valve (ERV) control switch to the MANUAL position. The 2B ERV will ...

- a. remain closed.
- b. open and its position could be confirmed by tailpipe temperature.
- c. open and its position could be confirmed by acoustic monitoring.
- d. open and its position could be confirmed by BOTH tailpipe temperature AND acoustic monitoring.

## QUESTION: 035 (1.00)

Which of the following methods is utilized to minimize turbine eccentricity?

- a. Shell warming before Chest warming with the turbine ON the turning gear.
- b. Shell warming before Chest warming with the turbine OFF the turning gear.
- c. Chest warming before Shell warming with the turbine ON the turning gear.
- d. Chest warming before Shell warming with the turbine OFF the turning gear.

## QUESTION: 036 (1.00)

Unit 3 is operating at rated power. A fully withdrawn control rod spuriously scrams. Which of the following describes the INITIAL response of reactor pressure and Turbine Control Valve positions to this transient?

ReactorTCV  
PressurePositions

- a. Decreases Open slightly
- b. Decreases Close slightly
- c. Remains constant Open slightly
- d. Remains constant Close slightly

## QUESTION: 037 (1.00)

A main turbine startup is in progress on Unit 3. The following conditions exist:

- The turbine has been reset and the green RESET light is LIT.
  - LOAD SET is at 0%.
- The CHEST / SHELL WARMING SELECT "OFF" button has been depressed.
- The CHEST WARMING / PUSH FOR SHELL WARM button has been depressed
  - The PUSH FOR SHELL WARM portion of the button is LIT.

Which of the following describes expected valve positions?

Turbine Control Intermediate  
Valves Stop Valves

- a. Full Open Closed
- b. Partially Open Closed
- c. Full Open Open
- d. Partially Open Open

## QUESTION: 038 (1.00)

What would an operator do to prevent the Feedwater Heater Extraction Valves from automatically closing?

- a. Place and hold the control switch to the Pull-to-Stop position.
- b. Place the control switch to the OPEN position.
- c. Latch the valve in the OPEN position.
- d. De-energize the valve solenoid.

## QUESTION: 039 (1.00)

Unit 2 is at rated conditions. Which of the following describes the response of CRD pump suction pressure to a trip of all condensate/condensate booster pumps? CRD suction pressure will . . .

- a. remain constant.
- b. increase slightly and stabilize at higher value.
- c. decrease slightly and stabilize at a lower value.
- d. decrease rapidly until the pump trips.

## QUESTION: 040 (1.00)

On a loss of instrument air pressure, the Condensate Booster Pump Recirculation valve will ...

- a. open fully.
- b. close fully.
- c. lock-up and remain as is.
- d. close to the minimum blocked position.

## QUESTION: 041 (1.00)

Given the following Unit 2 conditions:

- Mode switch in Startup.
- RPV Water Level is +30 inches.
- Low Flow Reg Valve is in AUTO.
- RPV Pressure is 800 psig.

If the Low Flow Reg Valve controller output signal fails to a low value, what actions need to be taken and why?

- a. Take MANUAL control and shut the Low Flow Reg Valve since level will increase.
- b. Take MANUAL control and open the Low Flow Reg Valve since level will decrease.
- c. Transfer control to the 2B Main Feed Reg Valve since the Low Flow Reg Valve is locked up.
- d. Utilize the Pull-to-Stop feature of the Low Flow Reg Valve Isolation to control flow since the Low Flow Reg Valve is locked up.

## QUESTION: 042 (1.00)

A transient has occurred on Unit 2. The following conditions exist:

- Reactor is scrammed.
- Reactor water level is -35 inches and decreasing.
- RFPs 2B and 2C are not available.
- The NSO informed the Unit Supervisor that feedwater flow stopped increasing just below 6 x 106 lbm/hr.

Which of the following identifies why feedwater flow stopped increasing? The FRV is in ...

- a. MANUAL and is limited by the Feedwater Flow Limiter.
- b. MANUAL and is limited by the Setpoint Setdown function.
- c. AUTOMATIC and is limited by the Feedwater Flow Limiter.
- d. AUTOMATIC and is limited by the Setpoint Setdown function.

## QUESTION: 043 (1.00)

Unit 2 & 3 were at rated power with the following conditions:

- A SBTG train was in PRIMARY.
- B SBTG train was in STANDBY.

An event occurred resulting in the following:

- Unit 2 Drywell at 4 psig internal pressure.
- Bus 39 tripped on overcurrent.

What is the expected status of the SBTG system one (1) minute later?

- a. A SBTG train is operating normally.
- b. B SBTG train is operating normally.
- c. BOTH SBTG trains are operating with equal flow.
- d. NEITHER SBTG train is operating.

## QUESTION: 044 (1.00)

Unit 2 was operating at rated conditions with recirculation in Master Manual when the ESS AC Power output was lost. The reactor recirculation MG sets ...

- a. scoop tubes will lock up since power is lost to the master and individual controllers.
- b. will NOT be affected since the all speed controllers are supplied by instrument power.
- c. will NOT be affected since only the individual controllers are supplied by ESS AC power.
- d. scoop tubes will transfer to the individual controllers since power is lost to the master controller.

QUESTION: 045 (1.00)

Unit 3 is operating near rated power.

- Reactor Feed Pumps (RFP) 3A and 3B are operating.
- RFP 3C is selected for standby.

Which of the following describes the response of the Unit 3 Reactor Feed Pumps to the loss of control power to the RFP 3A breaker and the loss of power to the Low Lube Oil Pressure Trip relays from the 125 VDC Distribution Panel?

- RFP 3A RFP 3B RFP 3C
- a. continues to operate continues to operate remains idle
  - b. continues to operate trips automatically starts
  - c. trips continues to operate automatically starts
  - d. trip trips automatically starts

## QUESTION: 046 (1.00)

An off-site event occurs which results in a TOTAL LOSS of power to Unit 3. The following is noted 15 seconds AFTER the loss of power.

- The 2/3 EDG has auto-started AND has auto-closed to Bus 33-1.
- The Unit 3 EDG has auto-started but has NOT auto-closed.
  - EDG 3 voltage indicates 4200 volts.
  - EDG 3 frequency indicates 58.2 Hz.
- The Auxiliary Power System has otherwise responded as designed.

Which of the following explains why the U3 EDG output breaker did NOT close?

- a. EDG 3 voltage is too high.
- b. EDG 3 frequency is too low.
- c. The 30-second time delay relay has NOT timed out.
- d. The closing of EDG 2/3 precludes the closing of EDG 3 output breaker.

## QUESTION: 047 (1.00)

Each Emergency Diesel Generator (EDG) fuel oil day tank is refilled by a fuel oil transfer pump that is started \_\_\_\_\_ and transfers fuel oil stored in \_\_\_\_\_ fuel oil storage tank.

- a. Automatically from day common tank level switches
- b. Automatically from dayits own tank level switches
- c. manually bya common an operator
- d. manually byits own an operator

QUESTION: 048 (1.00)

Unit 2 Reactor Building Vent system lineup was:

- 2A and 2B vent fans running, 2C in AUTO.
- 2A and 2B exhaust fans running, 2C in AUTO.

The following event occurred:

- 2A vent fan back-draft damper failed closed.

Which of the following describes the response of the Unit 2 Rx Bldg Vent system?  
 The \_\_\_\_\_ (1) \_\_\_\_\_ will trip the 2A vent fan and the 2C vent fan will auto start on \_\_\_\_\_ (2) \_\_\_\_\_.

- (1)(2)
- a.the low flow switchlow Rx Bldg pressure
- b.the low flow switchlow flow through the 2A vent fan
- c.back-draft position limit switchlow Rx Bldg pressure
- d.back-draft position limit switchlow flow through the 2A vent fan

QUESTION: 049 (1.00)

Unit 2 and Unit 3 are operating at rated conditions. The 3A Reactor Building Ventilation Radiation Monitor was failed downscale. Which of the following describes the expected ventilation alignment if the 3B Reactor Building Ventilation Radiation Monitor subsequently failed downscale?

- U2 Reactor Bldg VentilationU3 Reactor Bldg Ventilation
- a.RunningRunning
- b.RunningTripped and Isolated
- c.Tripped and IsolatedTripped and Isolated
- d.RunningTripped and Isolated



## QUESTION: 050 (1.00)

The Unit 2 RBEDT VLVS CONT is in AUTO (RECIRC). A drywell leak results in the following conditions on Unit 2:

- reactor water level is -30 inches and stable.
- drywell pressure is 1.6 psig and stable.

If the RBEDT TEMP HI alarm were to actuate, ...

a.U2 RBEDT PP 2-2042 would START, RBEDT PP DISCH VLV AO 2-200-8 would CLOSE, and RECIRC VLV AO 2-2001-15 would OPEN.

b.U2 RBEDT PP 2-2042 would START, RBEDT PP DISCH VLV AO 2-200-8 would OPEN, and RECIRC VLV AO 2-2001-15 would OPEN.

c.U2 RBEDT PP 2-2042 would START, RBEDT PP DISCH VLV AO 2-200-8 would CLOSE, and RECIRC VLV AO 2-2001-15 would CLOSE.

d.No automatic actions occur.

## QUESTION: 051 (1.00)

The Control Room HVAC is in a normal alignment with both units at power when the following Unit 3 alarms are received:

- MN STM LINE RAD HI (903-3 A-2)
- OFF GAS RAD MONITOR HI (903-3 D-2)
- RX BLDG VENT CH A RAD HI HI (903-3 F-14)
- RX BLDG VENT CH B RAD HI HI (903-3 A-3)

The following additional indications are noted:

- The Main Steam Line Radiation Monitors (MSLRM) are reading 1.6 x Normal (H2 Addition ON) and steady.
- The Off-Gas Radiation Monitors are reading slightly above setpoint and steady.
- Several Reactor Building Area Radiation Monitors are reading 4 mR/hr to 6 mR/hr higher than normal and steady, BUT remain below their respective alarm set points.

All systems respond as expected. Which one of the following are the expected Operator Actions?

- a. Manually scram AND Emergency Depressurize the reactor.
- b. Contact the IMD to for assistance in calibrating the MSLRMs.
- c. Isolate the Main Control Room Ventilation AND start Air Filtration Unit.
- d. Verify Chimney Isolation valve AO 3-5406 and Off-Gas hold-up volume drain valve AO 3-5423-500 close after 15 minutes.

## QUESTION: 052 (1.00)

The purpose of the Main Condenser low vacuum scram is to ...

- a. anticipate the turbine stop valve closure scram.
- b. anticipate the turbine control valve fast closure scram.
- c. prevent the fuel cladding integrity Safety Limit from being exceeded.
- d. prevent the fuel cladding integrity Operating Limit from being exceeded.

## QUESTION: 053 (1.00)

Given the following conditions:

- The site has experienced a total loss of offsite power concurrent with a failure of all EDGs.
- The decision was made to evacuate the Main Control Room before the SBO DGs could be started.

The earliest that power to Unit 2 can be restored is when ...

- a.the U2 SBO diesel is started using a local emergency start.
- b.offsite power is restored since the U2 SBO DG cannot be started from outside the control room.
- c.the U2 SBO DG auto starts after the 4 kV vital buses have been without power for 30 minutes.
- d.the U2 SBO DG is started using a normal start sequence from the 923-74 panel.

## QUESTION: 054 (1.00)

Given the following conditions:

- Unit 2 was operating at rated power when a severe fire broke out in the control room.
- DSSP 0100-CR was being executed and control of the plant was being established locally.
- Due to another fault, 125 Vdc Main Bus 3A was lost.
- The main feed breaker at Bus 38 was OPEN.
- Power must be restored to Bus 38.

How is the feed breaker to Bus 38 CLOSED?

- a. Take the breaker control switch on the 903-8 panel to CLOSE.
- b. Plug in the local pushbutton control station AND depress the close button.
- c. Reset the Bus 38 undervoltage trip and take the breaker control switch on the 903-8 panel to CLOSE.
- d. Use the ratchet type maintenance handle to discharge the closing springs and close the breaker contacts.

## QUESTION: 055 (1.00)

Unit 3 is operating at 35% reactor power. Reactor water level increased to +56 inches during a feedwater transient. Which of the following describes the EXPECTED positions of the Extraction Bypass Valves and the Extraction Non-Return Check Valves?

Extraction Bypass Valves Extraction Non-Return  
Valves Check Valves

- a. CLOSED OPEN
- b. CLOSED CLOSED
- c. OPEN OPEN
- d. OPEN CLOSED

## QUESTION: 056 (1.00)

The 202-3D Electromatic Relief Valve acoustic monitor GREEN and AMBER indicating lights are lit. What does this indicate?

- a. The valve opened and now is closed.
- b. The valve opened and pressure is still above the lift setpoint.
- c. The valve is closed and a trouble condition exists for that monitor.
- d. The valve is closed and an opening time delay is in effect.

## QUESTION: 057 (1.00)

Unit 3 was starting up with reactor pressure at 400 psig when a scram occurred. A Group III isolation occurred as a result of the level transient. Reactor water level is +5 inches and rising at 2 inches a minute. Which of the following methods should be utilized to limit the reactor water level increase? Reset the Group III isolation and establish blowdown flow to the ...

- a. Radwaste System after starting the Auxiliary RWCU pump.
- b. Main Condenser after starting the Auxiliary RWCU pump.
- c. Radwaste System without starting any RWCU pumps.
- d. Main Condenser without starting any RWCU pumps.

## QUESTION: 058 (1.00)

Given the following plant conditions:

- Unit 3 is operating at rated power.
- Narrow Range Level A transmitter is selected for FWLCS control.
- 3-Element mode is active with both FWRV controllers in AUTO.
- 3A and 3B RFPs are running.
- FRVs are in MASTER AUTO set at +30 inches.

The 3A RFP flow transmitter equalizing valve develops a leak from the high pressure tap to the low pressure tap causing flow indication to change by 1.0 Mlbm/hr. Which of the following describe the expected response of the Feedwater Level Control System (FWLC)? FWLC will ...

- a. initially increase flow to the vessel to match feedwater flow to steam flow. Then FWLC will decrease flow to the vessel to re-establish reactor water level at the level setpoint.
- b. initially increase flow to the vessel to match feedwater flow to steam flow. Then FWLC will decrease flow to the vessel to stabilize reactor water level at a higher level than the level setpoint.
- c. initially decrease flow to the vessel to match feedwater flow to steam flow. Then FWLC will increase flow to the vessel to re-establish reactor water level at the level setpoint.
- d. initially decrease flow to the vessel to match feedwater flow to steam flow. Then FWLC will increase flow to the vessel to stabilize reactor water level at a lower level than the level setpoint.

## QUESTION: 059 (1.00)

Unit 2 was operating at rated power when a station blackout occurred. No operator actions have been taken. Conditions are:

- all control rods fully inserted.
- reactor pressure is 1020 psig and increasing.
- reactor water level is +7 inches and decreasing.

The level control strategy should be to maintain RPV level with (1) in accordance with (2).

(1)(2)

- a.CRD and HPCIDGP 02-03
- b.HPCIDGP 02-03
- c.CRD and HPCIDEOP 100 and DGP 02-03
- d.HPCIDEOP 100 and DGP 02-03

## QUESTION: 060 (1.00)

If Drywell pressure was 1.9 psig. Which of the following represent UNSAFE torus parameters?

Torus PressureTorus Level

- a.0.5 psig- 4.5 inches
- b.1.3 psig-4.5 inches
- c.1.3 psig-2.0 inches
- d.0.5 psig-2.0 inches

## QUESTION: 061 (1.00)

A RWCU leak in the drywell has occurred on Unit 3. Drywell pressure is 3.0 psig and all systems have responded as expected. What action(s), if any, are needed for operations of the Drywell Radiation Monitors?

- a.None. The monitors were automatically started by an ECCS initiation signal.
- b.None. The monitors are active during normal and post-accident conditions.
- c.Bypass the Group 2 isolation and manually start the monitors..
- d.Select the sample point (torus or drywell) and manually start the monitors.



## QUESTION: 062 (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 when the Instrument Mechanics report the averaging function of TIRS 2-1640-200B, TORUS TEMP MON DIV II, is NOT functioning properly. TIRS 2-1640-200B currently indicates the following:

Point 1112°F Point 585°F  
Point 295°F Point 685°F  
Point 390°F Point 787°F  
Point 485°F Point 890°F

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

- a. Enter DEOP 200-1 because two readings satisfy the entry requirements.
- b. No actions are required at this time.
- c. Enter DEOP 200-1 because the average reading satisfies the entry requirements.
- d. Immediately place the mode switch in Shutdown.

## QUESTION: 063 (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: 064 (1.00)

The setting for the turbine stop valve closure scram limits the increase in fuel surface heat flux such that \_\_\_\_\_, even during the worst case accident.

- a.the value of MCPR remains BELOW the fuel cladding integrity Safety Limit
- b.the value of MCPR remains ABOVE the fuel cladding integrity Safety Limit
- c.the value of APLHGR remains BELOW the fuel cladding integrity Safety Limit
- d.the value of APLHGR remains ABOVE the fuel cladding integrity Safety Limit

## QUESTION: 065 (1.00)

An ATWS occurred on Unit 3. To manually insert control rods, the RWM Mode Switch should be ...

- a.left in Normal since the rods should be driven in using the currently loaded sequence.
- b.left in Normal to allow the NSO to monitor control rod positions on the RWM screen.
- c.taken to Bypass to allow a new sequence to be loaded as provided by the QNE.
- d.taken to Bypass to remove any insert blocks generated by the Rod Worth Minimizer.

## QUESTION: 066 (1.00)

Unit 2 was scrammed and the control room evacuated. Reactor water level is -88 inches. Based on the above, reactor water level would be monitored at the Reactor Building ...

- a.2202-5 and 2202-6 Instrument Racks
- b.2202-5 and 2202-7 Instrument Racks
- c.2202-6 and 2202-7 Instrument Racks
- d.2202-7 and 2202-8 Instrument Racks

## QUESTION: 067 (1.00)

Which of the following would require emergency depressurization to protect the general public? Offsite release rate is approaching the General Emergency level and an unisolable leak from...

- a.fuel pool cooling is discharging into the radwaste building.
- b.the turbine bypass valves is discharging into the turbine building.
- c.RWCU piping and is discharging into the RWCU demin room.
- d.the HPCI turbine steam inlet piping is discharging into the HPCI room.

## QUESTION: 068 (1.00)

Increasing release rates due to fuel failure on Unit 2 have resulted in the Unit 2/3 Chimney radiation monitoring system switching to Phase 1 operation. Which of the following describes the monitoring system response?

- a. The SPING sample system trips off and the Victoreen unit initiates
- b. The GE Chimney radiation monitor initiates and isolates the SPING sample system
- c. Phase 1 operation initiates a closure of U2 SJAE Suction valves and Chimney isolation valve after a 15 minute time delay.
- d. The SPING sample system continues to operate until the Victoreen System is manually started and the SPING system manually secured

## QUESTION: 069 (1.00)

A spurious Group 2 isolation occurred on Unit 3 and has been reset. Concerning the TIP system, the following conditions exist:

- Group 2 TIP Isolation status light is extinguished.
- All TIP Ball Valves are closed.

A TIP trace is going to be run to check LPRM readings. Prior to performing the TIP trace, the NSO would ...

- a. place the Drive Control Unit mode switch to MAN.
- b. select the Flux Probing Monitor to OFF.
- c. verify the Drive Control Unit ready light is illuminated.
- d. press the Group 2 TIP Isolation Reset Button.

## QUESTION: 070 (1.00)

Unit 2 was operating at rated power when an IMD surveillance resulted in an inadvertent Group 2 isolation. The Group 2 isolation has not been reset. Which of the following describes the affect on Unit 2 torus pressure? Unit 2 torus pressure will ...

- a. remain unchanged since the Drywell to Torus Differential Pressure PCV is supplied nitrogen to operate by the Drywell Pneumatic Receiver.
- b. remain unchanged since the torus will automatically vent to control pressure.
- c. increase since the suction path to the pumpback compressor is lost.
- d. increase since nitrogen will be added to the torus by the Nitrogen Backup Valve.

## QUESTION: 071 (1.00)

Given these initial conditions for Unit 3:

- Reactor is shutdown.
- The Reactor Recirculation system is secured.
- Reactor water temperature is 200°F and steady.
- The 'B' loop of SDC is aligned for Unit 3 Fuel Pool Cooling but is NOT running.
- The 'A' and 'C' loops of shutdown cooling are in service AND are aligned to BOTH Reactor Recirculation loops.
- Reactor water level indications are as follows:
  - +50 inches BOTH Fuel Zone instruments.
  - +30 inches ALL Narrow Range and Wide Range instruments.
  - When the following occurs:- -
  - Bus 34-1 trips on overcurrent.

Based on these conditions, the operator should ...

- a. start the 'B' Shutdown Cooling Pump to restore maximum shutdown cooling flow.
- b. maintain reactor water level at its current value to provide a natural circulation flow path through the moisture separators.
- c. raise reactor water level a minimum of twenty (20) inches to prevent reactor vessel temperature stratification.
- d. use reactor vessel metal temperatures as an alternative method of determining reactor water temperature.

## QUESTION: 072 (1.00)

Following a loss of shutdown cooling, RWCU system flow rate is (1), if possible, in order to (2).

(1)(2)

- a.increasedmaximize heat removal rate through the non-regenerative heat exchanger
- b.increasedmaximize heat removal rate through the regenerative heat exchanger
- c.reducedminimize the possibility of thermal stratification
- d.reducedminimize reactor vessel inventory loss

## QUESTION: 073 (1.00)

By design, what is the minimum reactor pressure that can provide the force required to scram the control rods by reactor pressure only?

- a.300 psig
- b.400 psig
- c.500 psig
- d.600 psig

## QUESTION: 074 (1.00)

Fuel is being loaded on Unit 3 during a refueling outage. The shorting links are removed. Control rod drive maintenance is in progress when the wrong control rod is inadvertently withdrawn. The following alarms and indications are received:

- 903-5 A-4, SRM HI/INOP alarms
- 903-5 B-12, CHANNEL A/B SRM HI-HI alarms
- Indicating light HI lit for SRMs 22 and 23.
- Indicating light HI-HI lit for SRM 22 only.

Based on the above, it is expected that the control rod inadvertently withdrawn would . . .

- a. SCRAM since the shorting links were removed and the HI-HI annunciator alarmed.
- b. NOT SCRAM since the shorting links were removed.
- c. SCRAM since the HI setpoint was exceeded on at least two SRM trip channels.
- d. NOT SCRAM since the HI-HI setpoint was exceeded on only one SRM.

## QUESTION: 075 (1.00)

Unit 3 is being refueled. Which of the following would prevent moving the refuel platform toward the core?

- a. refueling platform is near the core and the fuel grapple is loaded and fully raised.
- b. refueling platform is near the core and the mode switch is in REFUEL.
- c. the mode switch is in REFUEL and one control rod is not fully inserted.
- d. the mode switch is in STARTUP and the refueling platform is near the core.

## QUESTION: 076 (1.00)

Unit 3 was operating at 50% power when an unisolable HPCI steam line leak occurred in the drywell. The following conditions resulted:

- The reactor is scrammed (all rods fully inserted).
- Drywell pressure is 52 psig and rising at 1 psig per minute.
- Torus bottom pressure is 58 psig and rising at 1 psig per minute.
- Torus temperature is 87°F and has risen two degrees over the past 5 minutes.
- The main turbine bypass valves and Isolation Condenser are being used to depressurize the reactor in anticipation of an Emergency Depressurization.

Based on the above, you conclude that . . .

- a.all equipment has operated as designed and containment conditions are as expected for the event.
- b.there is a stuck open Torus to Drywell vacuum breaker.
- c.there is a stuck open relief valve vacuum breaker.
- d.there is a broken ADSV tee-quencher.

## QUESTION: 077 (1.00)

A concern during the performance of DEOP 100 is the occurrence of swell and shrink causing RPV level fluctuations. These level fluctuations can then complicate level control actions. Which of the following is performed to minimize RPV shrink and swell?

- a.Verify FWLCS in automatic.
- b.Inhibit ADS and initiate IC.
- c.Initiate IC and open ADSVs to lower RPV pressure to 945 psig.
- d.Maximize injection using Condensate/Feedwater or other preferred injection system.



## QUESTION: 078 (1.00)

An ATWS occurred on Unit 3 and relief valves are discharging to the torus. Torus cooling is not available. Based on the above, the limit of concern would be the ...

- a.Primary Containment Pressure Limit.
- b.Drywell Spray Initiation Limit.
- c.Heat Capacity Limit.
- d.Pressure Suppression Pressure.

## QUESTION: 079 (1.00)

Unit 3 was at full power when the following occurred:

- A small steam leak occurred in the Unit 3 Drywell.
- The Operating Team successfully scrammed the reactor.
- Drywell temperature has risen to 190°F and is rising at 2°F per minute.
- Drywell pressure has risen to 2.25 psig and is rising at 0.01 (1/100) psig per minute.

Unit 3 drywell coolers are . . .

- a.tripped and should not be restarted.
- b.running and should be tripped for drywell spray.
- c.running and should continue to be run for drywell cooling.
- d.tripped and should be restarted by defeating the trip signals.

## QUESTION: 080 (1.00)

The torus water downcomer submergence limits are dependent on ...

- a.the drywell to reactor building differential pressure.
- b.the drywell to torus differential pressure.
- c.the torus to reactor building differential pressure.
- d.the reactor to torus differential pressure.

## QUESTION: 081 (1.00)

A loss of offsite power has coincided with a loss of coolant accident outside the drywell. The Emergency Diesel Generators perform as expected. Reactor water level has rapidly decreased below -59 inches. Which of the following best describes the response of the core spray system? The core spray pumps ...

- a.start immediately after power is available from an emergency diesel generator.
- b.start 10 seconds after RPV pressure drops below 350 psig.
- c.start immediately once the 8.5 minute timer times out.
- d.start 10 seconds after power is available from an emergency diesel generator.

## QUESTION: 082 (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 isolations are present on each of the following parameters:
  - Drywell Pressure
  - Reactor Building Exhaust Radiation
  - Reactor Water Level

Restarting 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: 083 (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 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: 084 (1.00)

Unit 2 & 3 were at rated power with the following conditions:

- A SBTG train in PRIMARY.
- B SBTG train in STANDBY.

Which of the following describes the TOTAL expected SBTG flow following a reactor building ventilation isolation on Reactor Building Exhaust Radiation without operator action?

- a.~ 3000 scfm
- b.~ 4000 scfm
- c.~ 6000 scfm
- d.~ 8000 scfm

## QUESTION: 085 (1.00)

A river discharge is currently in progress IAW DOP 2000-110. A high radiation alarm on the River Discharge Radiation Monitoring System occurs. Which of the following describes the expected system response?

- a.An isolation of the Equipment and Floor Drain systems is initiated.
- b.An automatic grab sample will be taken.
- c.Waste Surge Tank Pump trips automatically.
- d.An automatic isolation of the river discharge line is initiated.

## QUESTION: 086 (1.00)

A LOCA has occurred on Unit 3 and the torus will be vented due to high drywell and torus hydrogen concentrations. Venting from the torus is preferred because it (1) and is allowed only if torus water level is (2) .

(1)(2)

- a. provides for more controlled vent rate less than 30 feet
- b. provides for more controlled vent rate above 11 feet
- c. takes advantage of the scrubbing action of the water less than 30 feet
- d. takes advantage of the scrubbing action of the water above 11 feet

## QUESTION: 087 (1.00)

A report has been received of an electrical fire in the 2/3 DG Room. The installed fire protection system has initiated. The room must be entered to determine if fire is extinguished. (1) What is the Fire Classification of the fire reported? AND (2) What safety hazards should be considered prior to operators entering the 2/3 DG Room?

(1)(2)

- a. Class B Electrical shock from water spray.
- b. Class C Electrical shock from water spray.
- c. Class B Suffocation from oxygen depletion due to the discharge of CO<sub>2</sub> in the area.
- d. Class C Suffocation from oxygen depletion due to the discharge of CO<sub>2</sub> in the area.

## QUESTION: 088 (1.00)

Unit 3 is operating at rated power. The value of FDLRC has been determined to be 1.06. Which of the following describes the crew's response to the above information? The crew should ...

- a.continue to monitor plant parameters. The value is within acceptable limits.
- b.immediately place the mode switch in shutdown.
- c.within 15 minutes, take actions to INCREASE the value of FDLRC.
- d.within 15 minutes, take actions to REDUCE the value of FDLRC

## QUESTION: 089 (1.00)

The Unit 2 NSO is about to start 2A Reactor Feed Pump as part of a unit startup. In accordance with Operations Standards the NSO should ...

- a.start the pump. No announcement is needed since it is part of a planned evolution.
- b.announce the pump start prior to operating the control switch ONLY if an expected alarm will occur.
- c.announce the pump start and receive a confirmatory repeatback from the Unit Supervisor AFTER operating the control switch.
- d.announce the pump start and receive a confirmatory repeatback from the Unit Supervisor PRIOR to operating the control switch.

## QUESTION: 090 (1.00)

Unit 2 is shutdown. Local adjustment of Reactor Recirculation pump 2A speed is required. Which of the following describes the MINIMUM requirements to perform this evolution?

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

Unit 2 has been shutdown for 10 days and coolant temperature is 190°F. Unit 3 is at rated power. Battery testing has determined that the 250 Vdc Unit 2 battery must be replaced. The battery has been out of service for testing 5 days this cycle. What Technical Specification actions are required for Unit 3?

- a. None if the Unit 3 battery is aligned to Unit 3.
- b. Restore the Unit 2 battery to operable status within 2 days, or be in HOT SHUTDOWN within 12 hours.
- c. Restore the Unit 2 battery to operable status within 7 days, or be in HOT SHUTDOWN within 12 hours.
- d. Restore the Unit 2 battery to operable status within 9 days, or be in HOT SHUTDOWN within 12 hours.

## QUESTION: 093 (1.00)

The Banked Position Withdrawal Sequence (BPWS) applies from (1) control rod density to (2) power.

(1)(2)

- a. 0 %20 %
- b. 0 %30 %
- c. 100 %20 %
- d. 100 %30 %



## QUESTION: 094 (1.00)

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

- General area radiation of 120 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
- b.High Radiation Area
- c.Locked High Radiation Area
- d.Contamination Area

## QUESTION: 095 (1.00)

An Operator has a tagout that requires second or independent verification. For which of the following conditions can the Shift Manager waive independent verification?

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

## QUESTION: 096 (1.00)

In order to purge the containment to the Reactor Building Ventilation system, sample results for which of the following must be below prescribed limits?

- a. Iodine 131 and Beta/Gamma (total particulate)
- b. Iodine 131 and Alpha (total particulate)
- c. Nitrogen 16 and Beta/Gamma (total particulate)
- d. Nitrogen 16 and Alpha (total particulate)

## QUESTION: 097 (1.00)

While performing DOA 600-01, Transient Level Control, an entry condition into the Emergency Operation Procedures (EOPs) is met. Which of the following describes the abnormal procedure use for this condition? Enter all applicable EOPs and execute ...

- a. all flow paths concurrently for the EOPs entered. The abnormal procedures are exited when the EOPs are entered.
- b. all flow paths concurrently for the EOPs entered. Execute the remaining steps of the abnormal procedures when the plant is stable.
- c. the flow path for the most degraded plant parameter first. The abnormal procedures are exited when the EOPs are entered.
- d. only the flow paths for the plant parameters being threatened. Execute the remaining steps of the abnormal procedures when the plant is stable.

## QUESTION: 098 (1.00)

A unit startup was in progress on Unit 2 with reactor power at 30%. The NSO manually tripped the turbine and noticed turbine speed was NOT decreasing and the Turbine Stop valves were still OPEN. What operator actions must be performed?

- a. Trip the main generator and close the MSIVs.
- b. Trip the main generator and open the bypass valves.
- c. Scram the reactor and close the MSIVs.
- d. Scram the reactor and open the bypass valves.

## QUESTION: 099 (1.00)

A reactor startup is in progress on Unit 3. Reactor power is increasing and IRMs are on range 5. All SRMs are partially inserted. Annunciator 903-5 A-4, SRM HI/INOP, was received. The SRMs are reading as follows:

SRM 21	$2 \times 10^3$ cps	SRM 22	$2 \times 10^2$ cps
SRM 23	$2 \times 10^5$ cps	SRM 24	$2 \times 10^4$ cps

Which of the following is required to continue the plant startup?

- a. Select and withdraw all SRMs until fully withdrawn.
- b. Select and insert SRM 22 until counts are greater than  $10^3$  cps.
- c. Continue rod withdrawal since all IRMs are above range 3.
- d. Select and withdraw SRM 23 until counts are less than  $8 \times 10^4$ .

## QUESTION: 100 (1.00)

During a normal refueling outage the following conditions exist on U2:

- Fuel is in the reactor vessel
- Fuel pool gates are installed.
- 2A and 2B LPCI pumps are Protected Pathway Components.
- The following systems are OOS with major outage work in progress:
  - SBLC (pumps)
  - Feedwater (piping)
  - Both CS pumps
  - 2C and 2D LPCI pumps

The following events occur during your shift:

- 2A and 2B LPCI pumps are declared inoperable per Tech. Specs. but are available for S/D risk.
- Refuel level indication begins to drop rapidly.
- Verbal reports of dropping fuel pool level and drywell flooding are called into the control room.

Which of the following sources of makeup water should the control room team use to maintain RPV level?

- a.Fire system
- b.2A and 2B LPCI pumps
- c.Standby Coolant Supply
- d.Clean Demin hoses from the refuel floor

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

ANSWER: 001 (1.00)  
 c.  
 REFERENCE:  
 SDM 201001  
 INPO Exam Bank QID 264  
 201001K303 ..(KA's)

ANSWER: 002 (1.00)  
 b.  
 REFERENCE:  
 M-34  
 LOC #20101B0182  
 201001K502 ..(KA's)

ANSWER: 003 (1.00)  
 b.  
 REFERENCE:  
 M-34  
 SDM 201001  
 New  
 201003A103 ..(KA's)

ANSWER: 004 (1.00)  
 d.  
 REFERENCE:  
 System Description  
 Manuals:259001, 209001,  
 278000, 202001  
 New  
 202001K201 ..(KA's)

ANSWER: 005 (1.00)  
 c.  
 REFERENCE:  
 SDM 202001  
 New  
 202002K301 ..(KA's)

ANSWER: 006 (1.00)  
 c.  
 REFERENCE:  
 DOS 1500-05, Rev. 31  
 New  
 203000 2.2.12 ..(KA's)

ANSWER: 019 (1.00)  
 b.

ANSWER: 007 (1.00)  
 b.  
 REFERENCE:  
 Dresden ILT Bank  
 20300S0381  
 (Significantly modified)  
 203000K407 ..(KA's)

ANSWER: 008 (1.00)  
 d.  
 REFERENCE:  
 DAN 902(3)-4 H-12, Rev. 04  
 New  
 204000A208 ..(KA's)

ANSWER: 009 (1.00)  
 a.  
 REFERENCE:  
 Dresden SDM 206000  
 New  
 206000K203 ..(KA's)

ANSWER: 010 (1.00)  
 c.  
 REFERENCE:  
 SDM 206000  
 Cooper 98 NRC RO Exam  
 Question #83  
 206000K301 ..(KA's)

ANSWER: 011 (1.00)  
 a.  
 REFERENCE:  
 SDM 207000  
 New  
 207000K202 ..(KA's)

ANSWER: 012 (1.00)  
 b.  
 REFERENCE:  
 SDM 216000  
 ILT 21600S0201  
 216000K408 ..(KA's)

REFERENCE:  
 SDM 215002

ANSWER: 013 (1.00)  
 d.  
 REFERENCE:  
 TS 3.5.B  
 20901B0081 (modified)  
 209001 2.1.10 ..(KA's)

ANSWER: 014 (1.00)  
 a.  
 REFERENCE:  
 SDM 209001  
 New  
 209001K103 ..(KA's)

ANSWER: 015 (1.00)  
 b.  
 REFERENCE:  
 SDM 211001  
 New  
 211000A102 ..(KA's)

ANSWER: 016 (1.00)  
 c.  
 REFERENCE:  
 SDM 201002  
 New  
 214000K602 ..(KA's)

ANSWER: 017 (1.00)  
 c.  
 REFERENCE:  
 SDM 215001  
 New  
 215001A106 ..(KA's)

ANSWER: 018 (1.00)  
 b.  
 REFERENCE:  
 SDM 215001  
 New  
 215001K604 ..(KA's)

New  
 215002K106 ..(KA's)

ANSWER: 020 (1.00)  
 d.  
 REFERENCE:  
 215L-S2 and SDM215002  
 ILT Bank #21502S0101  
 215002K501 ..(KA's)

ANSWER: 021 (1.00)  
 c.  
 REFERENCE:  
 SDM 215003  
 New  
 215003K405 ..(KA's)

ANSWER: 022 (1.00)  
 c.  
 REFERENCE:  
 SDM 215004  
 New  
 215004K605 ..(KA's)

ANSWER: 023 (1.00)  
 d.  
 REFERENCE:  
 SDM 215005  
 New  
 215005A404 ..(KA's)

ANSWER: 024 (1.00)  
 b.  
 REFERENCE:  
 DAN 902(3)-5 D-6  
 ILT EB #21505S0351  
 215005K607 ..(KA's)

ANSWER: 037 (1.00)

ANSWER: 025 (1.00)  
 d.  
 REFERENCE:  
 SDM 223001  
 New  
 218000A408 ..(KA's)

ANSWER: 026 (1.00)  
 b.  
 REFERENCE:  
 DSSP 0100-CR Rev 21  
 SDM 239001  
 New  
 218000K105 ..(KA's)

ANSWER: 027 (1.00)  
 b.  
 REFERENCE:  
 SDM 203000  
 New  
 219000A212 ..(KA's)

ANSWER: 028 (1.00)  
 c.  
 REFERENCE:  
 DEOP 500-4  
 ILT Exam Bank  
 #05500B0381  
 (Significantly modified)  
 223001A105 ..(KA's)

ANSWER: 029 (1.00)  
 a.  
 REFERENCE:  
 SDM 206000  
 DEOP 100, Rev. 09  
 New  
 223002A208 ..(KA's)

ANSWER: 030 (1.00)  
 a.  
 REFERENCE:  
 SDM 203000  
 New  
 226001K202 ..(KA's)

a.

ANSWER: 031 (1.00)  
 d.  
 REFERENCE:  
 295LC01  
 New  
 226001K506 ..(KA's)

ANSWER: 032 (1.00)  
 d.  
 REFERENCE:  
 SDM 203000  
 New  
 230000A301 ..(KA's)

ANSWER: 033 (1.00)  
 b.  
 REFERENCE:  
 DGP 03-04 Rev 36  
 New  
 234000A401 ..(KA's)

ANSWER: 034 (1.00)  
 c.  
 REFERENCE:  
 239L-S1r19  
 New  
 239002K603 ..(KA's)

ANSWER: 035 (1.00)  
 a.  
 REFERENCE:  
 DOP 5600-05, Rev 04  
 New  
 241000A124 ..(KA's)

ANSWER: 036 (1.00)  
 b.  
 REFERENCE:  
 SDM 241000  
 New  
 241000K503 ..(KA's)

REFERENCE:

DOP 5600-05 Rev 4  
New  
245000A305 ..(KA's)

ANSWER: 038 (1.00)  
a.

REFERENCE:  
SDM 260000  
DOA 3500-02

ILT Bank #26000S0101  
245000K410 ..(KA's)

ANSWER: 039 (1.00)  
c.

REFERENCE:  
SDM 201001  
New

256000K302 ..(KA's)

ANSWER: 040 (1.00)  
c.

REFERENCE:  
SDM 259002  
New

256000K601 ..(KA's)

ANSWER: 041 (1.00)  
b.

REFERENCE:  
DAN 902-6 H-3  
DOA 0600-01

Revised LORT Bank #2  
25902B0231  
259002A206 ..(KA's)

ANSWER: 042 (1.00)  
c.

REFERENCE:  
SDM 259002, 6.J.  
New

259002A301 ..(KA's)

ANSWER: 054 (1.00)  
d.

REFERENCE:

ANSWER: 043 (1.00)  
a.

REFERENCE:  
DAN 923-5, A06, B06 Rev 8  
DOA 7500-01 Rev 12  
SDM 261000

LORT Bank #11 26100B0121  
261000A302 ..(KA's)

ANSWER: 044 (1.00)  
a.

REFERENCE:  
SDM 202002  
New

262002A102 ..(KA's)

ANSWER: 045 (1.00)  
a.

REFERENCE:  
DOA 6900-T1 Rev 10  
New

263000K302 ..(KA's)

ANSWER: 046 (1.00)  
b.

REFERENCE:  
264L-S1

LORT Bank #10 26400B0231  
264000A303 ..(KA's)

ANSWER: 047 (1.00)  
b.

REFERENCE:  
SDM 264001, 2.E.  
New

264000K105 ..(KA's)

ANSWER: 048 (1.00)  
b.

REFERENCE:  
288L-S1  
New

288000K403 ..(KA's)

DSSP 0100-CR  
LOC Exam Bank #9  
06000B0112

ANSWER: 049 (1.00)  
c.

REFERENCE:  
DAN 902(3)-3 G-14, Rev. 08  
New  
290001A409 ..(KA's)

ANSWER: 050 (1.00)  
d.

REFERENCE:  
DAN 923-4 B-3, Rev 01A  
New  
290001K403 ..(KA's)

ANSWER: 051 (1.00)  
c.

REFERENCE:  
DAN 903-3 A-2, Rev. 13  
DAN 903-3 D-2, Rev. 06  
DAN 903-3 A-3, Rev. 11  
DAN 903-3 F-14, Rev. 12  
DOA 5750-04, Rev. 14  
DGA-16, Rev. 10  
New

290003A202 ..(KA's)

ANSWER: 052 (1.00)  
a.

REFERENCE:  
SDM 212000, 6.F.  
New

295002K301 ..(KA's)

ANSWER: 053 (1.00)  
a.

REFERENCE:  
264L-S3  
ILT Bank #26403S0041  
(Revised)

295003K106 ..(KA's)

295004A103 ..(KA's)

ANSWER: 055 (1.00)

d.  
 REFERENCE:  
 SDM 260000  
 New  
 295005K205 ..(KA's)

ANSWER: 056 (1.00)

a.  
 REFERENCE:  
 239L-S1  
 ILT Exam Bank  
 #23901S0151 (Modified)  
 295007A104 ..(KA's)

ANSWER: 057 (1.00)

d.  
 REFERENCE:  
 DOP 1200-02 Rev. 14  
 New  
 295008A109 ..(KA's)

ANSWER: 058 (1.00)

a.  
 REFERENCE:  
 SDM 259002  
 New  
 295008K103 ..(KA's)

ANSWER: 059 (1.00)

d.  
 REFERENCE:  
 DEOP 100  
 New  
 295009 2.4.1 ..(KA's)

ANSWER: 072 (1.00)

ANSWER: 060 (1.00)

a.  
 REFERENCE:  
 DOP 1600-02 Rev 10  
 New  
 295010K201 ..(KA's)

ANSWER: 061 (1.00)

b.  
 REFERENCE:  
 SDM 223006  
 New  
 295010K303 ..(KA's)

ANSWER: 062 (1.00)

b.  
 REFERENCE:  
 SDM 223001  
 New  
 295026A201 ..(KA's)

ANSWER: 063 (1.00)

a.  
 REFERENCE:  
 DGP 01-01, Rev. 90  
 New  
 295014K201 ..(KA's)

ANSWER: 064 (1.00)

b.  
 REFERENCE:  
 212L-S1  
 SDM 212000  
 New  
 295014K301 ..(KA's)

ANSWER: 065 (1.00)

d.  
 REFERENCE:  
 DEOP 0500-05 Rev 09  
 New  
 295015K301 ..(KA's)

a.

ANSWER: 066 (1.00)

d.  
 REFERENCE:  
 DSSP 0100-CR  
 216L-S1  
 LOC Exam Bank #1  
 21600B0021  
 295016A106 ..(KA's)

ANSWER: 067 (1.00)

b.  
 REFERENCE:  
 DEOP 300-2, Rev. 1  
 New  
 295017K102 ..(KA's)

ANSWER: 068 (1.00)

a.  
 REFERENCE:  
 272L-S4  
 ILT Exam Bank 27204S0111  
 295017K205 ..(KA's)

ANSWER: 069 (1.00)

d.  
 REFERENCE:  
 DOP 0700-06, Rev. 14  
 ILT Exam Bank  
 #21501S0141  
 295020A203 ..(KA's)

ANSWER: 070 (1.00)

c.  
 REFERENCE:  
 SDM 223007  
 New  
 295020K308 ..(KA's)

ANSWER: 071 (1.00)

c.  
 REFERENCE:  
 DOP 1000-03 Rev 41  
 LOC Exam Bank #1  
 20500B0011  
 295021K203 ..(KA's)

REFERENCE:



DOA 1000-01, Rev. 12 New 295021K304 ..(KA's)	ANSWER: 078 (1.00) c. REFERENCE: DEOP 200-1 295LC01 New 295026K302 ..(KA's)	ANSWER: 084 (1.00) b. REFERENCE: SDM 261000 New 295038A106 ..(KA's)
ANSWER: 073 (1.00) b. REFERENCE: SDM 201003 New 295022K207 ..(KA's)	ANSWER: 079 (1.00) d. REFERENCE: SDM 223007 DEOP 200-1 New 295028A103 ..(KA's)	ANSWER: 085 (1.00) b. REFERENCE: DOP 2000-110 DAN 2223-6 A-12 Rev 2 New 295038K201 ..(KA's)
ANSWER: 074 (1.00) a. REFERENCE: SDM 215004 New 295023A106 ..(KA's)	ANSWER: 080 (1.00) b. REFERENCE: DAN 902(3)-4 C-23 New 295030 2.4.11 ..(KA's)	ANSWER: 086 (1.00) c. REFERENCE: 295L-S10 New 500000K208 ..(KA's)
ANSWER: 075 (1.00) d. REFERENCE: Fuel Handling and Refueling Equipment LP ILT Exam Bank #29501S0351 295023K302 ..(KA's)	ANSWER: 081 (1.00) b. REFERENCE: SDM 209001 ILT Exam Bank #20901I08B_001A 295031K203 ..(KA's)	ANSWER: 087 (1.00) d. REFERENCE: SDM 286002 NGET Rev 23 New 600000K101 ..(KA's)
ANSWER: 076 (1.00) b. REFERENCE: SDM 223001 New 295024A206 ..(KA's)	ANSWER: 082 (1.00) b. REFERENCE: 295L-S3 New 295034K101 ..(KA's)	ANSWER: 088 (1.00) d. REFERENCE: TS 3.11.B Rev 150/145 New 294001 2.1.11 ..(KA's)
ANSWER: 077 (1.00) c. REFERENCE: 295L-S1 New 295025K106 ..(KA's)	ANSWER: 083 (1.00) c. REFERENCE: 295L-S1 New 295037K101 ..(KA's)	ANSWER: 089 (1.00) d. REFERENCE: AD-AA-104-102 Rev 3 ILT Exam Bank #29801S0051 294001 2.1.2 ..(KA's)
ANSWER: 090 (1.00) b.	REFERENCE: DOP 0202-12 Rev 15	New 294001 2.1.8 ..(KA's)

ANSWER: 091 (1.00)  
 c.  
 REFERENCE:  
 DOP 0700-02  
 ILT Exam Bank  
 #21503B0021  
 294001 2.2.2 ..(KA's)

ANSWER: 092 (1.00)  
 d.  
 REFERENCE:  
 TS 3.9.C.  
 New  
 294001 2.2.24 ..(KA's)

ANSWER: 093 (1.00)  
 c.  
 REFERENCE:  
 299L-S3  
 New  
 294001 2.2.33 ..(KA's)

ANSWER: 094 (1.00)  
 b.  
 REFERENCE:  
 DRP 5010-01, Rev. 09  
 ILT Exam Bank  
 #29400S0261  
 (modified)  
 294001 2.3.1 ..(KA's)

ANSWER: 095 (1.00)  
 a.  
 REFERENCE:  
 AD-AA-104-103 Rev 2  
 New  
 294001 2.3.2 ..(KA's)

ANSWER: 096 (1.00)  
 a.  
 REFERENCE:  
 DOP 1600-07 Rev 15  
 New  
 294001 2.3.9 ..(KA's)

ANSWER: 097 (1.00)  
 b.  
 REFERENCE:  
 295L-02  
 New  
 294001 2.4.13 ..(KA's)

ANSWER: 098 (1.00)  
 c.  
 REFERENCE:  
 DOA 5600-01, Rev. 14  
 LOC Exam Bank #2  
 29501B0191  
 294001 2.4.49 ..(KA's)

ANSWER: 099 (1.00)  
 d.  
 REFERENCE:  
 DAN 902(3)-5 A-4, Rev. 05  
 SDM 215004  
 New  
 294001 2.4.50 ..(KA's)

ANSWER: 100 (1.00)  
 b.  
 REFERENCE:  
 OU-AA-103  
 Dresden Ops Dept. Policy  
 #35 5/31/95  
 LOC EB 29900B1091  
 294001 2.4.49 ..(KA's)

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

## ANSWER KEY

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

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

<p><b>U.S. Nuclear Regulatory Commission Site-Specific Written Examination</b></p>	
<p><b>Applicant Information</b></p>	
Name: MASTER	Region: III
Date: FEBRUARY 15, 2001	Facility/Unit: DRESDEN U2/U3
License Level: SRO	Reactor Type: GE
Start Time:	Finish Time:
<p><b>Instructions</b></p> <p>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.</p>	
<p><b>Applicant Certification</b></p> <p>All work done on this examination is my own. I have neither given nor received aid.</p> <p style="text-align: right; margin-right: 100px;">_____</p> <p style="text-align: right;">Applicant's Signature</p>	
<p><b>Results</b></p>	
Examination Value	_____ 100.0 _____ Points
Applicant's Score	_____ Points
Applicant's Grade	_____ Percent

## QUESTION: 001 (1.00)

Unit 3 is operating at 50% power with the following CRD system indications:

- Drive water differential pressure 265 psid
- Drive flow 0.0 gpm
- Charging Header pressure 1450 psig
- CRD system flow 50 gpm

While attempting to INSERT control rod M-05, drive water flow is observed to be 0.0 gpm. When attempting to WITHDRAW control rod M-05, drive water flow is observed to be 2.0 gpm. The control rod does NOT move. Which of the following describes the cause of the above indications? Directional Control Valve ...

- a. 122 is stuck closed.
- b. 122 is stuck open.
- c. 123 is stuck closed.
- d. 123 is stuck open.

## QUESTION: 002 (1.00)

Unit 3 is in a normal at power configuration when a single event/malfunction occurred affecting the CRD system. NO operator actions were performed. The operator observed the following indications before the event and after the CRD System stabilized:

	BEFORE	AFTER
CRD flow controller - flow indication	58 gpm	0 gpm
CRD flow controller - demand indication	60%	100%
Cooling Water Flow	58 gpm	0 gpm
Cooling Water Pressure	25 psid	0 psid
Drive Water Pressure	280 psid	0 psid
Charging Pressure	1475 psig	1650 psig

Which of the following is the cause for this event?

- a. A Reactor Scram has occurred.
- b. The flow control valve failed closed.
- c. The Charging Header '25' valve was inadvertently opened.
- d. The flow transmitter output to the flow controller failed high.

## QUESTION: 003 (1.00)

Unit 2 was at rated conditions. The CRD system was in a normal lineup. A leak slowly developed on the Unit 2 RVWLIS piping increasing to 1 gpm over several hours. Which of the following describes how CRD control room indication would be affected by the leak?

- a. Cooling water flow indication would increase by 1 gpm.
- b. Drive water flow indication would increase by 1 gpm.
- c. System flow indication would increase by 1 gpm.
- d. System flow indication would decrease by 1 gpm..

## QUESTION: 004 (1.00)

Unit 2 was operating at rated conditions when Bus 22 tripped. Which of the following would be directly affected as a result of that trip?

- a. 2B Condensate Booster Pump.
- b. 2B Core Spray Pump.
- c. 2B Instrument Air Compressor.
- d. 2B Reactor Recirculation Pump.

## QUESTION: 005 (1.00)

Unit 2 was operating in single loop operation at 45% power with the 2B Recirculation pump secured. The 2A Recirculation MG scoop tube failed such that it repositioned to the fully retracted position. Which of the following describes the expected change in core flow and its relationship to indicated core flow?

- a. Core flow will decrease and be less than indicated core flow.
- b. Core flow will decrease and be greater than indicated core flow.
- c. Core flow will increase and be less than indicated core flow.
- d. Core flow will increase and be greater than indicated core flow.

## QUESTION: 006 (1.00)

Unit 3 was at rated conditions when the following occurred in the following order:

- LOCA
- Drywell pressure reached +6 psig
- Loss of Offsite Power occurred
- EDGs closed onto ECCS Buses resetting the UV relays

Which of the following describes how the LPCI pumps will react?

- a. All LPCI pumps start 5 seconds after EDGs close onto ECCS Buses.
- b. "A" and "C" LPCI pumps start immediately after EDGs close onto ECCS Buses; "B" and "D" LPCI pumps start 5 seconds after EDGs close onto ECCS Buses.
- c. "A" and "C" LPCI pumps start 5 seconds after EDGs close onto ECCS Buses; "B" and "D" LPCI pumps start 10 seconds after EDGs close onto ECCS Buses.
- d. "A" and "C" LPCI pumps start immediately after EDGs close onto ECCS Buses; "B" and "D" LPCI pumps start 10 seconds after EDGs close onto ECCS Buses.

## QUESTION: 007 (1.00)

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

- plant heatup in progress.
- reactor pressure is 50 psig.
- reactor coolant temperature is 270°F.

The RWCU Auxiliary Pump seal overheats and one of the alarms received is 903-4 H-12, RWCU AUX PP CLG WTR TEMP HI. The Rx Outlet Isol, MO 3-1201-1 and Rx Inlet Isol, MO 3-1201-2 close. Which of the following describes the expected operator action? Verify the RWCU Aux Pump is (1) and AUX PP SUCTION, MO 3-1201-3, and RX OUTLET BYP, MO 3-1201-1A, valves are (2).

- a. RUNNING OPEN
- b. TRIPPED OPEN
- c. RUNNING CLOSED
- d. TRIPPED CLOSED



## QUESTION: 008 (1.00)

Following an MSIV isolation at full power, HPCI received an auto initiate signal on RPV low level. During the initiation, the HPCI pump flow signal was lost to the flow controller. Which of the following describes the HPCI system response if no operator action was taken? The HPCI turbine will ...

- a.overspeed and shutdown.
- b.remain at minimum speed.
- c.trip on high RPV water level.
- d.fail to start due to loss of the MGU signal input.

## QUESTION: 009 (1.00)

Unit 3 was operating at rated power when 125 VDC power was lost to Division I of the Isolation Condenser initiation and isolation logic. Which of the following is expected to occur as a direct result of the loss of power?

- a.All Isolation Condenser isolation valves will close.
- b.An Isolation Condenser initiation will occur.
- c.All Isolation Condenser valves will remain as is.
- d.The Isolation Condenser inboard isolation valves will close.

## QUESTION: 010 (1.00)

Unit 2 was at rated power when a transient occurred resulting in the following conditions:

- A fire renders the ESS bus unavailable
- The Unit 2 and the 2/3 Emergency Diesel Generators fail to start
- A reactor scram occurs concurrent with a loss of TR-22

Based on these conditions, what indication of RPV level should be available to the Operating Crew?

- a. One fuel zone instrument only.
- b. One medium range instrument only.
- c. One medium range and one fuel zone instrument.
- d. One medium range and one narrow range instrument.

## QUESTION: 011 (1.00)

A transient occurred on Unit 3:

- Drywell pressure peaked at +4 psig.
- Drywell pressure is now 1 psig and steady.
- RPV level is 18" and dropping.
- RPV pressure is 230 psig and going down.
- PP DISCH VALVE, MO 2-1402-25A, is full OPEN.
- The NSO shut the PP DISCH VALVE, MO 2-1402-24A, to terminate injection from A Core Spray System.

To raise RPV water level using the 2A Core Spray Pump, the Unit Supervisor should direct the NSO to ...

- a. open the 24A valve, then throttle the 25A valve for level control.
- b. open the 24A valve; once the 24A valve is full open then throttle the 24A valve to control level.
- c. close the 25A valve, then open the 24A valve. Once the 24A valve is open, throttle the 25A valve to control level.
- d. wait until RPV water level reaches +8", the 24A valve will then automatically open, then throttle the 25A valve for level control.

QUESTION: 012 (1.00)

It is planned to isolate and drain the suction piping for the Unit 2 "B" Core Spray pump. The Jockey Pump could...

- a. supply ALL Unit 2 ECCS Keepfill.
- b. supply Unit 2 ECCS Keepfill ONLY to Core Spray "A" and LPCI System "A."
- c. supply Unit 2 ECCS Keepfill ONLY to LPCI System "A" and LPCI System "B."
- d. NOT supply ANY Unit 2 ECCS Keepfill.

QUESTION: 013 (1.00)

A transient has occurred on Unit 2.

- The Unit Supervisor ordered SBLC started for injection into the reactor.
- The NSO placed the INJECTION CONTROL switch to the SYS 2 position.

Which of the following describes the expected status of the Squib A and Squib B indicating lights following the NSO's actions?

- Squib A light Squib B light
- a. ENERGIZED ENERGIZED
  - b. ENERGIZED DE-ENERGIZED
  - c. DE-ENERGIZED ENERGIZED
  - d. DE-ENERGIZED DE-ENERGIZED

## QUESTION: 014 (1.00)

Control Rod F-09 is uncoupled. The overtravel reed switch on control rod F-09's position probe is stuck open. Which of the following describes the expected indication on the MCR display if control rod F-09 was withdrawn to position 48 and a coupling check then performed? The position readout for Control Rod F-09 on the Full Core Display will . . .

- a. be blank and an OVERTRAVEL alarm will be received.
- b. indicate a Red "48" and an OVERTRAVEL alarm will be received.
- c. be blank and an OVERTRAVEL alarm will NOT be received.
- d. indicate a Red "48" and an OVERTRAVEL alarm will NOT be received.

## QUESTION: 015 (1.00)

Unit 3 is operating at 80% power.

- The CRD Weekly Exercise surveillance is in progress.
- Control Rod E-04 has just been exercised.
- When the NSO selected the next Control Rod (E-11), the white backlight illuminated.
- The white backlight for Control Rod E-04 also remained illuminated.

Control rod motion should . . .

- a. continue after completion of the RBM null sequence for Control Rod E-04.
- b. NOT continue due to a RBM INOP rod block.
- c. NOT continue due to a RMCS select block.
- d. NOT continue due to a RMCS timer malfunction.

## QUESTION: 016 (1.00)

Unit 3 is in STARTUP. The NSO selected control rod M-8. The RBM channel 8 "Push To Set Up" light illuminated. Withdrawal of control rod M-8 is allowed ...

- a. ONLY if RBM channel 8 is bypassed.
- b. until the "SET HI" light illuminates.
- c. ONLY if the "SET UP" button is depressed.
- d. until the selected Trip Reference Level is reached.

## QUESTION: 017 (1.00)

A reactor startup is in progress and the following conditions exist . . .

- Power has risen from 10/40 on IRM range 3 to 40/125 on IRM range 4 in 40 seconds.
- NO rod motion is in progress.

Based on the above conditions, the reactor period is about (1) and the Unit Supervisor should direct the NSO to (2) .

- (1)(2)
- a. 29 seconds insert control rods to obtain a longer reactor period.
- b. 29 seconds allow the power increase to continue since the reactor period is reasonable.
- c. 58 seconds insert control rods to obtain a longer reactor period.
- d. 58 seconds allow the power increase to continue since the reactor period is reasonable.

## QUESTION: 018 (1.00)

To drive the IRM detectors into the core, the "DRIVE IN" pushbutton must be \_\_\_\_\_(1)\_\_\_\_\_ depressed, AND to drive the IRM detectors out of the core, the "DRIVE OUT" pushbutton must be \_\_\_\_\_(2)\_\_\_\_\_ depressed.

- a.(1)momentarily(2)momentarily
- b.(1)continuously(2)momentarily
- c.(1)momentarily(2)continuously
- d.(1)continuously(2)continuously

## QUESTION: 019 (1.00)

Which of the following will result from a Recirculation drive flow signal of 115% to Flow Converter Unit 2?

- a.An APRM INOP half scram occurs.
- b.A control rod withdraw block occurs.
- c.The APRM HI-HI flow biased trip setpoints are overly conservative.
- d.The affected APRMs automatically shift to the other flow converter.

## QUESTION: 020 (1.00)

Which of the following would be used to verify torus water level was 11 feet prior to initiating ADS?

- a.Narrow Range Torus Level indication on 902-1 panel.
- b.Narrow Range Torus Level indication on 902-3 panel.
- c.Wide Range Torus Level indication on 902-1 panel.
- d.Wide Range Torus Level indication on 902-3 panel.

## QUESTION: 021 (1.00)

A fire occurred in the Control Room HVAC Room. Control Room evacuation was directed by the Shift Manager. The Unit 2 and Unit 3 NSOs, prior to their departure from the control room, performed all required actions. Which of the following describe ADS valve operation following the evacuation?

- a.No ADS valves will open under ANY condition.
- b.Only one ADS valve will open if reactor pressure exceeds the safety setpoint.
- c.All ADS valves will open if ADS automatically actuates.
- d.All ADS valves will open if their relief setpoint(s) are exceeded.

## QUESTION: 022 (1.00)

With Unit 2 at rated power, an event occurred resulting in the following plant conditions:

-Drywell pressure	0.90 psig
-Torus pressure	-0.05 psig

Which of the following actions will allow continued operation without reliance upon an LCO action statement?

- a.Raise Torus pressure by 0.05 psig.
- b.Reduce Drywell pressure by 0.06 psig.
- c.Raise Drywell pressure by 0.11 psig.
- d.Reduce Torus pressure by 0.10 psig.

## QUESTION: 023 (1.00)

A transient occurred on Unit 3 resulting in the following conditions:

- Drywell Pressure 3 psig
- Containment O<sub>2</sub> 2%
- Containment H<sub>2</sub> 7%

The Unit Supervisor has directed containment venting be initiated to reduce the hydrogen concentration per DEOP 500-04. N<sub>2</sub> purge flow must be obtained using NCAD bypass flow. The total amount of the radioactive release should be limited by only venting until . . .

- a. H<sub>2</sub> concentration is below 6% in the containment.
- b. H<sub>2</sub> concentration is below 5% in the containment.
- c. H<sub>2</sub> concentration is below 1% in the containment.
- d. N<sub>2</sub> purge flow is 35 scfm.

## QUESTION: 024 (1.00)

Which of the following describe the MINIMUM closure time of the MSIVs and the bases for that time limit?

- a. 3 seconds, to prevent valve seat damage.
- b. 3 seconds, to prevent pressure surges.
- c. 5 seconds, to prevent valve seat damage.
- d. 5 seconds, to prevent pressure surges.



## QUESTION: 025 (1.00)

Unit 3 was at rated power. A full Group 4 auto isolation signal was inserted by IMD technicians as part of a steam line high flow channel PCIS functional test. A transient then occurred on Unit 3:

- RPV water level decreased and stabilized at -75 inches
- RPV pressure stabilized at 850 psig

Which of the following describes:

- (1)the expected HPCI system status, and
- (2)the expected operator actions.

a.(1)HPCI is isolated.

- (2)have the HPCI steam line high flow channel restored to normal, then reset the Group 4 isolation signal and restore RPV level per DEOP 100, RPV Control.

b.(1)HPCI is injecting.

- (2)restore RPV level per DEOP 100, RPV Control.

c.(1)HPCI is isolated.

- (2)bypass the Group 4 isolations per DEOP 500-2, Bypassing Interlocks and Isolations, and restore RPV level per DEOP 100, RPV Control.

d.(1)HPCI is tripped.

- (2)reset HPCI turbine, bypass the Group 4 isolations per DEOP 500-2, Bypassing Interlocks and Isolations, and restore RPV level per DEOP 100, RPV Control.

## QUESTION: 026 (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: 027 (1.00)

Drywell spray initiation at high drywell temperatures and pressures greater than 11 psig is prohibited due to the potential to ...

- a.implode the drywell due to leakage of nitrogen from the drywell and torus.
- b.implode the drywell due to limitations of the Drywell to Torus vacuum breakers.
- c.collapse the torus downcomer legs due to leakage of nitrogen from the drywell and torus.
- d.collapse the torus downcomer legs due to limitations of the Drywell to Torus vacuum breakers

## QUESTION: 028 (1.00)

Unit 3 is in refueling and new fuel is being loaded into the core. The Refueling Forman requests withdrawal of a control rod. What is the MINIMUM count rate on the applicable SRM to perform this evolution?

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

## QUESTION: 029 (1.00)

Unit 2 was operating at rated power when the output from Instrument Bus power was lost. The Unit NSO placed the 2B Electromatic Relief Valve (ERV) control switch to the MANUAL position. The 2B ERV will ...

- a.remain closed.
- b.open and its position could be confirmed by tailpipe temperature.
- c.open and its position could be confirmed by acoustic monitoring.
- d.open and its position could be confirmed by BOTH tailpipe temperature AND acoustic monitoring.

## QUESTION: 030 (1.00)

Unit 3 is operating at rated power. A fully withdrawn control rod spuriously scrams. Which of the following describes the INITIAL response of reactor pressure and Turbine Control Valve positions to this transient?

ReactorTCV  
PressurePositions

- a. Decreases Open slightly
- b. Decreases Close slightly
- c. Remains constant Open slightly
- d. Remains constant Close slightly

## QUESTION: 031 (1.00)

A main turbine startup is in progress on Unit 3. The following conditions exist:

- The turbine has been reset and the green RESET light is LIT.
  - LOAD SET is at 0%.
- The CHEST / SHELL WARMING SELECT "OFF" button has been depressed.
- The CHEST WARMING / PUSH FOR SHELL WARM button has been depressed
  - The PUSH FOR SHELL WARM portion of the button is LIT.

Which of the following describes expected valve positions?

Turbine Control Intermediate  
Valves Stop Valves

- a. Full Open Closed
- b. Partially Open Closed
- c. Full Open Open
- d. Partially Open Open

## QUESTION: 032 (1.00)

On a loss of instrument air pressure, the Condensate Booster Pump Recirculation valve will ...

- a.open fully.
- b.close fully.
- c.lock-up and remain as is.
- d.close to the minimum blocked position.

## QUESTION: 033 (1.00)

Given the following Unit 2 conditions:

- Mode switch in Startup.
- RPV Water Level is +30 inches.
- Low Flow Reg Valve is in AUTO.
- RPV Pressure is 800 psig.

If the Low Flow Reg Valve controller output signal fails to a low value, what actions need to be taken and why?

- a.Take MANUAL control and shut the Low Flow Reg Valve since level will increase.
- b.Take MANUAL control and open the Low Flow Reg Valve since level will decrease.
- c.Transfer control to the 2B Main Feed Reg Valve since the Low Flow Reg Valve is locked up.
- d.Utilize the Pull-to-Stop feature of the Low Flow Reg Valve Isolation to control flow since the Low Flow Reg Valve is locked up.

## QUESTION: 034 (1.00)

Unit 2 & 3 were at rated power with the following conditions:

- A SBTG train was in PRIMARY.
- B SBTG train was in STANDBY.

An event occurred resulting in the following:

- Unit 2 Drywell at 4 psig internal pressure.
- Bus 39 tripped on overcurrent.

What is the expected status of the SBTG system one (1) minute later?

- a. A SBTG train is operating normally.
- b. B SBTG train is operating normally.
- c. BOTH SBTG trains are operating with equal flow.
- d. NEITHER SBTG train is operating.

## QUESTION: 035 (1.00)

Unit 2 was operating at rated conditions with recirculation in Master Manual when the ESS AC Power output was lost. The reactor recirculation MG sets ...

- a. scoop tubes will lock up since power is lost to the master and individual controllers.
- b. will NOT be affected since the all speed controllers are supplied by instrument power.
- c. will NOT be affected since only the individual controllers are supplied by ESS AC power.
- d. scoop tubes will transfer to the individual controllers since power is lost to the master controller.

## QUESTION: 036 (1.00)

During a failure of 250 VDC system, paralleling Unit 2 and Unit 3 250 VDC systems is prohibited unless certain operational requirements are met. This is because paralleling 250 VDC ...

- a.utilizes WIRING that was NOT analyzed for cross-connected operation.
- b.utilizes BREAKERS that were NOT analyzed for cross-connected operation.
- c.exceeds system design loading requiring at least ONE unit be at least in Cold Shutdown.
- d.exceeds system design loading requiring BOTH units be at least in Cold Shutdown.

## QUESTION: 037 (1.00)

An off-site event occurs which results in a TOTAL LOSS of power to Unit 3. The following is noted 15 seconds AFTER the loss of power.

- The 2/3 EDG has auto-started AND has auto-closed to Bus 33-1.
- The Unit 3 EDG has auto-started but has NOT auto-closed.
  - EDG 3 voltage indicates 4200 volts.
  - EDG 3 frequency indicates 58.2 Hz.
- The Auxiliary Power System has otherwise responded as designed.

Which of the following explains why the U3 EDG output breaker did NOT close?

- a.EDG 3 voltage is too high.
- b.EDG 3 frequency is too low.
- c.The 30-second time delay relay has NOT timed out.
- d.The closing of EDG 2/3 precludes the closing of EDG 3 output breaker.

## QUESTION: 038 (1.00)

Each Emergency Diesel Generator (EDG) fuel oil day tank is refilled by a fuel oil transfer pump that is started \_\_\_\_\_ and transfers fuel oil stored in \_\_\_\_\_ fuel oil storage tank.

- a. Automatically from day common tank level switches
- b. Automatically from dayits own tank level switches
- c. manually bya common an operator
- d. manually byits own an operator

## QUESTION: 039 (1.00)

Unit 2 is operating at rated power.

- The 902-3 G-15, RX BLDG VENT CH B DOWNSCALE, annunciator alarms.
- The Channel B radiation monitor on the 902-10 panel indicates downscale.
- All other indications are normal.

What action(s) is (are) required by the applicable Tech Spec(s)?

- a. Restore Reactor Bldg Vent Monitor Channel B to operable status within 12 hours or place the monitor in the tripped condition.
- b. Restore Reactor Bldg Vent Monitor Channel B to operable status within 24 hours or establish Secondary Containment Integrity with the Standby Gas Treatment system operating within the next one hour.
- c. Restore Reactor Bldg Vent Monitor Channel B to operable status within 1 hour or establish Secondary Containment Integrity with the Standby Gas Treatment system operating within the next one hour.
- d. Place Reactor Bldg Vent Rad Monitor Channel B in the tripped condition within one hour. Restore the inoperable monitor to operable status with its trip setpoint adjusted to less than or equal to 10 mR/hr.



## QUESTION: 040 (1.00)

Unit 2 Reactor Building Vent system lineup was:

- 2A and 2B vent fans running, 2C in AUTO.
- 2A and 2B exhaust fans running, 2C in AUTO.

The following event occurred:

- 2A vent fan back-draft damper failed closed.

Which of the following describes the response of the Unit 2 Rx Bldg Vent system?

The \_\_\_\_\_ (1) \_\_\_\_\_ will trip the 2A vent fan and the 2C vent fan will auto start on \_\_\_\_\_ (2) \_\_\_\_\_

(1)(2)

- a.the low flow switchlow Rx Bldg pressure
- b.the low flow switchlow flow through the 2A vent fan
- c.back-draft position limit switchlow Rx Bldg pressure
- d.back-draft position limit switchlow flow through the 2A vent fan

## QUESTION: 041 (1.00)

The purpose of the Main Condenser low vacuum scram is to ...

- a.anticipate the turbine stop valve closure scram.
- b.anticipate the turbine control valve fast closure scram.
- c.prevent the fuel cladding integrity Safety Limit from being exceeded.
- d.prevent the fuel cladding integrity Operating Limit from being exceeded.

## QUESTION: 042 (1.00)

Given the following conditions:

- The site has experienced a total loss of offsite power concurrent with a failure of all EDGs.
- The decision was made to evacuate the Main Control Room before the SBO DGs could be started.

The earliest that power to Unit 2 can be restored is when ...

- a.the U2 SBO diesel is started using a local emergency start.
- b.offsite power is restored since the U2 SBO DG cannot be started from outside the control room.
- c.the U2 SBO DG auto starts after the 4 kV vital buses have been without power for 30 minutes.
- d.the U2 SBO DG is started using a normal start sequence from the 923-74 panel.

## QUESTION: 043 (1.00)

Given the following conditions:

- Unit 2 was operating at rated power when a severe fire broke out in the control room.
- DSSP 0100-CR was being executed and control of the plant was being established locally.
- Due to another fault, 125 Vdc Main Bus 3A was lost.
- The main feed breaker at Bus 38 was OPEN.
- Power must be restored to Bus 38.

How is the feed breaker to Bus 38 CLOSED?

- a. Take the breaker control switch on the 903-8 panel to CLOSE.
- b. Plug in the local pushbutton control station AND depress the close button.
- c. Reset the Bus 38 undervoltage trip and take the breaker control switch on the 903-8 panel to CLOSE.
- d. Use the ratchet type maintenance handle to discharge the closing springs and close the breaker contacts.

## QUESTION: 044 (1.00)

Unit 3 is operating at 35% reactor power. Reactor water level increased to +56 inches during a feedwater transient. Which of the following describes the EXPECTED positions of the Extraction Bypass Valves and the Extraction Non-Return Check Valves?

Extraction Bypass Valves    Extraction Non-Return  
Valves    Check Valves

- a. CLOSED    OPEN
- b. CLOSED    CLOSED
- c. OPEN    OPEN
- d. OPEN    CLOSED

## QUESTION: 045 (1.00)

Unit 3 was operating at rated power with the following equipment OOS:

- EHC Pump 3A
- Isolation Condenser

EHC Pump 3B tripped and the following alarms were received:

- 903-7 A-6, EHC SYSTEM PRESS LO
- 903-7 C-5, TURB TRIPPED EHC OIL PRESS LO
- 903-5 A-12, CH A/B STOP VLVS CLSD
- 903-5 C-13, CHANNEL A/B RPV PRESS HI-HI
- 903-4 A-15, ISOL CONDR CH A/B INITIATION

The operating crew should enter \_\_\_\_\_ and can stabilize reactor pressure using \_\_\_\_\_.

- a.DGP 02-03; turbine bypass valves.
- b.DGP 02-03; ADS valves in the preferred sequence.
- c.DEOP 100 and DGP 02-03; turbine bypass valves.
- d.DEOP 100 and DGP 02-03; ADS valves in the preferred sequence.

## QUESTION: 046 (1.00)

The 202-3D Electromatic Relief Valve acoustic monitor GREEN and AMBER indicating lights are lit. What does this indicate?

- a.The valve opened and now is closed.
- b.The valve opened and pressure is still above the lift setpoint.
- c.The valve is closed and a trouble condition exists for that monitor.
- d.The valve is closed and an opening time delay is in effect.

## QUESTION: 047 (1.00)

Given the following plant conditions:

- Unit 3 is operating at rated power.
- Narrow Range Level A transmitter is selected for FWLCS control.
- 3-Element mode is active with both FWRV controllers in AUTO.
- 3A and 3B RFPs are running.
- FRVs are in MASTER AUTO set at +30 inches.

The 3A RFP flow transmitter equalizing valve develops a leak from the high pressure tap to the low pressure tap causing flow indication to change by 1.0 Mlbm/hr. Which of the following describe the expected response of the Feedwater Level Control System (FWLC)? FWLC will ...

- a. initially increase flow to the vessel to match feedwater flow to steam flow. Then FWLC will decrease flow to the vessel to re-establish reactor water level at the level setpoint.
- b. initially increase flow to the vessel to match feedwater flow to steam flow. Then FWLC will decrease flow to the vessel to stabilize reactor water level at a higher level than the level setpoint.
- c. initially decrease flow to the vessel to match feedwater flow to steam flow. Then FWLC will increase flow to the vessel to re-establish reactor water level at the level setpoint.
- d. initially decrease flow to the vessel to match feedwater flow to steam flow. Then FWLC will increase flow to the vessel to stabilize reactor water level at a lower level than the level setpoint.

## QUESTION: 048 (1.00)

Unit 2 was operating at rated power when a station blackout occurred. No operator actions have been taken. Conditions are:

- all control rods fully inserted.
- reactor pressure is 1020 psig and increasing.
- reactor water level is +7 inches and decreasing.

The level control strategy should be to maintain RPV level with (1) in accordance with (2).

(1)(2)

- a.CRD and HPCIDGP 02-03
- b.HPCIDGP 02-03
- c.CRD and HPCIDEOP 100 and DGP 02-03
- d.HPCIDEOP 100 and DGP 02-03

## QUESTION: 049 (1.00)

If Drywell pressure was 1.9 psig. Which of the following represent UNSAFE torus parameters?

Torus PressureTorus Level

- a.0.5 psig- 4.5 inches
- b.1.3 psig-4.5 inches
- c.1.3 psig-2.0 inches
- d.0.5 psig-2.0 inches

## QUESTION: 050 (1.00)

A RWCU leak in the drywell has occurred on Unit 3. Drywell pressure is 3.0 psig and all systems have responded as expected. What action(s), if any, are needed for operations of the Drywell Radiation Monitors?

- a. None. The monitors were automatically started by an ECCS initiation signal.
- b. None. The monitors are active during normal and post-accident conditions.
- c. Bypass the Group 2 isolation and manually start the monitors..
- d. Select the sample point (torus or drywell) and manually start the monitors.

## QUESTION: 051 (1.00)

What are the consequences of initiating DRYWELL SPRAY at a drywell temperature of 500°F and a drywell pressure of 5 psig?

- a. A controllable pressure drop without damaging the containment.
- b. An uncontrollable pressure drop and possible implosion of the drywell.
- c. An uncontrollable pressure increase due to superheating of the spray water.
- d. An uncontrollable pressure drop within the capabilities of the drywell to torus vacuum breakers.

## QUESTION: 052 (1.00)

A transient has occurred on Unit 2. The reactor automatically scrammed successfully. Current plant conditions are:

- drywell pressure 2.3 psig, steady
- torus level 11.5 feet, steady
- RPV pressure 500 psig, decreasing slowly
- RPV level 130 inches, steady

LPCI and Core Spray pumps are lined up and running. HPCI is the only source currently injecting. The appropriate action is to...

- a. trip HPCI and attempt to line up alternate injection systems.
- b. emergency depressurize and then trip HPCI once LPCI and Core Spray are injecting.
- c. continue HPCI injection to maintain RPV water level between -143 inches and +48 inches.
- d. line up HPCI to CST suction and continue HPCI injection to maintain RPV water level between -143 inches and +48 inches.



## QUESTION: 053 (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 when the Instrument Mechanics report the averaging function of TIRS 2-1640-200B, TORUS TEMP MON DIV II, is NOT functioning properly. TIRS 2-1640-200B currently indicates the following:

Point 1112°F Point 585°F  
Point 295°F Point 685°F  
Point 390°F Point 787°F  
Point 485°F Point 890°F

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

- a. Enter DEOP 200-1 because two readings satisfy the entry requirements.
- b. No actions are required at this time.
- c. Enter DEOP 200-1 because the average reading satisfies the entry requirements.
- d. Immediately place the mode switch in Shutdown.

## QUESTION: 054 (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: 055 (1.00)

An ATWS occurred on Unit 3. To manually insert control rods, the RWM Mode Switch should be ...

- a.left in Normal since the rods should be driven in using the currently loaded sequence.
- b.left in Normal to allow the NSO to monitor control rod positions on the RWM screen.
- c.taken to Bypass to allow a new sequence to be loaded as provided by the QNE.
- d.taken to Bypass to remove any insert blocks generated by the Rod Worth Minimizer.

## QUESTION: 056 (1.00)

Unit 2 was scrammed and the control room evacuated. Reactor water level is -88 inches. Based on the above, reactor water level would be monitored at the Reactor Building ...

- a.2202-5 and 2202-6 Instrument Racks
- b.2202-5 and 2202-7 Instrument Racks
- c.2202-6 and 2202-7 Instrument Racks
- d.2202-7 and 2202-8 Instrument Racks

## QUESTION: 057 (1.00)

Unit 2 and 3 were operating at rated power. A transient occurred that resulted in the following:

- Unit 2 scram and a steam leak in the turbine building.
- U2/3 Chimney gas radiation is above the GSEP Alert level.
- BOTH Unit 2 AND Unit 3 turbine building ventilation fans tripped.

Which of the actions below should be taken?

- a.Restart Unit 2 turbine building ventilation ONLY.
- b.Restart Unit 3 turbine building ventilation ONLY.
- c.Restart BOTH Unit 2 AND Unit 3 turbine building ventilation.
- d.Leave BOTH Unit 2 AND Unit 3 turbine building ventilation OFF.

## QUESTION: 058 (1.00)

Which of the following would require emergency depressurization to protect the general public?  
Offsite release rate is approaching the General Emergency level and an unisolable leak from...

- a.fuel pool cooling is discharging into the radwaste building.
- b.the turbine bypass valves is discharging into the turbine building.
- c.RWCU piping and is discharging into the RWCU demin room.
- d.the HPCI turbine steam inlet piping is discharging into the HPCI room.

## QUESTION: 059 (1.00)

Unit 2 was operating at rated power when an IMD surveillance resulted in an inadvertent Group 2 isolation. The Group 2 isolation has not been reset. Which of the following describes the affect on Unit 2 torus pressure? Unit 2 torus pressure will ...

- a. remain unchanged since the Drywell to Torus Differential Pressure PCV is supplied nitrogen to operate by the Drywell Pneumatic Receiver.
- b. remain unchanged since the torus will automatically vent to control pressure.
- c. increase since the suction path to the pumpback compressor is lost.
- d. increase since nitrogen will be added to the torus by the Nitrogen Backup Valve.

## QUESTION: 060 (1.00)

Given these initial conditions for Unit 3:

- Reactor is shutdown.
- The Reactor Recirculation system is secured.
- Reactor water temperature is 200°F and steady.
- The 'B' loop of SDC is aligned for Unit 3 Fuel Pool Cooling but is NOT running.
- The 'A' and 'C' loops of shutdown cooling are in service AND are aligned to BOTH Reactor Recirculation loops.
- Reactor water level indications are as follows:
  - +50 inches BOTH Fuel Zone instruments.
  - +30 inches ALL Narrow Range and Wide Range instruments.
- When the following occurs:- -
  - Bus 34-1 trips on overcurrent.

Based on these conditions, the operator should ...

- a. start the 'B' Shutdown Cooling Pump to restore maximum shutdown cooling flow.
- b. maintain reactor water level at its current value to provide a natural circulation flow path through the moisture separators.
- c. raise reactor water level a minimum of twenty (20) inches to prevent reactor vessel temperature stratification.
- d. use reactor vessel metal temperatures as an alternative method of determining reactor water temperature.

## QUESTION: 061 (1.00)

Following a loss of shutdown cooling, RWCU system flow rate is (1), if possible, in order to (2).

(1)(2)

a.increasedmaximize heat removal rate through the non-regenerative heat exchanger

b.increasedmaximize heat removal rate through the regenerative heat exchanger

c.reducedminimize the possibility of thermal stratification

d.reducedminimize reactor vessel inventory loss

## QUESTION: 062 (1.00)

Unit 3 was at rated conditions with ALL equipment available when the following events occurred:

- The running CRD pump tripped.
- TWO peripheral control rod "ACCUMULATOR TROUBLE" alarms are received.

The following additional information is provided:

- The two control rods are at notch 48.
- Accumulator pressure for alarming accumulators is 925 psig.

Which of the following describes the NEXT action that should be performed and the reason for that action?

## ACTIONREASON- - - -

- a. Scram the reactor. To prove the ability of the CRD system to scram the reactor without reliance on the CRD drive water.
- b. Scram the reactor. To ensure Shutdown Margin requirements are met should the control rods associated with the failed accumulators fail to insert.
- c. Start the standby CRD pump and To prove the ability of the CRD system to and insert one control rod supply drive water pressure to insert the one notch. control rods without the accumulators.
- d. Start the standby CRD pump To prevent damage to the control rod drive and insert one control rod mechanisms due to overheating. one notch.

## QUESTION: 063 (1.00)

By design, what is the minimum reactor pressure that can provide the force required to scram the control rods by reactor pressure only?

- a.300 psig
- b.400 psig
- c.500 psig
- d.600 psig

## QUESTION: 064 (1.00)

Fuel is being loaded on Unit 3 during a refueling outage. The shorting links are removed. Control rod drive maintenance is in progress when the wrong control rod is inadvertently withdrawn. The following alarms and indications are received:

- 903-5 A-4, SRM HI/INOP alarms
- 903-5 B-12, CHANNEL A/B SRM HI-HI alarms
- Indicating light HI lit for SRMs 22 and 23.
- Indicating light HI-HI lit for SRM 22 only.

Based on the above, it is expected that the control rod inadvertently withdrawn would . . .

- a.SCRAM since the shorting links were removed and the HI-HI annunciator alarmed.
- b.NOT SCRAM since the shorting links were removed.
- c.SCRAM since the HI setpoint was exceeded on at least two SRM trip channels.
- d.NOT SCRAM since the HI-HI setpoint was exceeded on only one SRM.

## QUESTION: 065 (1.00)

Unit 3 is being refueled. Which of the following would prevent moving the refuel platform toward the core?

- a.refueling platform is near the core and the fuel grapple is loaded and fully raised.
- b.refueling platform is near the core and the mode switch is in REFUEL.
- c.the mode switch is in REFUEL and one control rod is not fully inserted.
- d.the mode switch is in STARTUP and the refueling platform is near the core.

## QUESTION: 066 (1.00)

A Drywell leak and reactor scram have occurred on Unit 3. Given the following conditions:

- Torus sprays have been initiated.
- Drywell temperature is 230°F (point 5) and 241°F (point 6).
- Drywell pressure is 7 psig and increasing.

If drywell pressure reaches 9.5 psig, the NSO would be directed to ...

- a.blowdown IAW DEOP 400-2.
- b.start ALL available drywell coolers.
- c.keep trying to lower drywell and torus pressure.
- d.trip recirculation pumps AND drywell coolers AND initiate drywell sprays.



## QUESTION: 067 (1.00)

Unit 3 was operating at 50% power when an unisolable HPCI steam line leak occurred in the drywell. The following conditions resulted:

- The reactor is scrammed (all rods fully inserted).
- Drywell pressure is 52 psig and rising at 1 psig per minute.
- Torus bottom pressure is 58 psig and rising at 1 psig per minute.
- Torus temperature is 87°F and has risen two degrees over the past 5 minutes.
- The main turbine bypass valves and Isolation Condenser are being used to depressurize the reactor in anticipation of an Emergency Depressurization.

Based on the above, you conclude that . . .

- a.all equipment has operated as designed and containment conditions are as expected for the event.
- b.there is a stuck open Torus to Drywell vacuum breaker.
- c.there is a stuck open relief valve vacuum breaker.
- d.there is a broken ADSV tee-quencher.

## QUESTION: 068 (1.00)

A concern during the performance of DEOP 100 is the occurrence of swell and shrink causing RPV level fluctuations. These level fluctuations can then complicate level control actions. Which of the following is performed to minimize RPV shrink and swell?

- a.Verify FWLCS in automatic.
- b.Inhibit ADS and initiate IC.
- c.Initiate IC and open ADSVs to lower RPV pressure to 945 psig.
- d.Maximize injection using Condensate/Feedwater or other preferred injection system.

## QUESTION: 069 (1.00)

An ATWS occurred on Unit 3 and relief valves are discharging to the torus. Torus cooling is not available. Based on the above, the limit of concern would be the ...

- a.Primary Containment Pressure Limit.
- b.Drywell Spray Initiation Limit.
- c.Heat Capacity Limit.
- d.Pressure Suppression Pressure.

## QUESTION: 070 (1.00)

Unit 3 was at full power when the following occurred:

- A small steam leak occurred in the Unit 3 Drywell.
- The Operating Team successfully scrammed the reactor.
- Drywell temperature has risen to 190°F and is rising at 2°F per minute.
- Drywell pressure has risen to 2.25 psig and is rising at 0.01 (1/100) psig per minute.

Unit 3 drywell coolers are . . .

- a.tripped and should not be restarted.
- b.running and should be tripped for drywell spray.
- c.running and should continue to be run for drywell cooling.
- d.tripped and should be restarted by defeating the trip signals.

## QUESTION: 071 (1.00)

A LOCA has occurred on Unit 3. Plant indications are as follows:

- Drywell temperature Point 9 is 350°F.
- Drywell temperature Point 10 is 355°F.
  - Drywell pressure is 45 psig.
  - Reactor pressure is 100 psig.
- Reactor water level indicators:
  - Fuel Zone A-110 inches
  - Fuel Zone B+40 inches
  - Medium Ranges-52 inches
- Reactor Building 545 elevation temperature is 203°F.

Based on the above, reactor water level . . .

- a.is -52 inches.
- b.is -110 inches.
- c.Cannot be determined.
- d.is presently being indicated (accurately) by both the Fuel Zone A and the Medium Range instruments.

## QUESTION: 072 (1.00)

The torus water downcomer submergence limits are dependent on ...

- a.the drywell to reactor building differential pressure.
- b.the drywell to torus differential pressure.
- c.the torus to reactor building differential pressure.
- d.the reactor to torus differential pressure.

## QUESTION: 073 (1.00)

With steam cooling in progress, adequate core cooling is lost when RPV level is below (1) inches with injections sources, and (2) inches without injection sources.

(1) (2)

a.-143-164

b.-164-143

c.-164-185

d.-185-164

## QUESTION: 074 (1.00)

A loss of offsite power has coincided with a loss of coolant accident outside the drywell. The Emergency Diesel Generators perform as expected. Reactor water level has rapidly decreased below -59 inches. Which of the following best describes the response of the core spray system? The core spray pumps ...

a.start immediately after power is available from an emergency diesel generator.

b.start 10 seconds after RPV pressure drops below 350 psig.

c.start immediately once the 8.5 minute timer times out.

d.start 10 seconds after power is available from an emergency diesel generator.

## QUESTION: 075 (1.00)

Given the following conditions:

- A steam line rupture occurred in the HPCI room.
- Attempts to isolate the leak have been unsuccessful.
- All personnel have been evacuated from the reactor building.
  - All room coolers are in operation.
  - HPCI pump room temperature is 215°F
  - HPCI pump room radiation level is 2600 mr/hr.

Which of the following describe the minimum actions required to control this event?

- a.Wait until another area exceeds its max safe value and then shutdown the reactor.
- b.Shutdown down the reactor.
- c.Scram the reactor, and enter DEOP 100.
- d.Scram the reactor, enter DEOP 100 and DEOP 400-2.

## QUESTION: 076 (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 isolations are present on each of the following parameters:
  - Drywell Pressure
  - Reactor Building Exhaust Radiation
  - Reactor Water Level

Restarting 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: 077 (1.00)

A plant operator reports that there is flooding in the U2 West LPCI/Core Spray Pump Room that is beyond the capacity of the sump pumps. Which of the following describes the areas that may be affected if the source of the flooding could not be reduced?

- a.U2 HPCI and U3 West LPCI/Core Spray Pump Rooms
- b.U3 HPCI and U3 East LPCI/Core Spray Pump Rooms
- c.U2 HPCI and U2 East LPCI/Core Spray Pump Rooms
- d.U3 HPCI and U3 West LPCI/Core Spray Pump Rooms

## QUESTION: 078 (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 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: 079 (1.00)

Unit 2 & 3 were at rated power with the following conditions:

- A SBTG train in PRIMARY.
- B SBTG train in STANDBY.

Which of the following describes the TOTAL expected SBTG flow following a reactor building ventilation isolation on Reactor Building Exhaust Radiation without operator action?

- a. ~ 3000 scfm
- b. ~ 4000 scfm
- c. ~ 6000 scfm
- d. ~ 8000 scfm

## QUESTION: 080 (1.00)

A small LOCA occurred on Unit 2 resulting in the following conditions:

- Drywell pressure 3.5 psig.
- RPV level +15 inches.

The NSO was asked to obtain primary containment oxygen concentration. He proceeded to the 923-5A panel and reported that concentration was 1.5%. Which of the following describes why this IS / IS NOT a valid report?

- a. This IS a valid report because this panel monitors the containment in post accident conditions.
- b. This IS NOT a valid report because this panel only monitors hydrogen in post accident conditions.
- c. This IS NOT a valid report because the containment atmospheric sampling system (CAS) isolates on a Group 2 signal.
- d. This IS NOT a valid report because the only way to get an oxygen concentration of the primary containment in a LOCA condition is from HRSS.

## QUESTION: 081 (1.00)

A LOCA has occurred on Unit 3 and the torus will be vented due to high drywell and torus hydrogen concentrations. Venting from the torus is preferred because it (1) and is allowed only if torus water level is (2) .

(1)(2)

- a. provides for more controlled vent rate less than 30 feet
- b. provides for more controlled vent rate above 11 feet
- c. takes advantage of the scrubbing action of the water less than 30 feet
- d. takes advantage of the scrubbing action of the water above 11 feet



## QUESTION: 082 (1.00)

Instrument air on Unit 3 has been lost to the Scram Discharge Volume (SDV) vent and drain valves. It is expected that the SDV vent and drain valves will fail . . .

- a. CLOSED and be INOPERABLE since the SDV would be isolated from the scram outlet header.
- b. CLOSED and be INOPERABLE since proper venting and draining of the SDV could NOT be assured.
- c. CLOSED and remain OPERABLE since the reactor coolant system would be isolated from the containment.
- d. OPEN and be INOPERABLE since the reactor coolant system could NOT be isolated from the containment when required.

## QUESTION: 083 (1.00)

A report has been received of a electrical fire in the 2/3 DG Room. The installed fire protection system has initiated. The room must be entered to determine if fire is extinguished. (1) What is the Fire Classification of the fire reported? AND (2) What safety hazards should be considered prior to operators entering the 2/3 DG Room?

(1)(2)

- a. Class B Electrical shock from water spray.
- b. Class C Electrical shock from water spray.
- c. Class B Suffocation from oxygen depletion due to the discharge of CO<sub>2</sub> in the area.
- d. Class C Suffocation from oxygen depletion due to the discharge of CO<sub>2</sub> in the area.

## QUESTION: 084 (1.00)

Given the following temperatures:

Vessel Bottom Head Vessel Head Flange

1600401°F 387°F

1630354°F 336°F

1700304°F 286°F

1730267°F 254°F

1800220°F 204°F

Which of the following describes when Technical Specification entry was required and when cooldown rate is acceptable per Technical Specifications?

- a. Entered at 1630 and have not been exited.
- b. Entered at 1630 and exited at 1730.
- c. Entered at 1700 and have not been exited.
- d. Entered at 1700 and exited at 1730.

## QUESTION: 085 (1.00)

Which of the following requires notification of the Site Vice President?

- a. The Load Dispatcher directs a load reduction of 100 MWe on Unit 3 due to changes in system demand.
- b. An unexpected 1/2 scram occurs on Unit 2 due to an LPRM spike.
- c. An Operator cuts his finger requiring on site medical attention and filing of an accident report.
- d. A scheduled routine surveillance is deferred due to lack of IMD resources.

## QUESTION: 086 (1.00)

The Unit 2 NSO is about to start 2A Reactor Feed Pump as part of a unit startup. In accordance with Operations Standards the NSO should ...

- a.start the pump. No announcement is needed since it is part of a planned evolution.
- b.announce the pump start prior to operating the control switch ONLY if an expected alarm will occur.
- c.announce the pump start and receive a confirmatory repeatback from the Unit Supervisor AFTER operating the control switch.
- d.announce the pump start and receive a confirmatory repeatback from the Unit Supervisor PRIOR to operating the control switch.

## QUESTION: 087 (1.00)

Which of the following qualify as a "Temporary Modification" as defined in CC-AA-112, Temporary Modifications?

- a.A circuit card is pulled to disable an annunciator.
- b.A hose installed to drain a heat exchanger under an outage.
- c.An electrical lead is lifted to perform a surveillance procedure which is to be completed by the end of shift.
- d.Installation of an electrical jumper for testing under an approved work procedure which is to be completed within 24 hours.

## QUESTION: 088 (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: 089 (1.00)

Unit 2 has been shutdown for 10 days and coolant temperature is 190°F. Unit 3 is at rated power. Battery testing has determined that the 250 Vdc Unit 2 battery must be replaced. The battery has been out of service for testing 5 days this cycle. What Technical Specification actions are required for Unit 3?

- a. None if the Unit 3 battery is aligned to Unit 3.
- b. Restore the Unit 2 battery to operable status within 2 days, or be in HOT SHUTDOWN within 12 hours.
- c. Restore the Unit 2 battery to operable status within 7 days, or be in HOT SHUTDOWN within 12 hours.
- d. Restore the Unit 2 battery to operable status within 9 days, or be in HOT SHUTDOWN within 12 hours.

## QUESTION: 090 (1.00)

The purpose of the safety limit that requires reactor pressure vessel water level to be at least 12 inches above the top of active irradiated fuel during shutdown conditions is to ...

- a. provide radiation shielding.
- b. provide decay heat removal capability.
- c. ensure that the NPSH requirements to the recirculation pumps are met.
- d. ensure that the NPSH requirements to the shutdown cooling pumps are met.

## QUESTION: 091 (1.00)

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

- General area radiation of 120 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
- b. High Radiation Area
- c. Locked High Radiation Area
- d. Contamination Area

## QUESTION: 092 (1.00)

An Operator has a tagout that requires second or independent verification. For which of the following conditions can the Shift Manager waive independent verification?

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

## QUESTION: 093 (1.00)

Unit 2 is currently operating at rated power. The NLO reports from the field that a loss of domestic water has occurred. As the Unit Supervisor you must declare the . . .

- a. Control Room HVAC inoperable.
- b. Control Room Fire Protection system inoperable.
- c. Unit 2 Service Water Radiation Monitor inoperable.
- d. Unit 2 and Unit 3 Service Water Radiation Monitors inoperable.

## QUESTION: 094 (1.00)

DOP 2000-110, Attachment 1: Waste Surge Tank Radioactive Waste Discharge to River Card, contains the calculations for determining the \_\_\_(1)\_\_\_ flowrate and radiation monitor alarm setpoints, and must be verified by the \_\_\_(2)\_\_\_.

(1)(2)

- a. dischargeRadwaste Supervisor
- b. dischargeShift Manager or designee
- c. dilutionRadwaste Supervisor
- d. dilutionShift Manager or designee

## QUESTION: 095 (1.00)

While performing DOA 600-01, Transient Level Control, an entry condition into the Emergency Operation Procedures (EOPs) is met. Which of the following describes the abnormal procedure use for this condition? Enter all applicable EOPs and execute ...

- a. all flow paths concurrently for the EOPs entered. The abnormal procedures are exited when the EOPs are entered.
- b. all flow paths concurrently for the EOPs entered. Execute the remaining steps of the abnormal procedures when the plant is stable.
- c. the flow path for the most degraded plant parameter first. The abnormal procedures are exited when the EOPs are entered.
- d. only the flow paths for the plant parameters being threatened. Execute the remaining steps of the abnormal procedures when the plant is stable.

## QUESTION: 096 (1.00)

Unit 2 was at rated conditions when ANNUN DC PWR FAILURE alarms are received on several panels simultaneously. A bell inside Panel 902-4 sounds. Which of the following describes the expected operator actions?

- a. Scram the reactor due to the loss of all annunciators. The Shift Manager should evaluate for a possible GSEP condition.
- b. Verify that the normal AC power supply is still available by performing an annunciator check on each affected panel. Notification of the Shift Manager IS NOT required.
- c. Verify that the normal AC power supply is still available by performing an annunciator check on each affected panel. Notification of the Shift Manager IS required.
- d. Determine the cause of the loss of all annunciators. The Shift Manager should evaluate for a possible GSEP condition.

## QUESTION: 097 (1.00)

A reactor startup is in progress on Unit 3. Reactor power is increasing and IRMs are on range 5. All SRMs are partially inserted. Annunciator 903-5 A-4, SRM HI/INOP, was received. The SRMs are reading as follows:

SRM 21	2 X 103 cps	SRM 22	2 X 102 cps
SRM 23	2 X 105 cps	SRM 24	2 X 104 cps

Which of the following is required to continue the plant startup?

- a. Select and withdraw all SRMs until fully withdrawn.
- b. Select and insert SRM 22 until counts are greater than 103 cps.
- c. Continue rod withdrawal since all IRMs are above range 3.
- d. Select and withdraw SRM 23 until counts are less than 8 x 104.



## QUESTION: 098 (1.00)

While performing a power increase on Unit 2 to rated conditions, the NSO reports that reactor pressure is 1015 psig. Which of the following describes the required action based on the NSO's report? Reactor pressure must be reduced to less than ...

- a. 1005 psig within the next 15 minutes.
- b. 1005 psig within the next hour.
- c. 1015 psig within the next 15 minutes.
- d. 1015 psig within the next hour.

## QUESTION: 099 (1.00)

The drywell is being vented to control H<sub>2</sub> and O<sub>2</sub>.  
The following values were noted prior to initiating venting:

Drywell Torus

Hydrogen 7% 3%  
Oxygen 7% 4%

After some period of time, it is decided that drywell hydrogen and oxygen cannot be controlled with SBT and Nitrogen Purge. In this condition, which of the following is the proper response?

- a. Immediately spray the torus.
- b. Begin simultaneous venting of the torus AND drywell.
- c. Vent through reactor building ventilation, AND purge with air.
- d. Use APCV in conjunction with the present lineup until either H<sub>2</sub> or O<sub>2</sub> is below the deflagration limit.

## QUESTION: 100 (1.00)

Unit 3 is operating at rated power. Torus temperature has increased to 112°F. Operators are required to \_\_\_\_\_(1)\_\_\_\_\_ to ensure that \_\_\_\_\_(2)\_\_\_\_\_ during a DBA LOCA.

- a.(1) scram the reactor and emergency depressurize (2) the peak primary containment pressures and temperatures do not exceed maximum allowable values.
- b.(1) scram the reactor (2) the peak primary containment pressures and temperatures do not exceed maximum allowable values.
- c.(1) scram the reactor and emergency depressurize (2) sufficient net positive suction head is maintained for ECCS pumps.
- d.(1) scram the reactor (2) sufficient net positive suction head is maintained for ECCS pumps.

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

ANSWER: 001 (1.00)  
 c.  
 REFERENCE:  
 SDM 201001  
 INPO Exam Bank QID 264  
 201001K303 ..(KA's)

ANSWER: 002 (1.00)  
 b.  
 REFERENCE:  
 M-34  
 LOC #20101B0182  
 201001K502 ..(KA's)

ANSWER: 003 (1.00)  
 b.  
 REFERENCE:  
 M-34 (CRD System Horse  
 Note)  
 SDM 201001  
 New  
 201003A103 ..(KA's)

ANSWER: 004 (1.00)  
 d.  
 REFERENCE:  
 System Description  
 Manuals:259001, 209001,  
 278000, 202001  
 New  
 202001K201 ..(KA's)

ANSWER: 005 (1.00)  
 c.  
 REFERENCE:  
 SDM 202001  
 New  
 202002K301 ..(KA's)

ANSWER: 006 (1.00)  
 b.  
 REFERENCE:  
 Dresden ILT Bank  
 20300S0381  
 (Significantly modified)  
 203000K407 ..(KA's)

ANSWER: 007 (1.00)  
 d.

REFERENCE:  
 DAN 902(3)-4 H-12, Rev. 04  
 New  
 204000A208 ..(KA's)

ANSWER: 008 (1.00)  
 c.  
 REFERENCE:  
 SDM 206000  
 Cooper 98 NRC RO Exam  
 Question #83  
 206000K301 ..(KA's)

ANSWER: 009 (1.00)  
 a.  
 REFERENCE:  
 SDM 207000  
 New  
 207000K202 ..(KA's)

ANSWER: 010 (1.00)  
 b.  
 REFERENCE:  
 SDM 216000  
 ILT 21600S0201  
 216000K408 ..(KA's)

ANSWER: 011 (1.00)  
 c.  
 REFERENCE:  
 12E-2430  
 SDM 209001  
 20901S0021  
 209001 2.1.7 ..(KA's)

ANSWER: 012 (1.00)  
 a.  
 REFERENCE:  
 SDM 209001  
 New  
 209001K103 ..(KA's)

ANSWER: 013 (1.00)  
 b.  
 REFERENCE:  
 SDM 211001  
 New  
 211000A102 ..(KA's)

ANSWER: 014 (1.00)  
 c.  
 REFERENCE:  
 SDM 201002  
 New  
 214000K602 ..(KA's)

ANSWER: 015 (1.00)  
 b.  
 REFERENCE:  
 SDM 215002  
 New  
 215002K106 ..(KA's)

ANSWER: 016 (1.00)  
 d.  
 REFERENCE:  
 215L-S2 and SDM215002  
 ILT Bank #21502S0101  
 215002K501 ..(KA's)

ANSWER: 017 (1.00)  
 a.  
 REFERENCE:  
 DGP 01-01 Rev 90  
 New  
 215003 2.1.7 ..(KA's)

ANSWER: 018 (1.00)  
 c.  
 REFERENCE:  
 SDM 215003  
 New  
 215003K405 ..(KA's)

ANSWER: 019 (1.00)

b.

REFERENCE:

DAN 902(3)-5 D-6  
 ILT EB #21505S0351  
 215005K607 ..(KA's)

ANSWER: 020 (1.00)

d.

REFERENCE:

SDM 223001  
 New  
 218000A408 ..(KA's)

ANSWER: 021 (1.00)

b.

REFERENCE:

DSSP 0100-CR Rev 21  
 SDM 239001  
 New  
 218000K105 ..(KA's)

ANSWER: 022 (1.00)

c.

REFERENCE:

TS 3.7.G, TS 3.7.H  
 Modified LORT Bank #9  
 22301B0211  
 223001 2.2.22 ..(KA's)

ANSWER: 023 (1.00)

c.

REFERENCE:

DEOP 500-4  
 ILT Exam Bank  
 #05500B0381  
 (Significantly modified)  
 223001A105 ..(KA's)

ANSWER: 024 (1.00)

b.

REFERENCE:

TS 3/4.6.M. and Bases  
 New  
 223002 2.1.32 ..(KA's)

ANSWER: 025 (1.00)

a.

REFERENCE:

SDM 206000  
 DEOP 100, Rev. 09  
 New  
 223002A208 ..(KA's)

ANSWER: 026 (1.00)

a.

REFERENCE:

SDM 203000  
 New  
 226001K202 ..(KA's)

ANSWER: 027 (1.00)

d.

REFERENCE:

295LC01  
 New  
 226001K506 ..(KA's)

ANSWER: 028 (1.00)

b.

REFERENCE:

DGP 03-04 Rev 36  
 New  
 234000A401 ..(KA's)

ANSWER: 029 (1.00)

c.

REFERENCE:

239L-S1r19  
 New  
 239002K603 ..(KA's)

ANSWER: 030 (1.00)

b.

REFERENCE:

SDM 241000  
 New  
 241000K503 ..(KA's)

ANSWER: 031 (1.00)

a.

REFERENCE:

DOP 5600-05 Rev 4  
 New  
 245000A305 ..(KA's)

ANSWER: 032 (1.00)

c.

REFERENCE:

SDM 259002  
 New  
 256000K601 ..(KA's)

ANSWER: 033 (1.00)

b.

REFERENCE:

DAN 902-6 H-3  
 DOA 0600-01  
 Revised LORT Bank #2  
 25902B0231  
 259002A206 ..(KA's)

ANSWER: 034 (1.00)

a.

REFERENCE:

DAN 923-5, A06, B06 Rev 8  
 DOA 7500-01 Rev 12  
 SDM 261000  
 LORT Bank #11 26100B0121  
 261000A302 ..(KA's)

ANSWER: 035 (1.00)

a.

REFERENCE:

SDM 202002  
 New  
 262002A102 ..(KA's)

ANSWER: 036 (1.00)

d.

REFERENCE:

DOA 6900-04. Rev 8  
 T.S. 3.0.C/3.9.C  
 New  
 263000 2.1.32 ..(KA's)

ANSWER: 037 (1.00)

b.

REFERENCE:  
264L-S1  
LORT Bank #10 26400B0231  
264000A303 ..(KA's)

ANSWER: 038 (1.00)  
b.

REFERENCE:  
SDM 264001, 2.E.  
New  
264000K105 ..(KA's)

ANSWER: 039 (1.00)  
b.

REFERENCE:  
TS 3.2.A, Action 2 and  
Footnote (a)  
TS Table 3.2.A-1  
LOC Exam Bank #14  
22302B0301  
288000 2.1.12 ..(KA's)

ANSWER: 040 (1.00)  
b.

REFERENCE:  
288L-S1  
New  
288000K403 ..(KA's)

ANSWER: 041 (1.00)  
a.

REFERENCE:  
SDM 212000, 6.F.  
New  
295002K301 ..(KA's)

ANSWER: 042 (1.00)  
a.

REFERENCE:  
264L-S3  
ILT Bank #26403S0041  
(Revised)  
295003K106 ..(KA's)

ANSWER: 055 (1.00)  
d.

REFERENCE:

ANSWER: 043 (1.00)  
d.

REFERENCE:  
DSSP 0100-CR  
LOC Exam Bank #9  
06000B0112  
295004A103 ..(KA's)

ANSWER: 044 (1.00)  
d.

REFERENCE:  
SDM 260000  
New  
295005K205 ..(KA's)

ANSWER: 045 (1.00)  
d.

REFERENCE:  
DEOP 100 Rev 09  
New  
295007 2.4.1 ..(KA's)

ANSWER: 046 (1.00)  
a.

REFERENCE:  
239L-S1  
ILT Exam Bank  
#23901S0151 (Modified)  
295007A104 ..(KA's)

ANSWER: 047 (1.00)  
a.

REFERENCE:  
SDM 259002  
New  
295008K103 ..(KA's)

ANSWER: 048 (1.00)  
d.

REFERENCE:  
DEOP 100  
New  
295009 2.4.1 ..(KA's)

DEOP 0500-05 Rev 09  
New

295015K301 ..(KA's)

ANSWER: 049 (1.00)  
a.

REFERENCE:  
DOP 1600-02 Rev 10  
New  
295010K201 ..(KA's)

ANSWER: 050 (1.00)  
b.

REFERENCE:  
SDM 223006  
New  
295010K303 ..(KA's)

ANSWER: 051 (1.00)  
b.

REFERENCE:  
295LC01r1  
New  
295012A202 ..(KA's)

ANSWER: 052 (1.00)  
a.

REFERENCE:  
DEOP 200-1, Rev. 09  
DEOP 100, Rev. 09  
New  
295013 2.4.1 ..(KA's)

ANSWER: 053 (1.00)  
b.

REFERENCE:  
SDM 223001  
New  
295026A201 ..(KA's)

ANSWER: 054 (1.00)  
a.

REFERENCE:  
DGP 01-01, Rev. 90  
New  
295014K201 ..(KA's)

ANSWER: 056 (1.00)  
d.

REFERENCE:

DSSP 0100-CR  
 216L-S1  
 LOC Exam Bank #1  
 21600B0021  
 295016A106 ..(KA's)  
 ANSWER: 057 (1.00)  
 c.  
 REFERENCE:  
 DEOP 300-2  
 New  
 295017 2.4.1 ..(KA's)  
 ANSWER: 058 (1.00)  
 b.  
 REFERENCE:  
 DEOP 300-2, Rev. 1  
 New  
 295017K102 ..(KA's)  
 ANSWER: 059 (1.00)  
 c.  
 REFERENCE:  
 SDM 223007  
 New  
 295020K308 ..(KA's)  
 ANSWER: 060 (1.00)  
 c.  
 REFERENCE:  
 DOP 1000-03 Rev 41  
 LOC Exam Bank #1  
 20500B0011  
 295021K203 ..(KA's)

ANSWER: 061 (1.00)  
 a.  
 REFERENCE:  
 DOA 1000-01, Rev. 12  
 New  
 295021K304 ..(KA's)  
 ANSWER: 062 (1.00)  
 c.  
 REFERENCE:  
 DOA 300-01 Rev 17  
 New  
 295022A201 ..(KA's)  
 ANSWER: 063 (1.00)  
 b.  
 REFERENCE:  
 SDM 201003  
 New  
 295022K207 ..(KA's)  
 ANSWER: 064 (1.00)  
 a.  
 REFERENCE:  
 SDM 215004  
 New  
 295023A106 ..(KA's)  
 ANSWER: 065 (1.00)  
 d.  
 REFERENCE:  
 Fuel Handling and Refueling  
 Equipment LP  
 ILT Exam Bank  
 #29501S0351  
 295023K302 ..(KA's)  
 ANSWER: 066 (1.00)  
 d.  
 REFERENCE:  
 DEOP 200-1  
 ILT Exam Bank  
 #29502S0792  
 295024A201 ..(KA's)

ANSWER: 067 (1.00)  
 b.  
 REFERENCE:  
 SDM 223001  
 New  
 295024A206 ..(KA's)  
 ANSWER: 068 (1.00)  
 c.  
 REFERENCE:  
 295L-S1  
 New  
 295025K106 ..(KA's)  
 ANSWER: 069 (1.00)  
 c.  
 REFERENCE:  
 DEOP 200-1  
 295LC01  
 New  
 295026K302 ..(KA's)  
 ANSWER: 070 (1.00)  
 d.  
 REFERENCE:  
 SDM 223007  
 DEOP 200-1  
 New  
 295028A103 ..(KA's)  
 ANSWER: 071 (1.00)  
 c.  
 REFERENCE:  
 DEOP 0010-00  
 DEOP 100  
 ILT Exam Bank 29502S0842  
 (modified)  
 295028A203 ..(KA's)  
 ANSWER: 072 (1.00)  
 b.  
 REFERENCE:  
 DAN 902(3)-4 C-23  
 New  
 295030 2.4.11 ..(KA's)

ANSWER: 073 (1.00)

c.

REFERENCE:

295L-02  
New  
295031A204 ..(KA's)

ANSWER: 074 (1.00)  
b.

REFERENCE:  
SDM 209001  
ILT Exam Bank  
#20901I08B\_001A  
295031K203 ..(KA's)

ANSWER: 075 (1.00)  
c.

REFERENCE:  
DEOP 300-1  
LOC Exam Bank #1  
29502B0492  
(Significantly modified)  
295033 2.4.1 ..(KA's)

ANSWER: 076 (1.00)  
b.

REFERENCE:  
295L-S3  
New  
295034K101 ..(KA's)

ANSWER: 077 (1.00)  
b.

REFERENCE:  
DOA 0040-02 Rev 11  
New  
295036 2.4.11 ..(KA's)

ANSWER: 078 (1.00)  
c.

REFERENCE:  
295L-S1  
New  
295037K101 ..(KA's)

ANSWER: 091 (1.00)

ANSWER: 079 (1.00)  
b.

REFERENCE:  
SDM 261000  
New  
295038A106 ..(KA's)

ANSWER: 080 (1.00)  
c.

REFERENCE:  
DAN 202(3)-5 E-5 Rev 17  
LOC Exam Bank #2  
22301B0131  
500000A201 ..(KA's)

ANSWER: 081 (1.00)  
c.

REFERENCE:  
295L-S10  
New  
500000K208 ..(KA's)

ANSWER: 082 (1.00)  
b.

REFERENCE:  
DOA 4700-01, Rev. 21  
TS 3/4.3.K Bases  
New  
295019A202 ..(KA's)

ANSWER: 083 (1.00)  
d.

REFERENCE:  
SDM 286002  
NGET Rev 23  
New  
600000K101 ..(KA's)

ANSWER: 084 (1.00)  
d.

REFERENCE:  
TS 3.6.K.3 Rev 179  
INPO #6446  
Modified  
294001 2.1.12 ..(KA's)

b.

ANSWER: 085 (1.00)  
b.

REFERENCE:  
OP-AA-101-501 Rev 1  
New  
294001 2.1.14 ..(KA's)

ANSWER: 086 (1.00)  
d.

REFERENCE:  
AD-AA-104-102 Rev 3  
ILT Exam Bank  
#29801S0051  
294001 2.1.2 ..(KA's)

ANSWER: 087 (1.00)  
a.

REFERENCE:  
CC-AA-112  
ILT Exam Bank 29902S0641  
294001 2.2.14 ..(KA's)

ANSWER: 088 (1.00)  
c.

REFERENCE:  
DOP 0700-02  
ILT Exam Bank  
#21503B0021  
294001 2.2.2 ..(KA's)

ANSWER: 089 (1.00)  
d.

REFERENCE:  
TS 3.9.C.  
New  
294001 2.2.24 ..(KA's)

ANSWER: 090 (1.00)  
b.

REFERENCE:  
TSB 2.1.D.  
ILT EB #299900S0101  
294001 2.2.25 ..(KA's)

REFERENCE:

DRP 5010-01, Rev. 09  
 ILT Exam Bank  
 #29400S0261  
 (modified)  
 294001 2.3.1 ..(KA's)

ANSWER: 092 (1.00)  
 a.

REFERENCE:  
 AD-AA-104-103 Rev 2  
 New  
 294001 2.3.2 ..(KA's)

ANSWER: 093 (1.00)  
 c.

REFERENCE:  
 DOA 4200-01, Rev 08  
 New  
 294001 2.3.3 ..(KA's)

ANSWER: 094 (1.00)  
 b.

REFERENCE:  
 268N-03  
 DOP 2000-110 Rev 19  
 New  
 294001 2.3.6 ..(KA's)

ANSWER: 095 (1.00)  
 b.

REFERENCE:  
 295L-02  
 New  
 294001 2.4.13 ..(KA's)

ANSWER: 096 (1.00)  
 d.  
 REFERENCE:  
 DAN 902(3)-5 H-3 Rev 5  
 New  
 294001 2.4.32 ..(KA's)

ANSWER: 097 (1.00)  
 d.  
 REFERENCE:  
 DAN 902(3)-5 A-4, Rev. 05  
 SDM 215004  
 New  
 294001 2.4.50 ..(KA's)

ANSWER: 098 (1.00)  
 a.  
 REFERENCE:  
 DOA 6900-04. Rev 8  
 T.S. 3.0.C/3.9.C  
 New  
 2.1.32 263000 ..(KA's)

ANSWER: 099 (1.00)  
 c.  
 REFERENCE:  
 DEOP 200-2  
 DEOP 500-4  
 LOC Exam Bank  
 #05500B0402  
 294001 2.3.9 ..(KA's)

ANSWER: 100 (1.00)  
 b.  
 REFERENCE:  
 TS 3.7.K.2.b. and BASES  
 New  
 2.4.49 ..(KA's)

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



A N S W E R   K E Y

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

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